

# SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA

Post Graduate Studies & Research Centre

(Approved by Central Council of Indian Medicine, New Delhi & M/o AYUSH, GoI)

A Constituent Unit of

KLE ACADEMY OF HIGHER EDUCATION & RESEARCH

(DEEMED-TO-BE-UNIVERSITY)

(Re-Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) || Placed under Category 'A' by MHRD GoI)

First AYUSH Institution having NAAC & NABH Accreditation



## Events executed under MoU's during the year 2018

Sl No	MoU Collaborating Institute	Activities
1.	Mahatma Gandhi Ayurved College, Hospital and Research Center, Sawangi Meghe, Wardhawardha of Datta Meghe - Institute of Medical Sciences (Deemed University), Wardha. [Tenure 8-8-2016 to 7-8-2020]	1. Three Scholars from Wardha were trained for Panchkarma Therapy procedures at KLE Ayurveda Hospital.
2.	Central Council for Research in Ayurvedic Sciences (CCRAS), 61-65 Opp D Block, Institutional Area, Janakapuri, New Delhi & ICMR- National Institute of Traditional Medicine, Belagavi. [Tenure 9-8-2017 to 8-9-2019]	1. Recruitment of Subjects continued and trial was ongoing
3.	Dr. Swapnali Mahadik Project Head, being the authorized signatory of M/s Target Institute of Medical Education & Research 2(5), 8 Wing, Blue Diamond Society, Nayagaon, Dahisar (W), Mumbai -68, a registered Partnership Firm (Hereafter referred to as 'TIMER') [Tenure 12-4-2017 to 11-4-2022]	1. Recruitment of Subjects continued and trial was ongoing
4.	Rasayu Cancer Clinic A-1, Amrut Kumbha, Lakshmi Park Society Navipeth Pune [Tenure 11-6-2017 to 10-6-2019]	1. Conducted Free Camp on 1st and 3 <sup>rd</sup> Thursday total 30 camps 2. Clinical Trail of Ayurveda Drug Somal (Arsenic Trioxide) subject recruitment was continued.
5.	Central Council for Research in Ayurvedic Sciences (CCRAS), 61-65 Opp D Block, Institutional Area, Janakapuri, New Delhi [Tenure 20-1-2018 to 19-01-2020]	1. Research project entitled "A Randomized Placebo controlled Prospective Phase II Clinical Study of an Ayurvedic coded drug 'AYUSH D' on Glycemic control in Prediabetic subjects" was Approved by ethical committee 2. Recruitment was started and trial was ongoing
6.	KLE Dr. M. S. Sheshgiri College of Engineering and Technology, Belagavi. [Tenure 13-4-2018 to 29-04-2023]	1. Workshop on Ayurtechnology : Interfacing Ayurveda Technology. Had taken development of 18 equipments/project with Undergraduate BE students. Development Avagaha yantra. Initiation of Nadigraphy technology.

Principal

Shri B. M. Kankanawadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03.

Shahapur, Belagavi - 590 003, Karnataka, India

Phone: +91 831 2426286 Fax: +91 831 2424157

Website: www.kleayurworld.edu.in Email: bukprincipal.kaher@kleayurworld.edu.in

Dr. V.A. Kothiwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

01

IMPARTING AYURVEDA EDUCATION SINCE 1938



# ALVA'S COLLEGE

(A unit of Alva's Education Foundation ®)

DEPARTMENT OF BIOTECHNOLOGY,

IN ASSOCIATION WITH

KARNATAKA STATE POLLUTION CONTROL BOARD, MANGALORE

## ONE DAY NATIONAL CONFERENCE

ON

“Current Trends in Drug Discovery, Design and Development”

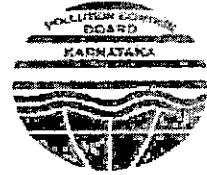
# CERTIFICATE

This is to certify that Dr./~~Mr./Ms.~~ Mr. Mahesh B. Palkar  
..... has participated as Resource person / ~~presented~~  
~~a paper~~ (~~Oral/Poster~~) won the best paper award in the One day National  
Conference on Current Trends in Drug Discovery, Design and Development,  
at Alva's College, Moodbidri on 23<sup>rd</sup> February 2017.

Mr. Rajashekar Puranik  
KSPCB, Mangalore

Dr. Rama Bhat  
Convener

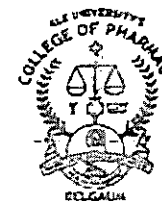
Dr. Kurian  
Principal





KLE University's  
College of Pharmacy, Belagavi

(Recognized by PCI, AICTE & Accredited by NBA & 'A' grade By AAC)



# Certificate

Dr.(Mrs.) F. S. Dasankoppa in recognition of her attendance as a  
Resource person in delivering a Guest Lecture on topic  
"Application of QbD in Research Experiments"

on 19th April 2017

Principal  
Dr. B. M. Patil

HOD, Pharmaceutics  
Dr. A. P. Gadad

Dr. V.A.Kothiwale

Registrar

KLE Academy of Higher Education and Research,

Belagavi-590 010, Karnataka



ASPM's  
**K.T. PATIL COLLEGE OF PHARMACY**

Siddhartha Nagar, Barshi Road, Osmanabad-413501, Maharashtra.  
Approved by AICTE, PCI & affiliated to Dr. B.A.M.U., Aurangabad.  
Website: www.ktpatilpharmacy.org , E-mail: ktpatilpharmacy@gmail.com



## Certificate

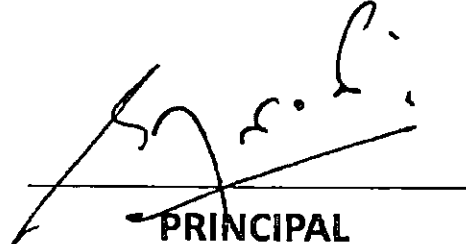
This is to certify that Dr./Prof./Mr./Mrs./Miss KEKUR SHASHIDHAR S.

Scientist / Senior Scientist / Professor / Associate Professor / Assistant Professor of \_\_\_\_\_

KLE University's College of Pharmacy, Hubli, Karnataka.

Delivered Guest Lecture on Topic Absorption of drugs.

on 23 / 04 / 2017 . In our college for UG & PG Students.

  
PRINCIPAL

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed to be University) us 3 of the UGC Act, 1956  
Belagavi-590 010, Karnataka



ASPM's

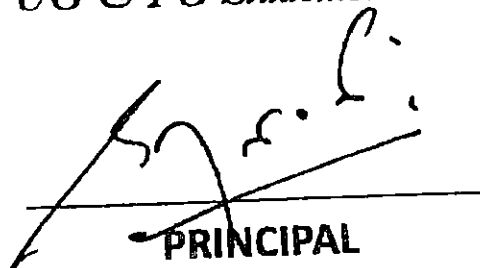
# K.T. PATIL COLLEGE OF PHARMACY

Siddhartha Nagar, Barshi Road, Osmanabad-413501, Maharashtra.  
Approved by AICTE, PCI & affiliated to Dr. B.A.M.U., Aurangabad.  
Website: [www.ktpatilpharmacy.org](http://www.ktpatilpharmacy.org), E-mail: [ktpatilpharmacy@gmail.com](mailto:ktpatilpharmacy@gmail.com)



## Certificate

This is to certify that Dr./Prof./Mr./Mrs./Miss Kerur Shashidhar S.  
Scientist / Senior Scientist / Professor / Associate Professor / Assistant Professor of  
KLE University's College of Pharmacy, Hubli, Karnataka.  
Delivered Guest Lecture on Topic Absorption of drugs.  
on 23 / 04 / 2017 . In our college for UG & PG Students.

  
PRINCIPAL

Dr. V.A. Kotriwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# Rajaram and Tarabai Bandekar College of Pharmacy

(Approved by AICTE & PCI New Delhi, DTE Govt. of Goa & Affiliated to Goa University)

Farmagudi, Ponda - Goa 403 401



Ph. : 0832 - 2335162

Fax No.: 0832 - 2335020

Email : principalrtbcop@gmail.com

Ref. No.: PES-RTBCOP/26/2017/5769

Date :

24/06/2017

To,  
Dr. Mahesh Palkar  
Associate Professor  
KLE University College of Pharmacy,  
Hubali

Sub: Letter of thanks.

Sir,

We are very much thankful to you for your informative lecture on the topic "Computer Aided Drug Design" on 23<sup>rd</sup> June 2017 for our M.Pharm (Pharmaceutical Chemistry) students.

The lecture was very enlightening for our students.

Thanking you,

Yours faithfully,

  
for (Dr. S. N. Mamle Desai)

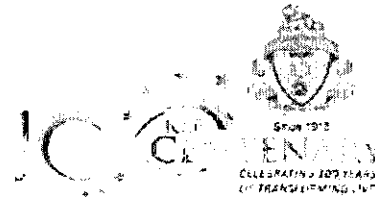
PRINCIPAL  
PES's Rajaram and Tarabai Bandekar  
College of Pharmacy  
Farmagudi Ponda - Goa

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



[Re-Accredited 'A' Grade by NAAC]



Placed in 'Category A' by MHRD (GoI)

# Certificate

has participated in the workshop on

**'Role of Analytical Techniques in Quality Assurance of Pharmaceuticals'**

[Tuesday, 17<sup>th</sup> January 2017]

As a ~~Delegate~~ / Resource Person / ~~Organizing Committee Member~~

Organised By

KLE University, Dr. Prabhakar Kore Basic Science Research Center [PSRC]

Belagavi - 590 010, Karnataka.

Dr. Sunil S. Jalalpure

CO-ORDINATOR

Dr. Prabhakar Kore Basic Science Research Center  
KLE University, Belagavi.

Dr. [Mrs.] Alka D. Kale

CO-ORDINATOR IN CHARGE

Dr. Prabhakar Kore Basic Science Research Center  
KLE University, Belagavi

Dr. V.A. Kothiwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University, as per UGC Act, 1956)

Belagavi-590 010, Karnataka

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**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**  
Accredited at 'A' Grade by NAAC (2nd Cycle) Placed in Category 'A' by MHRD (Govt)

**KLE UNIVERSITY'S COLLEGE OF PHARMACY, BELAGAVI**

# CERTIFICATE

*This to Certify that*

Dr. / Mr. / Ms. F. S. DASANKOPPA

*has participated in the workshop entitled*

*Formulation Design and Product Development*

*on 4<sup>th</sup> November 2017, organised by Department of Pharmaceutics, KLE University's College of Pharmacy, Belagavi as a Delegate / Resource Person / Chairman.*

*[Signature]*  
Dr. Sachin R. Patil

Program Co - ordinator

Department of Pharmaceutics

KLEU's College of Pharmacy, Belagavi

*[Signature]*

Dr. A. P. Gadad

Convener

Head, Department of Pharmaceutics

KLEU's College of Pharmacy, Belagavi

*[Signature]*

Prof. (Dr.) B. M. Patil

Chief Co - ordinator

Principal

KLEU's College of Pharmacy, Belagavi





**KLE UNIVERSITY, COLLEGE OF PHARMACY, BELAGAVI &  
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE),  
NEW DELHI**

Re-Accredited 'A' Grade by NAAC(2<sup>nd</sup> Cycle)  
Placed in Category 'A' by MHRD (Govt)

**CERTIFICATE**

Grant this Certificate of Achievement to


Dr. / Mr. / M<sup>rs</sup>..... **MAHESH B. PALKAR**

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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In his recognition of his / her attendance as Resource Person / Participant at the  
Quality Improvement Programme on "Recent Trends in Drug Discovery and Analytical Techniques"  
of Two Weeks Programme from 27<sup>th</sup> June to 8<sup>th</sup> July 2017.

  
Dr. Mahesh S. Palled  
Programme Co-ordinator

  
Dr. M. B. Patil  
Convener

  
Dr. B. M. Patil  
Chief Co-ordinator

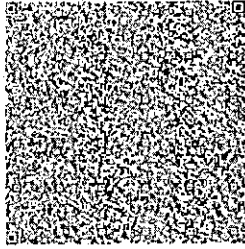



सत्यमेव जयते

**INDIA NON JUDICIAL**  
**Government of Karnataka**

**e-Stamp**

Certificate No. : IN-KA55505375574776Q  
Certificate Issued Date : 15-May-2018 12:08 PM  
Account Reference : SHCIL (FI)/ ka-shcil/ SHCIL BELGAUM/ KA-BL  
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Description of Document : Article 12 Bond  
Description : MEMORANDUM OF UNDERSTANDING  
Consideration Price (Rs.) : 0  
(Zero)  
First Party : KAHER INSTITUTE OF NURSING SCIENCES BELAGAVI  
Second Party : SOUTHERN CROSS UNIVERSITY QUEENSLAND  
4225AUSTRALIA  
Stamp Duty Paid By : KAHER INSTITUTE OF NURSING SCIENCES BELAGAVI  
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Authorised Signatory  
For Stock Holding Corporation of India Ltd  
No.1, Basavakrupa, Opp. Civil Hospital  
Near Hansraju Super Market,  
Club Road, BELGAUM- 590001

-----Please write or type below this line-----

**MEMORANDUM OF UNDERSTANDING**

**Between**

**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

A deemed to be university under u/s 3 of the UGC Act, 1956 vide

Government-of India notification No. 9-19/2000-U.3A

Belagavi, Karnataka, India

**AND**

**SOUTHERN CROSS UNIVERSITY,**

Act 1993 Gold Coast campus B-7.21 Southern Cross

Drive Bilinga Queensland 4225, Australia,

Signature of

  
Dr. V.A.Kothiwale

Registrar

KLE Academy of Higher Education and Research,

(Deemed-to-be-University u/s 3 of the UGC Act, 1956)

Belagavi-590 010, Karnataka

## MEMORANDUM OF UNDERSTANDING

Between

**SOUTHERN CROSS UNIVERSITY**

AND

**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

A deemed to be university under u/s 3 of the UGC Act, 1956 vide Government of India notification No. 9-19/2000-U.3A  
Belagavi, Karnataka, India

The KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH (KAHER) Belagavi, Karnataka, India and SOUTHERN CROSS UNIVERSITY (SCU), a body corporate incorporated under the Southern Cross University Act 1993 Gold Coast campus B-7.21 Southern Cross Drive Bilinga Queensland 4225, Australia, recognized the benefits to their respective universities from the establishment of collaborations and proceed to have a memorandum of understanding (MoU). Both the independent institutions are committed to mutual and common goals of generating new knowledge towards improvement of science to betterment of the society we serve.

### PREAMBLE

KAHER, being the centre of excellence has been positioned as the 3rd Best University at State Level among the Universities in Karnataka by Karnataka State Universities Ranking Framework (K- SURF) and 14th rank among all Indian Universities under Teaching Learning & Resources (TLR) category. The University adjudged as the fourth cleanest campus in the country in a contest organized by the Ministry of Human Resource Development. The University is re-accredited with "A" grade by NAAC in 2015 and is placed in category "A" by MHRD, Govt of India

The Institute of Nursing Sciences was established in May 1987 and recognized as one of the top institution in India. All the courses offered by institution are recognized by apex bodies like Indian Nursing Council, Karnataka Nursing Council and Govt of Karnataka. The institution attached to the own parent hospital i.e. KLES Dr. Prabhakar Kore Hospital & MRC with 2400 bed strength and 256 ICU beds accredited with NABH safe I & NABL accredited laboratories, KLES Belgaum Cancer Hospital & KLES Centenary Charitable Hospital.

Southern Cross University is a relatively young (est. 1994), regional University in Australia, which has a reputation for conducting high quality teaching and research. There are three main campuses: Gold Coast (Queensland), Lismore and Coffs Harbour (NSW), with branch campuses in Sydney, Perth and Melbourne as well as tailored online delivery modes. According to 2017 Times Higher Education rankings, Southern Cross University is one of the Asia-Pacific's Top 100 Universities and one of the world's Top 50 Generation Y Universities.

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Teaching and research activities span a range of disciplines which fall broadly into these groupings: arts and social science, law and justice, Indigenous studies, education, health (eg.; psychology, nursing, podiatry), engineering, business, tourism, and environmental and agricultural science (eg.; marine, plant, geoscience). The Excellence in Research Australia (ERA) 2015 assessment rated twenty-four discipline areas as performing 'at or above world standard'.

The respective universities jointly recognize this MoU to mutually cooperate in the area of Health Education and Research including allied health sciences.

#### PURPOSE / OBJECTIVE

The Primary purpose of this MoU is to discuss the development of a "Communication in Leadership Program" for Registered Nurses and undergraduate students in India. The MoU shall enable the parties to discuss the terms of a potential cooperative relationship between the parties including in relation to collaborative research.

Both universities agree to discuss collaborative activities in academic areas of mutual interest and as equal partners with reciprocity. All educational events are expected to reflect the faculty members' areas of research and expertise.

The development and implementation of specific activities based on this MoU shall be negotiated and agreed between individual faculty members through the Deans or Heads of Department and included in a legally binding agreement.

The MOU is agreed on the basis of cooperation between the Universities and includes, but not limited to the following options:

- a. Exchange of the faculty members and research scholars between the Universities
- b. Exchange of students based on the project and research needs.
- c. Jointly apply for the research funds to conduct collaborative research projects
- d. Conducting colloquiums
- e. Exchange of academic/research information and related materials to facilitate joint publications by collaborating faculty members
- f. Promoting any related academic activities based on mutual agreement

Both Universities agree to carry out the above mentioned activities in accordance with laws and regulations of respective countries after full consultation and approvals.

- This Memorandum does not create any legally binding relationship between the parties, or confer any legal rights or impose any legal obligations on either of them.
- If the parties need to exchange or share any information that is confidential, then the parties will enter into appropriate non-disclosure agreements to protect the confidentiality and integrity of that information.
- Any public announcements or statements (including to the media) about any of the matters dealt with in

  
Dr. V.A. Kothiwale  
Registrar

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this Memorandum will first be agreed between the parties before their release or publication.

The term of this MoU shall be valid for the period of three years commencing from the date of signature hereof. The agreement can be extended for further terms on mutual agreement. This agreement may be terminated by giving 3 months prior notice from either party.

In witness whereof, the parties have executed this document on the April 2018.

REGISTRAR  
KLE ACADEMY OF HIGHER EDUCATION  
AND RESEARCH, BELAGAVI.

  
-----  
Registrar  
KLE Academy of Higher Education and Research Belagavi,  
Karnataka, India

Signed for and on behalf of Southern Cross  
University by its duly Authorised  
Representative:



Signature: Prof Susan Nancarrow

Position: Deputy Vice Chancellor Research

Date: 9 April 2018

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# INSTITUTE OF PHYSIOTHERAPY

A Constituent Unit of

KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed -to-be-University u/s 3 of the UGC Act, 1956)

Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category 'A' by MHRD (Gol)

NEHRU NAGAR, BELAGAVI - 590010, KARNATAKA, INDIA

Office -0831-2473906, Fax - 0831 -2474727: Email: [principalkipt@gmail.com](mailto:principalkipt@gmail.com): Web: [klekipt.edu.in](http://klekipt.edu.in)



KIPT/2017-18/

Date-30-11-2017

## GUEST LECTURE

This is to inform that a guest lecture in collaboration with Dean Jain College Belagavi was organized on 29<sup>th</sup> November 2017 on "Effective Communication skills". The resource person for the guest lecture was Dr. Sandeep Nair. The total number of participants benefited were 45.



Principal,  
KAHER Institute of Physiotherapy  
Belagavi

Dr. V.A.Kothiwale  
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KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# MEMORANDUM OF UNDERSTANDING

BETWEEN

**KLE Academy of Higher Education and Research's Dr. Prabhakar Kore Basic  
Science Research Centre, Belagavi, herein represented by**

**Deputy Director**

**KLE Academy of Higher Education and Research's Dr. Prabhakar Kore Basic  
Science Research Centre, Belagavi, Karnataka, India**

AND

**Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa, herein  
represented by**

**Principal**

**Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa**



**Dr. V.A. Kothiwale  
Registrar**

**KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka**

Ref

This MoU is executed on Date 06.06.2019 between "Dr. Prabhakar Kore Basic Science Research Center", a premier centre of Excellence, which expression shall mean and include unless repugnant to context hereof, it's successor-in-interest, administrators and assigns.

"Dr. Prabhakar Kore Basic Science Research Centre" is one of the research centres with a built up area of 10,000 Sq. ft. hosting five labs that engage in basic research with state-of-the-art facilities for staff and research scholars. The research centre is focused on the key areas of Molecular Biology, Medical Microbiology, Pharmaceutical Analysis, Natural Product Research, and Cell Culture. The centre is located at III<sup>rd</sup> floor, V. K. Institute of Dental Sciences Campus, KLE Academy of Higher Education and Research, Nehru Nagar, Belagavi, - 590010, Karnataka, India.

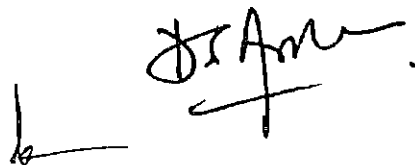
AND

Dnyanprassarak Mandal's College and Research Centre, as permanently affiliated to Goa University on 20<sup>th</sup> June 1988 and further the Department of Chemistry was granted permanent affiliation on 21<sup>st</sup> April 2005, having its office at Assagao, Khorlim, Bardez, Goa - 403507.

"Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa", is a premier institution, engaged in higher education and research & development and knowledge intensive consulting organization, working on fundamental science and developing state-of-the art technologies and providing training to the students for their post graduate and doctorate (hereinafter called "DM's College and Research Centre"), which expression shall, where the context so admits, include its successors and permitted assigns of the other part.

Whereas,

The parties have discussed and deliberated on various items of mutual interest and benefits and have deemed expedient to execute this memorandum of understanding so as to mutually co-operate in the field of curricula, research, training programs, and joint publications etc.



## 1. Agreement on Sharing of Facilities

- 1.1 Both the organizations have agreed to share their respective R & D facilities in order to promote academic and research interaction.
- 1.2 There will be provision for mutual sharing of experts from **“Dr. Prabhakar Kore Basic Science Research Centre”** and resource persons from **“Dnyanprassarak Mandal’s College and Research Centre, Assagao-Goa”**.

## 2. Agreement on Joint R & D Projects

- 2.1 Research projects in the identified areas will be jointly undertaken by **“Dr. Prabhakar Kore Basic Science Research Centre”** and from **“Dnyanprassarak Mandal’s College and Research Centre, Assagao-Goa”**. Both the organizations will submit collaborative research projects to various National and International funding agencies. Both the organizations would ensure the successful completion of the funded research projects.
- 2.2 For all the matters concerned a coordination committee overseeing the issues consisting of four members (two members from **“Dr. Prabhakar Kore Basic Science Research Centre”** and two members from **“Dnyanprassarak Mandal’s College and Research Centre, Assagao-Goa”**) for identifying the issues in joint R & D projects to be carried out under this MoU. The ethical approval of the projects undertaken would be granted by Ethics sub committees of **“Dr. Prabhakar Kore Basic Science Research Centre”** and **“Dnyanprassarak Mandal’s College and Research Centre, Assagao-Goa”**, as registered under law.

## 3. Agreement on Technology transfer:

- 3.1 Both **“Dr. Prabhakar Kore Basic Science Research Centre”** and **“Dnyanprassarak Mandal’s College and Research Centre, Assagao-Goa”** agree mutually to share the technology transfer benefits whenever feasible.

## 4. Agreement on Joint Seminar/conference/Workshops/Hands on training programmes.



4.1 Both "Dr. Prabhakar Kore Basic Science Research Centre" and "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa" agree to hold/conduct events (joint Conference/Workshop/Hands on training programmes) whenever feasible in "Dr. Prabhakar Kore Basic Science Research Centre" or "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa".

**5. Agreement on Industrial visits:**

5.1. Both "Dr. Prabhakar Kore Basic Science Research Centre" and "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa", agree to organize industrial visits whenever feasible, for the students, staff and delegates and also during the Conference / Workshop/ Hands on training programmes.

**6. Agreement on Industrial training:**

6.1 Both "Dr. Prabhakar Kore Basic Science Research Centre" and "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa" agree to train the students and staff by organizing industrial training programmes whenever feasible related to technology, analytical development, validation and documentation etc.

**7. Agreement on Placements:**

7.1 Both "Dr. Prabhakar Kore Basic Science Research Centre" and "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa", agree to provide summer internships to students. This helps in motivating the students, understanding industry environment and practices, job profiles, projects they can undertake besides facilitating them to earn some money to be spent usefully in the next academic year / semester.

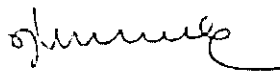
**8. Agreement on Duration, Amendment and Termination of MoU**

8.1 This MoU shall be valid for a period of five years from the date of its signing. During the period of the validity, the MoU can be amended any time by mutual consent of both the parties in writing. The MoU can also be terminated by either

Dr. V.A. Kothiwale  
Registrar

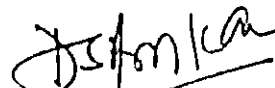
party giving the order a written notice of its desire to terminate the MoU by giving three months notice in advance. In the event of such termination both the parties shall cooperate in good spirit for the completion of the ongoing researchers.

8.2 In witness whereof of the two parties have signed this memorandum of understanding by the hand of, on behalf of "Dr. Prabhakar Kore Basic Science Research Centre" and by the hand on behalf of "Dnyanprassarak Mandal's College and Research Centre, Assagao-Goa" on the date, month and year referred to above.



Deputy Director

KAHER's Dr. Prabhakar Kore Basic Science  
Research Center, Nehru Nagar, Belagavi -10,




Principal

Dnyanprassarak Mandal's College and  
Research Centre, Assagao – Goa, INDIA


Karnataka, INDIA



Witness:



1. Dr. Sanjay Mishra



3. Dr. Vidya Desai



2. Dr. Suneel Dodamani



4. Dr. Rajesh Pednekar



Dr. V.A. Kothiwale

Registrar

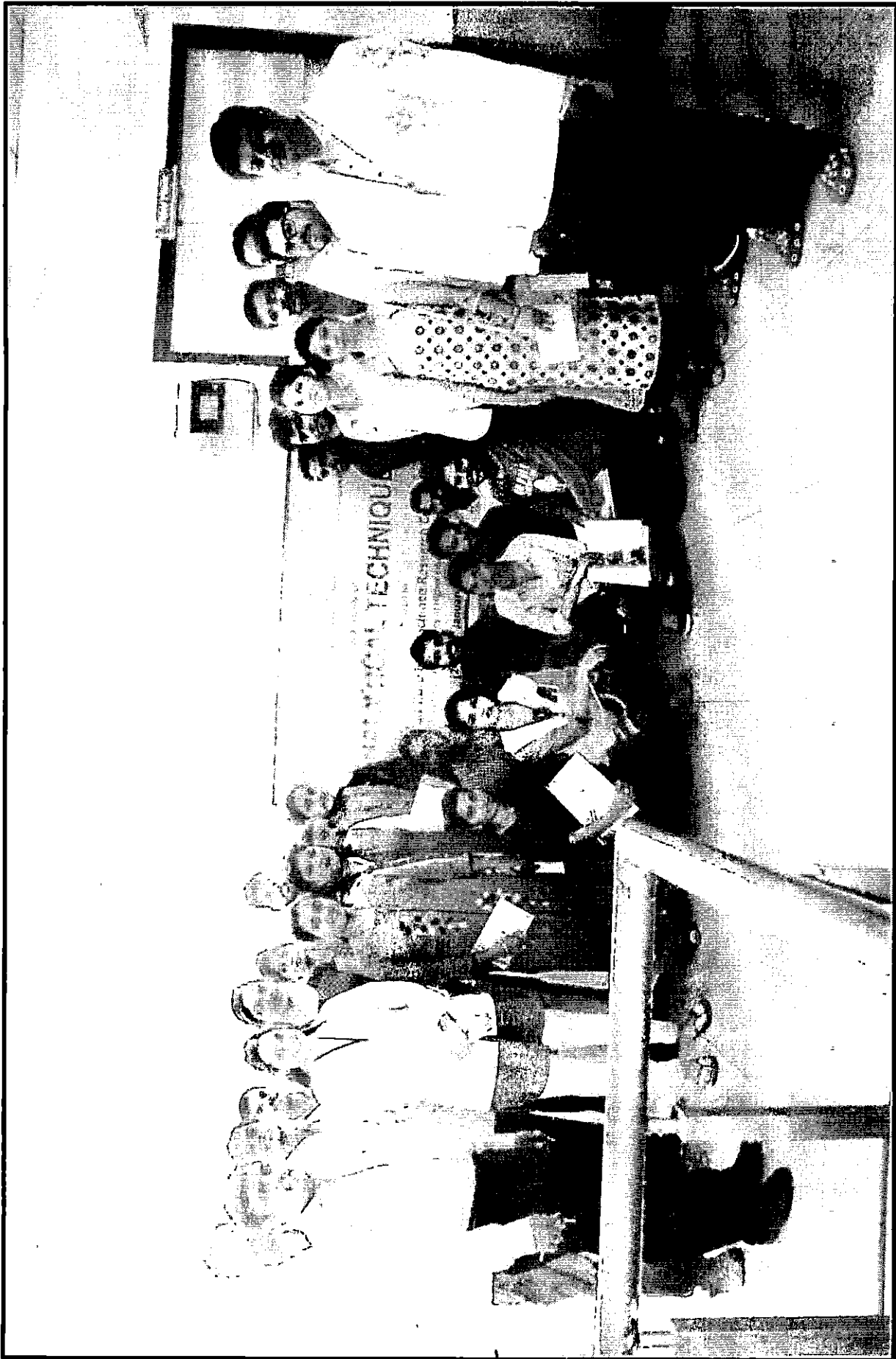
KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



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Registrar

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Registrar

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Belagavi-590 010, Karnataka



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be University U.S. of the U.S.C.A. 1996)  
Belagavi-590 010, Karnataka



  
Dr. V.A.Kothiwale  
Registrar

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Belagavi-590 010, Karnataka



  
Dr. V.A. Kothiwale  
Registrar

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Belagavi-590 010, Karnataka



서울아산병원  
Asan Medical Center

Leading the Future of Health

88 Olympic-Ro 43Gil, Songpa-Gu Seoul, Korea 05505

Tel: 82-2-3010-7438

Fax: 82-2-3010-7940

March 23<sup>rd</sup>, 2018

**Dr. Suhasini Hanumaiah (Passport no. J7959137)**

**Subject: Letter of Program Acceptance**

**Dear Dr. Suhasini Hanumaiah**

It is my delight to inform you that the observation programs at Department of Otolaryngology for 1 month commencing May 2<sup>nd</sup>, 2018 has been approved by Asan Medical Center.

I anticipate your forthcoming visit to Asan Medical Center, and hope this experience will serve as an important step to further enhance qualitative developments of your institution.

Sincerely,

최기동

**Mr. Choi, Ki Dong**

Administrative Director

Asan Medical International

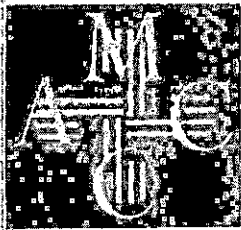
Asan Medical Center, Seoul

**Dr. V.A. Kothiwale**

Registrar

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Belagavi-590 010, Karnataka

30



Association des Médecins et Chirurgiens  
de la clinique Causse

Colombiers,  
May 23<sup>rd</sup>, 2018

Letter of invitation for observership

On behalf of the medical staff of the Jean CAUSSE Ear Clinic, we are pleased to receive **Dr HAVALDAR RAJESH RADHAKRISHNA** from **Belagavi - INDIA** - to the Jean CAUSSE Ear Clinic, in Colombiers (France), from June 25<sup>th</sup>, 2018 to July 13<sup>th</sup>, 2018 for continuing medical education in Otology and from June 28<sup>th</sup> to June 30<sup>th</sup> 2018 to participate to the 20<sup>th</sup> International Otology Course.

Robert VINCENT-MD



Association des Médecins et Chirurgiens  
de la clinique Causse  
Traverse de Béziers  
34440 COLOMBIERS

Association des Médecins et Chirurgiens de la Clinique, Causse, Traverse de Béziers, 34440 Colombiers

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Registrar

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(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

← 1\_0003.jpg



# Certificate

This is to certify that the medical student

**Laita Guin Gonzalez**

Full name

from **Catalonia**

Country

has successfully completed their research exchange project  
**Identification, antibiotic susceptibility and analysis of virulence genes from dental plaque bacteria**

Subject of research exchange project

at the **Basic Science Research Laboratory, KLE University**

Name of department and University/Hospital

**India**

Country

during the period

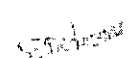
**1st July to 31st July** under the supervision of

Subject

**Dr. Suneel Dodamani**

Name of supervisor

The student has fulfilled the requirements for a research exchange according to the regulations of the Standing Committee on Research Exchange (SCORE) of the International Federation of Medical Students Associations (IFMSA)

  
S. Srinivasan  
Tutor/Institution

  
Dr. Suneel Dodamani  
Hosting NOR/LORE

Sending NOR/LORE

From Srujana Polana  
Fw: Signed Certificates

10/21/19



Star



Forward



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Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



← 1\_0005.jpg



# Certificate

This is to certify that the medical student

**Lorenzo Pierangelo Treccani**

(Name of student)

from **Italy**

(Country)

has successfully completed their research exchange project  
**Effect of platelet rich plasma on gingival fibroblast adhesion and proliferation on titanium implant surfaces - In Vitro Study**

(Name of research project)

at the **Basic Science Laboratory, KLE University**

(Name of department and university)

**India** during the period

(Country)

**1st July TO 31st July** under the supervision of

(Period)

**Ms. Dhanashree Pntil**

(Name of supervisor)

The student has fulfilled the requirements for a research exchange according to the regulations of the Standing Committee on Research Exchange (SCORE) of the International Federation of Medical Students' Associations (IFMSA)

Tutor/Institution

Hosting NORE/COE

Sending NORE/LDRE

From Srujana Polana  
Fw: Signed Certificates

10/21/19



Star



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Belagavi-590 010, Karnataka

← 1\_0001.jpg



# Certificate

This is to certify that the medical student

**Patricia Capdevila Gaudens**

from **Catalonia**

has successfully completed their research exchange project

**Identification, antibiotic susceptibility and analysis of virulence genes from dental plaque bacteria**

at the **Basic Science Research Laboratory, KLE University**

**India** during the period

**1st July to 31st July** under the supervision of

**Dr. Suneel Dodamani**

The student has fulfilled the requirements for a research exchange according to the regulations of the Standing Committee on Research Exchange (SCORE) of the International Federation of Medical Students' Associations (IFMSA).

Tutor/Institution

Hosting NORE/LORE

Sending NORE/LORE

From Srujana Polana  
Fw: Signed Certificates

10/21/19



Star



Forward



Download



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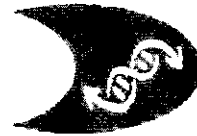
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Registrar

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Belagavi-590 010, Karnataka



**IFMSA**  
International Federation of  
Medical Students' Associations



**SCORE**  
Research Exchange

# Certificate

This is to certify that

Dr. Avinash Kavi

*full name*

has accomplished the task of Tutor for the medical student

Christan Andra

*full name*

supervising his/her work on the research project

Comprehensive review of Indian Primary Healthcare System

*name of research project*

at the department of Community Medicine

*department*

at KLE University, Belagavi, India during the period of

*name of university and country*

August 1, 2017 - August 30, 2017

*period*

The mission of the Standing Committee On Research Exchange (SCORE) is to offer future physicians an opportunity to experience research and diversity in countries all over the world. This is achieved by providing a network of locally and internationally active students that globally facilitate access to research exchange projects. Through our programming and opportunities, we aim to develop both culturally sensitive students and skilled researchers intent on shaping the world of science in the upcoming future.

The Medical Students' Association of India (MSAI-India)

*National Member Organization*

and the Standing Committee On Research Exchange (SCORE) of the International Federation of Medical Students' Associations (IFMSA) recognize the aforementioned tutor's contribution to our organization and to a worldwide development of research exchange.



*NMO President*  
Anmol Patted

Dr. V.A. Kothiwale  
Registrar

*National Officer on Research Exchange*  
Dr. Bharat Sharma



**IFMSA**  
International Federation of  
Medical Students Associations



**SCORE**  
Research Exchange

# Certificate

This is to certify that the medical student

ANIKET SURESH PAVAR

from INSA

has successfully completed their research exchange project

SCIENTIFIC AND HISTORICAL ASPECTS OF YIN-YANG

at the INSTITUTO VASCO DE GAMA DE MEDICINA

DAY during the period

30/08/2018 - 01/09/2018 under the supervision of

PROF. PAULO MATEUS

The student has fulfilled the requirements for a research exchange according to the regulations of the Standing Committee on Research Exchange (SCORE) of the International Federation of Medical Students Associations (IFMSA)

Topic/Institution

INSA

Hosting NORE/LORE

INSA

Sending

INSA



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# IFMSA

International Federation of  
Medical Students' Associations

## OFFICIAL INVITATION LETTER

for a medical research training arranged by the  
*Standing Committee on Research Exchange,*  
*International Federation of Medical Students' Associations*

1<sup>st</sup> March, 2018

To whom it may concern,

Hereby **IFMSA-Brazil**, the National Member Organization of the International Federation of Medical Students' Associations officially invites the student mentioned below to participate in the research exchange program in the period:

from 01/05/2018 at 29/05/2018

**NAME OF STUDENT:** Magadum Harshita  
**DATE OF BIRTH:** 19-01-1998  
**GENDER:** Female  
**NATIONALITY:** India  
**COUNTRY OF ORIGIN:** India  
**PASSPORT NUMBER:** M2330424

The professional part of the program will be organized at the following university clinic/institute. The student will perform a clinical or scientific research project under the supervision of his tutor – one of the staff members. The student will not receive a salary during the period of his exchange period.

**PROJECT:** Identification of Snake venom-derived therapeutic proteins from Bothrops jararaca for cancer treatment.  
**HOSPITAL:** hospital pio xii  
**UNIVERSITY, CITY:** Brazil (IFMSA-Brazil) - Faculdade de Ciências da Saúde de Barretos Dr. Paulo Prata, Barretos  
**HOST COUNTRY:** Brazil  
**HOST ORGANISATION:** IFMSA-Brazil

The hosting organization will provide the student with lodging and boarding for the full period of his exchange period.

Any further information regarding the research exchange program can be obtained from the National Officer on Research Exchange:

**NAME:** Túlio Maia  
**ADDRESS:** Rua Henrique Dias, 496 - Casa do estudante. Recife-PE . zip code: 52010100  
**TEL:** + 55 81997231707  
**EMAIL:** nore@ifmsabrazil.org  
Yours sincerely,

Túlio Maia

Stamp and signature of the NORE



medical  
**students**  
worldwide

Dr. V.A.Kothiwale  
Registrar  
KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# IFMSA

International Federation of  
Medical Students' Associations

## OFFICIAL INVITATION LETTER

for a clerkship in medical training arranged by the  
*Standing Committee on Professional Exchange,*  
*International Federation of Medical Students' Associations*

1<sup>st</sup> December, 2017

To whom it may concern,

This is to confirm that the following student is accepted to participate in our  
bilateral exchange program for medical students:

**NAME OF STUDENT:** Kristic Antonia  
**DATE OF BIRTH:** 26-12-1989  
**NATIONALITY:** Austria  
**COUNTRY OF ORIGIN:** Austria  
**PASSPORT NUMBER:** U0285434

Our organization, which is a member of International Federation of Medical Students' Associations (IFMSA), will arrange a clerkship at one of our universities or affiliated university hospitals. We will, during the mentioned period, provide full board and lodging at no charge. The student will be placed under supervision of the administrating chief doctor at the department and will not get any salary.

**DEPARTMENT:** Radiology  
**HOSPITAL:** KLE's Dr. Prabhakar Kore Hospital  
**UNIVERSITY, CITY:** India (MSAI) - Belgaum, Karnataka  
**HOST COUNTRY:** India  
**HOST ORGANISATION:** MSAI India  
**PERIOD:** 01/02/2018 at 28/02/2018

***We urge all authorities to be helpful in order for the medical student to acquire a visa for the arranged Clerkship.***

Any further questions regarding the mentioned student's clerkship should be directed to the National Exchange Officer:

**NATIONAL EXCHANGE OFFICER:** Taher Tinwala  
**TEL:** +919902327692  
**EMAIL:** scope@msaindia.org

Stamp and signature of the NEO



Yours sincerely,

MSAI B.P. 5501212 France Voltaire CDEX - FRANCE

Tel. +33 (0)3 03 47 51

Fax. +33 (0)3 20 89 37

www.ifmsa.org

medical  
**students**  
worldwide

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

38



# IFMSA

International Federation of  
Medical Students' Associations

## OFFICIAL INVITATION LETTER

for a clerkship in medical training arranged by the  
*Standing Committee on Professional Exchange,*  
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**DEPARTMENT:** Radiology  
**HOSPITAL:** KLE's Dr. Prabhakar Kore Hospital  
**UNIVERSITY, CITY:** India (MSAI) - Belgaum, Karnataka  
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**HOST ORGANISATION:** MSAI India  
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**TEL:** +919902327692  
**EMAIL:** scope@msaindia.org

Stamp and signature of the NEO



Yours sincerely,

CO-WMA B.P. 6501212751000/01010 CODEX-FRANCE

TEL: +33(0)3 04 27 23 33

Fax: +33(0)3 04 27 23 37

www.ifmsa.org

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KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# IFMSA

International Federation of  
Medical Students' Associations

## OFFICIAL INVITATION LETTER

for a clerkship in medical training arranged by the  
*Standing Committee on Professional Exchange,*  
*International Federation of Medical Students' Associations*

1<sup>st</sup> December, 2017

To whom it may concern,

This is to confirm that the following student is accepted to participate in our  
bilateral exchange program for medical students:

**NAME OF STUDENT:** Budnik Bitran Sigall  
**DATE OF BIRTH:** 20-04-1993  
**NATIONALITY:** Chile  
**COUNTRY OF ORIGIN:** Chile  
**PASSPORT NUMBER:** 183944010

Our organization, which is a member of International Federation of Medical Students' Associations(IFMSA), will arrange a clerkship at one of our universities or affiliated university hospitals. We will, during the mentioned period, provide full board and lodging at no charge. The student will be placed under supervision of the administrating chief doctor at the department and will not get any salary.

**DEPARTMENT:** Internal Medicine-General  
**HOSPITAL:** KLE's Dr. Prabhakar Kore Hospital  
**UNIVERSITY, CITY:** India (MSAI) - Belgaum, Karnataka  
**HOST COUNTRY:** India  
**HOST ORGANISATION:** MSAI India  
**PERIOD:** 01/02/2018 at 28/02/2018

***We urge all authorities to be helpful in order for the medical student to acquire a visa for the arranged Clerkship.***

Any further questions regarding the mentioned student's clerkship should be directed to the National Exchange Officer:

**NATIONAL EXCHANGE OFFICER:** Taher Tinwala  
**TEL:** +919902327692  
**EMAIL:** scope@msaindia.org

Stamp and signature of the NEO



*Taher Tinwala*

Yours sincerely,

*Taher Tinwala*

Co-UMMA B.P. 63 01212 France - BELGIUM - CUBA - FRANCE

Tel: +33 (0)3 20 27 70 00 Fax: +33 (0)3 20 52 27

www.ifmsa.org

Registrar

KLE Academy of Higher Education and Research,  
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Belagavi-590 010, Karnataka

medical  
**students**  
worldwide

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# IFMSA

International Federation of  
Medical Students' Associations

## OFFICIAL INVITATION LETTER

for a clerkship in medical training arranged by the  
*Standing Committee on Professional Exchange,*  
*International Federation of Medical Students' Associations*

1<sup>st</sup> December, 2017

To whom it may concern,

This is to confirm that the following student is accepted to participate in our bilateral exchange program for medical students:

**NAME OF STUDENT:** abusada lues alejandro  
**DATE OF BIRTH:** 30-07-1994  
**NATIONALITY:** Chile  
**COUNTRY OF ORIGIN:** Chile  
**PASSPORT NUMBER:** F19524028

Our organization, which is a member of International Federation of Medical Students' Associations(IFMSA), will arrange a clerkship at one of our universities or affiliated university hospitals. We will, during the mentioned period, provide full board and lodging at no charge. The student will be placed under supervision of the administrating chief doctor at the department and will not get any salary.

**DEPARTMENT:** Dermatology  
**HOSPITAL:** KLE's Dr. Prabhakar Kore Hospital  
**UNIVERSITY, CITY:** India (MSAI) - Belgaum, Karnataka  
**HOST COUNTRY:** India  
**HOST ORGANISATION:** MSAI India  
**PERIOD:** 01/02/2018 at 28/02/2018

***We urge all authorities to be helpful in order for the medical student to acquire a visa for the arranged Clerkship.***

Any further questions regarding the mentioned student's clerkship should be directed to the National Exchange Officer:

**NATIONAL EXCHANGE OFFICER:** Taher Tinwala  
**TEL:** +919902327692  
**EMAIL:** scope@msaindia.org

Stamp and signature of the NEO



Yours sincerely,

medical  
**students**  
worldwide

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Richard Derman, MD  
Associate Provost, Global Affairs  
Director, Global Health Research  
Professor, Obstetrics & Gynecology  
1025 Walnut Street, Room G-3  
Philadelphia, PA 19107  
T 215-955-2153  
F 215-503-4026

April 29, 2018

Dear Sushmita Kavatagimath,

On behalf of the Office of Global Affairs at Thomas Jefferson University, I am pleased to extend an invitation to you (Sushmita Kavatagimath, DOB 01/06/1997, Passport# S1654550) to participate in a 1-month observership in Family and Community Medicine commencing June 15<sup>th</sup>, 2018.

During your time on our campus in Philadelphia, you will have the opportunity to shadow thought leaders in their discipline and be actively involved in all aspects of didactic medicine.

Additionally, TJU has agreed to waive its student exchange fees and will also provide housing on the Thomas Jefferson University campus during your anticipated visit.

We recognize an over 20 year history with KLE /JNMC Medical School and believe such exchanges are critical to our research education and mentoring missions.

Best wishes,

Richard

Richard Derman, MD, MPH, FACOG

Associate Provost, Global Affairs,  
Director, Global Health Research  
Professor, Obstetrics and Gynecology  
Thomas Jefferson University  
215-955-2153

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Richard Derman, MD  
Associate Provost, Global Affairs  
Director, Global Health Research  
Professor, Obstetrics & Gynecology  
1025 Walnut Street, Room G-3  
Philadelphia, PA 19107  
T 215-955-2153  
F 215-503-4026

April 29, 2018

Dear Sonal Avati,

On behalf of the Office of Global Affairs at Thomas Jefferson University, I am pleased to extend an invitation to you (Sonal Avati, DOB 13/07/1997, Passport# L4309073) to participate in a 1-month observership in Radiology/Anesthesiology commencing June 15<sup>th</sup>, 2018.

During your time on our campus in Philadelphia, you will have the opportunity to shadow thought leaders in their discipline and be actively involved in all aspects of didactic medicine.

Additionally, TJU has agreed to waive its student exchange fees and will also provide housing on the Thomas Jefferson University campus during your anticipated visit.

We recognize an over 20 year history with KLE /JNMC Medical School and believe such exchanges are critical to our research education and mentoring missions.

Best wishes,

Richard

Richard Derman, MD, MPH, FACOG

Associate Provost, Global Affairs,  
Director, Global Health Research  
Professor, Obstetrics and Gynecology  
Thomas Jefferson University  
215-955-2153

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE



**K.L.E.ACADEMY OF HIGHER EDUCATION AND RESEARCH**

(Deemed-to-be-University)

Accredited A Grade by NAAC (2<sup>ND</sup> Cycle) Placed in Category A by MHRD (GoI)

DEPARTMENT OF E.N.T & HEAD AND NECK SURGERY

JAWAHARLAL NEHRU MEDICAL COLLEGE BELAGAVI

Extn.No:4094, 4072

Ref/Head & Neck Surgical Oncology/

Date:30.12.2017

To,  
Dr.Rajesh Kantharia  
Medical Director  
Head & Neck Oncosurgeon  
KCHRC, Goraj Gujarat

(Through Proper Channel)

Respected Sir,

As a part of KAHER requirements following Postgraduate students in fellowship Head and Neck are posted to your Hospital as stipulated by KAHER, from January - 2018 to December-2018.They will be under your guidance for the purpose of training.

Kindly monitor their learning progress & give the completion certificate at the end of the posting.

S.No	Name of the students	Month
1.	Dr Ahmed	01.01.2018-31.06.2018
2.	Dr Siddharth Vayas	01.07.2018-31.12.2018

Thanking you,

Regards,

Dr Kumar Vinchurkar  
Assoc.Prof. & I/C HOD Surgical Oncology  
Course Co-ordinator for Oncology Fellowship  
JNMC, KAHER, Belagavi

Dr. V.A.Kothiwale  
Registrar

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Belagavi-590 010,Karnataka

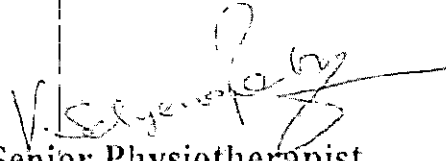


NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES  
(Institute of National Importance)  
Hosur Road, Bengaluru-29


## PHYSIOTHERAPY CENTER

### CERTIFICATE

This is to certify that **Mr. Allen Tiwade**, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka, India has undergone internship at physiotherapy center from 01/03/2018 to 31/03/2018.

  
**Senior Physiotherapist**

Senior Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

  
**Chief Physiotherapist**

**Dr. Aradnya Sheel**  
Ph.D in Neuro Rehabilitation, FIAP  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

  
**Dr. V.A. Kothiwale**  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



NATIONAL INSTITUTE OF MENTAL HEALTH AND  
NEURO SCIENCES (NIMHANS)  
(INSTITUTE OF NATIONAL IMPORTANCE)

BENGALURU - 560 029

PHYSIC THERAPY CENTER

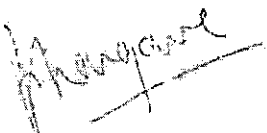
Certificate

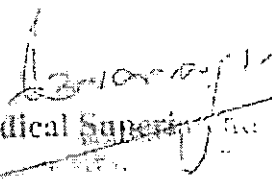
This is to certify that Mr./Ms. AMISHI OZA

a student of KAHER INSTITUTE OF PHYSIOTHERAPY

has undergone CLINICAL TRAINING

from 01.03.2019 to 31.03.2019

  
Chief Physiotherapist

  
Medical Superintendent

This certificate is issued to the candidate after completion of posting / training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

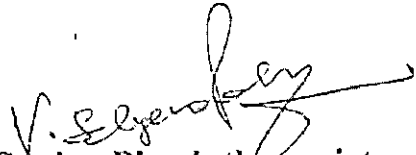


**NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES**  
(Institute of National Importance)  
Hosur Road, Bengaluru-29

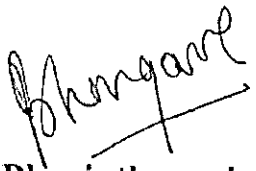
## **PHYSIOTHERAPY CENTER**

### **CERTIFICATE**

This is to certify that **Ms. Ankita Parkhe**, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka has undergone internship at physiotherapy center from 01/03/2018 to 31/03/2018.

  
**Senior Physiotherapist**

Senior Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

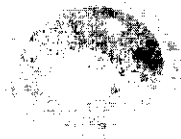
  
**Chief Physiotherapist**

Dr. Pradnya Sheel  
Ph.D. in Neuro Rehabilitation, FIAP  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

  
**Dr. V.A. Kothiwale**  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



NATIONAL INSTITUTE OF HEALTH AND FAMILY WELFARE  
 MYSORE  
 INSTITUTE OF NATIONAL IMPORTANCE

REG. NO. 590/029

WOMEN'S EMPOWERMENT CENTRE

# Certificate

NAME OF THE CANDIDATE: ASMA PARVEEN

NAME OF THE INSTITUTE: KAHER INSTITUTE OF PHYSIOTHERAPY

COURSE: CLINICAL TRAINING

DATE: 03-03-2019

TO: 03-04-2019

Chief Physiotherapist

Medical Superintendent

This certificate is issued to the candidate mentioned above for the purpose of training only. It is not a qualification and this certificate is valid only for the purpose mentioned above.

Dr. V A Kothiwale  
 Registrar

KLE Academy of Higher Education and Research,  
 (Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
 Belagavi 590 010, Karnataka





NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES  
(Institute of National Importance)  
Hosur Road, Bengaluru-29

## PHYSIOTHERAPY CENTER

### CERTIFICATE

This is to certify that Ms. Farhana Bootwala, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka, India has undergone internship at physiotherapy center from 05/03/2018 to 03/04/2018.

*[Handwritten Signature]*

Senior Physiotherapist

Senior Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

*[Handwritten Signature]*

Chief Physiotherapist

Dr. Pradnya Sheel  
Ph.D. in Neuro Rehabilitation, FIAP  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29.

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

*[Handwritten Signature]*  
Dr. V A Kothiwale

Registrar

KLE Academy of Higher Education and Research  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**NATIONAL INSTITUTE OF MENTAL HEALTH AND  
NEURO SCIENCES (NIMHANS)  
( INSTITUTE OF NATIONAL IMPORTANCE)**

**BENGALURU - 560 029**

**PHYSIOTHERAPY CENTER**

**Certificate**

This is to certify that *Mr./Ms.* JOWENA PARIKH  
a student of KAHER INSTITUTE OF PHYSIOTHERAPY  
has undergone CLINICAL TRAINING  
from 01.03.2019 to 31.03.2019

*Dhargave*

**Chief Physiotherapist**  
**Dr. PRADNYA DHARGAVE**  
Ph.D. in Neuro Rehabilitation, FIAP  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-560 029.

*Bhanu*

**Medical Superintendent**

ಶಾಲೀಯ ಮನಃಶಿಕ್ಷಣ ಕೇಂದ್ರ  
ತೆರಿಕಾ ವಿಭಾಗ ೧೨೬ ೧೨  
**MEDICAL SUPERINTENDENT**  
National Institute of Mental Health  
& Neuro Sciences, Bengaluru-560 029

This certificate is issued to the candidate after completion of posting | training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

**Dr. V.A.Kothiwale**  
Registrar

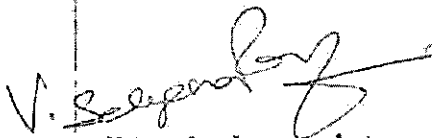


**NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES**  
(Institute of National Importance)  
Hosur Road, Bengaluru-29

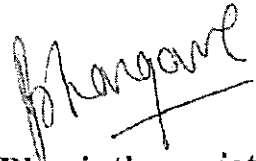
## **PHYSIOTHERAPY CENTER**

### **CERTIFICATE**

This is to certify that **Ms. Khushbu Sanghrajka**, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka, India has undergone internship at physiotherapy center from 01/03/2018 to 31/03/2018.

  
**Senior Physiotherapist**

Senior Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

  
**Chief Physiotherapist**

**Dr. Pradnya Sheel**  
Ph D. in Neuro Rehabilitation FIA  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

  
**Dr. V.A. Kothiwale**  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)

Belagavi-590 010, Karnataka



NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES  
(Institute of National Importance)  
Hosur Road, Bengaluru-29

## PHYSIOTHERAPY CENTER

### CERTIFICATE

This is to certify that Ms. Neeraja V Deshmukh, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka, India has undergone internship at physiotherapy center from 01/03/2018 to 31/03/2018.

Senior Physiotherapist

Senior Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

Chief Physiotherapist

Dr. Pradnya Sheel  
Ph.D. in Neuro Rehabilitation, FIAP  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research  
(Deemed to be University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**NATIONAL INSTITUTE OF MENTAL HEALTH AND  
NEURO SCIENCES (NIMHANS)  
( INSTITUTE OF NATIONAL IMPORTANCE)**

**BENGALURU - 560 029**

**PHYSIOTHERAPY CENTER**

**Certificate**

*This is to certify that Mr./Ms.* POOJA MOTAR  
*a student of* KAHER INSTITUTE OF PHYSIOTHERAPY  
*has undergone* CLINICAL TRAINING  
*from* 01.03.2019 *to* 31.03.2019

*[Signature]*

**Chief Physiotherapist**

DR. P. S. SURESH KUMAR  
 PH.D. (Physiotherapy), M.A. (Applied Psychology)  
 Director, Physiotherapy  
 National Institute of Mental Health and Neuro Sciences  
 Bengaluru - 560 029

*[Signature]*

**Medical Superintendent**

DR. S. S. SURESH KUMAR  
 M.D. (General Medicine), M.A. (Applied Psychology)  
 Director, Medical Services  
 National Institute of Mental Health and Neuro Sciences  
 Bengaluru - 560 029

This certificate is issued to the candidate after completion of posting / training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

*[Signature]*  
**Dr. V.A.Kothiwale**  
 Registrar

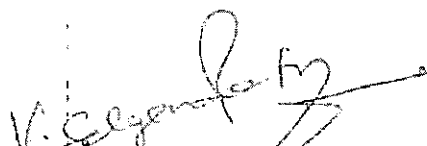


NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES  
(Institute of National Importance)  
Hosur Road, Bengaluru-29

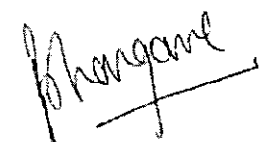
## PHYSIOTHERAPY CENTER

### CERTIFICATE

This is to certify that **Mr. Sanat Kulkarni**, a student of KLE Institute of Physiotherapy, Belagavi, Karnataka, India has undergone internship at physiotherapy center from 01/03/2018 to 31/03/2018.

  
**Senior Physiotherapist**

Senior Physiotherapist  
Physiotherapy Centre

  
**Chief Physiotherapist**

Dr. Jayalaxmi Sheel  
Ph.D. in Neuro Rehabilitation - FIA.  
Chief Physiotherapist  
Physiotherapy Centre  
NIMHANS, Bengaluru-29

This certificate is issued to the candidate after completion of posting/training mentioned. It is not a qualification and this certificate should not be used by the candidate for career advancement.

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed to be University) under the UGC Act, 1956  
Belagavi-590 010, Karnataka

TATA MEMORIAL CENTRE

Certificate


TATA MEMORIAL HOSPITAL CERTIFIES THAT

DR. Ms. ANJALI PARAG

HAS SATISFACTORILY COMPLETED CLINICAL OBSERVERSHIP / TRAINING

IN THE DEPARTMENT OF PHYSIOTHERAPY

FROM 06 / 03 / 2018 TO 06 / 04 / 2018

  
Authorized signatory  
Observer Cell

  
Head of Unit / Department

  
Director

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# TATA MEMORIAL CENTRE



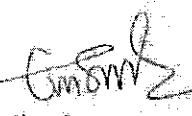
## Certificate

TATA MEMORIAL HOSPITAL CERTIFIES THAT

Dr. MS. SNEHAL BIRJE

HAS SATISFACTORILY COMPLETED CLINICAL OBSERVERSHIP / TRAINING  
IN THE DEPARTMENT OF PHYSIOTHERAPY

FROM 06 / 03 / 2018 TO 06 / 04 / 2018

  
Authorized signatory  
Observe Cell

  
Head of Unit / Department

  
Director Academics

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka





# Tata Memorial Centre

## Certificate




*Tata Memorial Hospital certifies that*


Dr. Moniz Caeteana Cacia

*has satisfactorily completed Clinical observership / Training*

*in the Department of* Physiotherapy

*from* 05 / 01 / 2017 *to* 04 / 02 / 2017

  
Authorized signatory  
Observer Cell

  
Head of Unit / Department

  
Director Academics

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka



# TATA MEMORIAL CENTRE

## Certificate



TATA MEMORIAL HOSPITAL CERTIFIES THAT

DR: Ms. MANAZ RAYANI

HAS SATISFACTORILY COMPLETED CLINICAL OBSERVERSHIP / TRAINING

IN THE DEPARTMENT OF PHYSIOTHERAPY

FROM 06 / 03 / 2018 TO 06 / 04 / 2018

Authorized signatory  
Observe Cell

Head of Unit / Department

Director Academics

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# TATA MEMORIAL CENTRE

## Certificate




TATA MEMORIAL HOSPITAL CERTIFIES THAT

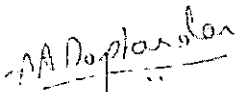
DR. MS. OSHIN MATHIAS

HAS SATISFACTORILY COMPLETED CLINICAL OBSERVERSHIP / TRAINING

IN THE DEPARTMENT OF PHYSIOTHERAPY

FROM 06 / 03 / 2018 TO 06 / 04 / 2018

  
Authorized signatory  
Observe Cell

  
Head of Unit / Department

  
Director Academics

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



TATA MEMORIAL CENTRE



# Certificate

TATA MEMORIAL HOSPITAL CERTIFIES THAT

DR. MS. SNEHAL D. THAKUR

HAS SATISFACTORILY COMPLETED CLINICAL OBSERVERSHIP / TRAINING

IN THE DEPARTMENT OF PHYSIOTHERAPY

FROM 06 / 03 / 2018 TO 06 / 04 / 2018

  
Authorized signatory  
Observe Cell

  
Head of Unit / Department

  
Director Academics

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

# The Spastics Society of Tamilnadu

(SPASTN)

Address :  
CSIR Road, Taramani,  
Chennai - 600 113.  
Tel. : 22541542, 22541651

Registered under the Tamilnadu Registration Act, 1975

Branches :  
Ayanavaram : Tel. : 26441047  
Royapuram : Tel. : 25964140  
Email : spastn@dataone.in  
Website : www.spastn.org



## NATIONAL NETWORK ON DISABILITY

### Activities

- ◆ 3 urban Rehabilitation Centres
- ◆ 13 Newborn Screening Clinics in Urban & Rural Hospitals
- ◆ 7 Rural Community Based Rehabilitation Programme
- ◆ Multiple Disability Programme
- ◆ Inclusive Education Programme
- ◆ Orthotics Unit & Core Workshop
- ◆ Vocational Training Centre
- ◆ Able Art Job-oriented Training Cum Production Unit
- ◆ Human Resource Development Centre
- ◆ Barrier-Free Environment
- ◆ Material & Research Development
- ◆ Policy formulation State / National
- ◆ NGO Network
- ◆ Advocacy
- ◆ Self Help Groups

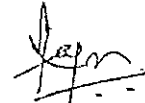
### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Divya M., a MPT intern from KLE COLLEGE OF PHYSIOTHERAPY, Belgaum has successfully completed the internship at Spastics Society of TamilNadu, Chennai from 17<sup>th</sup> September, 2018 to 28<sup>th</sup> September, 2018.

During this period, she had an opportunity to observe children in various classrooms such as Early Intervention, Play class, LKG, UKG, Observational based education, Functional Academics, Multiple Disability Unit, Vocational Training Center, Autism- Early intervention, Autism-Academics, Dept of Occupational Therapy and Dept of Speech Therapy.

We wish her the very best for all future endeavours.

Date: 28<sup>th</sup> September, 2018  
Place: Chennai

  
[Mrs.L.V.JAYASHREE]  
DIRECTOR

- Recipient of :
- UN ESCAP HRD Award
  - National Award for the Best Institution
  - National Award for Barrier Free Environment

- National Award for the Best Creative Child
- State Award for the Best Institution
- State Award for the Best Institution - SSA

Donations are exempted u/s 80G of Income Tax Act, 1961  
Donations are also exempted u/s 35AC of Incometax Act, 1961 (100% exemption)

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Scanned by CamScanner



# The Spastics Society of Tamilnadu (SPASTN)

CSIR Road, Taramani, Chennai 600113

☎ 22541542/22541651



www.spastn.org



thespasticsocietyoftamilnadu@gmail.com

NATIONAL NETWORK ON DISABILITY

(Registered under the Tamilnadu Societies Registration Act, 1975)

BRANCHES. ●

Ayanavaram - ☎ 264441047



Royapuram - ☎ 25964140

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Mehreen AbdulHafiz Bandmaster, a MPT intern from KLE COLLEGE OF PHYSIOTHERAPY, Belgaum has successfully completed the internship at The Spastics Society of TamilNadu, Chennai from 22<sup>nd</sup> October, 2018 to 2<sup>nd</sup> November, 2018.

During this period, she had an opportunity to observe children in various classrooms such as Early Intervention, Play class, LKG, UKG, Observational based education, Functional Academics, Multiple Disability Unit, Vocational Training Center, Autism- Early intervention, Autism- Academics, Dept of Occupational Therapy and Dept of Speech Therapy.

We wish her the very best for all future endeavours:

Date: 2<sup>nd</sup> November, 2018  
Place: Chennai

[MRS. L.V. JAYASHREE]  
DIRECTOR

Urban Rehabilitation Centres  
Newborn Screening Clinics in urban and rural hospitals  
Vocational Training Centre  
ABLE @ WOW  
Workshop & Orthotics Unit  
Human Resource Development Centre



Community Based Rehabilitation Programme  
Inclusive Education Programme  
Accessibility Training  
Material and Research Development  
Policy Formulation- State & National  
Advocacy

● UN ESCAP HRD Award ● National Award for Best Institution ● National Award for Barrier Free Environment  
● National Award for the Best Creative Child ● State Award for the Best Institution ● State Award for the Best Institution SSA  
● National Trust Award- SNAC & SPANDAN

Donations are exempted u/s 80G of Income Tax Act, 1961.

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Fortis Hospitals Limited

154/9, Bannerghatta Road

Opp. HM-B, Bangalore - 560 076

Tel: +91-80-6621 4444, 2254 4444

Fax: +91-80-6621 4142

care@fortishospitals.com

www.fortishospitals.com

CIN: U11000DL2009PLC221126

29/11/2018

## CERTIFICATE OF OBSERVERSHIP

This is to certify that Mr. Nishant Singh was on "clinical Rotation for Cardio Respiratory and ICG Management" as a part of Masters of Physiotherapy curriculum from KLE Institute of Physiotherapy at Fortis Hospital, Bannerghatta Road, Bangalore from 01/11/2018- 29/11/2018.

Regards,

Jitha Joseph

Head, Physiotherapy and Rehabilitation

Fortis Healthcare Limited

154/9, opp HM-B, Bannerghatta Road

Bangalore- 560076

Tel: +91-80-66214191

Mobile: 9880178869

Email: [jitha.joseph@fortishealthcare.com](mailto:jitha.joseph@fortishealthcare.com)

**FORTIS HOSPITALS LIMITED**  
154/9, Bannerghatta Road  
Opp. Indian Institute of Management  
Bangalore- 560 076



Dr. V.A. Kotniwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UCC Act, 1956)

Belagavi-591 010, Karnataka



# The Spastics Society of Tamil Nadu (SPASTIN)

13/1, 1st Floor, Chelva Road, Chennai - 600 020

Phone: 2354342, 2354343, 2354344, 2354345, 2354346, 2354347, 2354348, 2354349, 2354350, 2354351, 2354352, 2354353, 2354354, 2354355, 2354356, 2354357, 2354358, 2354359, 2354360, 2354361, 2354362, 2354363, 2354364, 2354365, 2354366, 2354367, 2354368, 2354369, 2354370, 2354371, 2354372, 2354373, 2354374, 2354375, 2354376, 2354377, 2354378, 2354379, 2354380, 2354381, 2354382, 2354383, 2354384, 2354385, 2354386, 2354387, 2354388, 2354389, 2354390, 2354391, 2354392, 2354393, 2354394, 2354395, 2354396, 2354397, 2354398, 2354399, 2354400, 2354401, 2354402, 2354403, 2354404, 2354405, 2354406, 2354407, 2354408, 2354409, 2354410, 2354411, 2354412, 2354413, 2354414, 2354415, 2354416, 2354417, 2354418, 2354419, 2354420, 2354421, 2354422, 2354423, 2354424, 2354425, 2354426, 2354427, 2354428, 2354429, 2354430, 2354431, 2354432, 2354433, 2354434, 2354435, 2354436, 2354437, 2354438, 2354439, 2354440, 2354441, 2354442, 2354443, 2354444, 2354445, 2354446, 2354447, 2354448, 2354449, 2354450, 2354451, 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### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Sherin Paulose, a MPT intern from KLE Academy of Higher Education and Research, Belgaum has successfully completed the internship at The Spastics Society of TamilNadu Chennai from 22<sup>nd</sup> October, 2018 to 2<sup>nd</sup> November, 2018.

During this period, she had an opportunity to observe children in various classrooms such as Early Intervention, Play class, LKG, UKG, Observational based education, Functional Academics, Multiple Disability Unit, Vocational Training Center, Autism, Early intervention, Autism Academics, Dept of Occupational Therapy and Dept of Speech Therapy.

We wish her the very best for all future endeavours.

Date: 2<sup>nd</sup> November 2018  
Place: Chennai

  
[MRS L V JAYASHREE]  
DIRECTOR



- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher
- \* National Award for Best Teacher

Dr VA Kethiwala  
Registrar

Scanned by CamScanner





# The Spastics Society of Tamilnadu (SPASTN)

CSIR Road, Taramani, Chennai 600113

☎ 22541542/22541651



www.spastn.org



thespasticsocietyoftamilnadu@gmail.com

NATIONAL NETWORK ON DISABILITY

(Registered under the Tamilnadu Societies Registration Act, 1975)

BRANCHES: ●

Ayanavaram - ☎ 264441047

●

Royapuram - ☎ 25964140

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Shruti Murthy, a MPT intern from KLE COLLEGE OF PHYSIOTHERAPY, Belgaum has successfully completed the internship at Spastics Society of TamilNadu, Chennai from 3<sup>rd</sup> December, 2018 to 14<sup>th</sup> December, 2018.

During this period, she had an opportunity to observe children in various classrooms such as Early Intervention, Play class, LKG, UKG, Observational based education, Functional Academics, Multiple Disability Unit, Vocational Training Center, Autism- Early intervention, Autism- Academics, Dept of Occupational Therapy and Dept of Speech Therapy.

We wish her the very best for all future endeavours.

Date: 14<sup>th</sup> December, 2018  
Place: Chennai

[Mrs.L.V.JAYASHREE]  
DIRECTOR



3 Urban Rehabilitation Centres  
Newborn Screening Clinics in urban and rural hospitals  
Vocational Training Centre  
ABLE @ WOW  
Workshop & Orthotics Unit  
Human Resource Development Centre



Community Based Rehabilitation Programme  
Inclusive Education Programme  
Accessibility Training  
Material and Research Development  
Policy Formulation State & National  
Advocacy

- UN ESCAP HRD Award ● National Award for Best Institution ● National Award for Barrier Free Environment  
● National Award for the Best Creative Child ● State Award for the Best Institution ● State Award for the Best Institution- SSA  
● National Trust Award- SNAC & SPANDAN

Donations are exempted up to 80% of Income Tax Act, 1961

Dr. V.A. Kotriwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# The Spastics Society of Tamilnadu

(SPASTN)

Address :  
CSIR Road, Taramani,  
Chennai - 600 113,  
Tel. : 22541542, 22541651

Registered under the Tamilnadu Registration Act, 1975

Branches :

Ayanavaram : Tel. : 26441047

Royapuram : Tel. : 25964140

Email : spastn@dataone.in

Website : www.spastn.org



## NATIONAL NETWORK ON DISABILITY

### Activities

- 3 urban Rehabilitation Centres
- 13 Newborn Screening Clinics in Urban & Rural Hospitals
- 7 Rural Community Based Rehabilitation Programme
- Multiple Disability Programme
- Inclusive Education Programme
- Orthotics Unit & Core Workshop
- Vocational Training Centre
- Able Art Job-oriented Training Cum Production Unit
- Human Resource Development Centre
- Barrier Free Environment
- Material & Research Development
- Policy formulation State / National
- NGO Network
- Advocacy
- Self Help Groups

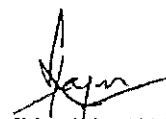
### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Shruti Yadav, a MPT intern from KLE COLLEGE OF PHYSIOTHERAPY, Belgaum has successfully completed the internship at Spastics Society of TamilNadu, Chennai from 17<sup>th</sup> September, 2018 to 28<sup>th</sup> September, 2018.

During this period, she had an opportunity to observe children in various classrooms such as Early Intervention, Play class, LKG, UKG, Observational based education, Functional Academics, Multiple Disability Unit, Vocational Training Center, Autism- Early intervention, Autism- Academics, Dept of Occupational Therapy and Dept of Speech Therapy.

We wish her the very best for all future endeavours.

Date: 28<sup>th</sup> September, 2018  
Place: Chennai

  
[Mrs. L.V. JAYASHREE]  
DIRECTOR

- UN ESCAP HRD Award
- National Award for the Best Institution
- National Award for Barrier Free Environment

Recipient of :

- National Award for the Best Creative Child
- State Award for the Best Institution
- State Award for the Best Institution - SSA

Donations are exempted u/s 80G of Income Tax Act, 1961

Donations are also exempted u/s. 35AC of Income Tax Act, 1961 (100% exemption)

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

To: Ms. Hema, KLE Hospital

01/12/2017

### CERTIFICATE OF ACHIEVEMENT

is hereby conferred on Ms. Anza Bhatnagar  
for her contribution in the field of  
Masters of Physiotherapy (M.Phys) in  
Physiotherapy at KLE Hospital, Belagavi  
02/12/2017-01/12/2017

Signature  
Date

Regards,

Prof. Jyoti



Principal, KLE Hospital, Belagavi

Principal, KLE Hospital

Principal, KLE Hospital, Belagavi

Principal, KLE Hospital

Principal, KLE Hospital

Principal, KLE Hospital

**KLE HOSPITALS LIMITED**

Belagavi - 590 010, Karnataka



Registrar



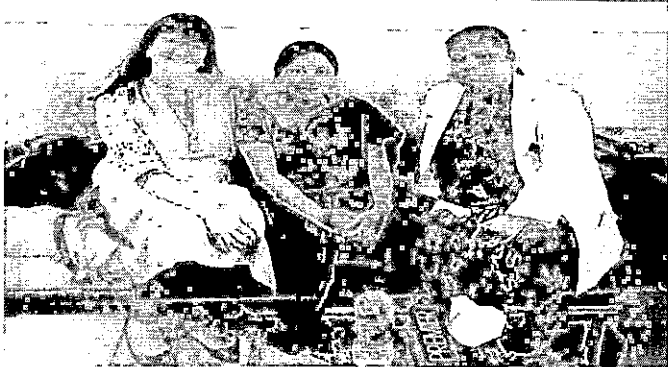
**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

[Declared under Section 3 of the UGC Act, 1956 vide Government of India Notification No.F.9-19/2000-U.3(A)]  
Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) Placed in 'Category A' by MHRD, Govt. of India

**INSTITUTE OF NURSING SCIENCES**

BELAGAVI, KARNATAKA, INDIA

**REPORT ON VISIT BY FACULTY FROM UNIVERSITY OF EAST ANGLIA,  
NORWICH, UK**

DATE & DAY	Time	SCHEDULE	VENUE
Thursday 29 <sup>th</sup> November 2018	09:30 am to 11:00 am	<ul style="list-style-type: none"> <li>Meeting with Dean &amp; Principal and OBG Faculty</li> </ul>  <ul style="list-style-type: none"> <li>Overview and feedback of CLiP Mentorship Programme               <ul style="list-style-type: none"> <li>➤ Dual role for faculty, 8 hrs clinical duty for the faculty members department wise.</li> <li>➤ Staff nurses and head nurses are involved in taking student's log book requirements</li> </ul> </li> <li>Finishing school conducted for 4<sup>th</sup> B.Sc students in OBG (N) dept as skills and drills workshop are implemented in curriculum. Obstetrical emergencies like PPH, shoulder dystocia and breech delivery was covered in Finishing School Programme.</li> <li>Discussion and Feedback on elective placements of Midwifery teachers and students of UK and India and continuation of the same in future as well.</li> </ul>	Conference Hall, KAHER INS
	11:00 am to 12:30 pm	Guest Lecture by Jayne Needham on " Management of Post partum hemorrhage" and discussed about the various methods of birth practices in UK like Water birth"	Seminar Hall, KAHER INS Belagavi

**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

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**INSTITUTE OF NURSING SCIENCES**

BELAGAVI, KARNATAKA, INDIA

12:30 pm  
to 01:00  
pm

Discussion on MOU between KLE Academy of Higher Education and Research and School of Health Sciences, University of East Anglia, Norwich, UK to continue partnership

Conference  
Hall, KAHER  
INS

- Review of mentorship programme for qualified staff nurses at Dr. Prabhakar Kore Hospital, Belagavi, Karnataka
- Review and progress of link teacher system at KLE Hospital
- To co-host academic conferences, workshops in collaborations with Fernandes Hospital, Hyderabad, India
- To continue the students and staff elective placements
- To co-author and collaborate in areas of research projects.



**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

[Declared under Section 3 of the UGC Act, 1956 vide Government of India Notification No.F.9-19/2000-U.3(A)]

Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle)

Placed in 'Category A' by MHRD, Govt. of India

**INSTITUTE OF NURSING SCIENCES**

**BELAGAVI, KARNATAKA, INDIA**



*Sudha*

**Dean & Principal,**

**KLE University's Institute of Nursing Sciences,**

**Belagavi**

**KLE UNIVERSITY**

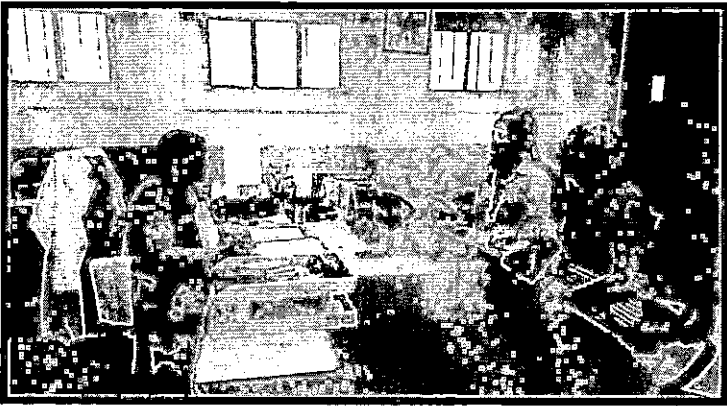
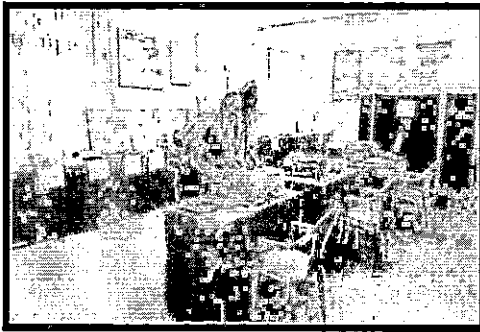

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**INSTITUTE OF NURSING SCIENCES**

BELGAUM, KARNATAKA, INDIA

**ELECTIVE PLACEMENT OF II YEAR MIDWIFERY STUDENTS FROM  
UNIVERSITY OF EAST ANGLIA NORWICH, UK**

Brief Report of Day 1, 08-08-2018

Time	Particulars
11:00 to 1:00 pm	<p>Ms. Abbie, Ms. Emily visited KLEU's Institute of Nursing Sciences, Belagavi. Had a meeting with Dean &amp; Principal and faculty of nursing KLEU's Institute of Nursing Sciences, Belagavi.</p>  <p>Ms. Abbie, Ms. Emily visited KLEU's Institute of Nursing Sciences, Belagavi. Had an interaction with Prof (Dr) Sangeeta K HOD Dept of OBG (N) KLEU's Institute of Nursing Sciences, Belagavi.</p>
1.00 to 2:00 pm	LUNCH BREAK
2.00 TO 5:00 pm	<p>Ms. Abbie, Ms. Emily got oriented to KLEU's Institute of Nursing Sciences, Belagavi. Visited different Labs: Nursing Foundation, Child Health Nursing, Community Health Nursing, Nutrition and Midwifery skill Lab. They were accompanied by Mrs. Shweta Dandagi.</p>   <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p><b>MIDWIFERY SILL LAB</b></p> </div>



## **KLE UNIVERSITY**

[Declared under Section 3 of the UGC Act, 1956 vide Government of India Notification No.F.9-19/2000-U.3(A)]  
Accredited 'A' Grade by NAAC Placed in 'Category A' by MHRD, Govt. of India

## **INSTITUTE OF NURSING SCIENCES BELGAUM, KARNATAKA, INDIA**



### **NURSING EDUCATION LAB**



### **FUNDAMENTAL LAB**

**UKIERI**  
UK-India Education  
and Research Initiative

This document is an output from the UKIERI (UK India Education and Research Initiative) project funded by the Department of Business, Innovation and Skills (BIS), the Foreign and Commonwealth office, British Council Division, Ministry of Human Resource Development-Government of India, Department of Science and Technology-Government of India, The Scottish Government, Department of Learning-Northern Ireland, and Welsh Assembly for the benefit of the Indian Higher and Further Education Sector and the UK Higher and Further Education Sector. The views expressed are not necessarily those of the funding bodies.

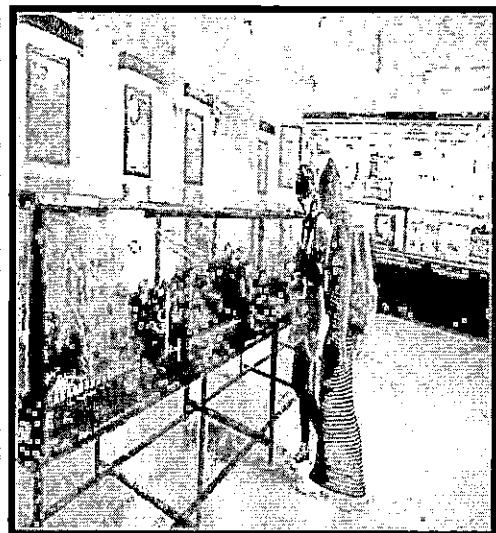
  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**KLE UNIVERSITY**

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**INSTITUTE OF NURSING SCIENCES**  
BELGAUM, KARNATAKA, INDIA



**COMMUNITY LAB**



**NUTRITION LAB**

**UKIERI**  
UK-India Education  
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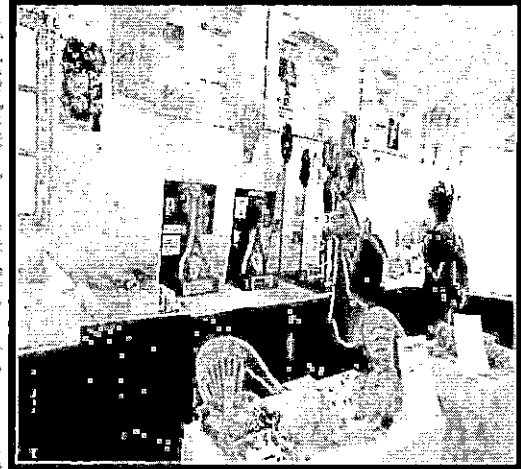
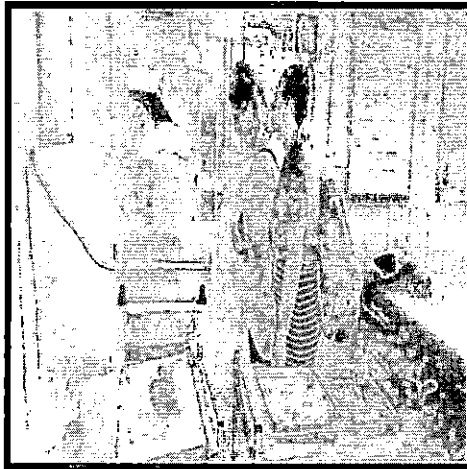


## KLE UNIVERSITY

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## INSTITUTE OF NURSING SCIENCES

BELGAUM, KARNATAKA, INDIA



### PAEDIATRIC LAB

Dean & Principal,  
KLE University's Institute of Nursing Sciences,  
Belagavi

**UKIERI**  
UK-India Education  
and Research Initiative

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**KLE UNIVERSITY**

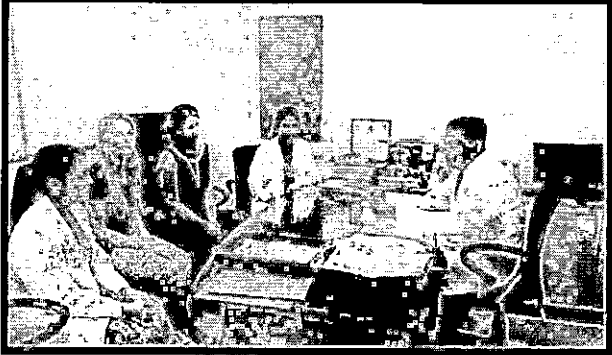
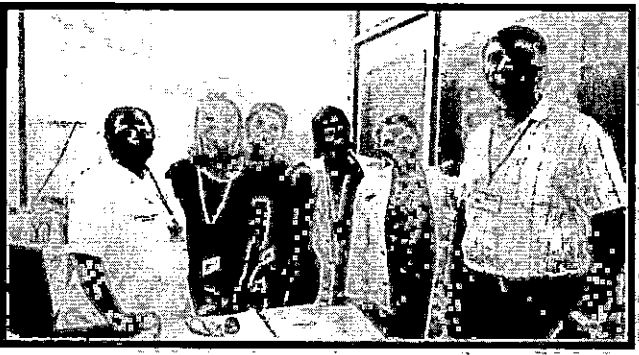
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**INSTITUTE OF NURSING SCIENCES**

BELGAUM, KARNATAKA, INDIA

**ELECTIVE PLACEMENT OF II YEAR MIDWIFERY STUDENTS FROM  
UNIVERSITY OF EAST ANGLIA NORWICH, UK**

Brief Report of Day 2, 09-08-2018

Time	Event	Particulars
9:30 to 1:00pm	Session I	<p>Mrs. Shweta Dandagi and Ms. Babita B accompanied Ms. Abbie, Ms. Emily to meet Medical Director and CEO/Nursing Superintendent of KLE's Dr. Prabhakar Kore Hospital and Research centre. Dr. Prof R.S Mudol Medical Director KLE's Dr. Prabhakar Kore charitable hospital, Belagavi welcomed them and introduced Hospital set up, different activities carried out and facilities available in the Hospital.</p>  <p><b>MEETING WITH MEDICAL DIRECTOR KLE'S DR. PRABHAKARKORE CHARITABLE HOSPITAL, BELAGAVI</b></p>  <p><b>MEETING WITH NURSING SUPERINTENDENT OF KLE'S DR. PRABHAKAR KORE HOSPITAL AND RESEARCH CENTRE</b></p>

**KLE UNIVERSITY**

[Declared under Section 3 of the UGC Act, 1956 vide Government of India Notification No.F.9-19/2000-U.3(A)]  
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**INSTITUTE OF NURSING SCIENCES**  
BELGAUM, KARNATAKA, INDIA



**MEETING WITH NURSING SUPERINTENDENT OF KLE'SDR. PRABHAKAR KORE CHARITABLE HOSPITAL. BELAGAVI.**

1.00 to 2.00am

Lunch break

2.30 to 4:00pm

Session II

Dept of OBG Nursing, KLE University's Institute of Nursing Sciences, Belagavi. Celebrated Adolescent Day by delivering guest lecture on "Adolescent health". Ms. Abbie, Ms. Emily participated in the event and had an interaction with our resource person Prof. Sunilkumar Kulkarni. Professor department of community health nursing, Bharati Vidyapeet Sangli, Maharashtra.



**ADOLESCENT DAY CELEBRATION**

Dean & Principal,  
KLE University's Institute of Nursing Sciences,  
Belagavi



# KLE UNIVERSITY



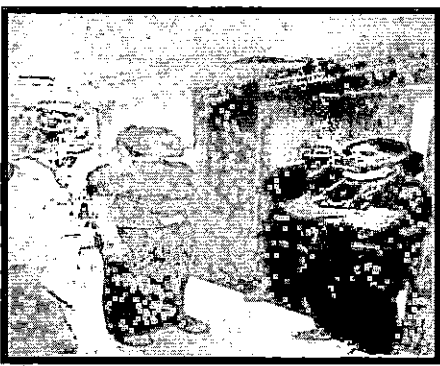
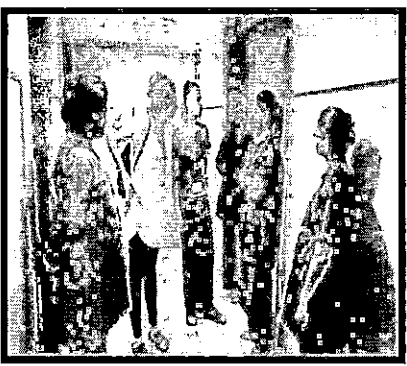
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## INSTITUTE OF NURSING SCIENCES

BELGAUM, KARNATAKA, INDIA

### ELECTIVE PLACEMENT OF II YEAR MIDWIFERY STUDENTS FROM UNIVERSITY OF EAST ANGLIA NORWICH, UK

Brief Report of Day 3, 10-08-2018

Time	Event	Particulars
8:30 to 12:00am	Session I	<p>Mrs.Shweta accompanied the 2 students to visit KLE's Dr. PrabhakarKore Hospital and Research centre. They got oriented to Free Labour Room, Paid Labour Room, Paid NICU, Maternity Ward, Free NICU and Antenatal OPD of KLE's Dr. PrabhakarKore Hospital and Research centre.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"><b>FREE LABOUR ROOM</b></div> <div style="display: flex; justify-content: space-around;">   </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"><b>PAID LABOUR ROOM</b></div>

**UKIERI**  
UK-India Education  
and Research Initiative

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Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

**KLE UNIVERSITY**

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**INSTITUTE OF NURSING SCIENCES**  
BELGAUM, KARNATAKA, INDIA



**MATERNITY WARD**



**NICU**

1.00 to 2.00am

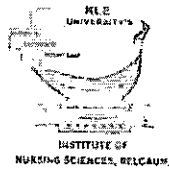
**Lunch Break**

02.00 to 5:00pm

**Session II**

Mrs. Shweta accompanied the 2 students to visit maternity ward of KLE's Dr. PrabhakarKoreCharitable Hospital and milk bank. They got oriented to Maternity, met ward Incharge & had a interaction regarding Staff strength, patient strength, procedures & activities carried out.





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## INSTITUTE OF NURSING SCIENCES

BELGAUM, KARNATAKA, INDIA



**MATERNITY WARD**



**MILK BANK**

Dean & Principal,  
KLE University's Institute of Nursing Sciences,  
Belagavi

**UKIERI**  
UK-India Education  
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*[Signature]*  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



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**INSTITUTE OF NURSING SCIENCES**

BELGAUM, KARNATAKA, INDIA

**ELECTIVE PLACEMENT OF II YEAR MIDWIFERY STUDENTS FROM  
UNIVERSITY OF EAST ANGLIA NORWICH, UK**

Brief Report of Day 4, 11-08-2018

Time	Event	Particulars
8:30 to 1:00am	Session I	<p>Ms. Shweta accompanied the 2 students to free labour room of KLE's Dr. PrabhakarKore Charitable Hospital. Students witnesses 2 Normal Vaginal Deliveries and 1 Caesarean section.</p>   <p style="text-align: center;"><b>FREE LABOUR ROOM POSTING</b></p>

Dean & Principal,  
KLE University's Institute of Nursing Sciences,  
Belagavi







### KLE UNIVERSITY

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## INSTITUTE OF NURSING SCIENCES BELGAUM, KARNATAKA, INDIA

# ELECTIVE PLACEMENT OF II YEAR MIDWIFERY STUDENTS FROM UNIVERSITY OF EAST ANGLIA NORWICH, UK

Brief Report of Day 5, 13-08-2018

Time	Event	Particulars
9:30 to 1:00pm	Session I	<p>Mr. Cyril and Mr. Basavaraj oriented the students to community set ups. students visited to Kinaye Rural health centre, yellur hospital and shantai vruddashram.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"><b>VISIT TO KINAYE PHC</b></div> <div style="display: flex; justify-content: space-around;">   </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"><b>VISIT TO SHANTAI VRUDDASHRAM</b></div>

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Dr. V.A.Kothiwale  
Registrar

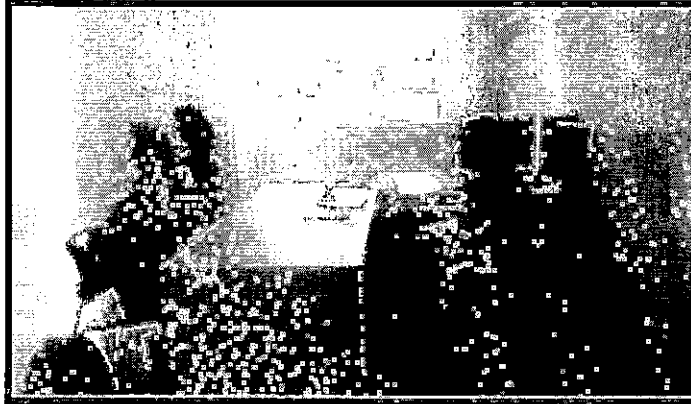
KLE Academy of Higher Education and Research,  
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Belagavi-590 010, Karnataka

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**INSTITUTE OF NURSING SCIENCES**

**BELGAUM, KARNATAKA, INDIA**



**VISIT TO YELLUR HOSPITAL**

1.00 to 02.00pm

Lunch Break

02.30 to 4:00pm

Session II

Had interaction with college staffs and students.



**INTERACTION WITH STUDENTS**

Dean & Principal,  
KLE University's Institute of Nursing Sciences,  
Belagavi


**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

[Declared under Section 3 of the UGC Act, 1956 vide Government of India Notification No.F.9-19/2000-U.3(A)]  
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**INSTITUTE OF NURSING SCIENCES**

BELAGAVI, KARNATAKA, INDIA

**REPORT ON VISIT BY FACULTY FROM UNIVERSITY OF EAST ANGLIA,  
NORWICH, UK**

DATE & DAY	Time	SCHEDULE	VENUE
Thursday 29 <sup>th</sup> November 2018	09:30 am to 11:00 am	<ul style="list-style-type: none"> <li>Meeting with Dean &amp; Principal and OBG Faculty</li> </ul>  <ul style="list-style-type: none"> <li>Overview and feedback of CLiP Mentorship Programme               <ul style="list-style-type: none"> <li>➤ Dual role for faculty, 8 hrs clinical duty for the faculty members department wise.</li> <li>➤ Staff nurses and head nurses are involved in taking student's log book requirements</li> </ul> </li> <li>Finishing school conducted for 4<sup>th</sup> B.Sc students in OBG (N) dept as skills and drills workshop are implemented in curriculum. Obstetrical emergencies like PPH, shoulder dystocia and breech delivery was covered in Finishing School Programme.</li> <li>Discussion and Feedback on elective placements of Midwifery teachers and students of UK and India and continuation of the same in future as well.</li> </ul>	Conference Hall, KAHER INS
	11:00 am to 12:30 pm	Guest Lecture by Jayne Needham on "Management of Post partum hemorrhage" and discussed about the various methods of birth practices in UK like Water birth"	Seminar Hall, KAHER INS Belagavi

**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

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**INSTITUTE OF NURSING SCIENCES**

**BELAGAVI, KARNATAKA, INDIA**

12:30 pm  
to 01:00  
pm

Discussion on MOU between KLE Academy of Higher Education and Research and School of Health Sciences, University of East Anglia, Norwich, UK to continue partnership

Conference  
Hall, KAHER  
INS

- Review of mentorship programme for qualified staff nurses at Dr. Prabhakar Kore Hospital, Belagavi, Karnataka
- Review and progress of link teacher system at KLE Hospital
- To co-host academic conferences, workshops in collaborations with Fernandes Hospital, Hyderabad, India
- To continue the students and staff elective placements
- To co-author and collaborate in areas of research projects.



**KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH**

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**INSTITUTE OF NURSING SCIENCES**

**BELAGAVI, KARNATAKA, INDIA**



Dean, Faculty of Nursing  
Principal, Institute of Nursing Sciences,  
Belagavi

**UKIERI**  
UK-India Education  
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Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research  
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Belagavi-590 010, Karnataka



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## INSTITUTE OF NURSING SCIENCES BELGAUM, KARNATAKA, INDIA

### ELECTIVE PLACEMENT OF IV YEAR B.Sc NURSING STUDENTS FROM KLE UNIVERSITY INSTITUTE OF NURSING SCIENCES, BELAGAVI TO UNIVERSITY OF EAST ANGLIA NORWICH, UK

Brief Report 14-11-2018

Time	Particulars
11:00 to 1:00 pm	<p>Ms. Ashlyn P, Ms. Liaura C and Ms. Queency F visited School of Nursing Sciences, University of East Anglia, Norwich, UK Under UKIERI (UK-India Education &amp; Research Initiative) from KLEU's Institute of Nursing Sciences, Belagavi. The visit was under the Elective placement and exchanges of students to understand the Midwifery practice. The visit was from 14<sup>th</sup> to 28<sup>th</sup> November 2018.</p> <div data-bbox="667 913 1158 1253" data-label="Image"></div> <div data-bbox="632 1285 1193 1630" data-label="Image"></div>

**UKIERI**  
UK-India Education  
and Research Initiative

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Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH  
(Deemed-to-be-University)**

Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category "A" by MHRD (GoI)  
DEPARTMENT OF E.N.T & HEAD AND NECK SURGERY  
JAWAHARLAL NEHRU MEDICAL COLLEGE, BELAGAVI  
Extn.No:4094,4072

Ref/ENT/

Date: 12/01/2018

To,  
Dr.H.Vijayendra  
Director,  
Vijaya ENT Care Centre,  
Bangalore.

(Through Proper Chanel)

Respected Sir,

As a part of KAHER requirements following Postgraduate students in ENT (MS) are posted to your Hospital as stipulated by KAHER, from **June 2018 to May 2019**. They will be under your guidance for the purpose of training.

Kindly monitor their learning progress & give the completion certificate at the end of the posting.

S.No	Name of the students	Month
1.	Dr. Anju Singh	16.07.2018- 30.07.2018
2.	Dr.Jahnavi	01.07.2018- 15.07.2018
3.	Dr.A Aparna	16.08.2018- 31.08.2018
4.	Dr.Tejaswini	01.08.2018- 15.08.2018
5.	Dr. Amreen	16.09.2018- 30.09.2018
6.	Dr.Neha	01.09.2018- 15.09.2018
7.	Dr.Shivani	01.10.2018- 15.10.2018
8.	Dr.Samanvaya	16.10.2018- 31.10.2018
9.	Dr. Suhasini	1.11.2018- 15.11.2018
10.	Dr. B deepthi	16.11.2018- 30.11.2018
11.	Dr. Rajesh Havaldar	1.12.2018- 15.12.2018

Thanking you,

Yours faithfully,

Dr. A.S. Harugop  
Professor & Head,  
Dept. of ENT & HNS,  
J.N.Medical College, Belgaum

Dr. V.A.Kothiwale  
Registrar





**K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH  
(Deemed-to-be-University)**

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DEPARTMENT OF E.N.T & HEAD AND NECK SURGERY  
JAWAHARLAL NEHRU MEDICAL COLLEGE, BELAGAVI  
Extn.No:4094,4072

Ref/ENT/

Date: 12/01/2018

To,  
The Director,  
All India Institute of Speech & Hearing,  
Mysore.

(Through Proper Chanel)

Respected Sir,

As a part of KAHER requirements following Postgraduate students in ENT (MS) are posted to your Hospital as stipulated by KAHER, from **June 2018 to May 2019**. They will be under your guidance for the purpose of training.

Kindly monitor their learning progress & give the completion certificate at the end of the posting.

S.No	Name of the students	Month
1.	Dr. Suhasini	01-07-2018 to 15-07-2018
2.	Dr. B deepthi	16-07-2018 to 31-07-2018
3.	Dr. Rajesh Havaladar	01-08-2018 to 15-08-2018
4.	Dr. Anju Singh	16-08-2018 to 31-08-2018
5.	Dr.Jahnavi	01-09-2018 to 15-09-2018
6.	Dr.A Aparna	16-09-2018 to 30-09-2018
7.	Dr.Tejaswini	01-10-2018 to 15-10-2018
8.	Dr. Amreen	16-10-2018 to 31-10-2018
9.	Dr.Neha	01-11-2018 to 15-11-2018
10.	Dr.Samanvaya	16-11-2018 to 30-11-2018
11.	Dr.Shivani	01-12-2018 to 15-12-2018

Thanking you,

Yours faithfully,

Dr. A.S. Harugop  
Professor & Head,  
Dept. of ENT & HNS,  
J.N.Medical College, Belgaum

Dr. V.A.Kothiwale  
Registrar

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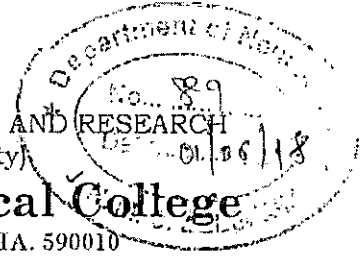
K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH  
(Deemed - to -be - University)

**Jawaharlal Nehru Medical College**

Nehrunagar, Belgaum, Karnataka. INDIA. 590010

**DEPARTMENT OF NEUROLOGY**

Phone: 0831-2473777 ext 1388; 0831-2409-1388



J.N.M.C / Neurology /2018

Date: 01/06/2018

To,

The Principal  
JN Medical College,  
Belagavi

Respected Madam,

Sub: External posting to NIMHANS,

The DM Neurology residents who are admitted in this academic year need to be posted to NIMHANS, Bengaluru for additional training as per the University syllabus.

- |                              |           |
|------------------------------|-----------|
| 1) Neurology                 | One month |
| 2) Neuropathology            | 15 days   |
| 3) Neuropsychology (MH & SP) | 15 days   |


Name of the students

1. Dr. Manoj Kumar
2. Dr. Preeti Komireddy

I request you to kindly communicate to the Vice Chancellor, NIMHANS, Bengaluru for allotting the time slot for the posting.

Thanking you,

Yours truly

  
REGISTRAR AND HEAD OF THE  
DEPARTMENT OF NEUROLOGY  
JAWAHARLAL NEHRU MEDICAL COLLEGE,  
BELGAUM-590010

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka



# JAWAHARLAL NEHRU MEDICAL COLLEGE

(A constituent unit of KLE Academy of Higher Education & Research Deemed-to-be-University)  
Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category "A" by MHRD (GoI)

Nehru Nagar, Belagavi-590 010, Karnataka-India.



Website : <http://www.jnmc.edu>  
E-mail : [principal@jnmc.edu](mailto:principal@jnmc.edu)

Office : +91 (0) 831 2471350  
Fax : +91 (0) 831 2470759

Ref: MDC/PG/ 80'S

Date: 11-6-2018

To,  
The Vice Chancellor,  
National Institute of  
Mental Health & Neurosciences  
Post Box No.2900, Hosur Road,  
BANGALORE - 560029.

Sub : Deputation for training of D.M. (Neurology) student.

Sir,

With reference to the above subject, the D.M. (Neurology) course students admitted in this college for the academic year 2016-17, have to undergo training as shown below for external postings at NIMHANS, Bangalore.

The posting allotted to our students at your institution as detailed below as per the request letter receive from the Head of the Department of Neurology of our college (copy enclosed).

Name of the Students	Name of the Postings	Period
1. Dr.Komireddy Preeti Reddy 2. Dr.Manoj Kumar	Neurology	One Month
	Neuropathology	15 Days
	Neuropsychology (MH & SP)	15 Days

I request you to inform us the month in which we have to post our above said students to your institution for the said postings.

Kindly acknowledge the same and do the needful.

Thanking you,

Yours faithfully,

PRINCIPAL,  
J. N. MEDICAL COLLEGE, BELAGAVI.

Copy to: The Head of the Department of Neurology, J.N. Medical College,  
Belagavi, for information.

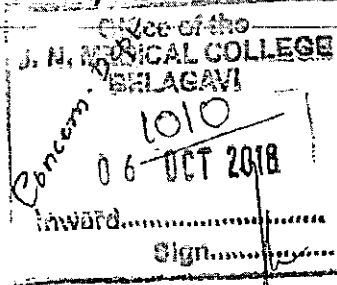
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Belagavi-590 010, Karnataka

**NATIONAL INSTITUTE OF MENTAL HEALTH & NEUROSCIENCES  
(INSTITUTE OF NATIONAL IMPORTANCE) BENGALURU - 560 029**



NIMH:A&E:TM:TRG-NP-2018/1038



Date: 29.09.2018

The Principal  
Jawaharlal Nehru Medical College  
Nehru Nagar  
Belagavi - 590 010

Sir/Madam,

Sub: Request for Permission to undergo training at this institute - reg.  
Ref: Your letter dated 25.08.2018

\*\*\*\*\*

With reference to the above, I am directed to convey the permission of the Competent Authority for the student/students of your Institution to undergo training at this Institution as follows:

1	Number of trainees	02(Two)- PG students
2	Name of trainees	Dr.K.Precty Reddy and Dr.Manoj Kumar
3	Training fee	Rs. 10000/- per month or part thereof per trainee
	Department of Neurology	01.01.2019 to 31.01.2019
	Department of Neuropathology	01.02.2019 to 15.02.2019
	Department of Psychology (Neuropsychology)	16.02.2019 to 28.02.2019

- The trainees should compulsorily carry their college ID cards while posted at NIMHANS.
- One stamp size photo should be given at the time of joining for issue of temporary ID card. (ID card should be returned at the end of training without fail)
- Trainees should carry a copy of this letter without fail.

The training fee for the whole duration of training has to be paid by Cash/Debit/Credit Card on the day of joining. The Training fee once paid will not be refunded.

I am also directed to inform you that the visiting students/trainees should make their own arrangement for accommodation. However all efforts will be made to provide hostel accommodation, but this will be subject to availability, based on Manager, Hostel report (080-26995095)/Supervisor, Cauvery Hostel, (080-26995092) as on the date of joining and on payment of charges as below. Accommodation will not be provided to the candidates coming earlier than the scheduled date of training.

I. Hostel Rent: Rs.100/- per day

**NOTE:** In case of any damage of assets/property in the Hostels i.e., movable and immovable property of NIMHANS by the trainees, the college shall be directly responsible for such act of the trainees. The loss incurred has to be borne by the Institution/College deputing the trainees. Further the attendance certificate for training of such trainees will be withheld.

On arrival, the trainee must contact the undersigned for further needful.

Yours faithfully

*[Signature]*  
ADMINISTRATIVE OFFICER(A&E)

Copy to: The HOD of Neuropathology, NIMHANS  
The HOD of Neurology, NIMHANS  
The HOD of Clinical Psychology, NIMHANS  
The Manager/Supervisor, NIMHANS Hostels

Administrative Officer (A & E,  
National Institute of Mental Health &  
Neurosciences Bangalore - 560 029

☎: 08026995015

Email: [training@nimhans.ac.in](mailto:training@nimhans.ac.in)

Website : <http://www.nimhans.ac.in>

*[Signature]*  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

92

09/10/18  
Noted  
*[Signature]*



KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH  
(Deemed-to-be-University)  
JAWAHARLAL NEHRU MEDICAL COLLEGE  
Belagavi - 590 010, Karnataka (India)  
**DEPARTMENT OF PATHOLOGY**

KLE

JNMC Office: 0831 - 2471350  
Phone: 0831-2473777- Extn. 4051 / 4052

FAX NO. 91-0831-2470759  
Website: http://www.jnmc.edu

Email: patho@jnmc.edu  
Email: jnmc@kcl.ac.in

Date: 18-09-2018

To,

Dr. Jayaram N. Iyengar  
Managing Director  
Anand Diagnostic Laboratory (A Neuberg Associate)  
Neuberg Anand Reference Laboratory  
Anand Tower, 54, Bowring Hospital Road,  
Shivajinagar, Bangalore - 560001 India

**Subject: Posting of PG students from J. N. Medical College to  
Anand Diagnostic Laboratory**

Dear Dr. Jayaram,

As per your email dated 22-06-2018, kindly permit the following PG students in Pathology (M.D) from J. N. Medical College, Belagavi to attend a posting at the Anand Diagnostic Laboratory for a period of 15 days in the month of October 2018, i.e. from 1-10-2018 to 15-10-2018.

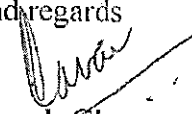
The names of the PG students are as follows:

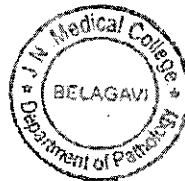
1. Dr. Krutika Joshi
2. Dr. Naresh Kulkarni
3. Dr. Ruchi Singh
4. Dr. Saumya Gaur

Dr. Karthik Sreavatsa, PG student of Pathology is posted in the month of November 2018.

Thank you for your co-operation.

With kind regards

  
**Dr. Ramesh Chavan**  
Professor and Head,  
Department of Pathology,  
JNMC, Belagavi- 590010



  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**Department of Neurovirology**  
National Institute of Mental Health and Neurosciences  
(NIMHANS)  
Bangalore- 560029

Training period

2<sup>nd</sup> AUGUST 2018

To

31<sup>st</sup> AUGUST 2018



This is to certify that Dr. PRAGATI NARAYANAKAR  
attended the training programme in Clinical Virology at the Department of  
Neurovirology, NIMHANS, Bangalore.  
The training included lectures and demonstrations on various techniques in  
Virology.

Professor & Head  
Dept of Neurovirology  
NIMHANS

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



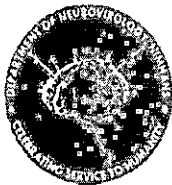
**Department of Neurovirology**  
**National Institute of Mental Health and Neurosciences**  
**(NIMHANS)**  
**Bangalore- 560029**

Training period

2<sup>nd</sup> AUGUST 2018

To

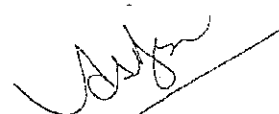
31<sup>st</sup> AUGUST 2018



This is to certify that Dr. DIPA PATIL

attended the training programme in Clinical Virology at the Department of Neurovirology, NIMHANS, Bangalore.

The training included lectures and demonstrations on various techniques in Virology.

  
Professor & Head  
Dept of Neurovirology  
NIMHANS

↓  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# GRIPMER



## THE GANGA RAM INSTITUTE FOR POST GRADUATE MEDICAL EDUCATION AND RESEARCH

GRIPMER Academic Block, 6th Floor, Casualty Building, Sir Ganga Ram Hospital,  
New Delhi-110060 Tel.: 011-42251666, 42251667, 42251668,  
Website: www.sgrh.com Email: academics@sgrh.com



GRIPMER

Ref.:ACAD/FN. / 10/2-18

Date 24.01.2018

*This is to certify that*

*Dr. Surya Khanna*

*has successfully completed his/her Internship/Fellowship/Observership/Training in the*

*Department of <sup>✓TB</sup> Clinical Microbiology & Immunology*

*Sir Ganga Ram Hospital, New Delhi-110060*

*w.e.f. 10.01.2018 to 24.01.2018.*

*During the above period his/her work & conduct has been found satisfactory.*

Head of the Dentt

Dean, GRIPMER

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka





K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH  
(Deemed - to -be - University)

**Jawaharlal Nehru Medical College**

Nehrunagar, Belgaum, Karnataka, INDIA. 590010

**DEPARTMENT OF NEUROLOGY**

Phone: 0831-2473777 ext 1388; 0831-2409-1388



J.N.M.C / Neurology /2018

Date: 01/06/2018

To,

The Principal  
JN Medical College,  
Belagavi

Respected Madam,

Sub: External posting to NIMHANS,

The DM Neurology residents who are admitted in this academic year need to be posted to NIMHANS, Bengaluru for additional training as per the University syllabus.

- |                              |           |
|------------------------------|-----------|
| 1) Neurology                 | One month |
| 2) Neuropathology            | 15 days   |
| 3) Neuropsychology (MH & SP) | 15 days   |


Name of the students

1. Dr. Manoj Kumar
2. Dr. Preeti Komireddy

I request you to kindly communicate to the Vice Chancellor, NIMHANS, Bengaluru for allotting the time slot for the posting.

Thanking you,

Yours truly

  
HEAD OF THE  
DEPARTMENT OF NEUROLOGY  
J.N.M.C. COLLEGE,  
BELGAUM-590010

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# JAWAHARLAL NEHRU MEDICAL COLLEGE

(A constituent unit of KLE Academy of Higher Education & Research Deemed-to-be-University)  
Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category "A" by MHRD (GoI)  
Nehru Nagar, Belagavi-590 010, Karnataka-India.



Website : <http://www.jnmc.edu>  
E-mail : [principal@jnmc.edu](mailto:principal@jnmc.edu)

Office : +91 (0) 831 2471350  
Fax : +91 (0) 831 2470759

Ref: MDC/PG/ 805

Date: 11-6-2018

To,  
The Vice Chancellor,  
National Institute of  
Mental Health & Neurosciences  
Post Box No.2900, Hosur Road,  
BANGALORE - 560029.

Sub : Deputation for training of D.M. (Neurology) student.

Sir,

With reference to the above subject, the D.M. (Neurology) course students admitted in this college for the academic year 2016-17, have to undergo training as shown below for external postings at NIMHANS, Bangalore.

The posting allotted to our students at your institution as detailed below as per the request letter receive from the Head of the Department of Neurology of our college (copy enclosed).

Name of the Students	Name of the Postings	Period
1. Dr.Komireddy Preeti Reddy 2. Dr.Manoj Kumar	Neurology	One Month
	Neuropathology	15 Days
	Neuropsychology (MH & SP)	15 Days

I request you to inform us the month in which we have to post our above said students to your institution for the said postings.

Kindly acknowledge the same and do the needful.

Thanking you,

Yours faithfully,

PRINCIPAL,  
J. N. MEDICAL COLLEGE, BELAGAVI.

Copy to: The Head of the Department of Neurology, J.N. Medical College,  
Belagavi, for information.

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Richard Derman, MD  
Associate Provost, Global Affairs  
Director, Global Health Research  
Professor, Obstetrics & Gynecology  
1025 Walnut Street, Room G-3  
Philadelphia, PA 19107  
T 215-955-2153  
F 215-503-4026

April 29, 2018

Dear Sushmita Kavatagimath,

On behalf of the Office of Global Affairs at Thomas Jefferson University, I am pleased to extend an invitation to you (Sushmita Kavatagimath, DOB 01/06/1997, Passport# S1654550) to participate in a 1-month observership in Family and Community Medicine commencing June 15<sup>th</sup>, 2018.

During your time on our campus in Philadelphia, you will have the opportunity to shadow thought leaders in their discipline and be actively involved in all aspects of didactic medicine.

Additionally, TJU has agreed to waive its student exchange fees and will also provide housing on the Thomas Jefferson University campus during your anticipated visit.

We recognize an over 20 year history with KLE /JNMC Medical School and believe such exchanges are critical to our research education and mentoring missions.

Best wishes,

Richard

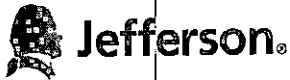
Richard Derman, MD, MPH, FACOG

Associate Provost, Global Affairs,  
Director, Global Health Research  
Professor, Obstetrics and Gynecology  
Thomas Jefferson University  
215-955-2153

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Richard Derman, MD  
Associate Provost, Global Affairs  
Director, Global Health Research  
Professor, Obstetrics & Gynecology  
1025 Walnut Street, Room G-3  
Philadelphia, PA 19107  
T 215-955-2153  
F 215-503-4026

April 29, 2018

Dear Sonal Avati,

On behalf of the Office of Global Affairs at Thomas Jefferson University, I am pleased to extend an invitation to you (Sonal Avati, DOB 13/07/1997, Passport# L4309073) to participate in a 1-month observership in Radiology/Anesthesiology commencing June 15<sup>th</sup>, 2018.

During your time on our campus in Philadelphia, you will have the opportunity to shadow thought leaders in their discipline and be actively involved in all aspects of didactic medicine.

Additionally, TJU has agreed to waive its student exchange fees and will also provide housing on the Thomas Jefferson University campus during your anticipated visit.

We recognize an over 20 year history with KLE /JNMC Medical School and believe such exchanges are critical to our research education and mentoring missions.

Best wishes,

Richard

Richard Derman, MD, MPH, FACOG

Associate Provost, Global Affairs,  
Director, Global Health Research  
Professor, Obstetrics and Gynecology  
Thomas Jefferson University  
215-955-2153

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# K L E VISHWANATH KATTI INSTITUTE OF DENTAL SCIENCES



(A Constituent unit of KLE Academy of Higher Education & Research  
(Formerly known as KLE University) Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
J.N.M.C. Campus, Nehru Nagar, Belagavi-590 010, Karnataka, India  
Accredited 'A' grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category 'A' by MHRD (GoI)

☎: 0831-2470362

FAX: 0831-2470640

Web: <http://www.kledental-bgm.edu.in>

E-mail: [principal@kledental-bgm.edu.in](mailto:principal@kledental-bgm.edu.in)

## The Following Actions were conducted as the part of MOU with GSR for the year 2016-2017

Sl No	Post graduates	Date	Activity	No of cases Assisted
1	DR.ANJALI VIJAYKUMAR	2/6/18 To 17/6/18	Posting for observation of Cleft & craniofacial defects	7
2	DR.YAMINI KORLEPARA	1/7/18 To 16/7/18	Posting for observation of Cleft & craniofacial defects	7
3	DR.NAINA SHARMA	1/6/18 To 23/6/18	Posting for observation of Cleft & craniofacial defects	8
4	DR.MAYANK PATEL	1/7/18 To 29/7/18	Posting for observation of Cleft & craniofacial defects	8
5	DR. UMARANE SHRIKAR	2/8/18 To 23/8/18	Posting for observation of Cleft & craniofacial defects	8
6	DR.VAPRANI GANESH	3/8/18 To 20/8/18	Posting for observation of Cleft & craniofacial defects	7

PRINCIPAL

KLE V. K. Institute of Dental Sciences  
Nehru Nagar, Belagavi

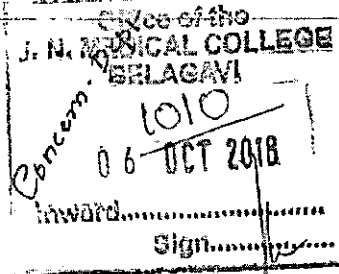
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**NATIONAL INSTITUTE OF MENTAL HEALTH & NEUROSCIENCES  
(INSTITUTE OF NATIONAL IMPORTANCE) BENGALURU - 560 029**



NIMH:A&E:TM:TRG-NP:2018/1038



Date: 29.09.2018

The Principal  
Jawaharlal Nehru Medical College  
Nehru Nagar  
Belagavi - 590 010

Sir/Madam,

Sub: Request for Permission to undergo training at this institute - reg.  
Ref: Your letter dated 25.08.2018

\*\*\*\*\*

With reference to the above, I am directed to convey the permission of the Competent Authority for the student/students of your Institution to undergo training at this Institution as follows:

1	Number of trainees	02(Two) - PG students
2	Name of trainees	<b>Dr.K.Preety Reddy and Dr.Manoj Kumar</b>
3	Training fee	Rs. 10000/- per month or part thereof per trainee
	Department of Neurology	01.01.2019 to 31.01.2019
	Department of Neuropathology	01.02.2019 to 15.02.2019
	Department of Psychology (Neuropsychology)	16.02.2019 to 28.02.2019

- The trainees should compulsorily carry their college ID cards while posted at NIMHANS.
  - One stamp size photo should be given at the time of joining for issue of temporary ID card. (ID card should be returned at the end of training without fail)
  - Trainees should carry a copy of this letter without fail.
- The Training fee for the whole duration of training has to be paid by Cash/Debit/Credit Card on the day of joining. The Training fee once paid will not be refunded.

I am also directed to inform you that the visiting students/trainees should make their own arrangement for accommodation. However all efforts will be made to provide hostel accommodation, but this will be subject to availability, based on Manager, Hostel report (080-26995095)/Supervisor, Cauvery Hostel, (080-26995092) as on the date of joining and on payment of charges as below. Accommodation will not be provided to the candidates coming earlier than the scheduled date of training.

1. Hostel Rent: Rs.100/- per day

**NOTE:** In case of any damage of assets/property in the Hostels i.e., movable and immovable property of NIMHANS by the trainees, the college shall be directly responsible for such act of the trainees. The loss incurred has to be borne by the Institution/College deputing the trainees. Further the attendance certificate for training of such trainees will be withheld.

On arrival, the trainee must contact the undersigned for further needful.

Yours faithfully

*[Signature]*  
ADMINISTRATIVE OFFICER(A&E)

Copy to: The HOD of Neuropathology, NIMHANS  
The HOD of Neurology, NIMHANS  
The HOD of Clinical Psychology, NIMHANS  
The Manager/Supervisor, NIMHANS Hostels

Administrative Officer (A & E,  
National Institute of Mental Health &  
Neurosciences Bangalore - 560 029

☎: 08026995015 Email: [training@nimhans.ac.in](mailto:training@nimhans.ac.in)

Website : <http://www.nimhans.ac.in>

**Dr. V.A.Kothiwale**  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010,Karnataka

09/10/18  
Noted  
*[Signature]*



# The Karnatak Cancer Therapy & Research Institute

Padmashree Dr. R.B. Patil Cancer Hospital

Navanagar, HUBLI - 580 025, Karnataka State, India. Phone : 0836 - 2228217, 2222865

Fax : 0836-2323167 - 2322063 Website : www.cancerinstitutehubli.org E-mail : kctrihubli@gmail.com

KCH/CRT/SDM/TJ-01/2018

Date: 20/03/2018

## CERTIFICATE

### TO WHOMSOEVER IT MAY CONCERN

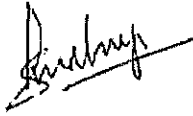
This is to certify that Dr. Abhishek M. Shukla, fellowship student in the Department of Ayuroncology, KLE'S Shri. B.M.Kankanwadi Ayurved Mahavidyalaya, BELGAUM has attended posting in Department of Radiation Oncology, Medical Oncology and surgical oncology from 19-12-2017 to 20-03-2018.


He has examined various Cancer patients, observed different techniques of Radiation like Conventional RT, 3DCRT, IMRT, IGRT/VMAT, Radiation planning and treatment execution and followup of post RT cases and Medical and Surgical Oncology cases management.

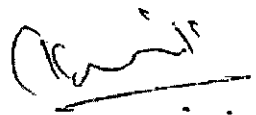
He was regular and sincere.

We wish him all the best for her future endeavours.

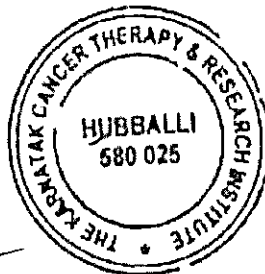
  
Dr. R.B. Patil  
Chairman

  
Dr. Sai Kumari  
Chief Consultant  
Radiation Oncologist

  
Dr. Basavaraj  
Consultant  
Radiation Oncologist

  
Dr. Kiran Kattimani  
Consultant  
Medical Oncologist

  
Dr. Santosh Chikaraddi  
Consultant Surgical Oncologist



  
Dr. Manjula Huggi  
Administrator

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**The Following Activies were conducted as the part of MOU  
with KARNATAKA CANCER THERAPY, NAVNAGAR,HUBLI  
for the year 2016-2017**

Sl No	Post graduates	Date	Activity	No of cases Assisted
1	DR.ANJALI VIJAYKUMAR	3/10/18 To 17/10/18	Posting for observation of Head & Neck Oncology	8
2	DR.YAMINI KORLEPARA	2/5/18 To 21/5/18	Posting for observation of Head & Neck Oncology	8
3	DR.NAINA SHARMA	2/7/18 To 29/7/18	Posting for observation of Head & Neck Oncology	7
4	DR.MAYANK PATEL	1/8/18 To 17/8/18	Posting for observation of Head & Neck Oncology	7
5	DR. UMARANE SHRIKAR	1/9/18 To 23/9/18	Posting for observation of Head & Neck Oncology	8
6	DR.VAPRANI GANESH	2/6/18 To 17/6/18	Posting for observation of Head & Neck Oncology	7

*Shal*

PRINCIPAL  
KLE V. K. Institute of Dental Sciences,  
Nehru Nagar, Belagavi

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Dr. Raghavendra S. Byakodi  
MDS - Oral and Maxillofacial Radiologist

Dr. Arati G. Paranjpe  
MDS - Oral and Maxillofacial Radiologist

Dr. Manishkumar D. Shete  
MDS - Oral and Maxillofacial Radiologist



**DENTA  
SCAN  
CBCT CENTRE**

### **CERTIFICATE**

This is to certify that the one day CBCT training program was conducted for PG students of KLE VK Institute of Dental Sciences Belgaum at our Dentascan CBCT Centre Vishrambag Chowk Sangli

Sl.No	Date	Program Schedule	Time
1	18/02/2018	<b>Lecture</b> : Introduction to CONE BEAM COMPUTED TOMOGRAPHY	9.00 AM TO 10 AM
2	18/02/2018	<b>Lecture</b> : Application of CBCT in Dentistry	10.00 AM to 11.30 AM
		<b>Tea Break</b>	11.30 to 11.45
3	18/02/2018	<b>Demo and Hands on</b> : Training on CONE BEAM COMPUTED TOMOGRAPHY Software	11.45 AM to 12.45 PM
4	18/02/2018	<b>Hands on</b> : Mandibular Nerve Tracing	12. 45 PM to 1.30 PM
		<b>Lunch Break</b>	1.30 PM to 2.15 PM
5	18/02/2018	<b>Hands on</b> : Implant planning for both Maxilla and Mandible cases	2.15 PM to 3.15 PM
6	18/02/2018	<b>Hands on</b> : Endodontic Evaluation	3.15 PM to 4.30 PM
	18/02/2018	<b>High Tea and Valedictory function</b>	4.30 PM to 5.00 PM

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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Dr. Raghavendra S. Byakodi  
MDS - Oral and Maxillofacial Radiologist

Dr. Arati G. Paranjpe  
MDS - Oral and Maxillofacial Radiologist

Dr. Manishkumar D. Shete  
MDS - Oral and Maxillofacial Radiologist



**DENTA  
SCAN  
CBCT CENTRE**

## **ATTENDANCE CERTIFICATE**

The following students attend the program

- 1) Dr. Ram
- 2) Dr. Deepthi
- 3) Dr. Harpreeth

The students were eager and very interested in learning the subject. All students were well trained in reading the cone beam computed tomography scans and doing reporting of the scans.

**Dr Raghavendra Byakodi MDS**  
Director,  
Dentascan CBCT Centre Sangli  
99751 85890

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA

Post Graduate Studies & Research Centre

(Approved by Central Council of Indian Medicine, New Delhi & M/o AYUSH, GoI)

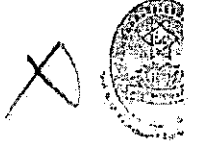
A Constituent Unit of

KLE ACADEMY OF HIGHER EDUCATION & RESEARCH

(DEEMED-TO-BE-UNIVERSITY)

(Re-Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) || Placed under Category 'A' by MHRD GoI)

First AYUSH Institution having NAAC & NABH Accreditation



Ref : BMK / 1084 / 2018 / 19

DT : 3/11/18

To,

The Administrative Director  
KLE Centenary Hospital  
Yellur Road, Belagavi

Sub: Posting of PG Scholars to your Hospital – reg.

*Greetings from KLE AYUR WORLD*

Sir,

With reference to the above, as a part of teaching and training program and to provide hands on training on "Exposure to Maximum Surgery Patients", we are deputing the one of our PG Scholar Dr. Praveen K. Yadav, Department of Shalya Tantra to your Hospital for Three months from 01-11-2018 to 01-01-2019 in the department of Surgery and from 02-01-2019 to 31-01-2019 in the department of Orthopedics.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

**PRINCIPAL**

Shri B. M. Kankanwadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03

Cc to:

1. HoD Department of Shalya Tantra – for information
2. PG Coordinator – for information
3. Posting file – for documentation.

Received  
Dr. Praveen K. Yadav  
3/11/18  
He

Shahapur, Belagavi – 590 003, Karnataka, India

Phone: +91 831 2424157 Fax: +91 831 2424157

Website: www.kleayurveda.com Email: bmprincipal.kaher@kleayurveda.edu.in

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)

Belagavi-590 010, Karnataka



REF.NO: KLE/CCH/ADM/2018-19/2540

DATE: 31/01/2019

X

TO,

PRINCIPAL

KLE University's

Shri B.M. Kankanwadi

Ayurved Mahavidyalaya

Shahapur – BELAGAVI – 03

Sir,

**Sub: Relieving of PG Dr. Praveen K. Yadav**

**Ref : Letter No.BMK/1084/201819 dtd.03/11/2018**

With reference to the above mentioned subject and reference, Dr. Praveen K. Yadav PG has been relieved on 31/01/2019 AN. He has completed training from Surgery Dept (01/11/2018 to 01/01/2019) and Orthopedics Dept (02/01/2019 to 31/01/2019).

This is for your kind information.

Thanking you

yours faithfully

Director (CS)  
31/1/19

CWC To:

Director USM

Copies to:

- Dr. Ashok Pangi – HOD Surgery
- Dr. Putti - HOD Orthopedics
- Dr. Praveen K. Yadav
- Office Copy

PG Co-ordinator  
20/01/19  
Chk  
21/2/19

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

OFFICE OF THE DIRECTOR (CS)  
AYURVEDIC COLLEGE, KLE UNIVERSITY, BELAGAVI  
DATE: 2/2/19  
INITIALS: 1190  
SICAL



**KLE** CENTENARY  
CHARITABLE  
HOSPITAL & MRC



**KLE CENTENARY CHARITABLE  
HOSPITAL & MRC**  
YELLUR ROAD, BELAGAVI

Ph. : 0831-2411

REF.NO: KLE/CCH/ADM/2017-18/01581

DATE: 31/01/2018

To,

The Principal,  
KLES BMK Ayurveda College,  
Shahapur, Belagavi

### RELIEVING ORDER

Vide your letter No.BMK/928/17-18 dated 14/10/2017, Dr. Sharmistha Mandal has been relieved on 16/01/2018 AN.

Dr. Sharmistha Mandal has worked with Department of General Surgery, KLES CC Hospital & MRC Yellur road, Belagavi as a PG Trainee from 16/10/2017 to 16/01/2018.

This is for your kind information and needful action.

Please Note:1. Relieving order is delayed due to, at the time of leaving hospital she has not intimated to Admin department.  
2. She remained absent for her duties here from 10/12/17 to 17/12/17 for attending Allopathic Training Course (West Bengal).

CWC to:

➤ Director USM

Copy to:

Dr. Sharmistha Mandal  
Final Year PG Scholar

Dr. Pangji - HOD of Surgery

Dr. V.A.Kothiwale  
Registrar

Stamp: RECEIVED  
DATE: 31/1/18  
NO. 112  
SGL 12

DIRECTOR (CS)

2

# SHRI BM KANKANAWADI AYURVED MAHA VIDYALAYA

Post Graduate Studies & Research Centre

(Approved by Central Council of Indian Medicine, New Delhi & M/o AYUSH, GoI)

A Constituent Unit of

**KLE ACADEMY OF HIGHER EDUCATION & RESEARCH**

(DEEMED-TO-BE-UNIVERSITY)

(Re-Accredited 'A' Grade by NAAC (2<sup>nd</sup> Cycle) || Placed under Category 'A' by MHRD GoI)

First AYUSH Institution having NAAC & NABH Accreditation



Ref: BMK/1086/2018/19

Dt: 3/11/18

To,

The Administrative Director  
KLE Centenary Hospital  
Yellur Road, Belagavi

Sub: Posting of PG Scholars to your Hospital – reg.

*Greetings from KLE AYUR WORLD*

Sir,

With reference to the above, as a part of teaching and training program and to provide hands on training on "Exposure to Maximum Surgery Patients", we are deputing the one of our PG Scholar Dr. Shivay Gupta, Department of Shalya Tantra to your Hospital for Five months from 01-11-2018 to 31-03-2019 in the department of Surgery and Orthopedics.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

*chr*  
**PRINCIPAL**

Shri. B. M. Kankanwadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI, GO.

Cc to:

1. HoD Department of Shalya Tantra – for information
2. PG Coordinator – for information
3. Posting file – for documentation.

*V.A. Kothiwale*  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Shahapur, Belagavi – 590 003, Karnataka, India

Phone: +91 831 2486286 Fax: +91 831 2424157

Website: www.kleayurworld.edu.in, Email: bmprincipal.kaher@kleayurworld.edu.in

IMPARTING AYURVEDA EDUCATION SINCE 1933

NO: KLE/CCH/ADM/2018-19/ 2767

DATE: 30/03/2019

TO,

PRINCIPAL  
KLE University's  
Shri B.M. Kankanwadi  
Ayurveda Mahavidyalaya  
Shahapur – BELAGAVI – 03

Sir,

Sub: Relieving of PG Dr. Shivay Gupta  
Ref: Letter No.BMK/1086/201819 dtd.03/11/2018

With reference to the above mentioned subject and reference, Dr. Shivay Gupta PG has been relieved on 30/03/2019 AN. He has completed training from Surgery and Orthopedics Dept (01/11/2018 to 31/03/2019).

This is for your kind information.

Thanking you

yours faithfully

*KL*  
Director (CS)

CWC To:

➤ Director USM

Copies to:

- HOD Surgery
- Dr. Putti – HOD Ortho
- Dr. Shivay Gupta
- Office Copy

*Dr. V.A. Kothiwale*  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# SHRI BM KANKANAWADI AYURVED MAHA VIDYALAYA

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First AYUSH Institution having NAAC & INABH Accreditation



Ref: BMK/1086/2018/19

DT: 3/11/18

To,

The Administrative Director  
KLE Centenary Hospital  
Yellur Road, Belagavi

Sub: Posting of PG Scholars to your Hospital – reg.

*Greetings from KLE AYUR WORLD*

Sir,

With reference to the above, as a part of teaching and training program and to provide hands on training on "Exposure to Maximum Surgery Patients", we are deputing the one of our PG Scholar Dr. Shivay Gupta, Department of Shalya Tantra to your Hospital for Five months from 01-11-2018 to 31-03-2019 in the department of Surgery and Orthopedics.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

*Shri*  
PRINCIPAL

Shri.B. M. Kankanwadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03.

*Received  
By: 03/11/18  
HR*

Cc to:

1. HoD, Department of Shalya Tantra – for information
2. PG Coordinator – for information
3. Posting file – for documentation.

*Dr. V.A. Kothiwale*  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Shahapur, Belagavi – 590 003, Karnataka, India

Phone: +91 831 2486286 Fax: +91 831 2424157

Website: www.kleayurveda.edu.in Email: klean@klean.edu.in



Dr. V. Kothiwale

X



**K. E. M. HOSPITAL, PUNE**  
489 Rasta Peth, Sardar Moodliar Road, Pune 411011  
Ekem@kemhospital.org Wwww.kemhospital.org  
P+91 20 6603 7300  
Quality and ethics in patient care

31<sup>st</sup> March 2018

**CERTIFICATE**

*Dr. Ghansham Nandakumar Jadhav has worked with department of Paediatrics and Neonatology KEM Hospital Pune as PG trainee From 03.12.2017 to 31.03.2018. During this period he has worked as a P.G. Trainee Paediatrics in Paediatric casualty, Paediatric ward, NICU, PICU, and Paediatric OPD.*

*He has been trained in basic protocols in general pediatrics. He has very efficiently assisted resuscitation, intercostal drain insertion, liver biopsy, bone marrow biopsy and intubation etc., He has independently performed several i.v. access, lumbar puncture, ascitic tap pleural tap, intubation, ICD, central line under supervision. He has been very helpful in intra hospital sick patient transport, hemodynamic monitoring during procedures such as imaging and EEG. He also had exposure to labour room calls and neonatal resuscitation.*

*During this tenure he has been sincere and competent in his work. He has been a part of academic lectures and case discussions. He has curiosity in learning different treatment protocols, approaches to Patient and handling difficult situations.*

*He would be a good asset to any Paediatric Hospital where he works for.*

PS  
Kothiwale  
R

**DR. ANAND PANDIT, MD, FRCPCH (UK)**  
Honorary Professor & Director  
Dept. of Pediatrics, Neonatology  
TDH Rehabilitation Centre  
Morris Child Development Centre

**DR. MADHUMATI OTIV, DNB**  
Pediatric Intensivist  
DR. MADHUMATI OTIV M. S.  
ASSOCIATE CONSULTANT  
PEDIATRIC ICU  
KEM HOSPITAL, PUNE

**DR. ANAND PANDIT, MD, FRCPCH (UK)**  
Professor & Director  
Dept. of Pediatrics  
K.E.M. Hospital, Pune - 411 011.

**Dr. V.A. Kothiwale**  
Registrar

OFFICE OF THE PRINCIPAL SHRI B. M. KANKANAWADI  
AYURVED MANAVIDYALAYA A CONSTITUENT UNIT OF KARNATAKA  
SHAHAPUR, BELGAUM-03.  
DATE: 31/3/18  
SHAWARD NO.: 09  
SIGN: [Signature]

Date: 24/09/2018

To,

**THE PRINCIPAL,**

KAHER'S Shri BMK Ayurveda Mahavidyalaya PG Studies and Research Centre.  
Shahapur, Belgavi.

Through,

**PG CO ORDINATOR,**

KAHER'S Shri BMK Ayurveda Mahavidyalaya & PG Studies and Research  
Centre. Shahapur, Belgavi.

From,

**HOD**

Dept of PG Studies in Kaumarbhritya,  
KAHER'S Shri BMK Ayurveda Mahavidyalaya & PG Studies and Research  
Centre. Shahapur, Belgavi.

Respected Sir,

**Subject: Peripheral postings -Reg.**

Sir, this is to request you to post Dr.Rohit Natekar 2<sup>nd</sup> Year PG Scholar at  
KEM Hospital Pune. With regards to this subject we have **contacted them**  
**personally through telephone** and they have readily accepted to train him in  
pediatrics specialty. Hence I request you to consider our request and post him from  
3<sup>rd</sup> October 2018 for a period of six months.

Please consider the same and kindly do the need full.

Yours sincerely,

*[Signature]*  
Dr.Azizahmed I Arbar

**From:**

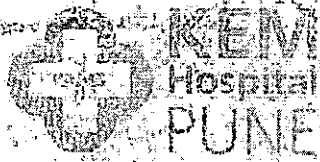
PG Scholar Department of PG studies in Kaumarbhritya (2017 batch)

*Forwarded for  
recommendation*

*[Signature]*  
Dr. K. K. K. K.  
24/9/18

*[Signature]*  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



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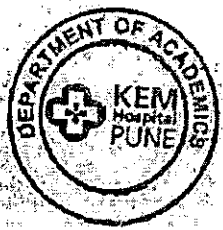
KEM/DIR ACAD/129/2019

Date: 04.03.2019

**CERTIFICATE**

This is to certify that **DR. ROHIT NATEKAR, BAMS** has worked as an **Observer** in the Department of **PAEDIATRICS** in this hospital from **4<sup>th</sup> October, 2018** to **3<sup>rd</sup> March, 2019**.

*Shetty*



**Dr. Dayanand Shetty,**  
Director Academics.

**DR. DAYANAND D. SHETTY**  
M.D., D.M.R.D.,  
DIRECTOR ACADEMICS  
K. E. M. HOSPITAL,  
PUNE - 411 011.

*Pr. Coad. Dr.  
R.D.S.C.  
Obs  
5/3/19*

OFFICE OF THE PRINCIPAL SHRI B. M. KATKARAWADI  
AYURVED LEHAVIDYALAYA A CONSTITUENT UNIT OF KAHER  
SILHAPUR, BELGAUM-03.  
DATE: 05/03/19  
INWARD NO.: 1280  
SIESV

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Kamataka

# SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA



Post Graduate Studies & Research Centre  
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First and the only AYUSH Institution having NAAC & NABH Accreditation



Ref: BMK/705/2018-19

Date: 01-10-2018

To,

Dr .Anand Pandit, MD, FRCPCH  
HON Professor & Director  
Dept of Pediatrics, Neonatology  
KEM, Hospital, Pune

Sir,

Sub: Posting of PG Scholars to your Hospital reg.

*Greetings from KLE AYUR WORLD*

With reference to the above, as a part of teaching & training program and to provide hands on training on "Contacted them personally through telephone", we are deputing the one of our PG Scholar Dr.Rohit Natekar, Department of Kaumarabhritya to your Hospital for six months from 01/10/2018 to 31/03/2019.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

*Ch*  
PRINCIPAL

Shri B-M. Kankanwadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03

Cc to:

1. HOD Dept. of Kaumarabhritya- for info
2. PG Co-ordinates-for info
3. Posting file-for Documentation

Shahapur, Belagavi-590 003, Karnataka, India

Phone: +91 831 2486286 Fax: +91 831 2424157

Website: [www.kleyayurveda.edu.in](http://www.kleyayurveda.edu.in) Email: [bmprincipal@gmail.com](mailto:bmprincipal@gmail.com)

(Deemed-to-be-University as 3 of the UGC Act, 1956)

Belagavi-590 010, Karnataka

116

SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA BELAGAVI-590 003

# SHRI B M KANKANAWADI AYURVED MAHAVIDYALAYA

## Post Graduate Studies & Research Centre

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First AYUSH Institution having NAAC & NABH Accreditation

Ref: BMK/1669/2018.

Date: 24/03/18.



IMPARTING AYURVEDA EDUCATION SINCE 1933

To,

Dr. Anand Pandit, MD, FRCPCH  
HON Professor & Director  
Dept of Pediatrics, Neonatology  
KEM.Hospital, Pune

Sir,

Sub: Posting of PG Scholars to your Hospital reg.

*Greetings from KLE AYUR WORLD*

With reference to the above, as a part of teaching & training program and to provide hands on training on "Pediatrics & Neonatology", we are deputing the one of our PG Scholar Dr. Pranoti A. Mane, Department of Kaumarabhritya to your Hospital for Six months from 26/03/2018 to 26/09/2018.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

*Ch*  
PRINCIPAL

Shri B. M. Kankanawadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03.

Cc to:

1. HOD Dept of Kaumarabhritya- for infn
2. PG Co-ordinator-for infn
3. Posting file-for Documentation

Dr. V.A. Kothiwale

Shahapur, Belagavi, 590 003, Karnataka, INDIA

Ph. No. : +91 831 2486286, Fax : +91 831 2424157, Website: www.kleayurvedworld.edu.in Email : bmkprincipal@gmail.com

(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# SHRI B M KANKANAWADI AYURVED MAHAVIDYALAYA

## Post Graduate Studies & Research Centre

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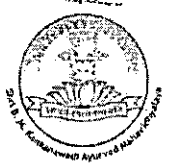
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Bmk/54/2018

Date = 12/04/18

IMPARTING AYURVEDA EDUCATION SINCE 1933

To,

Dr. Anand Pandit, MD, FRCPCH  
HON Professor & Director  
Dept of Pediatrics, Neonatology  
KEM Hospital Pune

Sir,

Sub: Posting of PG Scholars to your Hospital reg.

*Greetings from KLE AYUR WORLD*

With reference to the above, as a part of teaching & training program and to provide hands on training on "Pediatrics & Neonatology", we are deputing the one of our PG Scholar Dr. Priyanka Sharma, Department of Kaumarabhritya to your Hospital for Six months from 16/04/2018 to 16/10/2018.

This is for your kind information and to accommodate the scholar.

Thanking you,

yours truly,

PRINCIPAL  
Shri B. M. Kankanawadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03.

Cc to:

1. HOD Dept of Kaumarabhritya- for infn
2. PG Co-ordinator-for infn
3. Posting file-for Documentation

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
Shahapur, Belagavi - 590 003, Karnataka, INDIA

Ph. No. : +91 831 2486286, Fax : +91 831 2424187, Website: www.kleayurworld.edu.in Email : bmkprincipal@gmail.com

# SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA

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EMPOWERING  
PROFESSIONALS  
Dedicated to the best of the best

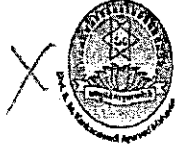
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First and the only AYUSH Institution having NAAC & NABH Accreditation



Ref: BMK/973/2018-19

Dt: 20/10/18

To,

Dr. Anand Pandit, MD, FRCPCH  
HON Professor & Director  
Dept of Pediatrics, Neonatology  
KEM. Hospital, Pune

Sir,

Sub: Posting of PG Scholars to your Hospital reg.

*Greetings from KLE AYUR WORLD*

With reference to the above, as a part of teaching & training program and to provide hands on training on "Contacted them personally through telephone", we are deputing the one of our PG Scholar **Dr. Vikas Kumar**, Department of Kaumarabhritya to your Hospital for six months from 22/10/2018 to 21/03/2019.

This is for your kind information and to accommodate the scholar.

Thanking you,

Yours truly,

**PRINCIPAL**  
Shri B. M. Kankanawadi  
Mahavidyalaya  
A Constituent Unit of KLE  
Shahapur, BELAGAVI-03.

Cc to:

1. HOD Dept. of Kaumarabhritya- for info
2. PG Co-ordinates- for info
3. Posting file- for Documentation

Dr. V.A. Kothiwale

Registrar  
Shahapur, Belagavi-590 003, Karnataka, India  
KLE Academy of Higher Education and Research  
(Deemed to be University U/s 3 of the UGC Act, 1956)  
Phone: 91 831 2486286 Fax: 91 831 2424157  
Website: www.kleayurveda.org Email: bmprincipal@gmail.com

IMPARTING AYURVEDA EDUCATION SINCE 1933



# SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA

Post Graduate Studies & Research Centre

(Approved by Central Council of Indian Medicine, New Delhi & M/o AYUSH, Govt)

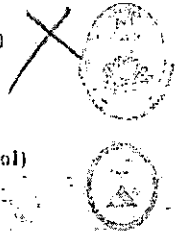
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Ref: BMK/1455/2017-18

Date: 01/2/2018

IMPARTING AYURVEDA EDUCATION SINCE 1933

To,  
The Director,  
Deffence Food Research Laboratory,  
Mysore – 570011  
Karnataka,

Sub: Deputation of our college Post Graduate Student – reg.

Sir,

With reference to the above subject and as part of curriculum activities we are deputing our college post Graduate student of Department of Panchakarma Dr. Vinayak Angadi for his 'sample trial stuy' at your Deffence laboratory for 3 days i.e. from 05-02-2018 to 07-02-2018. Hence we request you to permit him for the same.

This is for your information and needful action.

Thanking you.

Yours truly

*Ch*  
PRINCIPAL  
Shri B. M. Kankanawadi Ayurved Mahavidyalaya  
Belagavi-591 010, Karnataka  
*Ch*

*[Signature]*  
Dr. V.A. Kothiwale

Registrar

KLE Academy of Higher Education and Research  
(Deemed to be University under the UGC Act, 1956)  
Belagavi-591 010, Karnataka  
Website: www.kleaher.edu.in Email: bmprincipal@gmail.com



## SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA

Post Graduate Studies &amp; Research Centre

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First and the only AYUSH Institution having NAAC &amp; NABH Accreditation



Bmk/23/2018-19

Date: 04/04/2018

To,

Sriveda Sattva Pvt. Ltd.  
21st KM Kanakapura Road  
Udayapura  
Bangalore 560082  
Karnataka

Sub: Posting of PG Scholars-reg

Sir/Madam,

As per the correspondence made with your esteemed organization regarding posting of the following final year P.G. Scholars of Rasashastra & Bhaishajya Kalpana for exposure to large scale pharmaceutical industry training for a period of one month i.e., from 09/04/2018 to 09/05/2018. We are agreed with your terms and conditions and also the profile of P.G. Scholars attached for your reference.

Sl. No.	Name of PG Scholars
1	Dr. Archana Hiremath
2	Dr. Shruti B. Nayak

This is for your information and do the needful action.

Thanking you,

To,  
P.G. Coordinator for information

*[Signature]*  
Dr. R.S. Hiremath  
H.O.D. 27/4/18

Rasashastra & Bhaishajya Kalpana  
K.L.E.U. Shri B.M.K. Ayurveda Mahavidyalaya  
P. G. Studies & Research Centre, Shahapur, Belagavi - 590 003.

Yours truly,

*[Signature]*  
PRINCIPAL  
Shri B.-M. Kankanawadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03

*[Signature]*  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research  
(Deemed to be University u/s 3 of the UGC Act 1956)

Shahapur, Belagavi - 590 003, Karnataka, India

Phone: +91 831 2486286 Fax: +91 831 2424157

Website: www.kleayurworld.edu.in, Email: bmkprincipal@gmail.com

**SHRI BM KANKANAWADI AYURVED MAHAVIDYALAYA**

Post Graduate Studies & Reseach Centre

(Approved by Central Council of Indial Medicine, New Delhi & M/o AYUSH, Gol)

A Constituent Unit of

**KLE ACADEMY OF HIGHER EDUCATION & RESEARCH**

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KLE  
KLE ACADEMY OF HIGHER  
EDUCATION & RESEARCH  
BANGALORE



IMPARTING AYURVEDA EDUCATION SINCE 1933

Ref:- Brnk /1693/2017/18

Date:-28/3/2018

To,  
The Managing Director,  
Sri Sri Ayurveda Pharmacy,  
Udaypura,  
Bangalore.

Sub: PG Scholars Posting -reg.

Sir,

With reference to the above subject, as a part of teaching and training programme and to have exposure to large scale industry to inculcate the advanced technology in the pharmaceutical field. We are posting our final year post graduate scholars to your esteemed Ayurveda Pharmacy for the period of one month from 01-04-2018 to 30-04-2018. Hence, we request you to permit our PG scholars to undergo the posting in your Ayurveda Pharmacy and provide the accommodation facility for the scholars.

S.No.	Name of the PG Scholars	Department/Subject.
01	Dr. Archana Hiremath	Rasashastra & BK
02	Dr. Shruthi B. Naik	Rasashastra & BK

This is for your information and needful action.

Thanking you.

Yours truly

Shri B.M. Kankanawadi  
A.C. & R.C. Center  
A Unit of KLE Academy of Higher Education & Research  
Bangalore - 590 010, Karnataka

Copy to :

1) Principal Sri Sri Ayurved College & Hospital Bangalore for information.

Shahapur, Belagavi - 590 003, Karnataka, India

Phone: +91 831 2486286 Fax: +91 831 2424157

Website: www.kleayurveda.edu.in Email: bmprincipal@gmail.com

**Dr. V.A. Kothiwale**

Registrar

KLE Academy of Higher Education and Research,

(Deemed-to-be-University u/s 3 of the UGC Act, 1956)

Belagavi-590 010, Karnataka

# SHRI B M KANKANAWADI AYURVED MAHAVIDYALAYA

## Post Graduate Studies & Research Centre

(Approved by Central Council of Indian Medicine, New Delhi & M/o AYUSH, GoI)

A Constituent Unit of

KLE ACADEMY OF HIGHER EDUCATION & RESEARCH

(DEEMED-TO-BE-UNIVERSITY)

(Re-Accredited 'A' Grade by NAAC (2nd Cycle) || Placed under Category 'A' by MHRD GoI)



First AYUSH Institution having NAAC & NABH Accreditation

To, BMK/46/2018-19

Date: 10/4/2018

The Registrar  
S - VYASA University  
Vivekananda road, Kalluballu Post,  
Jigani, Anekal  
Bengaluru.

Sub: Deputation to Peripheral postings- reg

*Greetings from KLE Ayurworld*

Dear Sir/Madam,

Our's is a Second oldest Ayurveda College in Karnataka imparting Ayurvedic Education since 1933. Apart from Under Graduation, the institute is offering PG in 10 disciplines including Swasthavritta and Yoga (Community Medicine)

With reference to the above subject, as a part of PG curriculum, we would like to depute one of our PG scholar **Dr. Amrutha Kalyani**, from the Dept of PG Studies in Swasthavritta and Yoga, for posting at your esteemed institute for the duration of two weeks, preferably from 16<sup>th</sup> April to 30<sup>th</sup> April 2018. This will help her in acquiring clinical application of Yoga and Naturopathy in different disorders.

Kindly provide the accommodation in your campus and do the needful.

Thanking you,

Yours truly,

**PRINCIPAL**

Shri B. M. Kankanawadi  
Ayurved Mahavidyalaya  
A Constituent Unit of KAHER  
Shahapur, BELAGAVI-03.

IMPARTING AYURVEDA EDUCATION SINCE 1933

Shahapur, Belagavi, 590 003, Karnataka, INDIA

Ph. No. : +91 831 2486286, Fax : +91 831 2424157 Website : www.kleayurworld.edu.in Email : bmkprincipal@gmail.com

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



Amrutha Kalyani &lt;amrutha.kalyani@gmail.com&gt;

**Re: Deputation to peripheral posting -reg**

1 message

**S-VYASA MD Yoga** <mdyoga@svyasa.org>

Fri, Apr 13, 2018 at 5:24 PM

To: b s &lt;bmkprincipal@gmail.com&gt;

Cc: amrutha.kalyani@gmail.com, "Dr. Sandhya Kumar" &lt;deanlifesciences@svyasa.org&gt;, argd.sft@gmail.com

 Dear Sir,  
 Namaste!

I am glad to inform you that our Registrar and Dean of Yoga and Life Sciences have accepted the posting of Dr Amrutha Kalyani for 2 weeks.

However, due to the last minute intimation, we would be able to arrange only dormitory accommodation for her stay on campus.

She will have to pay Rs. 4000/- (Four thousand only) as Training, Food and Accommodation charges.

She could report to myself on Monday, 16 April 2018 by 10 am at the campus located at Jigani. I am copying the mail to Dr Sandhya Kumar, our Dean of Yoga and Life Sciences as well as Mr Sumit Aundhekar (Student Field Training Officer).

We hope she would be able to learn about Yoga therapy during her postings here at Arogyadhama.

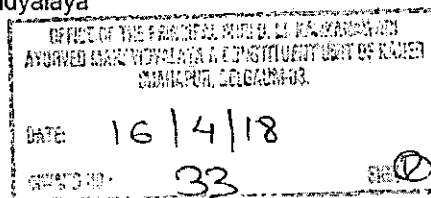
 With Best Regards,  
 Apar

**Dr. Apar Avinash Saoji,**  
 Asst. Director (Academics) & Head - MD Program  
**Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA)**  
 (Deemed to be University)  
 #19, Eknath Bhavan,  
 Gavipuram Circle, KG Nagar,  
 Bangalore 560019  
 Website: www.svyasa.edu.in, www.ijoy.org.in

 On Tue, Apr 10, 2018 at 12:15 PM, b s <bmkprincipal@gmail.com> wrote:  
 sir,

Please find the attachment file Deputation to peripheral posting -reg

Thanking you

 --  
 Principal  
 KLE University's  
 Shri B.M.Kankanwadi Ayurveda Mahavidyalaya  
 Shahapur, Belagavi - 590 003  
 Karantaka, India  
 0831- 2486286, Fax:0831-2424157

*Ch*  
 13/4/18

 Dr. V.A.Kothiwale  
 Registrar

 KLE Academy of Higher Education and Research,  
 (Deemed-to-be-University u/s 3 of the UGC Act,1956)

Belagavi-590003, Karnataka



स्वामी विवेकानन्द योग अनुसंधान संस्थान  
**Swami Vivekananda Yoga Anusandhāna Samsthāna**

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Eknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019

Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.org Website: www.svyasa.org

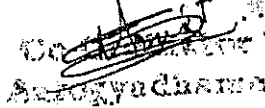
Date: 30<sup>th</sup> April 2018

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Dr. Amrutha Kalyani, of KAHER's Shri B. M. Kankanwadi Ayurveda Mahavidyalaya, Belagavi, Karnataka has successfully completed her Integrated Approach Yoga Therapy, Naturopathy, Program from 16<sup>th</sup> April 2018 to 30<sup>th</sup> April 2018.

She got along with her professional colleagues very well and actively participated in all duties assigned to her.

With Regards

  
Arogyadhama

Mr. Sumit Aundhekar  
Coordinator (Students Field Training)  
Arogyadhama, SVYASA University,  
Bangalore-560105.

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# KLE VISHWANATH KATTI INSTITUTE OF DENTAL SCIENCES



(A Constituent unit of KLE Academy of Higher Education & Research  
(Formerly known as KLE University) Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
J.N.M.C. Campus, Nehru Nagar, Belagavi-590 010, Karnataka, India  
Accredited 'A' grade by NAAC (2<sup>nd</sup> Cycle) Placed in Category 'A' by MHRD (GoI)

☎: 0831-2470362

FAX: 0831-2470640

Web: <http://www.kledental-bgm.edu.in>

E-mail: [principal@kledental-bgm.edu.in](mailto:principal@kledental-bgm.edu.in)

**The Following Activities were conducted as the part of MOU  
with KARNATAKA CANCER THERAPY, NAVNAGAR, HUBLI  
for the year 2016-2017**

Sl No	Post graduates	Date	Activity	No of cases Assisted
1	DR.ANJALI VIJAYKUMAR	3/10/18 To 17/10/18	Posting for observation of Head & Neck Oncology	8
2	DR.YAMINI KORLEPARA	2/5/18 To 21/5/18	Posting for observation of Head & Neck Oncology	8
3	DR.NAINA SHARMA	2/7/18 To 29/7/18	Posting for observation of Head & Neck Oncology	7
4	DR.MAYANK PATEL	1/8/18 To 17/8/18	Posting for observation of Head & Neck Oncology	7
5	DR. UMARANE SHRIKAR	1/9/18 To 23/9/18	Posting for observation of Head & Neck Oncology	8
6	DR.VAPRANI GANESH	2/6/18 To 17/6/18	Posting for observation of Head & Neck Oncology	7

PRINCIPAL

KLE V. K. Institute of Dental Sciences,  
Nehru Nagar, Belagavi

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



# The Karnatak Cancer Therapy & Research Institute

Padmashree Dr. R.B. Patil Cancer Hospital

Navanagar, HUBLI - 580 025, Karnataka State, India. Phone : 0836 - 2228217, 2222865

Fax : 0836-2323167 - 2322063 Website : www.cancerinstitutehubli.org E-mail : kctrihubli@gmail.com

KCH/CRT/SDM/TJ-01/2018

Date: 20/03/2018

## CERTIFICATE

### TO WHOMSOEVER IT MAY CONCERN

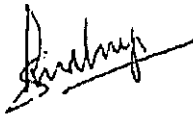
This is to certify that Dr. Abhishek M. Shukla, fellowship student in the Department of Ayuroncology, KLE'S Shri. B.M.Kankanwadi Ayurved Mahavidyalaya, BELGAUM has attended posting in Department of Radiation Oncology, Medical Oncology and surgical oncology from 19-12-2017 to 20-03-2018.


He has examined various Cancer patients, observed different techniques of Radiation like Conventional RT, 3DCRT, IMRT, IGRT/VMAT, Radiation planning and treatment execution and followup of post RT cases and Medical and Surgical Oncology cases management.


He was regular and sincere.

We wish him all the best for her future endeavours.

  
Dr. R.B. Patil  
Chairman


  
Dr. Sai Kumari  
Chief Consultant  
Radiation Oncologist

  
Dr. Basavaraj  
Consultant  
Radiation Oncologist

  
Dr. Kiran Kattimani  
Consultant  
Medical Oncologist

  
Dr. Samosh Chikaraddi  
Consultant Surgical Oncologist



  
Dr. Manjula Huggi  
Administrator

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**K.L.E.UNIVERSITY'S**  
Shri.B.M.K.Ayurveda Mahavidyalaya, Belagavi

MEETING MINUTES

Ref No: BMS/326/2016

Date: 18-3-2016

Meeting of the following members was convened on 16<sup>th</sup> March 2016 to discuss about the establishment of Collaborative Cancer Unit with Rasayu Clinic's at KLE Ayurved Hospital Shahapur, Belagavi, Karnataka.

**Members Present:**

1. Dr. B. S. Prasad
2. Dr. Avinash Kadam
3. Dr Santosh. F .Patil

**Points discussed:**

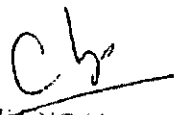
1. **Training of Doctor's :** Dr Yogesh Bendale Will train two doctors for six months , where in KLEU's Shri B M K Ayurved Mahavidyalaya, PG studies and Research Centre will bear the boarding cost of Doctors and Training will be free.
2. **PG Certificate course in Cancer Management -** is planned to be offered by KLE University with Collaboration of Rasayu Clinic's.
  - a. **Curriculum structure:** Basics like Physiology, Pathology, Immunology etc. will be gratified by KLEU's Shri B M K Ayurved Mahavidyalaya, PG studies and Research Centre and also shared by Rasayu Doctors. Clinical exposure will be given at Identified Rasayu Clinics and KLE Ayurveda hospital Cancer unit.
  - b. **Fee Structure:** Will be done on sharing bases by Consulting University and rasayu associates.
3. Dr Avinash Kadam informed that Rasayan Biologics has been identified as PhD Studies Centre by MUHS, Nasik.
4. Specific medicines Of Cancer management and other associate ones will be from the Ayurveda Rasayani.
5. Proper Awareness Programmes need to be chalked out before the starting of Cancer Unit. Ex Inauguration of the Unit , Camps etc . Dr Santosh Patil will prepare the Action Plan.
6. Oncological specific Animal Experiments in KLEU's Shri B M K Ayurved Mahavidyalaya, PG studies and Research Centre guided by RBPL Scientist.
7. RCC collaboration With KLEU's Shri B M K Ayurved Mahavidyalaya, PG studies and Research Centre to open full-fledged Oncology Centre, IPD protocol will be provided By RCC and Patients will be admitted to KLE Ayurveda Hospital.
8. SIP (Student Initiative Programme) started by rasayu can also be involved by encompassing PG students of Rasashastra.

To,

Above said members

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

  
PRINCIPAL  
K.L.E. University's  
Shri B. M. K. Ayurved Mahavidyalaya  
Belagavi



# Dr. JADHAV HOSPITAL

Near Tahsil Office, BHALKI-585 328 Dt. Bidar - Ph : 08484-260180

**Dr. R. N. Jadhav**  
M.B.B.S., D.C.H.

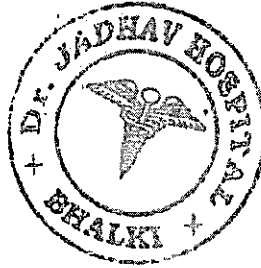
**Dr. Yuvraj R. Jadhav**  
M.B.B.S., M.D. (Ped)

**Dr. Vaishali Y. Jadhav**  
M.B.B.S., D.G.O.

Date : 19/2/18

To

Whomever it may concern



This letter is to certify that Dr Mahadev Prabhu Mangane has worked with our hospital team at secondary level care of Dr Jadhav Children Hospital Bhalki in various section viz General ward , NICU , PICU for five months ( from October to February ) .During his working tenure he has been punctual & efferent . During this time span we are glad to have him as a part of our hospital team

We wish him GOOD LUCK for his FUTURE

*Rajendra*  
**Dr. JADHAV RAJENDRA**  
M.B.B.S., D.C.H.  
Children Specialist BHALKI  
Reg. No. : 18132

*[Signature]*  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Datta Meghe Institute of Medical Sciences [Deemed University]  
**MAHATMA GANDHI AYURVED COLLEGE HOSPITAL & RESEARCH CENTRE**  
Salod (H), Wardha, Maharashtra—442001  
**DEPARTMENT OF PANCHAKARMA**

E-mail: [wardhapanchakarma@gmail.com](mailto:wardhapanchakarma@gmail.com) College: [mgachrc@yahoo.com](mailto:mgachrc@yahoo.com), Web: <http://www.dmimsu.edu.in/> College: <http://mgachrc.org/>  
College Phone: 07152-202632,202631, Fax: 07152-287882,

Letter No: DMIMS/MGAC/PK/OW/2018/02

Date: 02-01-2018

To,  
Dr BS Prasad,  
Principal,  
Shri B M Kankanwadi Ayurveda Mahavidyalaya  
Belagavi, Karnataka

Respected Sir,

Subject: External Training for Fellowship Panchakarma Scholars

Reference: Telephone conversation made with you on date 1-1-2018

The DMIMS (DU), Wardha is your MoU partner in development of Ayurveda since 2017. The Panchakarma Department of Mahatma Gandhi Ayurved College under the affiliation of DMIMS (DU) running Ph.D and Postdoctoral Fellowship in Panchakarma which is interdisciplinary in nature. The scholars enrolled are exposed for one month external posting to update the knowledge.

I request your kind to permit our Panchakarma Postdoctoral Fellowship scholars to work with your staff in Panchakarma working area, Panchakarma Tools development Lab and Central Research Facility to enhance their knowledge and skills.

I request you to issue a formal permission letter for my fellowship scholars' external ship program by name w.e.f. 05-02-2018 to 03-03-2018 (4 weeks) to obtain permissions and approvals from our university. Please provide accommodation as per norms at the arrival and if possible exposure to Panchakarma techniques at Kerala MoU partners. The total planning of training is at your side. The details of scholars are –

- 1) Dr Meena Deogade, Professor, Dravyaguna
- 2) Dr Sunita Magar, Professor, Shalakya

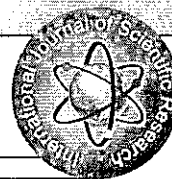
Regards,

Dr KSR Prasad (technoayurveda)  
Vice-Dean (PG)  
Head, Panchakarma  
Mahatma Gandhi Ayurved College, Hospital & Research Centre,  
Salod(H), Wardha - 442003, Maharashtra  
Cell: 9503227966

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**A NOVEL EXPERIMENT ON PREVENTION OF BREAST TUMOR FORMATION THROUGH PROPHYLACTIC ADMINISTRATION OF A MULTIHERBAL COMPOUND AGAINST THE CARCINOGENIC CHEMICAL DMBA (7, 12-DIMETHYLBENZANTHRACENE) IN EXPERIMENTAL VIRGIN FEMALE WISTAR RATS- AN INCONCLUSIVE TRIAL**



**Medical Science**

<b>M.V. Ravishankar*</b>	JSS Medical College, JSS Academy of Higher Education and Research, Mysuru, Karnataka, India PIN; 570015 *(Corresponding author)
<b>Mohd Suhaimi Wahab</b>	School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia
<b>Sunil S Jalalpure</b>	Dept. of Pharmacognosy and Phytochemistry, KLE College of Pharmacy, Belgaum, Karnataka.
<b>Sadanand B Patil</b>	Dept. of Biochemistry USM-KLE, IMP, Belgaum, Karnataka, India PIN-590010
<b>Dhanashree Patil</b>	Dr Prabhakar Kore BSRC, KLE Academy of Higher Education and Research, Belgaum, Karnataka

**ABSTRACT**

**Introduction**-Presently existing modern therapies for the breast cancer treatment is having limitations. The ancient Indian medical science has stressed much on the concept of disease prevention to enhance the longevity by facilitating disease free healthy life. It is the time to revisit the application of immune modulation therapy to reduce the growing incidence of malignant diseases.

**Objective**- Study the breast cancer prevention effect of natural herbal supplements in chemically inducible cancer

**Methodology**: The healthy rats which have started receiving herbal supplements from the 25th day of post-natal period. They were administered on daily basis for 30 days with the drug Immunocin at a dose of 100mg/kg body weight at different time interval in the form of extract in different age matched experimental group of rats. These different groups of rats were interfered with oral administration of 15mg single dose DMBA (7, 12-Dimethylbenzanthracene) at different time interval to induce the breast tumor. At the end of treatment schedule animals were sacrificed. Blood sample was collected for complete blood count (CBC) analysis. The liver and breast tissue was collected for histopathological examination. Cell viability assay was done by using the drug Immunocin on MCF (Michigan Cancer Foundation) cancer cell lines.

**Conclusions**: It is uncertain to induce any tumor by using the chemical DMBA. Hence it is uncertain to correlate the tumor prevention activity through prophylactic administration of the drug Immunocin. Through the cell assay, the anticancerous property of our drug on cancer cell lines was found ineffective. Hence our results were negative and inconclusive.

**KEYWORDS**

Antioxidants, Malignancy, Rejuvenation

**Introduction**

The cancer is assuming a catastrophic proportions worldwide. Over a period of time our understanding about this disease has improved considerably. This has helped to achieve effective treatment by the clinicians with reducing side effects of its treatment. Current therapies are well established to tame this deadly disease soon after its diagnosis during the early phase itself. However modern therapies are showing much limitation with respect to prevention of cancer and also its complications [1]. Advancing age is one of the factor showing gradual inclination towards malignant changes in susceptible individuals. Where large numbers of malignant diseases were diagnosed during the late adult life. Among the different medical systems evolved worldwide, Ayurveda is considered to be the most ancient one. Based on its literature, number of herbal products are formulated and sold in the Indian market, which are widely used by large Indian community for the maintenance of their good health. But most of such commercially available products still require many more basic, scientific and rational experimental proofs. To study the prophylactic effect of any intervention, the chemical induction of cancer is one of the best alternate. The chemical mode of induction of cancer is widely practiced by using experimental animal models[2]. Cancer ailment is drawing much attention, there will be drastic rise in number of malignant cases from 9, 79,789 in the year 2010 to 2,14,8757 by the year 2020. The total female cancer cases are likely to go up from 75,289 in the year 2010 to 93,563 by 2020. The gynaecological cancers are expected to go from 153850 in the year 2010 to 1, 82,602 by the year 2020. Particularly the breast cancer alone in males and females are expected to go above 10, 00 00 by the year twenty twenty[3]. A small observational hospital based study data of cancer patients in Manipal has shown that there is higher relative risk ratio among the followers of non-vegetarian diet when compared with the vegetarians this may suggest the importance of vegetarian diet on healthy life [4]. Ayurvedic herbs are well known for their antioxidant activity. Reactive Oxygen Species (ROS) formation plays an important role on the biological process of carcinogenesis. There must be a balance between free radical formation and its scavenging activity through antioxidant defence mechanism, which can prevent the occurrence of the disease

in an individual. This imbalance can makes our body prone for different range of ailments. In the developing countries female breast cancer is the second most deadly disease affecting the large population next to uterine cervical cancer[5].

**Study background**: Prevention of disease is always a challenging task due to individuals varied pattern of life style including their dietary patterns, genetic profile, exposure to threats, immune competency, psychosomatic stress etc. Ayurvedic literature elaborately describes the special chapters on "Rejuvenation Therapy" popularly known as Rasayana Chikithsa. It is a special prevention strategy which modifies our immune system to fight or prevent the threats with the advancing age. Classical rejuvenation therapy mentions usage of number of herbs along with Ayurvedic principles of drug processing with administration[6]. In the present day, the preventive treatment for first degree relatives of patients suffering from carcinoma of breast is very radical i.e. surgeries like removal of total breast (bilateral mastectomy). Based on this an attempt was made experimentally to test the chemical cancer prevention effect in healthy individuals. The drug Immunocin is a combination of extracts of herbs like Withenia somnifera, Ocimum sanctum, Azadirachta indica, Curcuma longa, Tinospora cordifolia, Boerhaavia diffusa, Piper longum. To test the chemical DMBA effect on mammary gland tumor formation in rats which were already (prophylactic) administered with the trial drug Immunocin were studied to assess their disease acquaintances.

**Materials and Method**

**Type of Study**: Animal experimental study Rats[7]

**Animals used**: Twenty five days old female rats

**Drugs used**: Tablet Immunocin (GUFIC Biosciences Limited, Belagavi, Karnataka State, India, Manufacture Date Nov.2014 Lic no: L-AUS-109)

**Ethical clearance**: Resolution No. KLECOP/CPCSEA-Reg.No.221/Res.23-2/09/2016

Dr. V.A.Kothiwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

International Journal of Scientific Research

1

**Form of administration:** Chemical DMBA administered by dissolving it in sunflower oil and the Immunocin extract was administered by dissolving it in drinking water

**Route of administration:** Cancer inducing agent and therapeutic drug, both were administered through oral route

Induction process of experimental breast cancer: by the administration of 15mg single dose of 7, 12 - Dimethyl benzaanthracen [8].

Experimental groups: each group contains 6 rats

In all these age matched different group of experimental rats the intervention of the experimental drug (Immunocin) and standard carcinogenic agent (DMBA) was done to test the levels of disease acquaintances.

**Treatment control group I:** In this group rats were administered with the Immunocin extract alone from the 25th day till 54th day, and later on the 55th day they were administered with the single dose of DMBA, and Immunocin administration was continued for the next 30 days till the age 85th day, and they were sacrificed by the end of 155th day.

**Treatment control group II:** In this group, on the 55th day the rats were administered with the single dose of DMBA+ single dose of Immunocin. They were observed and sacrificed on the 155th day.

**Treatment control group III:** In this group these rats were administered with the Immunocin extract from the 25th day till 54th day, and later on the 55th day they were administered with the single dose of DMBA alone and the later were sacrificed on the 155th day.

**Standard control group IV:** In this group on the 55th day, rats were administered with DMBA alone as a standard drug for the induction of the malignant mammary tumor, and they were observed and sacrificed on the 155th day.

#### Study Parameters:

1. Histopathology of mammary gland and liver.
2. Complete Blood Count (CBC)
3. MTT (Microculture tetrazolium) assay

#### Procedure:

The tablet Immunocin is a commercial product contains multiherbal drug combination was purchased from the market. It was made to dissolve in the rectified spirit and later supernatant was filtered, dried, weighed and later was used for its administration by dissolving it in drinking water. The dissolved drug was administered through orally to intragastric by using baby feeding tube. First we have completed the toxicity study as per Organisation for Economic Co-operation and Development (OECD) [9]; it is found that our drug is safe to use with 100mg single dose orally. In our novel experimental study we have started with prophylactic administration of Immunocin drug dose 100mg to all the experimental groups of (normal) rats. In the initial stage of our experimental trial a separate isolated group of rats were given with 20mg single oral dose of DMBA by using the sunflower oil. On its administration all the rats in this group were died within 11 days after its administration; but these died rats presented with no signs of breast tumor formation during this period. With the hope of their effective survival we started with the lower single dose of 15mg DMBA administration in all the experimental groups, and the rats were observed for the next 16 weeks. Simultaneously carcinogenic drug (DMBA) administration was interfered with Immunocin drug administration in different groups of rats at different time intervals as stated above. Weekly observation of rats for breast tumor formation along with liver and lymph node enlargement was under regular vigilance. We have regularly checked for the breast, liver and lymph node enlargement as physical signs, but couldn't notice any. To support the possible overt expression of subclinical pathogenesis, subsequently at the end of 16th week we have given an additional 5mg dose of the DMBA in the similar pattern as said above. In spite of an additional dose administration we couldn't notice any tumor formation in the next 4 more weeks i.e. by the end of 20th week of study period. At the end of 5 months all the rats were physically examined thoroughly for the tumor formation and later they were sacrificed through the cervical dislocation. Breast, Liver tissue were collected and sent for histopathological examination and blood sample was sent for complete blood count (CBC).

To test the in vitro Cytotoxicity of our multiherbal compound

Immunocin, we have used MTT assay by procuring MCF (Michigan Cancer Foundation) cell lines from NCS S Pune [11,12]. Initially on these cell line culture we tried with the regular dose i.e. 1000mg/microliter. Later the cytotoxicity assay was done at time intervals of 24 hours and 48 hours, but we were unable to record IC50 value. Later the same trail we have repeated with 2000mg/micro liter. But in both these cases we are unable to notice the activity of cell viability suppression (cell death). In the present cell assay viability of cells were checked through the finale absorbance calculated for the percentage of cell viability through OD vales (Optical Density OD) at 492nm by using ELISA (Lisa plus, India) reader [12].

#### Results and Discussions

Food and nutrition plays an important role to maintain the health and fitness of our body. The right intake of quality food and nutrition can boost our immune system. Generally the plant source food items are including vegetables, grains, cereals, fruits, mushrooms etc. Herbs which are considered as drugs will differ from food items with respect to their potency. To support this view there are number of food supplements freely available in the Indian market; irrespective of their health status which are consumed by large Indian population. Often its usage is recommended by the dietitians, nutritionists, Ayurveda or modern physicians. Hence combination of many such herbal products are generally used as food supplements to fulfill some dietary insufficiency. It is believed that these supplements will work in complimentary with the regular food. Sometimes they were used by healthy individuals or by the patients after recovering from a prolonged illness or by the person who is having general debility. The herbal supplement tablet Immunocin may stand as one among them. There are number of herbal preparations were used by the people with hope that such supplements may boost their immune system so that they might get protection against the exogenous or endogenous threats by preventing the occurrence of diseases.

Cancer is one such ailments creating panic in the society for no definite cause. Though the genetic concept and interference of inorganic chemicals for acquiring the cancer is a most widely discussed theory in the present era; their influence on the biological system is having variable duration of latency period. Such similar experimental models were tried under research to study their prevention as well as cure.

The earliest reference of breast tumour induction with DMBA chemical administration is about 13 weeks [13]. DMBA being a well-known chemical which is widely used as carcinogenic agent in the experiments to induce variety of cancers. DMBA administration causing altered gene expression resulting in immune modulation; which is considered to be one of the important factor play its role in inducing cancer like conditions. There are number of ways through which experimental trails studied the role of DMBA in cancer tumour induction. In this connection they have studied the different molecular cell signalling pathways, where 1 mg dose of DMBA was given on weekly basis till the 6th week. Later they observed that there is an elevated expression of Aryl hydrocarbon Receptor (AhR), C-myc, CyclinD and hyperphosphorilation. Which has triggered up regulation of wnt signalling pathway, NF kappa B pathway when compared with the normal mammary gland formation in control groups. Probably these biological factors are leading to mammary tumourogenesis with DMBA [14]. The drug Immunocin was used in prophylaxis therapy with the intention of its suppressing action on such oncogenic expressions against the carcinogenic agent DMBA. Alteration and deterioration in immune response can make our body prone for the life threatening diseases like malignancy. Present novel experimental trial is also based on our observations where the incidence of the cancer is often seen among the same family members or among the siblings. It was our hypothetical thinking that, can regular intake of such herbal/food supplements can help the individual who is prone for life threatening diseases like cancer.?. In this regard the Ayurveda has elaborately described chapters under the name of "Rasayana Chikithsa" (Rejuvenation Therapy) which is exclusively meant to achieve the purpose of disease free living in healthy individuals, and to achieve the cure in diseased [6]. With this background we used carcinogenic agent DMBA as a chemical agent which bring cancer like changes by suppressing/influencing the activity of proto-oncogenes in our biological system. Present study is targeted and limited to induce and test the mammary gland tumor formation among the rats by using DMBA which are prior under the influence of multiherbal commercial drug. These two different drugs with diversified activity were

administrate in animals at different timings or time gap; and later were kept under observation. Weekly physical examination of formation of tumor was carried out till the end of our study. The animal was physically examined for any findings; but we couldn't notice formation of any tumors till the end of our experiment. Histopathology of mammary gland and liver both were studied under H&E (Haematoxylin & Eosin) stain; its findings were within normal limits. To see overall changes in the blood, the biochemical parameter i.e. complete blood count (CBC) was used. The end results of CBC was found to be within normal limits. CBC has not shown any changes supporting/indicative of malignancy or inflammation. The ratio of other TC (total count) and DC (differential count) were within normal limits. Among them the neutrophil count, which is one of the marker of inflammatory changes was also found within normal limits. Particularly we have focused on the Neutrophil count which play an important role in body immune response. Under blood investigations the hemoglobin (blood iron) content was referred as an important indicator of possible malignant changes in the body. Where accumulation of large quantity of iron storage protein called Ferritin raise is seen significantly among cancer patients. The body antioxidant enzymes are significantly raised among cancer patients[15]. In the present study hemoglobin percentage was showing no indication of anemia in any of the experimental groups. Where reduced hemoglobin percentage (anemia) could be used as one of the tentative sign of malignancy, or it can be also used as an indicator of prognosis in malignant diseases. With respect to Hb%, the results were found within normal limits in all the experimental groups. The findings under CBC were correlated with the histological features of liver and mammary gland, but they were found normal.

Our findings suggests that DMBA has not shown any mammary or liver tumors which is of benign or malignant in nature. Experiments have clearly shown that the single dose oral route administration of DMBA or its multiple intermittent small dose administration has supported the formation of breast tumor in a period between 8-14 weeks. Some experiments also quotes the formation of tumor within the time duration ranging from 13th week to 53rd week on single dose administration. With these references initially we have set our expected tumor formation by the end of 16 weeks duration, which we couldn't achieve. Later we have extended our study for 4 more weeks with the additional drug DMBA administration dose of 5mg. But in spite of it we couldn't notice any physical signs of mammary gland tumor formation. Despite the total 20mg of DMBA administration, the rats were started gaining the weight, showing normal/regular intake of food and water, regular bowel habits with routine physical activities. To test set objectives of our present study, we have proceeded with DMBA administration in rats which are under Immunocin drug therapy at different intervals. Our experimental observations under split dose of (15mg+5mg) DMBA administration was contradicting with the outcome of single dose 20mg DMBA administration, where all the animals were died within 11 days. But our experimental trial observations were continued in all the groups regularly as before. After waiting for some more weeks by considering our experimental limitations we have concluded our experiment by the end of 5th month. Generally the drug which is considered to be anticancerous is showing the reduction (cell death) in number of viable cancer cells. In the present trial under MTT cell assay, the MCF cell viability was found undisturbed with the Immunocin compound. These observations were in contrast with the drugs which are generally considered to be anticancerous, which are showing IC 50 (inhibitory quotient) values which express the cell viability in terms of its percentage. Anticancerous activity was assessed through the final percentage of MCF cell absorbance values; where the absorbance value is inversely proportional to cell viability. In the present MTT assay IC 50 (inhibitory quotient) value assessment of Immunocin compound has shown no signs of its activity; which has failed to check the cell viability of MCF cell line (Photo no. 9).

Though we are unable to induce any type of tumors, our observations under the histopathology of the breast tissue was showing quite interesting pattern. At the end of the study none of these rats in the group were showing proper development of alveoli and duct pattern of the mammary gland which is corresponding with their normal physical age; later in all the experimental groups it was confirmed through physical and histopathological examination (Photos no. 2,4,6 and 8) Microscopic appearance of breast tissue is suggestive of its subnormal growth pattern. Regular development of duct system and acini is

called branching morphogenesis. This process is seems to be halted, hence it may suggestive of organ suppression. Where the duct is seen in the form of scattered without glandular (acinar) pattern with limited adipose and connective tissue; hence it is suggestive of under development of the mammary gland which is not matching with the age of the animal. Usually in puberty mammals will show exuberant duct and alveolar growth pattern with intense tissue remodeling in the lining epithelium[16]. The sexual maturity through timely production of sex hormones in these experimental rats might have suppressed. Because of these reasons the rats which regularly (physiological) attain their sexual maturity around 6th week (Age) might have failed[17]. Probably, the lack of estrogens and its strong influence on overall development of reproductive system including ovary (female gonad) might have adversely affected by our drugs like Immunocin and DMBA. The normal age dependent growth pattern of reproductive organ (Mammary gland) maturity in these animals seems to be suppressed (Photo no. 10). Histopathological of mammary gland and liver is showing no tumor formation. The blood and tissue findings may suggest that the carcinogenic chemical DMBA has failed to influence any tumor formation or failed to induce any inflammatory changes in the body; which can be correlated with normal histopathological appearance of liver tissue in all experimental groups (Photos no. 1,3,5, and 7). Our observations/findings at this 15mg single dose do suggests that its effect was within manageable biological safety limits hence showing no changes in blood or histopathological parameters. Hence at this dose the chemical was found biologically ineffective to induce cancer in its gross form in 16-20 week duration of latency period. To influence carcinogenic effects it may require much higher single dose or escalating multiple dose administration. The drug Immunocin being a multi herbal product probably influencing adversely on the physiological events in the development of normal mammary gland alveolar/duct pattern. Suppression of these physiological events could be due to the effect/influence of phytochemicals present in this drug. Hence our overall experimental findings supports the statements of one of the author, where DMBA was considered to be a non-reliable, inadequate, time consuming, and expensive method when compared with direct in situ cell line injection into the breast tissue to induce cancer in rats[18]. Sequential hormone signaling pattern is essential not only for the overall development female reproductive system, but it can even influence the changes in disease condition as as well[19]. Both these drugs might have suppressed the age dependent sexual maturity by adversely influencing the activity of endocrine glands. In the present study the induction of mammary gland tumor has failed. It is obviously contradicting the previous reports; for such unmatched outcome of our experiments, i personally consider it as our own limitation in designing our experiment at all levels. Our findings in the present study is totally inconclusive. Hence present study findings suggest further more basic experiments to conclude any suppressive effect of our drugs on the hypothalamo pituitary adrenal (HPA) axis[20].

### Conclusion

The carcinogenic agent DMBA has failed to induce expected tumors in this setup, hence we are unable to conclude possible malignant tumor prevention activity of the drug Immunocin under prophylactic therapy. The multiherbal drug even in its higher concentrations was not able to show anticancerous effect on MCF cancer cell lines. Hence a small pilot study can give a better practical inputs to continue the study to the next level. Hence it is essential to start with a pilot study in a small setup; certainly it will guide us about the experimental trouble shooters which can save our time, resource and money. In research experiments bias is an unavoidable event or it is the limitation of any experiment in particular. There may be several factors involved in the present experiment which might have influenced its final outcome. Hence further experimental evaluation may be required to suggest the appropriate induction dose, the time duration for the induction of mammary gland tumors by using the chemical DMBA. To test the prophylactic effect of any commercial drug by using a carcinogenic agent, it needs a meticulous experimental evaluation in a stage wise manner. Any supporting reference for such invasive experiments can't be tried at once. They may pose practical difficulty in replicating/reproducing/initiating the experiments in the exact manner in which others have executed; where our experimental outcome is one such evidence which is mismatching with them, hence pilot studies are essential.

Nil effect shown under MTT assay of our drug on the MCF cell line

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study may indicate lack of anticancerous property. Even though single experiment can't answer all the questions, it makes us to be skeptical about the efficacy of drugs especially when administered in its compound (multitherb) form. Irrespective of individuals' health status, the probability of downstream/negative/adverse influence or mutual interaction of variety of phyto constituents from different herbs under one biological context can't be ruled out.

**Competing Interests:** Here all the authors declares that they don't have any competing interests in any manner.

**Acknowledgement:** We would like to acknowledge and sincerely thank Dr H.B. Rajashaker, Director School of Medical Sciences, USM-KLE, IMP, Belagaum, Karnataka, India, for their support, encouragement and complete funding for this small departmental project.

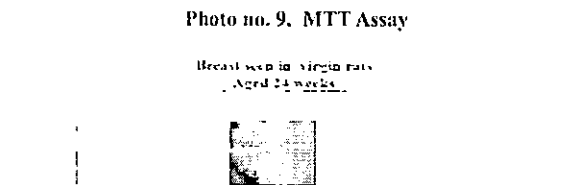
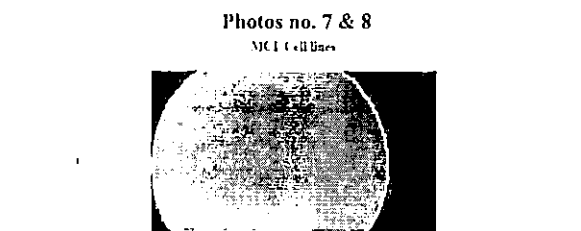
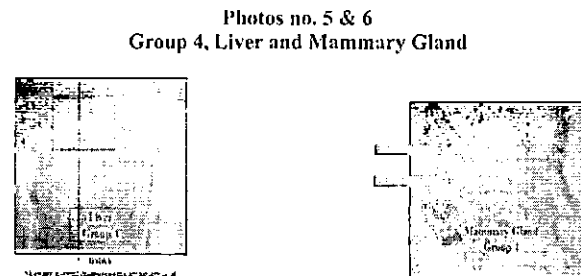
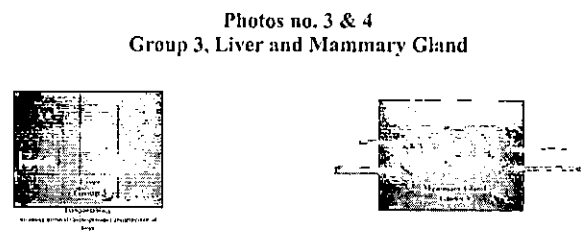
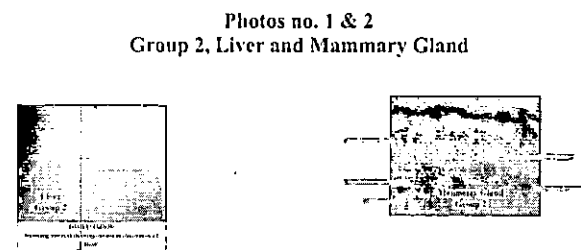
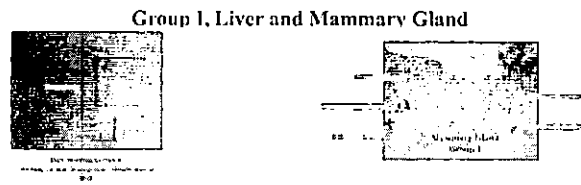
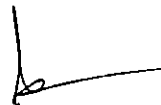
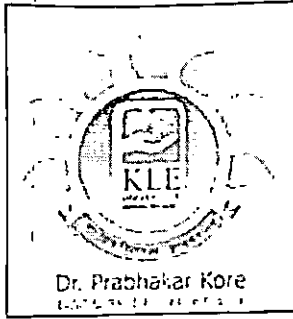


Photo no. 10, showing small breast size in all DMBA administered rats

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### COLLABORATION FOR ACADEMIC AND SCIENTIFIC COOPERATION

This Collaboration is for Academic and Scientific cooperation between the K.L.E. University, Dr Prabhakar Kore Basic Science Research Centre, Belagavi, Karnataka and Sant Gajanan Maharaj College of Pharmacy, Mahagaon, Tal: Gadhinglaj, Dist: Kolhapur, Maharashtra.

The Collaboration establishes the following:

#### OBJECTIVE OF THE AGREEMENT


- To establish Academic and Scientific cooperation.
- To establish rapport among students and the Faculty of both the institutions with respect to academic programs and research projects.

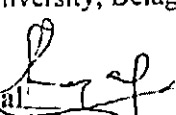
#### GOALS AND FORMS OF COOPERATION


To provide opportunity for following activities towards the completion of the objective of this Collaboration.

1. To offer guidance for research projects in areas mutually agreed upon.
2. Support extension activities of common interest.
3. To conduct training Programmes for undergraduate and post graduate Pharmacy students
4. Endeavor to encourage students and staff to spend period of time in the host Research Centre.
5. Promote research and realize cooperative projects, giving priority to interdisciplinary works.

#### SIGNATURES

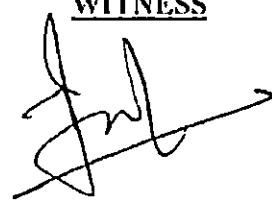

  
Deputy Director  
Dr. Prabhakar Kore Basic Science Research Centre,  
KLE University, Belagavi, Karnataka

  
Principal  
Sant Gajanan Maharaj College of Pharmacy,  
Mahagaon, Tal: Gadhinglaj, Dist: Kolhapur, Maharashtra.

  
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#### WITNESS



SHRC/144/HR/2018

Date: - 02/06/18

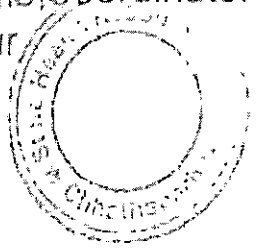
COMPLETION CERTIFICATE

This is to certify that Vivek Minz, JNMC KLE Academy of Higher Education & Research Belagavi, Karnataka has successfully completed his internship programme at State Health Resource Centre, Chhattisgarh from 09.04.2018 to 31.05.2018. He was involved in primary data collection in the following study:

"Impact of Menstrual Hygiene Awareness program among Adolescent Girls in Rural Areas of Sarguja & Bilaspur district."

We appreciate his sincere effort in the study.

Programme Coordinator  
SHRC, Raipur



Dr. V.A. Kothiwale  
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Belagavi-590 010, Karnataka





Reg no - 112/0741075

30<sup>th</sup> May 2018

Subject: To whom it may concern,

This is to certify that Ms. Kabita Yadav, student of Master of Public Health Program of KLE University, Belagavi has completed her 2 months of internship at Aasaman Nepal, Mahalaxistham, Nepal started from 2<sup>nd</sup> April 2018 to 30<sup>th</sup> May 2018.

During her internship, she completed the following assignments:-

1. Completion of "Final technical report on Integrated Management of Acute Malnutrition (IMAM) in flood affected areas of Saptari, Dhanusha and Rautah Districts"
2. Assisted in Data compilation on different ongoing projects of Health and Education.
3. Participated in three days Psychosocial training on Mentor Approach

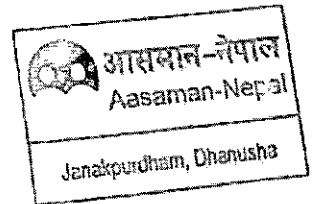
I found her enthusiastic, disciplined and competent in her work. Her dedication and honesty remains appreciable

I wish her success in all her future endeavors.

*Nawal*

Mr. Nawal Kishor Yadav

Executive Director



Dr. V.A. Kothiwale  
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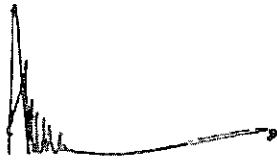


**National Institute of Malaria Research**  
NIMR Field Unit: Panaji, Goa

# Certificate of Internship

This is to certify that  
**Dr. Hemant Adhikari**  
Student of MPH (Master of Public Health) final semester,  
Jawaharlal Nehru Medical College, K.L.E. Academy of  
Higher Education & Research, Belagavi, Karnataka  
has successfully completed internship programme on  
**'Health Economic Burden of Dengue'**

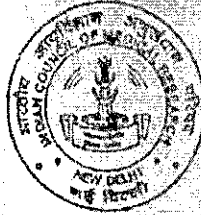
Date - 18 May 2018  
Campal, Goa  
Dr. Ashwani Kumar  
Scientist G  
Officer-in-Charge  
National Institute of Malaria Research  
Field Unit, DHS Building  
Campal, Panaji-403001, Goa, India

  
**Dr Ashwani Kumar**  
Scientist-G (Director Grade)  
Officer-In-Charge

  
**Dr. V.A. Kothiwale**  
Registrar

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Belagavi-590 010,Karnataka

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**National Institute of Malaria Research**  
NIMR Field Unit: Panaji, Goa

# Certificate of Internship

This is to certify that  
**Dr. Sankara Lakshmikanth**,  
Student of MPH (Master of Public Health) final semester,  
Jawaharlal Nehru Medical College, K.L.E. Academy of  
Higher Education & Research, Belagavi, Karnataka  
has successfully completed internship programme on  
**'Health Economic Burden of Dengue'**

**Dr Ashwani Kumar**  
Scientist G (Director Grade)  
Officer-in Charge

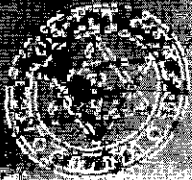
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Dr. Ashwani Kumar  
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Officer-in Charge  
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# Nepal Health Research Council

1991



Ref. No.:

Date: 31 May 2018

To Whom It May Concern

This is to certify that Mr. Mukesh Karn, MPH IV Semester, student of Department of Public Health, J. N. Medical College, KAHER, Belagavi, India has successfully completed his internship in Nepal Health Research Council (NHRC). The internship duration was from 1<sup>st</sup> April 2018 to 31<sup>st</sup> May 2018 in partial fulfillment of the requirements for the degree of Master of Public Health under my supervision. He was working in the Health Research Section.

He was engaged in following key task during his internship:

- Fourth National Summit of Health and Population Scientists in Nepal
- Developed a proposal entitled "Prevention of Anemia among Adolescent Girls by Strengthening Health Promoting Behavior: An Interventional Study".
- Use of Bibliography software Endnote X4.
- Developed database of research conducted by NHRC in different priority areas.

We found him sincere, hardworking, punctual, inquisitive, technically sound, positive approach and result oriented during his internship. Moreover, his dedication to our organization was really great and has shown his true capability. He is confident of himself and always willing to work and learn. It was pleasure to work with him in our team. We wish him all the best in his future.

Executive Chairman

Prof. Dr. Anjani Kumar Jha  
Executive Chairman

Dr. V.A. Kothiwale  
- Registrar

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Survey No. 118/1, Off Mumbai-Bangalore Highway Warje, Pune - 411058

Tel. : 91-020-2523 1130, 2523 1131 Fax : (020) 2523 1133

E-mail : info@ciplacare.com

CPC/2018-19/MAY13

### CERTIFICATE OF INTERNSHIP

This is to certify that **Dr. Susmita R Kamble**, MPH IV semester student at Dept. of Public Health KLE University has completed her internship at Cipla Palliative Care and Training Centre from 2<sup>nd</sup> April 2018 to 30<sup>th</sup> May 2018.

We take this opportunity to acknowledge and appreciate the proactive and spirited involvement shown by Dr. Susmita Kamble during this program.

*uF Dighe*

**Dr. Manjiri Dighe,**  
Medical Director  
Cipla Palliative Care  
and Training Centre

*[Signature]*

**Dr. V.A Kothiwale**  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University's 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Scanned by CamScanner

Government of Nepal

Ministry of Health and Population

Mid- Western Regional Health Directorate

Bhendranagar, Pokhara, Nepal.

Date: 2018-05-29

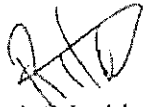
F/Y: 2017/18  
Ref no: 666

To whom it may concern

This is to certify that Mr. Prem Prasad Baskota during his course requirement of Masters in Public Health from KAHIR, Karnataka (Register Number: FL0116024) has worked as intern in this Directorate. As part of his course he was with MWRHD (Mid- West Regional Health Directorate) from 1<sup>st</sup> April 2018 to 29<sup>th</sup> May 2018 as an intern.

During his internship he was part of the team involved in support of training conduction, supervision, making plan for monitoring and evaluation in the health care delivery system in this Region.

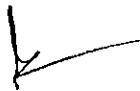
We wish him all success in future endeavors.



Ms Rita Bhandari Joshi

Director

क्षेत्रीय निर्देशक



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# GROUP FOR TECHNICAL ASSISTANCE

May 31, 2018

## TO WHOM IT MAY CONCERN

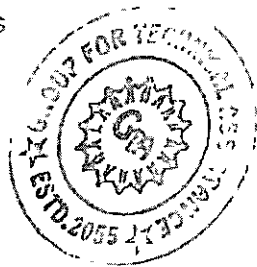
This is to certify that Mr Keshab Parajuli, KLE Academy Higher Education and Research, Department of Public Health was working as an intern in the project entitled "Assessing and promoting antimicrobial stewardship program in Kathmandu Model Hospital and its catchment areas" from April 01, 2018 to May 31, 2018.

I found him very enthusiastic, eager to learn and always ready to contribute in his assigned responsibilities. During his internship with us, his performance was appreciated by the team and to the best satisfaction of the managements.

We wish him all the success in future endeavors.

With Best Wishes

  
Kshitij Karki  
Senior Manager



  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act.1956)  
Belagavi-590 010, Karnataka

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2/28/2018

Email Fwd: Re: CV for consideration for internship



KLEU Dept. of Public Health <mphkleu@gmail.com>

**Fwd: Re: CV for consideration for internship**

1 message

Baratiplang Sohtun <baratiplangsohtun@gmail.com>  
To: "KLEU Dept. of Public Health" <mphkleu@gmail.com>

Wed, Feb 28, 2018 at 10:55 AM

----- Forwarded message -----

From: "Limalemia Jamir" <limalemia.jamir@gmail.com>  
Date: Feb 28, 2018 9:23 AM  
Subject: Re: CV for consideration for internship  
To: "Baratiplang Sohtun" <baratiplangsohtun@gmail.com>  
Cc:

Dear Ms Sohtun,

We are pleased to inform that your application for internship at the Indian Institute of Public Health, Shillong for the period April-May 2018, has been accepted

On an urgent basis please send us the contact details (including email) of the reporting faculty at your Institute and email of Dr Mubashir Angolkar.

Regards,  
Lima

*dmubashir@gmail.com*  
*cell (+91) 9886983624*

Dr Limalemia Jamir MBBS MD  
Assistant Professor  
Indian Institute of Public Health (IIPH)  
Public Health Foundation of India (PHFI)  
Lawmali Pasteur hill  
Shillong Meghalaya India 793 001  
Tel: 0364 2502014

From: Baratiplang Sohtun <baratiplangsohtun@gmail.com>  
Sent: 24 February 2018 19:03:28  
To: Limalemia Jamir  
Subject: Re: CV for consideration for internship

Respected madam/sir regarding my internship my department they need a letter from your institutions as soon as possible.

Thank you

On Feb 16, 2018 2:30 PM "Limalemia Jamir" <limalemia.jamir@gmail.com> wrote.

Dear Ms Sohtun,

We appreciate your interest in our Institute for your Internship. Could you share a background note on your Institution and the MPH curriculum?

Regards,  
Lima

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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<https://mail.google.com/mail/u/0/?ui=2&ik=2707141161&isver=8&wv=VOM0tpVlen.&view=pt&search=inbox&type=161dad952c0f86a&th=161dadefec35>



Ref: IHMRB/ACAD/2018-1-08  
23-04-2018

**INSTITUTE OF HEALTH MANAGEMENT RESEARCH**

#319, Near Thimmareddy Layout,  
Hulimangala Post, Electronic City,  
Bangalore - 560 105  
Ph. 080 - 30533800/899  
Fax. 080 - 30533804  
Email: info.bangalore@ihmr.org  
Website: www.bangalore.ihmr.org



Accredited by NABET  
for Hospital & Healthcare  
consulting organization  
on NABH standards

Letter of Confirmation

Dear Mr. Prakash Nank,

Greetings from IHMR Bangalore!!

We are happy to inform you that your internship has been confirmed with us in IHMR,  
Bangalore under Dr. Sarala Ravi Assistant professor IHMR Bangalore

dated 01.04.2018 till 31.05.2018

Dr. Sarala Ravi

Yours sincerely,

For Director, Institute of Health Management Research Bangalore

Mr. Nank  
Faculty discharge certificate



  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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KLE UNIVERSITY'S  
JAWAHARLAL NEHRU MEDICAL COLLEGE, BELAGAVI  
Accredited 'A' Grade by NAAC  
DEPARTMENT OF PHARMACOLOGY



Website: <http://www.jnmc.edu>  
Email: [jnmc@jnmc.edu](mailto:jnmc@jnmc.edu)  
[jnmc@jnmc.edu](mailto:jnmc@jnmc.edu)

Dept. 0831-2473777  
Ext. 4095, HOD; Ext. 4064  
Fax No. 91-0831-2470759

Date: 4/1/2018

From,  
Dr. Anil P. Hogade  
Professor & Head  
Department of Pharmacology  
J. N. Medical College  
Belagavi  
Karnataka-590010

To,  
The Director  
Medical Affairs  
Merck Limited  
Vikhroli (E), Mumbai-400079.

Subject: NOC for Industrial Internship Program during MD Pharmacology.

Dear Sir,

The Department of Pharmacology at J. N. Medical College, Belagavi has incorporated industrial internship program in the academic curriculum of MD Pharmacology.

Dr. Neha Gupta, a second year postgraduate in the third term of MD Pharmacology, has been posted at your esteemed company for a period of one month from 6<sup>th</sup> February 2018 to 7<sup>th</sup> March 2018.

I have no objection in sending her for the above said duration. The candidate shall mark the daily attendance in the attendance record sent by Department of Pharmacology. At the end of posting the Director shall counter sign the attendance certificate for record keeping. The organization shall also issue a certificate of attendance and work progress.

This is for your kind information and necessary action.

Thanking you,

Regards.

Yours faithfully,

*(Anil P. Hogade)*

Dr. Anil P. Hogade M.D, MBA  
Professor & Head  
Dept. of Pharmacology  
J.N. Medical College, Belagavi-10

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

# MERCK

Neha Gupta  
C/O Dr Vijay Verma,  
Vijay Children Hospital,  
Kairon Road, Malout,  
Punjab - 152107

January 5<sup>th</sup> 2018

Dear Neha,

With reference to the internship role with Merck and the subsequent interview you had with us, we are pleased to offer you the position of "Intern" in the "Medical Affairs" Department of Merck Biopharma Ltd. India.

Your internship will be for a period of one month from 6<sup>th</sup> Feb 2018 to 7<sup>th</sup> Mar 2018.

You will receive a Stipend of Rs. 15,000/- (Rupees Fifteen Thousand Only) per month during your internship period with us.

At the time of reporting for internship, you are required to submit three copies of your latest passport size photograph along with attested copies of your 10<sup>th</sup>, 12<sup>th</sup> & Graduation mark sheets.

Kindly endorse your acceptance by signing the enclosed duplicate and returning the same to us.

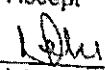
You will receive a "Certificate of Merit" from "Medical Affairs" Department of Merck Biopharma Ltd. post completion of your internship

You are required to join us on 6<sup>th</sup> February 2018 and report to Dr. Bharat Mahajan, failing which, this internship stands withdrawn.

Yours faithfully,  
Merck Limited

  
Rajan Susairaj  
Country Head - Talent Acquisition, India & Indonesia  
Group Human Resources

I Accept

  
Neha Gupta

I ACCEPT THE LETTER



Merck Limited

Registered Office  
Godrej One, 8<sup>th</sup> Floor, Prajshanagar  
Eastern Express Highway, Vikhroli East  
Mumbai 400079, India.  
Phone +91 22 62109000  
Fax +91 22 62109009  
www.merck.co.in  
CIN: L99909MH1957PLC013726

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

147

7<sup>th</sup> March 2018

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Neha Gupta, second year student of M.D (Pharmacology) at Jawaharlal Nehru Medical College, Belagavi, has worked as an Intern in the Medical Affairs Division at Merck Ltd., Mumbai from 6<sup>th</sup> February, 2018 till 7<sup>th</sup> March, 2018.

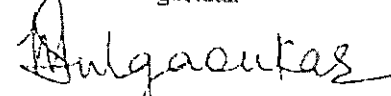
She has successfully completed her project with us

The key activities undertaken by her during the internship are as follows

- 1 Prepared PowerPoint presentations for Therapy areas such as Diabetes, Hypertension, Coronary heart disease, Heart failure, Thyroid, Multiple sclerosis, Polycystic ovarian syndrome, Dyslipidemia, Neurology, Oncology, Clinical trials and Fertility
- 2 Literature review and reference citation for Therapy areas such as Diabetes, Hypertension, Coronary heart disease, Heart failure, Thyroid, Multiple sclerosis, Polycystic ovarian syndrome, Dyslipidemia, Neurology, Oncology, Clinical trials and Fertility
- 3 Contributed in preparing training modules w.r.t. Uthyrox & MS
- 4 Attended basic training in PV with Pharmacovigilance division - Handling of Ag REPORTER, IRT, and OST, reporting to DCGI, PvPI AND GPS
- 5 Attended basic medical training in Fertility
- 6 Prepared draft iHealth Newsletter for Chronic diseases, Life style modification and Gut Strength Targeting Colorectal Cancer Together
- 7 Attended monthly medical affairs meeting and was involved in day to day Medical Affairs activities

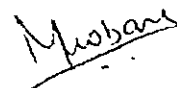
Wishing you all the best for your future endeavors

Dr. Nitin Mulgaonkar



Medical Director  
Biopharma (India & Emerging Frontier Markets)  
Healthcare India

Minal Khobare



HR Business Partner  
Healthcare India



Merck Limited

Registered Office  
Godrej One, 5<sup>th</sup> Floor, Park Road, Colaba  
Eastern Express Highway, Mumbai East  
MUMBAI-400079, India  
Phone: +91 22 62109000  
Fax: +91 22 62109000  
www.merck.com  
CIN: L28299MH1992PL0013726



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**COMPARISON OF DENTINAL TUBULE  
PENETRATION OF DICLOFENAC WITH CALCIUM  
HYDROXIDE , IBUPROFEN WITH CALCIUM  
HYDROXIDE AND CALCIUM HYDROXIDE WHEN  
USED AS AN INTRACANAL MEDICAMENT -An In-  
vitro study**

**ABSTRACT:**

AIM: The aim of the present study is to evaluate the intra tubular penetration of NSAIDS with Calcium Hydroxide when used as an intra-canal medicament.

Materials and methods: 30 single rooted single canal teeth will be selected for the study, the root canal will be prepared using rotary instrument.

The teeth will be randomly divided into three groups

Group 1: Teeth with Diclofenac and Calcium Hydroxide as an intra-canal medicament

Group 2: Teeth with Ibuprofen with Calcium Hydroxide as an intra-canal medicament

Group 3: Teeth with Calcium Hydroxide as an intracanal medicament

During instrumentation 3% of NaOCl will be used for debris removal and to remove the smear layer 17% of EDTA will be used followed by final rinse with distal water. During the procedure the apical portion of the test subject will be sealed using a utility wax to prevent flow through them and to allow effective reverse flow of the irrigant.


The root canal medicament will be labelled with 0.1% of rhodamine dye and will be applied into the canal using lentulospiral, following which canal orifice will be sealed with a utility wax

Standardization of the sample will be done by horizontally sectioning each tooth to produce disc approximately 1mm thick from the middle third of the tooth.

Dentinal penetration test will be carried out using confocal microscopy.

Statistical analysis will be carried out.

RESULTS: Awaiting.

  
Registrar and Head  
Dept. of Conservative Dentistry  
M.S.M.K. Institute of Dental Science  
Belagavi

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

## ABSTRACT

### INTRODUCTION

Endodontic regeneration has been introduced as a treatment option for immature permanent teeth with necrotic pulps (Thibodeau 2009, Lenzi & Trope 2012). The technique has been suggested to reduce the risk of fracture associated with traditional apexification. One of the essential elements for a successful endodontic regeneration protocol is the creation of a bacteria-free biological environment inside the root canal space through the use of intracanal medicaments. The most widely used intracanal medicament in endodontic regeneration is the triple antibiotic paste (TAP) described by Hoshino et al. (1996), which is a mixture of metronidazole, ciprofloxacin and minocycline. Due to the combination of antibacterial drugs it aids in the disinfection of oral infectious lesions, including dentinal, pulpal, and periradicular lesions. Several authors have proposed associations of triple antibiotic paste with different vehicles such as polyethylene glycol, propylene glycol and distilled water to maximize its qualities (substantivity and dentinal tubule penetration). Recently chitosan and chlorhexidine have proved to be effective in *in vitro* studies. However studies have also shown that aqueous and viscous vehicles affect the mechanical properties of radicular dentin as constituent of endodontic pastes. The comparison between TAP and their vehicles may evidence if the effect is due to the mixture or particularly to the vehicle itself. The aim of this *in vitro* study will be to evaluate the effect of TAP and their vehicles on mechanical properties of the root canal dentin and to evaluate the antimicrobial effect of triple antibiotic paste with 3 different vehicles.

### Aims and Objectives:

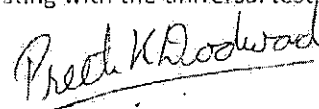
The purpose of this study was

1. To evaluate the effect of Triple antibiotic paste and their vehicles on fracture resistance of root canal dentin at 2 time intervals 1 week and 1 month.

### MATERIALS AND METHODS

90 extracted, human permanent single rooted premolar teeth will be selected. Teeth will be randomly divided into 3 groups – GROUP 1 TAP & SALINE, GROUP 2 TAP & POLYETHYLENE GLYCOL, GROUP 3 TAP & CHITOSAN. Cleaning and shaping will be done. After each storage period, 15 teeth will be selected randomly from each group. Thus, there will be two treatment subgroups at each time interval. The teeth will be decoronated at the level of 0.5 mm radicular to the facial cemento-enamel junction with diamond disc under water cooling. The root cylinders will then be horizontally sectioned from each root and the cervical 5-mm root cylinder will be used for fracture resistance testing with the universal testing machine.

### RESULTS AWAITED



Professor and Head  
Dept. of Endodontics & Dentistry  
KLE V. K. R. Hospital, Belagavi  
Karnataka

Signature of head of the department



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

## ABSTRACT

COMPARATIVE EVALUATION OF APICALLY EXTRUDED DEBRIS DURING ROOT CANAL PREPARATION USING ProTaper NEXT, ProTaper GOLD and Hyflex EDM. AN INVITRO STUDY

### AIM:

Extrusion of any debris during endodontic treatment may potentially cause post-operative complications such as flare ups, post-operative inflammation, short term or long term failures. This study is to evaluate and compare the amount of apically extruded debris during root canal preparation using three different file systems.

### MATERIALS AND METHODS

In this study 45 human single rooted teeth will be randomly assigned to three groups (n=15). The root canals were then instrumented using ProTaper Gold, ProTaper NEXT and Hyflex EDM. Prew weighed Eppendorf tubes will be used to collect the apically extruded debris during instrumentation. An incubator will be used to store these Eppendorf tubes at 37 °C for 10 days. Then these eppendorf tubes were weighed to obtain the final weight of the eppendorf tubes plus extruded debris. Three consecutive weights were obtained for each tube.

### Statistics:

Data will be statistically analysed by Wilcoxon Signed Ranks Test and Mann-Whitney U Test.

### RESULTS:

AWAITED

*Preeti K Dodwad*

Professor and Head  
Dept. of Conservative Dentistry  
KLE V. P. Institute of Dental Sciences,  
Belagavi

*[Signature]*  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

To,

Head of department

NCBS Bangalore

10 February 2019

Dr. Ankita Dilip Amonkar

1<sup>st</sup> year MDS

V.K. Institute of dental sciences

K.L.E Belgaum

Respected Sir,

Subject- Permission to perform my study at the Department of metallurgy Engineering and material science

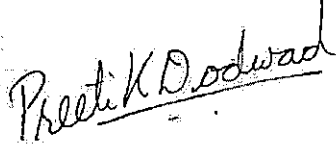
I am writing this letter to request permission to conduct my research study titled "Comparative evaluation of the effect of TAP on the depth of penetration of radicular dentin -an invitro study" at your institution. I am doing my 2<sup>nd</sup> year post graduation in Conservative Dentistry and endodontics at V.K. Institute of dental sciences K.L.E Belgaum. I need to evaluate the depth of penetration of the medicament using confocal laser scanning microscope that is available at your institution.

Your approval to conduct this study will be greatly appreciated.

Thanking you

Yours faithfully,

Dr. Ankita D Amonkar

  
Professor and Head  
Dept. of Conservative Dentistry  
KLE V. K. Institute of Dental Sciences,  
Belagavi

Signature of Head of Department

Conservative dentistry and Endodontics

V.K. Institute of dental sciences

K.L.E, Belgaum

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



## ABSTRACT

### COMPARATIVE EVALUATION OF APICALLY EXTRUDED DEBRIS DURING ROOT CANAL PREPARATION USING ProTaper NEXT, ProTaper GOLD and Hyflex EDM. AN INVITRO STUDY

#### AIM:

Extrusion of any debris during endodontic treatment may potentially cause post-operative complications such as flare ups, post-operative inflammation, short term or long term failures. This study is to evaluate and compare the amount of apically extruded debris during root canal preparation using three different file systems.

#### MATERIALS AND METHODS

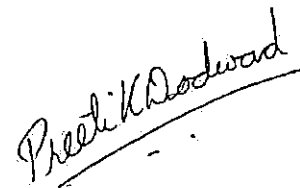
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#### Statistics:


Data will be statistically analysed by Wilcoxon Signed Ranks Test and Mann-Whitney U Test.

#### RESULTS:

AWAITED



Professor and Head  
Dept. of Conservative Dentistry  
KLE V. K. Institute of Dental Sciences  
Belagavi



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University w/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

To,

Head of department

NCBS Bangalore

10 February 2019

Dr. Ankita Dilip Amonkar

1<sup>st</sup> year MDS

V.K. Institute of dental sciences

K.L.E Belgaum

Respected Sir,

Subject- Permission to perform my study at the Department of metallurgy Engineering and material science

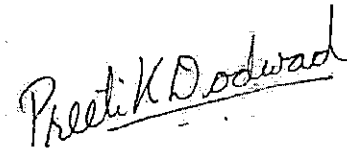
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Your approval to conduct this study will be greatly appreciated.

Thanking you

Yours faithfully,

Dr. Ankita D Amonkar




Professor and Head  
Dept. of Conservative Dentistry  
KLE V. K. Institute of Dental Sciences,  
Belagavi

Signature of Head of Department

Conservative dentistry and Endodontics.

V.K. Institute of dental sciences

K.L.E, Belgaum



Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

**3.7.2. Presence of functional MoUs/linkages with Institutions/ industries in India and abroad for academic, clinical training / internship, on-the-job training, project work, student / faculty exchange, collaborative research programmes etc., during the last five years**

Number of functional MoUs / linkages for faculty exchange, student exchange, academics, clinical training, internship, on-the-job training, project work, collaborative research programmes etc., during the last five years

**LIST THE ACTUAL ACTIVITIES UNDER EACH MOU YEAR-WISE**


**1. MoU between KLE College of Pharmacy, Belagavi and Regional Medical Research Centre (Indian Council of Medical Research), Belagavi**

Sr. no.	Name of the Student	Title of work	Year	Name of Guide
1.	Mr. Vishal Jakati	A comparative quantification of selected phytoconstitution from <i>Andrographis paniculata</i> by HPLC (wild, cultivated and marketed samples)	2015	Dr. V. S. Mastiholimath
2.	Ms. Damita Cota	Screening of oregano oil for cardioprotective activity in doxorubicin induced myocardial infarction in rats	2015	Dr. V. P. Rasal
3.	Ms. Jyotsana Patil	Evaluation of <i>Alpina galanga</i> essential oil for anti asthmatic activity in animal models	2016	Dr. V. P. Rasal
4.	Mr. Pukar Khanal	Effect of olanzepine on metabolic rate, lipid metabolism and body weight in zebra fish	2018	Dr. V. P. Rasal
5.	Mr. Gaonkar Sarvashri Sadanand	Preclinical toxicological evaluation of <i>Sauropus androgynus</i> leaves extract in zebrafish larvae	2018	Dr. V. P. Rasal
6.	Ms. Sheetal B. Patil	Effect of <i>Sauropus androgynus</i> leaves extract on lipid metabolism and	2018	Dr. V. P. Rasal

  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010,Karnataka

		inflammatory response in zebrafish larvae		
--	--	---	--	--

  
Dr. V.A.Kothiwale  
Registrar  
KLE Academy of Higher Education and Research,  
(Deemed-to-be-University w/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

To,

The Principal and Dean  
A B Shetty Memorial Institute of Dental Sciences  
Nitte (Deemed to be University)  
Deralakatte-575018  
Mangalore Karnataka India

Through,

Professor Chitta Chowdhury  
Head  
Department of Oral Biology and Genomic Studies  
A B Shetty Memorial Institute of Dental Sciences  
Nitte (Deemed to be University)  
Deralakatte-575018  
Mangalore Karnataka India

**Sub: Application for the permission to include the site in Trial**

Dear Sir,

Recently, we have registered clinical trial on "Effectiveness of Palmitoyl Ascorbate in Managing Trigeminal Neuralgia" A Cross over Trial. The registration number on Clinical trial registry is CTRI/2018/07/015021. The ethical approval from Central Ethical Committee has been taken. We would like to include external site into the clinical trial to meet the sample numbers in the clinical trial.

I would like to seek your permission to include K.L.E's Institute of Dental Sciences, Belgaum Karnataka and Adesh Dental College, Punjab as sites for collecting the samples.

Please may kindly request your permission to proceed.

Thanking you,

Yours Sincerely,

Dr Shahnawaz Khijmatgar

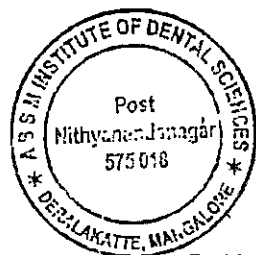
A.B. Shetty Memorial Institute of Dental Sciences,

Nitte (Deemed to be University)

Deralakatte-575018

Mangalore Karnataka India.

Date: 13/10/2018



Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

*Dear Madam,  
Kindly oblige.*  
*Pl proceed.*  
*13/10/2018*

*Krishna*  
*15/10/18*

Prof. (Dr.) Krishna Nayak U.S.  
Principal & Dean  
A.B. Shetty Memorial Institute of Dental Sciences  
Mangalore



# NITTE

(Deemed to be University)

## CENTRAL ETHICS COMMITTEE

### CHAIRPERSON

**Dr. M. CHAKRAPANI**

Professor & Assoc. Dean  
Dept. of General Medicine KMC, Mangaluru

### SECRETARY

**Dr. V. RAVICHANDRA**

Associate Professor  
Dept. of Pharmacology KSHEMA, Deralakatte, Mangaluru

### DY. CHAIRPERSON

**Dr. Padmaja Udaykumar**

Professor & Head, Dept. of Pharmacology  
Father Muller Medical College, Mangaluru

### MEMBERS

**Prof. Dr. Indrani Karunasagar**

Director (R&D), Nitte

**Prof. Dr. Rajeshwary**

Professor & Head, Dept. of ENT, KSHEMA

**Prof. Dr. Amitha Hegde**

Professor & Head,  
Dept. of Pedodontics, ABSMIDS

**Prof. Dr. Ishwara Bhat**

Professor, Dept. of Pharmaceutical  
Chemistry, NGSMIPS

**Prof. Dr. Dhanesh Kumar K U**

Principal, NIPT

**Prof. Dr. Raghava Sharma**

Professor & Head, Dept. of Genreal  
Medicine, KSHEMA

**Mr. Nithyachetan Chakravarthy**

Officer (legal & HR), NITTE

**Prof. C.H. Krishna Bhat**

Biostatistician, NUCSRm

**Prof. Dr. Sathesh Rao**

Professor & Head, Dept. of Psychiatry  
KSHEMA

**Prof. Umesh Pochappan**

Layperson, Devi Prabha, Red Cross Road  
Payyambalam, Kanhur, Kerala

**Shri Nama Nishtha Das**

Theologist, ISKCON, Mangaluru

**Dr. (Mrs.) Neetha Kamath**

Associate Professor, NUINS

Ref. NU/CEC/2018/0198

Date. 16.6.2018

### Communication of Decision of Central Ethics committee (CEC)

Protocol Title. Effectiveness Of Palmitoyl Ascorbate In Managing Trigeminal Neuralgia. A Cross Over Phase II Randomized Controlled Clinical Trial		
Principal Investigator. Dr. Shalunawaz Khijmatgar		
Designation & Department. Lecturer, Department of Oral Biology and Genomic Studies		
<input checked="" type="checkbox"/> New Review	<input type="checkbox"/> Revised Review	<input type="checkbox"/> Expedited Review
Date of Review(D/M/Y). 13.06.2018		
Date of previous review, if revised application.		
Decision of CEC.		
<input checked="" type="checkbox"/> Recommended	<input type="checkbox"/> Recommended with suggestion	
<input type="checkbox"/> Revision	<input type="checkbox"/> Rejected	
Remarks. NA		
Recommended for a period of, One Year		

Please note.

1. Inform CEC immediately in case of any adverse events & serious adverse events.
2. Inform CEC in case of any change of study procedure, site & investigator
3. This permission is only for period mentioned above. Annual report to be submitted to CEC.
4. Members of CEC have right to monitor the trial with prior intimation.
5. Investigators needs to register their study to CTRI & submit the copy to the CEC

University Enclave, Medical Sciences Complex,  
Deralakatte, Mangaluru - 575 018.

Dr. V.A. Kothiwale  
Registrar  
881-824 2204300/01/02/03  
881-824 2204305

E: nuethics@nitte.edu.in  
W: www.nitte.edu.in

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

The members who attended the meeting at which your proposal was discussed are listed below:

1. Prof. Dr. M Chakarapani, Associate Dean, Dept. of General Medicine, Kasturba Medical College, Mangalore Chairperson
2. Dr. V Ravichandra, Asso. Prof, Dept. of pharmacology, KSHEMA Member Secretary
3. Prof. Dr. Raghava Sharma, Unit Head, Dept. of Medicine, KSHEMA, Member
4. Mr. Nithya Chethan Chakravarthy, Legal Advisor, Nitte (Deemed to be University), Member
5. Shri Nama Nishtha Das, Theologist, ISKCON, Kadri toll gate, Mangalore , Member
6. Mr. Umesh Pochappan, Layperson, Devi Prabha, Red Cross road, Payyambalam, Kannur -Kerala. Member
7. Prof. C.H Krishna Bhat, Biostatistician, NUCSER, Mangalore, Member
8. Prof. Dr. Rajeshwary C, Prof & head, Dept. of ENT, KSHEMA Member
9. Dr. Mrs. Neetha Kamath, Ass. Professor, Dept. of Community Health Nursing, NUINS, Member

Yours Truly

  
Chairperson

Central Ethics Committee  
CENTRAL ETHICS COMMITTEE  
Nitte (Deemed to be University)  
NITTE UNIVERSITY

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka



**A brief report of Industrial Tour by Final B.Pharm. Students  
for the academic year 2018 - 2019**

**I. Industries / Laboratory communicated:**

1. Merck Laboratory
2. Medispray Laboratory
3. Sanofi Laboratory

**II. Industries / Laboratory Responded & Visited:**

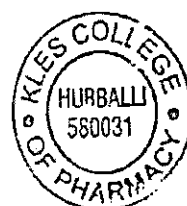
On Thursday, 28<sup>th</sup> March 2018 during afternoon session 25 students along with Shri. S.B. Patil, Assistant Professor and Dr. Sanatkumar Nyamagoud. Assistant Professor visited Merck, Laboratories Pvt. Ltd. at Ponda -Goa. During this visit Mrs.Vera Rego, Head, Human Resource, briefed the students over the manufacturing, processing and packaging taken up at their plant. The main products manufactured in this unit included Neurobion Forte, Polybion injections, Evion and Seven Seas softgel capsules. The personnel took keen interest and facilitated to expose the students to various sections like **sterile parenteral plant**. Students also came across the storage section for raw materials and finished products.

On Friday, 29<sup>th</sup> March 2019 during morning session 66 students along with Shri. S. B. Patil, Assistant Professor, Dr. Sanatkumar Nyamagoud, Assistant Professor and Dr. A.A. Ankalikar, Assistant Professor visited Medispray Laboratories Pvt. Ltd., Kundaim Industrial Estate at Goa. During this visit Mr. Vedhraj, Senior HR, The students were segregated in two batches. The students were shown various sections and processing

1

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka







SANOFI

*Handwritten signature and date: 30/7/18*

26<sup>th</sup> July 2018

*Handwritten initials: 10, 24 H*

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Mr. Raghuvindra Gupta has completed his internship in Quality Operations department at Sanofi India Ltd. from 26.06.2018 to 25.07.2018, as a part of his college course curriculum.

We wish him all the very best in all his future endeavors.

for Sanofi India Limited

*Handwritten signature of Shaileendra Bidye*

Shaileendra Bidye

Head - Human Resources

*Handwritten signature of Dr. V.A. Kothiwale*

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Kamataka

COMPOSE

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Important

Chats

Sent Mail

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No Hangouts Contacts

[Find someone](#)

FW: Campus Interview for M. Pharm/ B. Pharm

? Vernica Barretto <vernica.barretto@vergopharma.com>  
to me

Dear Dr. Sholapur,

Further to our conversation we would like to have an inter

Request you to please share database of the students in the


We will then further inform you how we would like to hold the intervi

Sr. No	Name of the Student	Final. Yr. B. Pharm (%)	First.Y.M.Pharm (aggregate%)	GPAT Score

**Vernica Barretto**  
Executive – HRA  
Mobile: +91 9673335813  
Landline: +91 (832) 6624880  
[www.vergopharma.com](http://www.vergopharma.com)

VerGo Pharma Research Laboratories Pvt. Ltd. Plot B-5, Phase 1A	
--	--

<https://mail.google.com/mail/u/0/#inbox/15379a9dce0e4e57>

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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Search results

### Regarding the Job avenues for our students

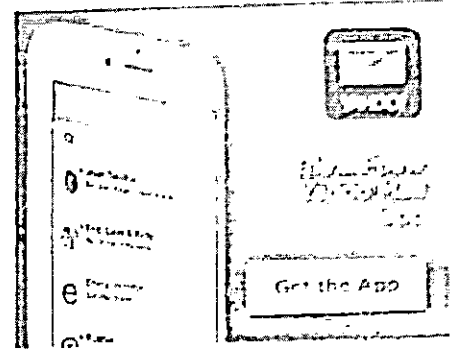
**Dr F S DASANKOP** <fsdasankop@gmail.com> Mar 4 at 11:31 AM  
To: Subrata Kundu  
CC: basavaraju.hulikeremath@vergopharma.com

Sir,  
I hope you are doing well  
I request to kindly consider our students for the recruitment against any vacancy in ur department. I recommend for those students who have worked as Project Trainee under ur supervision.  
Kindly consider them.

Thanks for ur co-ordination and concern

Thanking you.

Dr.Fatima Sanjari Dasankoppa  
Associate professor,  
KLE university's College of Pharmacy,  
Vidyanager, hubballi  
09886678297



Reply Reply to All Forward More

Subrata Kundu <subrata.kundu@vergopharma.com> Mar 4 at 11:03 AM  
To: 'Dr F S DASANKOP'  
CC: basavaraju.hulikeremath@vergopharma.com

Ok I will consider but currently no vacancy is there

Show original message

Reply Reply to All Forward More

Subrata Kundu <subrata.kundu@vergopharma.com> Mar 22 at 10:01 AM  
To: 'Dr F S DASANKOP'  
CC: basavaraju.hulikeremath@vergopharma.com, Anul Patil,  
cassandra.esteves@vergopharma.com,  
vernica.barretto@vergopharma.com

Dear Madam

Kindly send your all 3 students, Kiran, Andanesh & Saqib who did training at our organization for personal interview with one technical presentation of Generic product development for different dosage form (3 dosage form for 3 students). Also inform us their suitable timing to confirm the same from our end based on our availability.

Thanks and Regards

*off Campus  
Interview  
at  
Vergo - Goa  
29th / 03 / 2016*

mg42.mail.yahoo.com/hasofaunch?...rand=...

Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# VerGo Pharma Research Laboratories Pvt. Ltd

06.05.2016  
Dharwad, Karnataka

06 May 2016

Andanesh Byahatti  
Dharwad, Karnataka

Sub: Pre Employment Offer Letter

Dear Andanesh,

This is with reference to your application and a subsequent interview with the management. We are pleased to offer you the position of Trainee in the FD Dept of our organization based at VerGo, Goa, subject to you clearing your M. Pharm degree your designation will be revised to Scientist I and on other terms and conditions mutually discussed and agreed.

You will be paid a stipend amount of Rs 8000/- (Rupees Eight Thousand Only) per month during your training period w.e.f. 01 June 2016. On successful completing your M. Pharm degree your CTC will be Rs 2,00,000/- (Rupees Two Lakhs Only) per annum. We will issue a detailed appointment letter to you on joining full time employment. You will have to sign a "Non Disclosure Agreement" on joining VerGo.

You will be covered with a bond to stay with the company for a period of 2 years effective from date of joining full time employment failing which you will have to pay VPRL Rs 2,00,000/- (Rupees Two Lakhs Only).

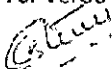
You will be required to submit the following documents at the time of joining VerGo Pharma Research:

1. Copy of your educational certificates.
2. PAN Card/ DOB proof
3. 3 (Three) passport size photographs.

You will need to undergo pre-employment medical test before joining date this offer letter is valid subject to you clearing the medical test.

Kindly sign this letter and return a copy to us, as a confirmation of your acceptance to the above mentioned conditions.

For VerGo Pharma Research Laboratories Pvt. Ltd

  
Cassandra Esteves  
Executive - HR & ADMIN

Acceptance: I have read the above terms and conditions and hereby agree to accept the offer.  
I will join on: \_\_\_\_\_ Sign: \_\_\_\_\_

Regd. Office: 1st Floor, Keni Building, Dr. Datta Vaidya Rd Panaji, Goa 403001 India. • CIN Number: U73200GJ2011PTC000001  
R & D Centre: Plot No. B5, B22, B23 & B23A, Phase 1 A, VerGo Industrial Estate, VerGo, Estacada, Goa 403001  
www.vergopharma.com Email: info@vergopharma.com

  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Scanned with CamScanner

# VerGo Pharma Research Laboratories Pvt. Ltd

06 May 2016

Kiran Kubasat  
Karnataka

Sub: Pre Employment Offer Letter

Dear Kiran,

This is with reference to your application and a subsequent interview with the management. We are pleased to offer you the position of Trainee in the FD Dept of our organization based at VerGo, Goa, subject to you clearing your M. Pharm degree your designation will be revised to Scientist and on other terms and conditions mutually discussed and agreed.

You will be paid a stipend amount of Rs 8000/- (Rupees Eight Thousand Only) per month during your training period w.e.f. 01 June 2016. On successful completing your M. Pharm degree your CTC will be Rs 2,00,000/- (Rupees Two Lakhs Only) per annum. We will issue a formal appointment letter to you on joining full time employment. You will have to sign a "Confidentiality Disclosure Agreement" on joining VerGo.

You will be covered with a bond to stay with the company for a period of 2 years effective from date of joining full time employment failing which you will have to pay VPRL Rs 2,00,000/- (Rupees Two Lakhs Only).

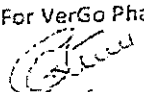
You will be required to submit the following documents at the time of joining VerGo Pharma Research:

1. Copy of your educational certificates.
2. PAN Card/ DOB proof
3. 3 (Three) passport size photographs.

You will need to undergo pre-employment medical test before joining date this offer is valid subject to you clearing the medical test.

Kindly sign this letter and return a copy to us, as a confirmation of your acceptance to the above mentioned conditions.

For VerGo Pharma Research Laboratories Pvt. Ltd

  
Cassandra Esteves  
Executive - HR & ADMIN

Acceptance: I have read the above terms and conditions and hereby agree to accept the same.  
I will join on: \_\_\_\_\_ Sign: \_\_\_\_\_

Regd. Office: 1st Floor, Keri Building, Dr. Dadasaheb Phalke Road, Goa 403001 India. CHH Number: 1/2011  
R & D Centre: Plot No. B5, B22, B23 & B23A, Phase I A, VerGo Industrial Estate, VerGo, Goa 403001 India.  
www.vergopharma.com Email: info@vergopharma.com

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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Tel. : 283650  
Fax : 08370-283651  
Email : elegant@bsnl.in



**ELEGANT DRUGS PVT. LTD.**  
PHARMACEUTICAL MANUFACTURERS

Manufacturing Unit : R. S. No. 59/3A, HUBLI-KARWAR HIGHWAY,  
CHALMATTI - 581 196.

(Dist : Dharwad, Taluk : Kalghatagi, State : Karnataka)

*[Handwritten signature]*  
7/11/19 501 06H

Date : 16-09-2018

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Mr. Prashantakumara. Puttanagoudra. A student of Final Year B Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 15<sup>th</sup> August 2018 to 15<sup>th</sup> Sep 2018 in parental Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Elegant Drugs Pvt. LTD.

*[Handwritten signature]*  
Authorised Signatory.

*[Handwritten signature]*  
Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed to be University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Corporate Office :  
New Cotton Market, HUBLI - 580 029. (Karnataka)  
Tel. : 2252007, 2250608 Fax : 0836-2253386 Email : elegant@bsnl.in

Tel. : 283650  
Telefax : 08370-283651  
Email : elegant@bsnl.in



**ELEGANT DRUGS PVT. LTD.**  
PHARMACEUTICAL MANUFACTURERS

Manufacturing Unit : R. S. No. 59/3A, HUBLI-KARWAR HIGHWAY,  
CHALMATTI - 581 196.  
(Dist : Dharwad, Taluk : Kalghatagi, State : Karnataka)

*14/9/18 To, UGH*

Date : 21.08.2018

TO WHOM SO EVER IT MAY CONCERN

This is to certify that *Mr. GURUPRASAD S.BALIHALLIMATH, KLE College of Pharmacy, Vidyanagar, HUBLI*, has successfully undergone his training at our factory in Production Department (Tablets, Capsules & Liquid and Packing Department) , Quality Control & Quality Assurance Departments during period from 16/07/2018 to 20/08/2018 and Completed 100 hrs.

During the training, he was found to be hardworking & Sincerely.

We wish him all the best in his future venture.

Thanking you,

Yours faithfully,

For ELEGANT DRUGS PVT.LTD.,



*Mahadev Chougale*  
Mahadev Chougale

(Plant Manager)

*Dr. V.A. Kothiwale*  
Dr. V.A. Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Corporate Office :  
New Cotton Market, HUBLI - 580 029. (Karnataka)  
Tel. 2152007, 2350608 Fax : 0836-2253386 Email : elegant@bsnl.in

K.L.E. SOCIETY'S



**COLLEGE OF PHARMACY**

**Vidyanagar, HUBLI-580 031 (Karnataka)**

Recognised by Government of Karnataka & Affiliated to Rajiv Gandhi University  
of Health Sciences, Karnataka, Bangalore

Approved by Pharmacy Council of India (PCI) & All India Council for  
Technical Education (AICTE), New Delhi

B. Pharm. Course Accredited by National Board of Accreditation, AICTE, New Delhi

ಕೆ.ಎಲ್.ಇ. ಸಂಸ್ಥೆಯ

ಬಿಷದ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ವಿದ್ಯಾನಗರ, ಹುಬ್ಬಳ್ಳಿ-580 031

To  
Ref. No. KLESCOP/HBLI/2018-19/610

Date : 15/3/2018

The Plant Manger,  
Elegant Pharma Pvt. Ltd.,  
Mishrikoti,  
HUBBALLI.

Sub: Permission to visit your esteemed industry  
by the final year B.Pharm. Students ..... reg.

\*\*\*\*

Sir,

We are pleased to inform you that, we are running B.Pharm. courses since 1991 & 1999 respectively. These courses are approved by AICTE & PCI, New Delhi and Institution is reaccredited by NBA, AICTE, New Delhi. As per the regulations of B.Pharm. Course, the students studying in Final year B.Pharm. are required to visit several Pharmaceutical manufacturing units and laboratories as supplement to their academic training and they are required to submit the report to the Head of the institution where he/she is studying.

In this context, our Final year B.Pharm. students intend to visit your esteemed industry in third week of March, 2018. We will be grateful to you, if permit us to visit your industry. I am confident that your good self will permit us and widen the knowledge.

Hoping for your early and favorable reply.

Thanking you,



Yours faithfully,

PRINCIPAL

Note : 45 students and 2 staff members will be visiting  
in one batch or as per your convenience.

Dr. V.A.Kothiwale  
Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

Off. : 0836-2373174, Fax : 0836-2371694, 2371048

E-mail : principal@klescoph.com Website: http://www.klescoph.org





# HICURE PHARMACEUTICALS PRIVATE LIMITED

Date: 13.03.2018

13/8/18  
TO, UG-H

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. NILESH JAIN a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 100 hours training from 26<sup>th</sup> June 2018 to 26<sup>th</sup> July 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

Authorised Signatory.



Regd. Office & Factory : Hubli-Karwar National Highway, Kadanakoppa, Tq. Kalghatgi, Dist. Dharwad. (Karnataka) Telefax : 08370-223543.  
Admin. Office : Chandrika, Chitraguppi Park, Pinlo Road, HUBLI-580 020. Dist. Dharwad. (Karnataka) Tel : 0836-2356237. Fax : 0836-4253632.  
E-mail : hicure1@gmail.com Website : www.hicure.co.in

Dr. V.A. Kothiwale

Registrar

KLE Academy of Higher Education and Research  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# HICURE PHARMACEUTICALS PRIVATE LIMITED

Date: 02.07.2018

*Handwritten:* 18/4/19

*Handwritten:* TO WHOMSOEVER IT MAY CONCERN

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Santosha Nandikoppa a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

*Handwritten signature:* [Signature]

Authorised Signatory.



Regd. Office & Factory : Hubli-Karwar National Highway, Kananakoppa, Tq. Kalghatgi, Dist. Dharwad. (Karnataka) Telefax : 02370-283543.  
Admin. Office : Chandrika, Chitraguppl Park, Pinto Road, HUBLI-590 020. Dist. Dharwad. (Karnataka) Tel : 0236-2356237. Fax : 0236-4253632.

E-mail : [hicure1@gmail.com](mailto:hicure1@gmail.com)

Website : [www.hicure.co.in](http://www.hicure.co.in)

Dr. V.A.Kothiwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)  
Belagavi-590 010, Karnataka

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# HICURE PHARMACEUTICALS PRIVATE LIMITED

*[Handwritten Signature]*  
12/9/18  
V.A. Kothiwale

Date: 02.07.2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Akshayakumar Haliger a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parental Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

*[Handwritten Signature]*  
Authorised Signatory.



Regd. Office & Factory : Hubli-Karwar National Highway, Madanakoppa, Tq: Kalghatgi, Dist. Dharwad. (Karnataka) Telefax : 03370-283543.  
Admin. Office : Chandrika, Chitlaguppl Park, Pinio Road, HUBLI-580 029. Dist. Dharwad. (Karnataka) Tel : 0836-2356237. Fax : 0836-4253632.

E-mail : [hicure1@gmail.com](mailto:hicure1@gmail.com) Website : [www.hicure.co.in](http://www.hicure.co.in)

Dr. V.A.Kothiwale

Registrar

KLE Academy of Higher Education and Research,  
(Deemed-to-be-University u/s 3 of the UGC Act,1956)  
Belagavi-590 010,Karnataka

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Date: 06.08.2018

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This is to certify that Mr. SURAJMANJUSHREE KONCHIGERI a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 100 hours training from 26<sup>th</sup> June 2018 to 26<sup>th</sup> July 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

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Dr. V.A.Kothiwale  
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B. Pharm. Course Accredited by National Board of Accreditation, AICTE, New Delhi

ಕೆ.ಎಲ್.ಇ. ಸಂಸ್ಥೆಯ

ಚಿಪ್ಪಳ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ವಿದ್ಯಾನಗರ, ಹುಬ್ಬಳ್ಳಿ-580 031

To,  
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Date: 15/3/2018

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Kalagatagi.

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\*\*\*\*

Sir,

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# HICURE PHARMACEUTICALS PRIVATE LIMITED

16/6/18 To, CHA

Date: 02.07.2018

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This is to certify that Mr. Praveen Kumar Gandhudl a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

  
Authorised Signatory.



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*[Handwritten signature]* *[Handwritten initials]* *[Handwritten initials]*

Date: 02.07.2018

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This is to certify that Mr. Totl Manjunath a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

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50)

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This is to certify that Ms. Sakshi a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parental Formulations and Quality Control Section as per the University Syllabus.

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Date: 02.07.2018

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This is to certify that Ms. Maheswari Basavraj Hirehall a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parental Formulations and Quality Control Section as per the University Syllabus.

Wishing her Success.

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*VKA*

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This is to certify that Ms. Prabha B Angadi a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parental Formulations and Quality Control Section as per the University Syllabus.

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This is to certify that Ms. Sukanya Paloti a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parental Formulations and Quality Control Section as per the University Syllabus.

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This is to certify that Mr. Kartik Ishwar Mundaragi a student of Final Year B. Pharma College of Pharmacy, Hubli, Karnataka, has successfully completed 120 hours training from 1<sup>st</sup> June 2018 to 30<sup>th</sup> June 2018 in Parenteral Formulations and Quality Control Section as per the University Syllabus.

Wishing him Success.

For Hicure Pharmaceuticals Pvt Ltd

*Handwritten signature of authorized signatory*

Authorised Signatory.



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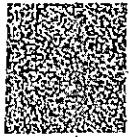
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MEMORANDUM OF UNDERSTANDING

This memorandum of understanding is made on 23<sup>rd</sup> Day September month 2013 Year between Vivekanand General Hospital, Deshpande Nagar, Hubli - 580 029, which is represented by its Managing Trustee herein named as party one and KLE University's College of Pharmacy, Vidyanagar, Hubli - 580 031, represented by its Principal herein named as party two.

For Vivekanand General Hospital

*M. U. Shengavi*  
 Signature  
 Managing Trustee,  
 (M. U. Shengavi)



*hnd*  
 Signature  
 PRINCIPAL KLE UNIVERSITY  
 COLLEGE OF PHARMACY  
 HUBLI.

For Vivekanand General Hospital

Managing Trustee,  
 (M. U. Shengavi)



*hnd*  
 Signature  
 Principal, [party two]  
 College of Pharmacy  
 with seal and date  
 HUBLI-580 031

The parties hereto agree as follows:

1. Party one declares that Vivekanand General Hospital, Deshpande Nagar, Hubli - 580 029 is a 300 bedded hospital, with a minimum of 120 beds for General Medicine Department.
2. Party one agrees to provide to party two the minimum space necessary of 1200 square feet in the hospital building to establish Pharmacy Practice department for the conduct of Pharm.D programs.
3. Party one agrees to provide preceptors required to train the Pharm.D students.
4. Party one agrees that, it will not enter into similar agreement with any other Pharmacy institution/s or department/s offering or intend to offer Pharm.D programs.
5. The prospective students will be allowed to undergo training in the following specialty departments
  - Medicine
  - Surgery
  - Pediatrics
  - Gynecology and Obstetrics
  - Psychiatry
  - Skin and VD
  - Orthopedics
6. Party two will provide the academic staff and necessary infrastructure for Pharm. D course as per the PCI norms and takes the overall responsibility for smooth conduct of the programs.
7. This agreement is to be in effect at least for ten years from the time of its endorsement by both the parties.
8. The officials representing Vivekanand General Hospital, Deshpande Nagar, Hubli - 580 029 and KLE University's College of Pharmacy, Vidyanagar, Hubli - 580 031 are signing this MOU to achieve the beneficial objectives of Pharm.D programs.

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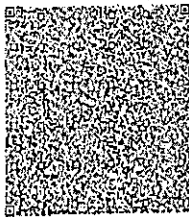
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MEMORANDUM OF UNDERSTANDING  
 FOR THE PERIOD OF FIVE YEARS FROM 2016, BETWEEN  
 DEPARTMENT OF CHEMISTRY, P.C/JABIN SCIENCE COLLEGE, HUBBALLI  
 AND  
 K.L.E. UNIVERSITY'S COLLEGE OF PHARMACY  
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The aim of the MOU is to set up a framework to encourage and develop collaboration between the two institutions in areas of mutual interest in the fields of chemistry and pharmacology.

Whereas

Party No. 1, is the Department of Chemistry, P.C. Jabin Science College, Hubballi.

Whereas

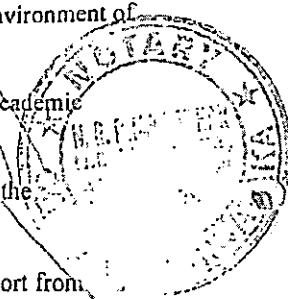
Party No. 2, is K.L.E. University's College of Pharmacy, Vidyanagar, Hubballi.

In PURSUANCE of negotiation between both the parties the following terms and conditions are agreed by the parties.

- > To raise the research profile of both the institutions by developing collaborative research projects that utilizes the expertise and environment of the two institutions.
- > To facilitate the greater involvement of research students and academic members of staff at both the institutions in research areas.
- > To exploit the synergy arising from joint initiatives to improve the effectiveness and efficiency of teaching in both institutions.
- > To attract higher levels of "Reach-Out" funding and other support from industry through the higher critical mass of research and teaching activities created by the MOU.

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IN WITNESS WHEREOF BOTH THE PARTIES HAVE SIGNED THIS MEMORANDUM OF UNDERSTANDING VOLUNTARILY.

Signed on behalf of the Department of Chemistry P.C. Jabin Science College, Hubballi.

*[Signature]*  
H.O.D. OF CHEMISTRY

*[Signature]*  
PRINCIPAL  
P. C. Jabin Science College  
Vidyanagar, HUBBALLI - 31

Signed on behalf of the K.L.E. University's College of Pharmacy, Vidyanagar Hubballi



*[Signature]*  
PRINCIPAL  
PRINCIPAL, KLE UNIVERSITY'S  
COLLEGE OF PHARMACY  
HUBLI

WITNESSES

[1] *[Signature]* (V. P. Ganekar)

[2] *[Signature]* (mahantresh, S)



Date: 07-09-2016

Place: Hubballi.

Identified by me

*[Signature]*  
(F.C. Bhandivad)  
Advocate, Hubballi

SOLEMNLY AFFIRMED BEFORE ME

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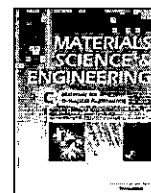
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# Phytosynthesis of gold nanoparticles: Characterization, biocompatibility, and evaluation of its osteoinductive potential for application in implant dentistry



Kiran Jadhav<sup>a,\*,1</sup>, Rajeshwari HR<sup>b,c,1</sup>, Swapnil Deshpande<sup>d,1</sup>, Satveer Jagwani<sup>e,1</sup>,  
Dinesh Dhamecha<sup>e,\*</sup>, Sunil Jalalpure<sup>a,e</sup>, Karthikeyan Subburayan<sup>f</sup>, Dwarkadas Baheti<sup>d</sup>

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<sup>b</sup> Department of Periodontology, Manipal College of Dental Sciences, Manipal Academy of Higher Education (MAHE), Manipal 576104, Karnataka, India

<sup>c</sup> Manipal McGill Center for Infectious Diseases, Manipal Academy of Higher Education (MAHE), Manipal 576104, Karnataka, India

<sup>d</sup> Sitabai Thite College of Pharmacy, Shirur 412210, Dist-Pune, Maharashtra, India

<sup>e</sup> Dr. Prabhakar Kore Basic Science Research Centre, KLE Academy of Higher Education and Research, Belagavi 590010, Karnataka, India

<sup>f</sup> Faculty of Science (Biology), Saadiyat Campus, Experimental Research (C1), New York University Abu Dhabi 129188 Abu Dhabi, United Arab Emirates.

## ARTICLE INFO

### Keywords:

Osteoinduction  
Gold nanoparticles  
Dental implants  
Green chemistry  
*Salacia chinensis*

## ABSTRACT

Gold nanoparticles have been extensively used in diagnostics, biomedical imaging, and drug delivery owing to simple method of synthesis and versatile surface functionalization. Present investigation aims to evaluate the osteoinductive property of *Salacia chinensis* (SC) mediated gold nanoparticles (GNPs) for its application in implant dentistry. The formation of GNPs was assessed initially using the visual method and characterized analytically by using UV–visible spectroscopy, Zetasizer, X-RD, ICP-AES, AFM, and TEM. Green synthesized GNPs exhibited a remarkable stability in various blood components (0.2 M histidine, 0.2 M cysteine 2% bovine serum albumin, and 2% human serum albumin) and were found to be nontoxic when evaluated for their cytocompatibility and blood compatibility using periodontal fibroblasts and erythrocytes respectively. Exposure of GNPs to MG-63 cell lines displayed increased percent cell viability ( $138 \pm 27.4$ ) compared to the control group ( $96 \pm 3.7$ ) which confirms its osteoinductive potential. Herein, it can be concluded that the stable, biocompatible and eco-friendly GNPs can be used as an effective bone inductive agent during dental implant therapy.

## 1. Introduction

Recently there has been an exponential increase in the number of treatment options available for replacing missing teeth. However, dental implant is the most common and preferred option because of its ability to integrate with the surrounding alveolar bone (osseointegration). One of the critical factor in determining the preferred option and success of dental implants is the availability of residual/remaining alveolar bone and its regeneration after therapy [1]. Soon after the extraction of a tooth, alveolar bone starts resorbing resulting in reduced bone height and width. Great strides have been taken in this regard to augment alveolar bone by using autografts, allografts, and xenografts. However, these methods are associated with drawbacks such as limited bone volume, detrimental tissue responses, and risk of infection, etc. [2]. Such limitations of conventional bone restoration methods have led

to the introduction of novel biomaterials synthesized by advanced tissue engineering technology.

Substantial knowledge has been gained in the field of bone tissue engineering regarding molecular signals that determine the emergence of complex tissue morphologies during bone regeneration [3]. Bone morphogenic proteins (BMPs) are one such class of powerful inducers, which cause bone formation through a fascinating phenomenon called osteoinduction [4]. However, its use is limited due to lack of structural integrity, high cost, potential toxicity, apoptosis, immunogenic response, and cancer risks. These limitations open an avenue to hunt for newer biomaterials which have potential to stimulate bone formation and induce tissue regeneration [5].

In the growing field of biotechnology, nanomedicine represents a strong frontier to overcome the hurdles associated with various bone regeneration techniques and drug delivery systems [6,7]. Gold

\* Corresponding authors.

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<sup>1</sup> Authors contributed equally.

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nanoparticles (GNPs) belong to a type of nanomaterial which can be easily synthesized through one step eco-friendly green chemistry method and is well recognized for its biocompatible and non-toxic nature. These properties of GNPs make them an ideal candidate of choice for biomedical applications [8]. GNPs can be produced by chemical methods using a diverse group of reducing agents (for example sodium borohydride). However, the chemical method has led to the concern of environmental contamination as these chemicals generate a large amount of hazardous by-products. Hence, over the past decade there has been an increased emphasis on the “green” chemistry method for the synthesis of inert, biocompatible and stable GNPs in non-toxic and environmentally friendly manner [9]. Literature suggests that the various plants like *Nepenthes khasiana* [10] and *Pterocarpus marsupium* [11] are used for the green synthesis of GNPs due to their high antioxidant potential. In the present investigation, *Salacia chinensis* L (SC) [12,13] which is well known for its high antioxidant phytochemical components has been used as a reducing agent.

With this background, the present investigation aims to evaluate the osteoinductive potential of SC mediated GNPs for their application in implant dentistry.

## 2. Materials and methods

### 2.1. Materials

*Salacia chinensis* bark was collected from Western Ghats, Belagavi, Karnataka, India (Authentication details: RMRC-923, ICMR-National Institute of Traditional Medicine, Belagavi, Karnataka, India). Gold (III) chloride hydrate (99.99%), and blood components (histidine, cysteine, bovine serum albumin (BSA), and human serum albumin (HSA)) were procured from Sigma Aldrich, Bangalore, India. Dulbecco's Modified Eagle Medium (DMEM), fetal bovine serum (FBS), and Pen-Strep (a mixture of penicillin and streptomycin) were purchased from Gibco Life Technologies (Bangalore, India). MG-63 cell lines were obtained from National Centre for Cell Science (NCCS), Pune, India. Blood sample for haemolysis assay was obtained from KLE Blood bank, Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi, India.

### 2.2. Preparation of aqueous plant extract

SC bark material was cleaned thoroughly in distilled water, dried under shade and coarsely pulverized using a crusher. Dried powder (10 g) was boiled in 100 mL of deionized water for 10 min, and the decoction was filtered using Whatman filter paper # 41. The decoction was used as the green source for synthesis of GNPs [14].

### 2.3. Synthesis of GNPs

The aqueous plant extract was mixed with gold chloride solution (0.5 mM) in the volume ratio of 1:10. Reduction of gold salts to GNPs was initially assessed by observing the change in the colour (visual method) and analytically confirmed by Ultraviolet–Visible spectroscopy (Shimadzu, Japan). Synthesized GNPs were isolated by centrifuging the gold nanosuspension (Kubota 6500, Japan) at 17,000 rpm maintained at 4 °C for 20 min. The purified colloidal dispersion was then filtered using 0.22 µm syringe filter and lyophilized (Martin Christ, Germany). The purified GNPs were subjected to characterization, cyto-compatibility, blood biocompatibility, stability and osteoinduction studies.

### 2.4. Characterization of GNPs

Zeta potential, nanoparticle size, and size distribution of GNPs were evaluated using zetasizer (Malvern Instruments, UK). Structural characterization was performed using X-ray diffractometer (Philips PRO expert diffractometer, Netherland) with Cu K α radiation, at 40 kV, 30 mA set at 7 to 70° (2 θ) range. Morphological analysis of the GNPs

was performed using transmission electron microscopy coupled with SAED (Hitachi H-7500, Japan). Digital Micrograph and Soft Imaging Viewer software were incorporated to perform the image capture and analysis (1, 50,000× to 3, 00,000× magnification). Surface morphology and three-dimensional organization of nanoparticles were assessed using Atomic force microscopy (Nanosurf AG, Switzerland).

### 2.5. Quantitative estimation of gold in GNPs - Inductive Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES)

The quantitative estimation of gold content in GNPs was made using ICP-AES (Spectro Arcos, Germany). A calibration curve of known gold was obtained using standard gold (NIST H(AuCl<sub>4</sub>) in HCl 2 mol/l 1000 mg/l Au Certipur®, Catalog no: 170216 Merck Millipore Corporation, Germany) in the concentration range of 0.1, 1, 10 and 100 µg/mL at 242.80 nm. Equal volumes of Nano-gold suspension and concentrated nitric acid were thoroughly mixed and heated to 75 °C for 15 min until the mixture became colorless. Samples were filtered and subjected to ICP-AES analysis. The experiment was repeated in triplicates and outcomes were articulated in mean (µg/mL) ± standard deviation.

### 2.6. Biocompatibility studies

#### 2.6.1. In vitro stability of GNPs

Stability of GNPs was assessed by exposing it to various blood components (0.2 M histidine, 0.2 M cysteine, 0.9% NaCl, 2% bovine serum albumin (BSA), 2% human serum albumin (HSA), and phosphate buffer pH 2, 5, 7, 10 and 12). The nano-gold suspension was incubated (for 48 h) separately with each of these blood components. After incubation, aliquots were evaluated using UV–Visible spectroscopy [15].

#### 2.7. Cyto-compatibility of GNPs

The cyto-compatible behaviour of GNPs was assessed using standard MTT (3-(4, 5-dimethylthiazol-2-yl)- 2,5-diphenyltetrazolium bromide) assay. Periodontal fibroblasts were isolated from the primary culture obtained from teeth extracted for orthodontic reasons. Cells were isolated by culturing the minced tissue sample in Dulbecco's Modified Eagle's Media (DMEM) complemented with FBS and antibiotics in a tissue culture flask under the standard condition. After fibroblasts isolation, 100 µL of cell suspension (1×10<sup>4</sup> cells/well) was seeded into a 96 well flat bottom microtiter plate and incubated (37 °C, 5% CO<sub>2</sub> with 95% humidity) for 24 h in the CO<sub>2</sub> incubator (Eppendorf, New Brunswick, Galaxy 170R, Germany). After completion of 24 h, the media from the cell culture plates were discarded, and replaced with fresh medium (100 µL). Varying concentrations of GNPs were added to each well containing adherent fibroblasts and the plate was incubated at 37 °C in CO<sub>2</sub> incubator. After 24 h of incubation, the media was discarded, and the cells were exposed to 20 µL of MTT (3-(4, 5-dimethylthiazol-2-yl)- 2,5-diphenyltetrazolium bromide) solution (5 mg/mL in PBS) followed by 4 h of incubation. The formazan crystals formed after 4 h of incubation were dissolved using DMSO (100 µL), and plates were read at 570 nm using ELISA plate reader (Lisa plus, India). The results were calculated using Eq. (1) [16].

$$\text{The percent cell viability} = \frac{\text{Mean absorbance of test compound}}{\text{Mean absorbance at control (untreated cells)}} \times 100. \quad (1)$$

#### 2.8. Haemolysis assay

In vitro haemolysis assay was performed to evaluate the effect of GNPs on Red Blood Cells (RBCs). The blood (5 mL) was collected in a heparinized tube and RBCs were isolated by centrifuging at 4000 rpm

maintained at 4 °C for 10 min. RBCs were washed thrice with phosphate buffer, and supernatant plasma was carefully discarded into biohazardous waste. After centrifugation, cells were re-suspended in the PBS to obtain RBCs with the concentration of 20% v/v. The RBCs suspension (1500 µL) was mixed with nano-gold suspension (1500 µL: 7.25 µg/mL concentration) and incubated at 37 °C with constant shaking. After 1 h of incubation, the mixture was centrifuged, and the supernatant was analysed at 540 nm by UV-Visible spectrophotometer (Shimadzu, Japan) to determine the release of haemoglobin. The supernatant obtained from the blood sample treated with 1% Triton w/v (haemolytic agent) was considered as the positive control, and the supernatant obtained from the centrifuged blood sample (without treatment) was considered as blank [17]. Each experiment was performed in triplicates, and the percent haemolysis was calculated according to Eq. (2).

$$\text{Percent hemolysis} = \frac{\text{Test absorbance} - \text{Blank absorbance}}{\text{Positive control absorbance} - \text{Blank absorbance}} \times 100. \quad (2)$$

### 2.9. Evaluation of osteoinductive property of GNPs

The osteoinductive behaviour of GNPs was evaluated using standard MTT (3-(4, 5-dimethylthiazol-2-yl)- 2,5-diphenyltetrazolium bromide) assay. Human MG-63 cells were cultured in Dulbecco's modified Eagle's medium with 10% (v/v) fetal bovine serum and 1% (v/v) penicillin/streptomycin. Briefly, 100 µL of cell suspension ( $1 \times 10^4$  cells/well) was seeded in a 96 well flat bottom microtiter plate and incubated (37 °C, 5% CO<sub>2</sub> with 95% humidity) for 24 h in the CO<sub>2</sub> incubator (Eppendorf, New Brunswick, Galaxy 170R, Germany). After completion of 24 h, the media from the cell culture plates were discarded, and replaced with fresh medium (100 µL). Varying concentrations of GNPs were added to each well containing adherent MG-63 cells and the plate was incubated at 37 °C in CO<sub>2</sub> incubator. After 24 h of incubation, the media was discarded, and the cells were exposed to 20 µL of MTT (3-(4, 5-dimethylthiazol-2-yl)- 2,5-diphenyltetrazolium bromide) solution (5 mg/mL in phosphate buffer saline) followed by 4 h of incubation. The formazan crystals formed after 4 h of incubation were dissolved using DMSO (100 µL) and plates were read at 570 nm using ELISA plate reader (Lisa plus, India). The results were calculated using Eq. (1) [16].

### 2.10. Statistical analysis

All the experiments were performed in triplicates and results were expressed as the mean  $\pm$  standard deviation (SD). Statistical analysis was performed with the GraphPad Prism software version 5. Student *t*-test was used to analyse the results of the test with the control group wherein *p* value < 0.05 was considered as statistically significant.

## 3. Results and discussion

### 3.1. Synthesis of GNPs

Several plant materials have been explored for rapid, eco-friendly and a single step green synthesis of GNPs. The phytochemicals present in these plants not only act as reducing agent but also as a capping agent (coating agent), which leads to the generation of stable and nontoxic GNPs [18]. In the present study, the SC extract (1 mL) when added to gold chloride solution (10 mL) led to the formation of GNPs, which for initial visual observation had a colour change, from colorless to red wine colour ( $\leq 1$  min). The change in the colour is due to the resonant oscillation of conduction electrons at the interface between negative and positive charges at the surface of nanoparticles. This further leads to the surface plasmon resonance signifying the reduction of Au<sup>3+</sup> ions to GNPs [18]. Synthesis of GNPs was further confirmed analytically by using Ultraviolet-visible spectroscopy, which displayed

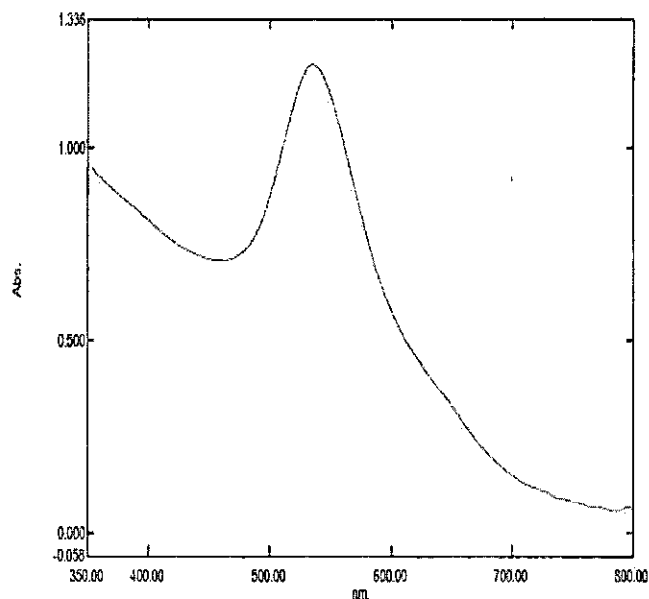


Fig. 1. UV- visible spectrum of purified GNPs.

a distinctive peak at 536 nm (Fig. 1). UV-visible spectrophotometer provides a broad idea about the morphological appearances of GNPs which essentially guides the optical and electronic properties of the GNPs [19]. A fairly narrow dimension of the peak obtained indicates that the synthesized GNPs are predominantly spherical in nature with narrow particle size distribution.

### 3.2. Characterization of GNPs

Zeta potential is a measure of charge and the key factor responsible for the stability of GNPs. It is determined by an equilibrium between two opposing forces (repulsive and attractive) acting on nanoparticles [20]. Stability of nano-dispersion is directly proportional to the repulsive forces and indirectly proportional to the attractive forces. Nanoparticles with zeta potential values greater than +20 mV or less than -20 mV demonstrates robust Brownian movements subsequently resulting in higher steadiness, whereas samples with a low zeta potential value will aggregate due to Van Der Waal inter particle attractions. Particle size, Polydispersity index and zeta potential of SC mediated GNPs were found to be  $80.33 \pm 7.63$  nm,  $0.269 \pm 0.059$  and  $-24.63 \pm 0.75$  respectively. Negative zeta potential could be attributed to the hydroxyl groups present in the plant material which are responsible for the tough coating of GNPs.

XRD analysis of GNPs demonstrated peaks as per Bragg's reflection from (111), (002), (022) and (113) planes of Face Centre Cubic (FCC) crystal structure corresponding to the  $2\theta$  value of 38.4, 44.2, 64.5 and 77 respectively (Fig. 2). These values are in line with the standard values of JCPDS No.: 04-0783 for gold. Sharp XRD peaks confirm the crystalline nature of nanogold. Apart from the Bragg peaks, the presence of additional peaks signifies the crystallization of reducing and capping agent on the surface of the nanoparticles. This confirms that the water-soluble flavonoids and proteins present in aqueous plant extract are responsible for the reduction of Au<sup>3+</sup> to Au<sup>0</sup> nanoparticles and are adsorbed onto the surface of GNPs [21,22].

Morphological examination of GNPs by AFM as depicted in Fig. 3 showed that the particles were monodispersed with distorted spherical shape and different sizes. The average diameter was found to be  $71.5 \pm 0.8$  nm.

For detailed morphological characterization, GNPs were further subjected to TEM-SAED imaging. GNPs displayed predominantly spherical morphology with few triangular, hexagonal and rod-shaped

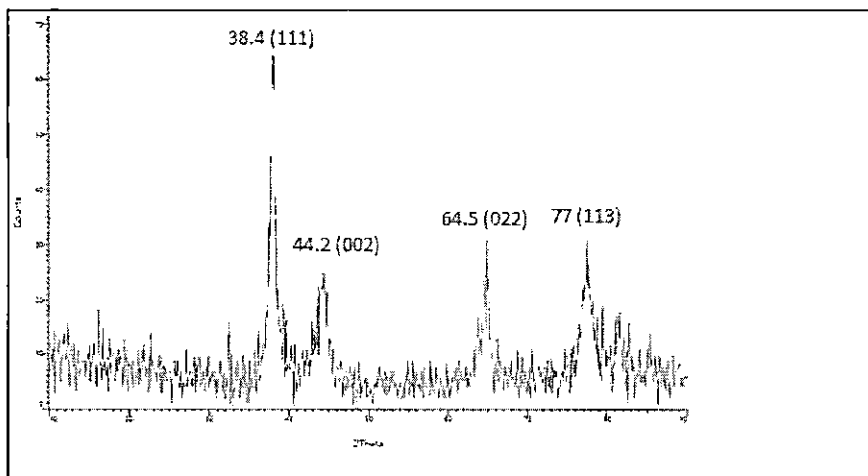


Fig. 2. X-RD spectrum of GNPs.

particles (Fig. 4). The particles were in the range of 30–50 nm size, which was in accordance with the results of DLS. SAED pattern of synthesized GNPs showed four concentric layers which confirm the crystalline nature of GNPs and this point corresponds to the results obtained by XRD studies.

3.3. Quantitative estimation of gold in GNPs (ICP-AES)

In the present study, the GNPs were analysed for quantitative estimation of gold using Inductive Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES). Calibration curve plotted using standard

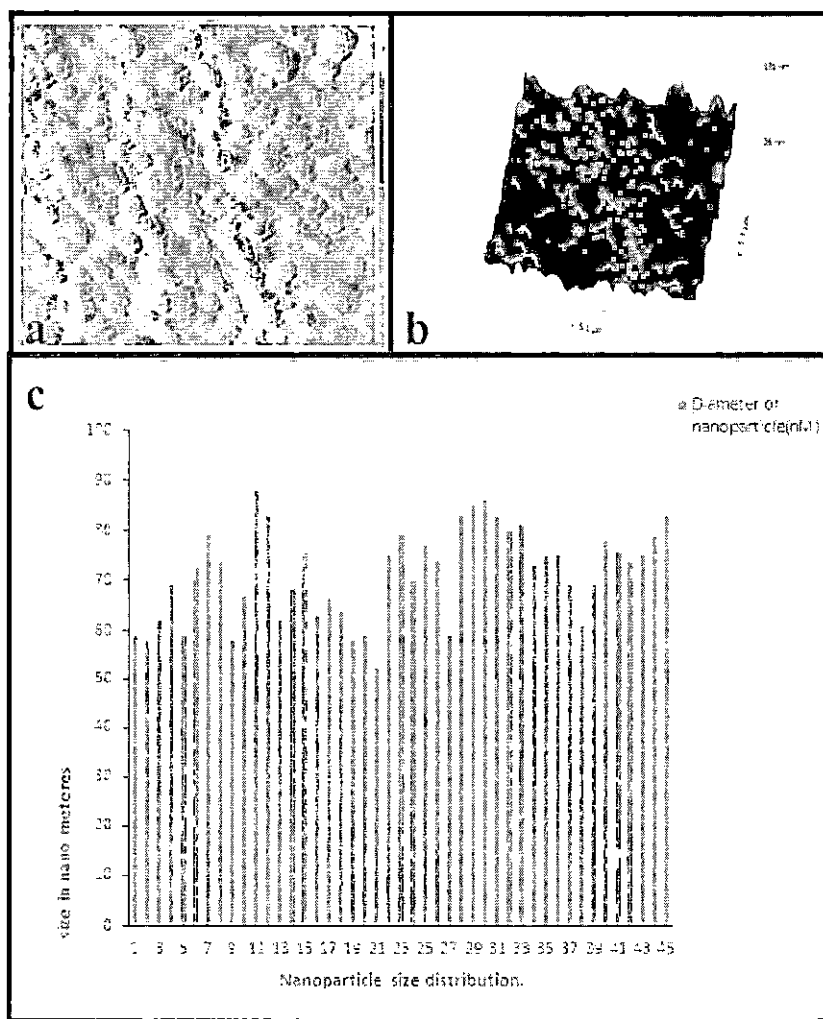


Fig. 3. AFM image of synthesized GNPs a) 2D image of GNPs b) 3D image of GNPs, and c) particle size distribution.

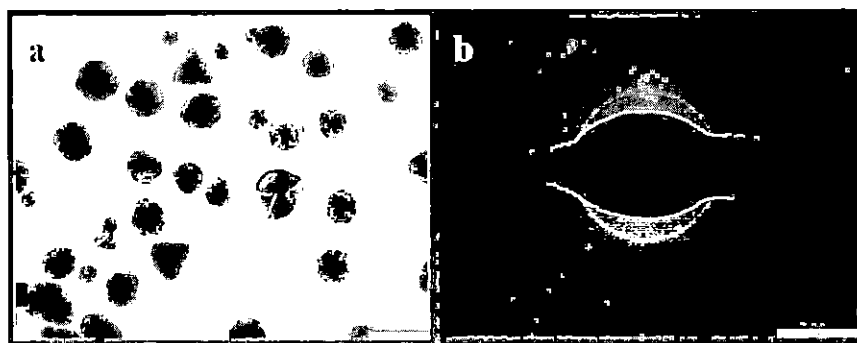


Fig. 4. TEM image (a) and SAED (b) pattern of synthesized GNPs.

concentrations of gold in the range of 0.1 to 100 µg/mL displayed linearity at ppm level with a correlation coefficient of 0.999. The rationale behind treating the nano-gold colloid suspension with concentrated nitric acid is to eliminate the organic matrix. The concentration of synthesized SNPs estimated by ICP-AES was found to be  $7.25 \pm 0.35 \mu\text{g/mL}$ .

3.4. Biocompatibility studies

Recent progress in the field of nanotechnology has led to the production of wide range of nanoparticles. Compared to conventional sized particles, nanoparticles possess larger surface area per unit length, which produce desirable biological activity. Though gold is considered to be an inert material, its activity at nano-size remains unclear. Hence it is extremely important to examine the potential risk using these nanoparticles at the in-vitro stage [23–26]. GNPs were evaluated for their stability on exposure to blood components, and cyto-compatibility against periodontal fibroblasts and blood erythrocytes.

3.5. In vitro stability of GNPs

In vitro stability of synthesized GNPs was studied by exposing GNPs to 2% bovine serum albumin (BSA), 2% human serum albumin (HSA), 0.2 M histidine, 0.2 M cysteine, 0.9% NaCl, phosphate buffer (pH 2, 5, 7, 10 and 12) and then incubating them for 48 h. Increase in  $\lambda_{\text{max}}$  by 5 nm in all the above mixtures was permissible and they were recognized as stable and intact GNPs (Fig. 5). It was found that the GNPs were stable in all blood components at all pH except in acidic pH, where

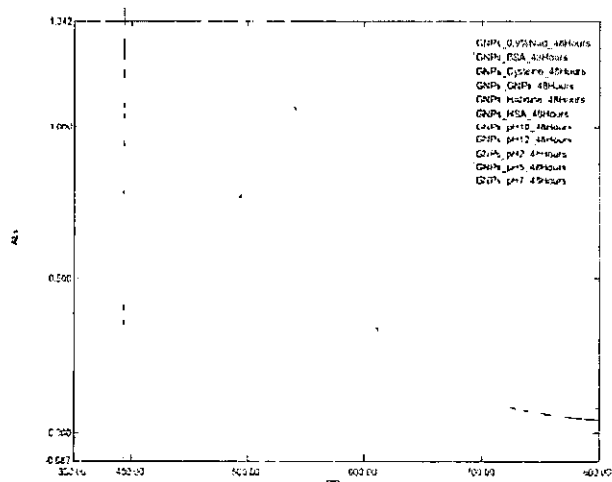


Fig. 5. In-vitro stability of GNPs in blood components and various pH conditions.

visual aggregation of particles and red shift from 536 to 545 nm was observed. [10,26].

3.6. Cyto-compatibility of GNPs

The use of biocompatible materials in implant dentistry has generated a requirement for cyto-compatibility assays to screen compounds and characterize their potential harmful effects on oral tissues before clinical use. While it is stipulated that gold core is inert, the literature remains unclear on the effect of GNPs on normal oral cells. The cyto-compatibility of GNPs was studied on periodontal fibroblast cells under in vitro conditions using colorimetric MTT assay. Periodontal fibroblast cells were treated with GNPs at varying concentrations (7.25, 3.62, 1.81, 0.90 and 0.45 µg/mL) and evaluated for cell viability after 24 h. Results of cyto-compatibility of samples in comparison with untreated cells (100% viable) are depicted in Fig. 6. It revealed that GNPs demonstrated  $\geq 97\%$  cell viability at all concentrations, suggesting its nontoxic nature and hence can be effectively used in the implant dentistry. The results of our study is in corroboration with previous studies which suggested that GNPs synthesized by green chemistry had garnered much attention as a medical carrier for use in the regenerative medicine, which is ascribed to its relatively nontoxic nature compared to other nanoparticles [27].

3.7. Haemolysis assay

Haemoglobin is an integral part of the blood which possess unique oxygen carrying property needed to maintain the vitality of each cell, tissues, and organs in the biological system. However, when haemolysis occurs haemoglobin is released to plasma where it

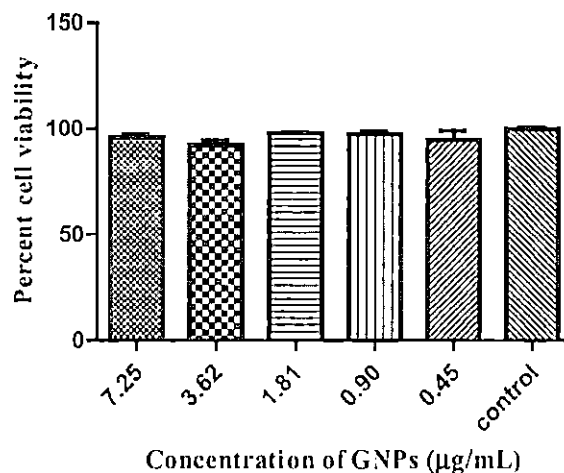


Fig. 6. Cyto-compatibility evaluation of GNPs against periodontal fibroblasts.

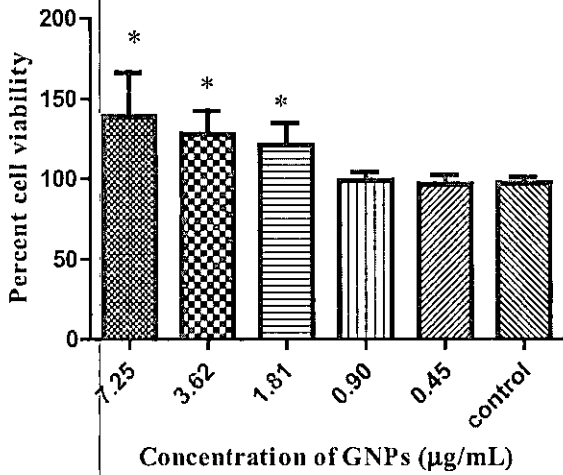


Fig. 7. Evaluation of osteoinductive properties of GNPs using MG-63 cell lines.

becomes toxic and affects the normal functioning of major organ systems in the body. In this regard, nanomaterials intended for biomedical applications specifically those which are anticipated to come in contact with blood (as in the case of dental implants) must be subjected to blood biocompatibility assay. In-vitro assay evaluating the interaction of nanogold with RBCs provides an insight to blood compatibility and confirms the non-toxic nature of green synthesized GNPs. The haemolysis assay of GNPs displayed < 1% haemolysis which is considered to be biocompatible in accordance with ISO/TR 7406 (the critical safe bio materials haemolytic ratio (acceptable limit < 5%)) [28]. Haemolysis assay results suggest that the SC mediated GNPs are biocompatible with erythrocytes and therefore suitable for application in bone regeneration and other biomedical applications.

3.8. Evaluation of osteoinductive property of GNPs

Various biomaterials have shown the property to induce bone formation when implanted at heterotopic sites, an ability known as osteoinduction. Such biomaterials hold great potential in the development of new therapies in bone regeneration. The need for employing nanomaterial into the regenerative field is justifiable since many of the biological species are present in nanometric dimensions [29]. For example, biological apatite crystals present in bone exhibit nanometric size, ranging from 25 to 50 nm [30]. To examine the effect of GNPs on bone cell proliferation, MG-63 cells were treated with varying concentration of GNPs (7.25, 3.62, 1.81, 0.90 and 0.45 µg/mL) in 96 well flat bottom microtiter plates. The rationale of selecting the MG63 cell in the present study is based on the tenet that they are osteoblast-like cells and possess typical features like the expression of osteoblast phenotypes (BMP2, Alkaline phosphatase, runt-related transcription factor 2 and osteocalcin). It was found that the synthesized biocompatible GNPs increased MG-63 cell proliferation in a dose-dependent manner (Fig. 7). GNPs displayed increased percent cell viability (138 ± 27.4) compared to control group (96 ± 3.7). The reason for this effect could be attributed to the nanosize of synthesized GNPs which was in the range of 30–50 nm. Literature suggests that GNPs with suitable size and morphology could be of unique advantage for a specific biomedical application. These results of the osteoinductive assay are in corroboration with the previous studies which suggest that GNPs with diameter range of 30–50 nm possess exceptional bone regeneration potential [1,29].

One of the applicable strategies to enhance bone regeneration is to induce bone formation and inhibit the resorption. Though exact mechanism by which GNPs induce bone regeneration is unclear, some of the probable mechanism is explained in the literature (Fig 8). GNPs interact with the membrane of progenitor cells and bind with cytoplasmic proteins after internalization through endocytosis. The interaction results in the activation of p38 mitogen-activated protein kinase signalling pathway which then leads to the up-regulation of the

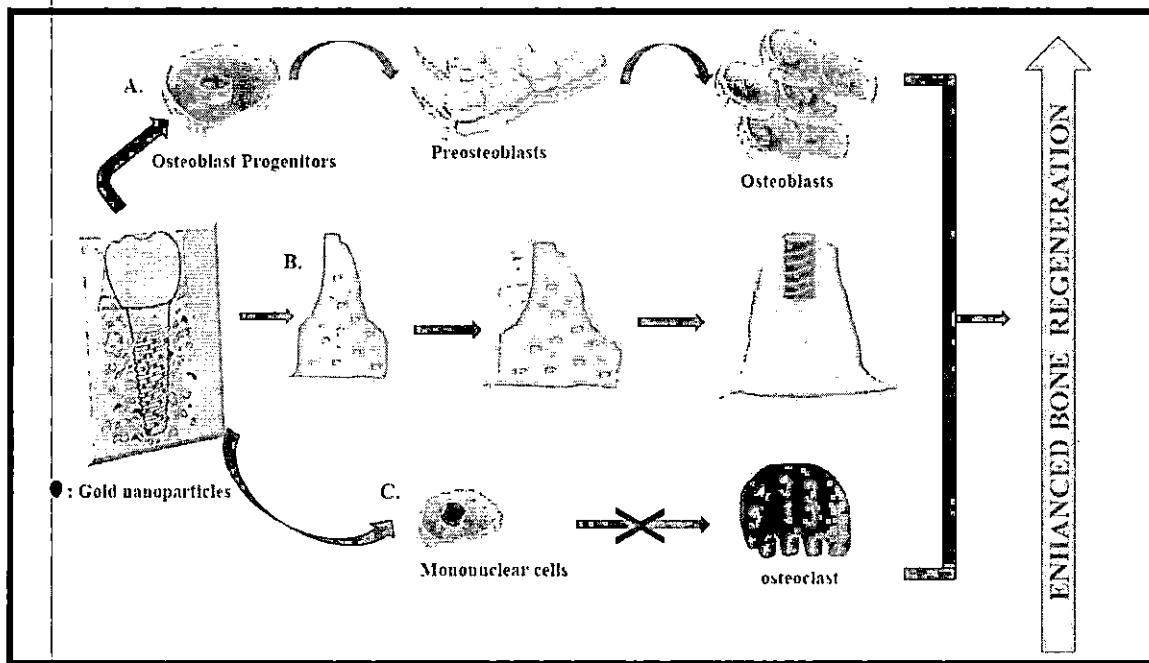


Fig. 8. Schematic representation of possible mechanisms for GNPs induced bone regeneration. A: GNPs enhances Osteogenic differentiation of preosteoblasts by activating P38 MAPK (mitogen-activated protein kinase) pathway [30], B: GNPs display osteoinductive potential by up-regulating osteogenic differentiation markers [1] {COL1 (type I collagen), ALP (alkaline phosphatase), BMP-2 (bone morphogenic protein-2), Runx2 (runt-related transcription factor 2), and OCN (osteocalcin) C: GNPs possess negative effect on osteoclast formation by inhibiting RANKL (receptor activator of nuclear factor-κb ligand) pathway [32].

osteogenic master transcription factor, Runx2. This factor enriches osteoblast marker genes such as type one collagen, BMP 2 at initial stages and alkaline phosphatase and osteocalcin during the later stages of differentiation. On the other hand, GNPs downregulate bone resorption by affecting osteoclast formation. GNPs inhibit the receptor activator of nuclear factor- $\beta$  ligand (RANKL) pathway, a key phase in osteoclast formation from bone marrow-derived macrophages [1,30–32].

#### 4. Conclusion

Osteointegration (bone regeneration) is an important criterion to determine the success of implant therapy. The present investigation was focused on the evaluation of the osteoinductive potential of gold nanoparticles synthesized by using the phytochemicals of *Salacia chinensis*. The outcomes of the study prove that the functional, biocompatible and stable GNPs can be successfully synthesized by using a simple, economic and environmentally friendly green chemistry method and has its application in bone regeneration. In vitro stability studies of gold colloidal dispersion exhibited remarkable stability in various blood components. GNPs were found to be nontoxic when evaluated for their cyto-compatibility and blood compatibility using periodontal fibroblasts and erythrocytes respectively. GNPs displayed increased percent cell viability ( $138 \pm 27.4$ ) of MG-63 cell lines compared to control group ( $96 \pm 3.7$ ) suggesting their osteoinductive potential. Herein, it can be concluded that the biocompatible and eco-friendly GNPs can be used as an effective bone inductive adjuvant during dental implant therapy for the formation of osseous interface and maintenance of emergent peri-implant bone.

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## Application for Research Work

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Research Work: Masters / Doctorate Dissertation / Short study [if related to others please specify]

Short Study  
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Name of Research [if any]: Dr./Mr./Mrs./Ms. Sunil Jalalpure / Salvoes Jayarami

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2. Formulation  
3. Microbiology (MBC & MIC)

Publication of the research results:

In research work publication BSRC name shall be acknowledged:

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Intellectual property arising from the research work [if any]:

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# Phytosynthesis of Silver Nanoparticles: Characterization, Biocompatibility Studies, and Anticancer Activity

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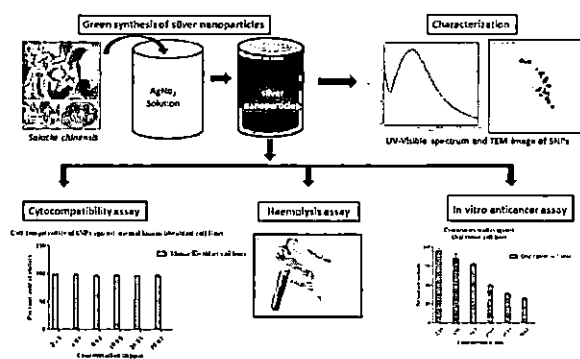
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**ABSTRACT:** Silver nanoparticles (SNPs), owing to their wide range of biomedical applications, have recently attracted remarkable interest for use in cancer nanomedicine. The present research work investigated the anticancer activity of phytosynthesized SNPs against human cancer cell lines. Phytosynthesis of SNPs was achieved by using an aqueous extract of *Salacia chinensis* (SC) bark as a green source to reduce silver nitrate to silver nanoparticles. Characterization of synthesized nanoparticles demonstrated a UV–visible peak at 443 nm,  $\zeta$ -potential (zetasizer) of  $-25.6 \pm 0.34$  and particle size (transmission electron microscopy analysis) in the range of 40–80 nm, which validates formation of stable silver nanoparticles. The absence of cytotoxicity against normal human fibroblasts and blood erythrocytes confirms the biocompatible nature of green synthesized SNPs. In vitro anticancer assay demonstrated  $IC_{50}$  values of 6.31, 4.002, 5.228, 8.452, 14.37, 7.46, and 6.55  $\mu\text{g}/\text{mL}$  against liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa) cancer cell lines respectively, which confirms its potent anticancer action. The results of the present study give an experimental proof that the SC mediated green synthesized SNPs could serve as a promising anticancer agent to overcome limitations of existing conventional cancer chemotherapeutics.

**KEYWORDS:** silver nanoparticles, green chemistry, anticancer activity, biocompatibility, *Salacia chinensis*



## INTRODUCTION

Cancer is a fatal and diverse group of disorders with varied biological properties caused by a series of clonally selected mutations in key tumor-suppressor genes and oncogenes. It is defined as the growth of abnormal cells or tissues that divide uncontrollably and have the ability to infiltrate and destroy normal body tissue. According to World Health Organization estimates for 2011, cancer displays a higher mortality rate than coronary heart disease or stroke.<sup>1</sup> According to GLOBOCAN 2012, it was found that 14.1 million new cancer cases and 8.2 million cancer deaths occurred in 2012 worldwide. The continuing global demographic and epidemiologic transitions signal an ever-increasing cancer burden over the next decades.<sup>2,3</sup> The gold standard strategies used for the treatment of cancer include surgical excision, chemotherapy, and radiotherapy, individually or in combination.<sup>4</sup> However, these treatment modalities possess significant side effects such as bone marrow depression, nephrotoxicity, alopecia, etc., leaving

the patient functionally and psychologically handicapped, subsequently leading to social isolation. In cancer chemotherapy, multidrug resistance (MDR) has become a serious threat to universal health care by negatively affecting the treatment success rate. MDR is a resistance toward certain chemotherapeutic drugs as well as concurrent cross-resistance to additional anticancer drugs that possess dissimilar structures or mechanisms of action. Owing to the complex resistance mechanisms of cancer and the limitations of biological activity and toxicity of MDR reversal agents, the current chemotherapeutic agents fail to meet the ideal requirements of cancer treatment.<sup>5</sup> Hence, to conquer this problem and combat a life threatening disease that has severe mortality worldwide, there is

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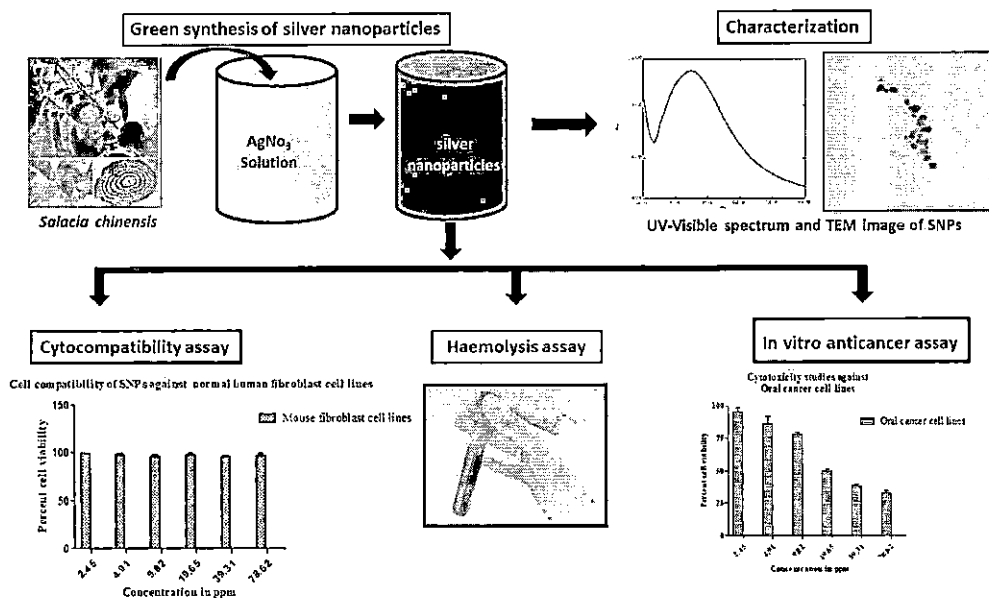


Figure 1. Schematic representation of green synthesis, characterization, and biocompatibility of SC mediated biosynthesis of SNPs and their potential anticancer activity.

an acute need to develop an alternate noninvasive and novel therapeutic strategy to treat debilitated cancer patients.

Cancer nanomedicine is an evolving branch of bionanotechnology with a fundamental role in cancer management with advanced concepts and treatment approaches.<sup>6</sup> Recently, metallic nanoparticles, especially silver nanoparticles (SNPs), are extensively used for their theranostic applications in the treatment of cancer due to their unique optoelectronic and physicochemical properties, ease of synthesis, characterization, and surface modification in the nanoscale range.<sup>7</sup> Further, silver has gained much attention in the medical field owing to its wide range of properties such as antifungal, antibacterial, antineoplastic, and antiviral potential.<sup>8–11</sup>

Metallic nanoparticles are being synthesized using diverse approaches such as chemical methods, thermal decomposition, electrochemical methods, microwave irradiation, and laser ablation.<sup>12</sup> Although chemical methods are considered the simplest to synthesize silver nanoparticles, they are known to generate a large amount of hazardous byproducts and eventually lead to environmental disharmony. These drawbacks of chemical methods call for a novel, environmentally friendly method for the synthesis of nanoparticles.<sup>13</sup>

Recently, an array of work has been done in the field of nanotechnology for SNPs synthesis using various biological regimes such as plants, algae, and biomolecules in a nontoxic and ecofriendly manner.<sup>14</sup> Various plant materials such as *Pterocarpus marsupium*,<sup>13–15</sup> *Annamia baccifera*,<sup>16</sup> *Nepenthes khasiana*,<sup>17</sup> etc., are exploited for the synthesis of metallic nanoparticles. The green chemistry technique in which the aqueous plant extract content used as the green source of reducing groups has obtained much attention owing to its simple methodology.

***Salacia chinensis* L. (SC).** SC, belonging to the family *Celastraceae*, well-known for its high levels of phenolic and flavonoid compounds and possessing strong antioxidant capacity, was utilized for the synthesis of SNPs. Herein, the present study (schematically represented in Figure 1) was aimed to evaluate the anticancer potential of green synthesized

SC mediated silver nanoparticles against various human cancer cell lines [liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa) cancer cell lines].

## MATERIALS AND METHODS

**Materials.** SC was collected from Kankumbi village in Belgaum district of Karnataka, India and authenticated (accession number: RMRC-923) from ICMR-National Institute of Traditional Medicine, Belgaum, Karnataka, India. Silver nitrate was obtained from Sigma-Aldrich, Bangalore, India. Triton X 100, gentamycin (4 mg/mL), and amphotericin (5 mg/mL) were purchased from Himedia Pvt. Ltd., Mumbai, India. Fetal bovine serum (FBS), Pen Strep (a mixture of penicillin and streptomycin) and Dulbecco's modified Eagle's medium (DMEM) were procured from Gibco Life Technologies (Bangalore, India). Normal human fibroblast cell lines and cancer cell lines [liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa) cancer cell lines] were obtained from National Centre for Cell Science (NCCS), Pune, India.

**Plant Extract Preparation.** SC bark was collected and rinsed thoroughly with deionized water to remove any surface impurities, dried, and coarsely powdered with the help of a crusher. Dry plant material (10 g) was boiled for 10 min with 100 mL of deionized water, and extract was purified by filtration through Whatman filter paper #41.

**Synthesis of SNPs.** Synthesis of SNPs was achieved by following optimized conditions, wherein 3 mL of aqueous plant extract was added to 10 mL of aqueous silver nitrate solution (1 mM) and kept in ambient temperature.<sup>8</sup> Formation of SNPs was initially evaluated by the visual color change and further confirmed by periodical measurement using UV-visible spectroscopy (Shimadzu, Japan) with the wavelength in the range between 300 and 700 nm. SNPs were purified by subjecting them to high-speed refrigerated centrifugation (Kubota 6500, Japan) at 17 000 rpm (using rotor model AG-506R- 36,873 relative centrifugal force (RCF)) maintained at 4 °C for 20 min. The purified nanosilver colloidal dispersion was filtered using a 0.22  $\mu\text{m}$  syringe filter and lyophilized (Martin Christ, Germany) to yield dry powdered concentrate. The SNPs was stored at 4 °C for further characterization, in vitro biocompatibility, and anticancer assay.

**Characterization of SNPs.** Synthesized SNPs were analyzed for particle size, particle size distribution (PDI), and  $\zeta$ -potential using a zetasizer (Malvern Instruments, UK). Transmission electron microscopy (TEM, Hitachi H-7500, Japan) images were obtained at the magnification of 150000 $\times$  to 300000 $\times$ .

**Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) of SNPs.** Qualitative and quantitative estimations of silver content in SNPs were made using ICP-AES (Spectro Arcos, Germany). Prior to the experimentation, 3 mL of concentrated nitric acid was added to the SNPs sample (3 mL), and the solution was heated to 75 °C for 15 min until it turned colorless. Samples were filtered; volume was increased to 10 mL, and finally the samples were subjected to qualitative and quantitative estimation of silver. The instrument was operated by computer using visual basic software for data acquisition and processing. Tests were repeated in triplicate, and outcomes were articulated in mean ( $\mu\text{g/mL}$ )  $\pm$  standard deviation.

**Biocompatibility Evaluation of SNPs.** Cell cytocompatibility was assessed by MTT cell-based assay using normal human fibroblast (L929) cell lines, and blood compatibility was performed by hemolysis assay.

**Cytocompatibility Assay.** In cytocompatibility studies, normal human fibroblast cells were incubated in DMEM supplemented with antibiotics and FBS. Viable fibroblasts cell suspension (50  $\mu\text{L}$ ) corresponding to  $1 \times 10^4$  cells/mL were seeded into each well of a flat bottom 96-well microtiter plate and incubated for 24 h in a CO<sub>2</sub> incubator (Eppendorf, New Brunswick, Galaxy 170R, Germany) maintained at 37 °C with 5% CO<sub>2</sub> and 95% humidity. The DMEM was removed and replaced with fresh medium (0.1 mL) with varying concentrations of SNPs and was incubated at 37 °C. Following 24 h of incubation, the medium was removed, and 20  $\mu\text{L}$  of MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) solution (5 mg/mL in phosphate buffer saline) was added and incubated at 37 °C for 4 h. Following incubation, 100  $\mu\text{L}$  of dimethyl sulfoxide (DMSO) was added to dissolve the formazan crystals, and absorbance was recorded at 570 nm using an ELISA plate reader (Lisa Plus, India).<sup>18</sup> The assay was performed in triplicate, and percent cell viability of the SNPs was obtained using eq 1.

$$\% \text{ cell viability} = \frac{\text{mean absorbance of test compound}}{\text{mean absorbance at control (untreated cells)}} \times 100 \quad (1)$$

**Blood Biocompatibility Assay.** The blood biocompatibility of SC mediated SNPs was confirmed by hemolysis assay.<sup>18</sup> Blood was collected in heparinized tube, and red blood cells were isolated by centrifugation (Eppendorf, Minispin, Germany) at 2200 rpm for 10 min at 4 °C. The pellet was rinsed gently several times with PBS pH 7.4, suspended in PBS, and used for hemolysis assay. SNPs colloidal dispersion (500  $\mu\text{L}$ ) and 1% Triton w/v (hemolytic agent: positive control) was added to 500  $\mu\text{L}$  of erythrocyte suspension individually and incubated for an hour at 37 °C under constant shaking. After 1 h, the mixture was centrifuged, and the supernatant was analyzed for percent hemolysis by UV-visible photometry (Shimadzu, Japan) at 540 nm. The supernatant obtained from centrifuged blood sample was considered as blank.<sup>19</sup> The assay was accomplished in triplicate, and percent hemolysis of the SNPs was obtained using eq 2:

$$\% \text{ hemolysis} = \frac{\text{test absorbance} - \text{blank absorbance}}{\text{positive control absorbance} - \text{blank absorbance}} \times 100 \quad (2)$$

**In Vitro Anticancer Assay.** Human cancer cell lines [liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa) cancer cell lines] were seeded in a 96-well flat-bottomed tissue culture plates at densities of  $1 \times 10^4$  cells/well per 0.1 mL of the medium (DMEM) supplemented with antibiotics and FBS. The plate was incubated for 24 h in CO<sub>2</sub> incubator (maintained at 37 °C and 5% CO<sub>2</sub> with 95% humidity) to allow cells to adhere. Prior to the experiment, trypan blue exclusion assay was used to determine the cell count. The medium was replaced with fresh medium (0.1 mL) with varying concentrations of SNPs followed by incubation at 37 °C. Following 24 h, the medium in

each well was removed; 50  $\mu\text{L}$  of the MTT solution (5 mg/mL in phosphate-buffered saline) was added, and the plate was further incubated for 4 h at 37 °C. After 4 h, formed formazan crystals were dissolved by adding 100  $\mu\text{L}$  of DMSO, and the absorbance was recorded at a 570 nm using an ELISA plate reader (Lisa Plus, India).<sup>20</sup> Experiments were done in triplicate, and the relative anticancer potential was calculated using eq 1.

**Data Analysis.** Cell line experiment outcomes were plotted by using graph pad prism version 7 to calculate the IC<sub>50</sub> value of SNP against human cancer cell lines [liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa)]. The IC<sub>50</sub> value of SNPs were expressed as mean ( $\mu\text{g/mL}$ )  $\pm$  standard deviation.

## RESULTS AND DISCUSSION

**Synthesis and Characterization of SNPs.** In the present investigation, SNPs were successfully synthesized using SC bark as a green source of reducing agent owing to its rich antioxidant content. The formation of SNPs was initially detected based on the visual change in color from colorless to brown color within 4 h. The mixture of SNPs, plant extract, and the extraneous matter was subjected to thorough purification process by centrifugation at 17 000 rpm for 20 min to eliminate free extraneous material that was not involved in the coating of SNPs. Pellets obtained after purification were thoroughly rinsed thrice with deionized water, and synthesis of SNPs was analytically proven by UV-visible spectroscopy. UV-visible peak obtained at 443 nm (characteristic band of SNP) verifies the formation of well-stabilized SNPs (Figure 2). Peak locations

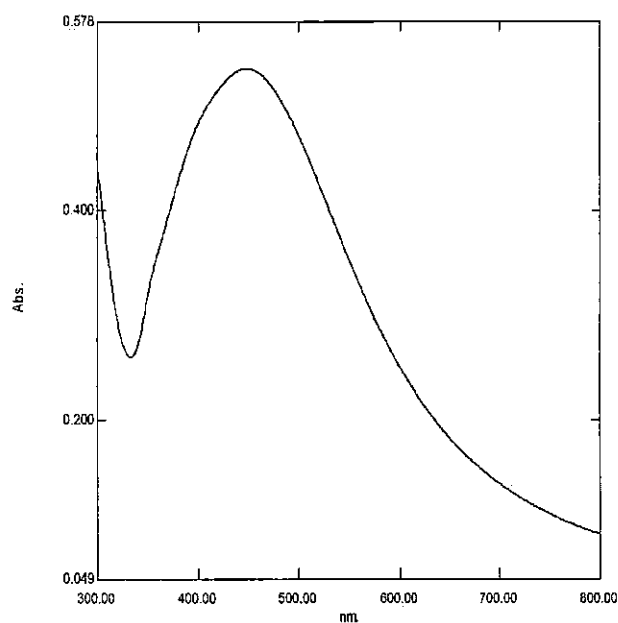


Figure 2. UV-visible spectrum of synthesized SNPs.

of UV-visible spectra are predominantly affected by shape of the particle, temperature, and the dielectric constant of the medium, which suggests the polydispersibility of synthesized SNPs, whereas the shape of the UV visible peak determines the morphology of nanoparticles.<sup>14</sup> Broad and asymmetrical surface plasmonic resonance (SPR) bands indicate that the synthesized nanoparticles are anisotropic, and the narrow band suggests that the nanoparticles are spherical.<sup>16</sup> In the present study, SNP analysis by UV-visible spectra which displayed narrow UV

visible peak suggests that the SC mediated SNPs were principally spherical in morphology and was further confirmed by TEM analysis.

The size of the nanoparticles is an important parameter that determines their activity in biomedical application. The diameter of metallic nanoparticles is represented by actual and hydrodynamic diameter. Hydrodynamic diameter indicates the particle diameter along with the external phytochemical coating, which plays a vital role in rendering stability to the nanoparticles, whereas the actual particle diameter is represented by TEM.<sup>16</sup> Dynamic light scattering (DLS) is an analytical method which estimates the hydrodynamic diameter, while TEM and scanning electron microscopy are used for the estimation of the actual diameter of nanoparticles. The results of DLS studies exposed that the particle size (hydrodynamic diameter) of SNPs was  $435.2 \pm 21.2$  nm and the polydispersity index and  $\zeta$ -potential of SNPs were  $0.358 \pm 0.03$  and  $-25.5 \pm 0.55$ , respectively. The  $\zeta$ -potential is a key indicator of the stability of colloidal dispersions, which indicates the equilibrium between electrostatic repulsive and attractive forces between charged SNPs. Particles with higher repulsive forces demonstrate robust Brownian movement with greater stability, whereas those with increased attractive forces aggregate and settle down and further fail to demonstrate biological activities. Colloids with high magnitude of negative  $\zeta$ -potential are electrically stable, while colloids with low magnitude of  $\zeta$ -potentials tend to coagulate.<sup>21</sup> The results from the zetasizer confirm that the SC mediated SNPs were well-distributed. The negative  $\zeta$ -potential of SNPs can be ascribed to the presence of hydroxyl group containing phytochemicals that are accountable for tough encapsulation of SNPs, resulting in stable nanoparticles.

Morphological characterization of SNPs was performed by TEM to visualize the actual particle size and the overall size distribution (Figure 3). TEM image indicates that the nanoparticles are highly monodispersed and consist of primarily spherical silver nanoparticles, along with a few rod, triangular, and hexagonal shaped nanoparticles, which was reinforced by the sharp and narrow peak of the UV-visible spectrum at 443

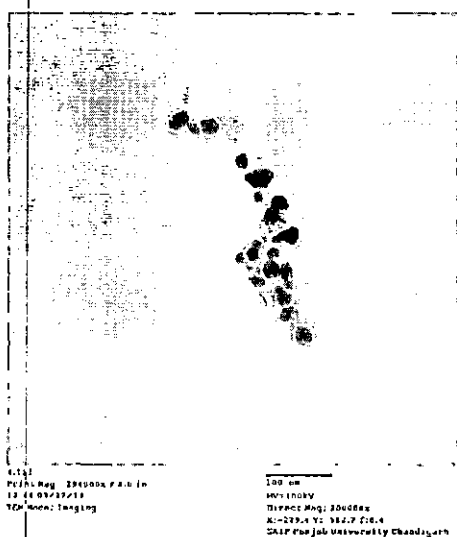


Figure 3. TEM image representing particle size and morphology of SNP.

nm. Coated SNPs displayed particle size distribution in the range of 40–80 nm, which were well-isolated with no aggregation.

**ICP-AES of SNPs.** A calibration curve was plotted by using the standard concentrations of silver in the range of 0.1 to 100 mg/mL. The concentration of synthesized SNPs estimated by ICP-AES was found to be  $78.67 \pm 3.60$   $\mu\text{g/mL}$ .

**Biocompatibility Evaluation of SNPs.** Cell compatibility was assessed by MTT cell-based assay using normal human fibroblast (L929) cell lines, and blood compatibility was performed by hemolysis assay.

**Cytocompatibility Assay.** Nanobiomaterials intended for biomedical applications are expected to be inert and biocompatible with cells and blood components. Metallic nanoparticles are known to profoundly interact with cells and intracellular macromolecules, leading to generation of reactive oxygen species.<sup>22</sup> SNPs, in particular, are considered as some of the most potentially toxic nanoparticles due to their metallic silver ions and biological reactivity. Despite a wide range of advantages of nanotechnology in the field of medicine, reduced particle size makes them credible to react with living cells, raising the issue of potential toxicity.<sup>23</sup> Hence, evaluation of SNP cytocompatibility was considered of great importance before assessing its anticancer activity. Cytocompatibility screening assays provide a grade of cell death caused by bionanomaterial when exposed to normal cells. In the present study, the cytocompatibility of SNPs against human fibroblast (L929) cell lines was studied using colorimetric MTT assay. Human fibroblast (L929) cell lines were treated with SNPs at variable concentrations of 78.62, 39.31, 19.65, 9.82, 4.91, and 2.45  $\mu\text{g/mL}$  and evaluated for cell viability after 24 h (Figure 4). The results of cytotoxicity assay revealed that SNPs

Cell compatibility of SNPs against normal human fibroblast cell lines

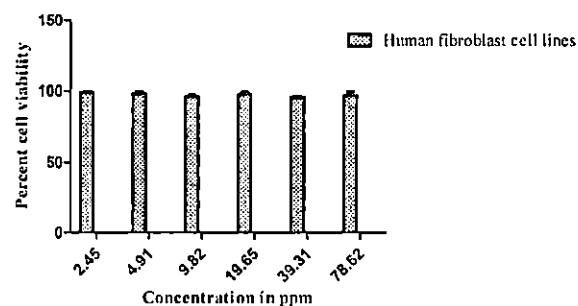


Figure 4. Biocompatibility studies of SNPs against human fibroblast cell lines.

demonstrated  $\geq 95\%$  cell viability at all concentrations. Lack of toxicity of SC stabilized SNPs even at higher concentrations confirms its nontoxic nature and opens new prospects for its application in various biomedical fields. Though SNPs are known for their toxic nature, it is worth mentioning that the method of synthesis and diameter of the nanoparticles influences the biological activities of SNPs to a great extent. Literature suggests that nanoparticles with extremely small diameter result in higher cytotoxic changes in normal cells due to swift internalization as compared to particles with larger diameter. To support this, a study demonstrated that alveolar macrophage cells when exposed to SNPs of 15–30 nm demonstrated greater cytotoxic changes compared to SNPs with 50 nm.<sup>24</sup> These size dependent cytotoxic changes such as ill-defined plasma membrane and shrunken cytoplasm with

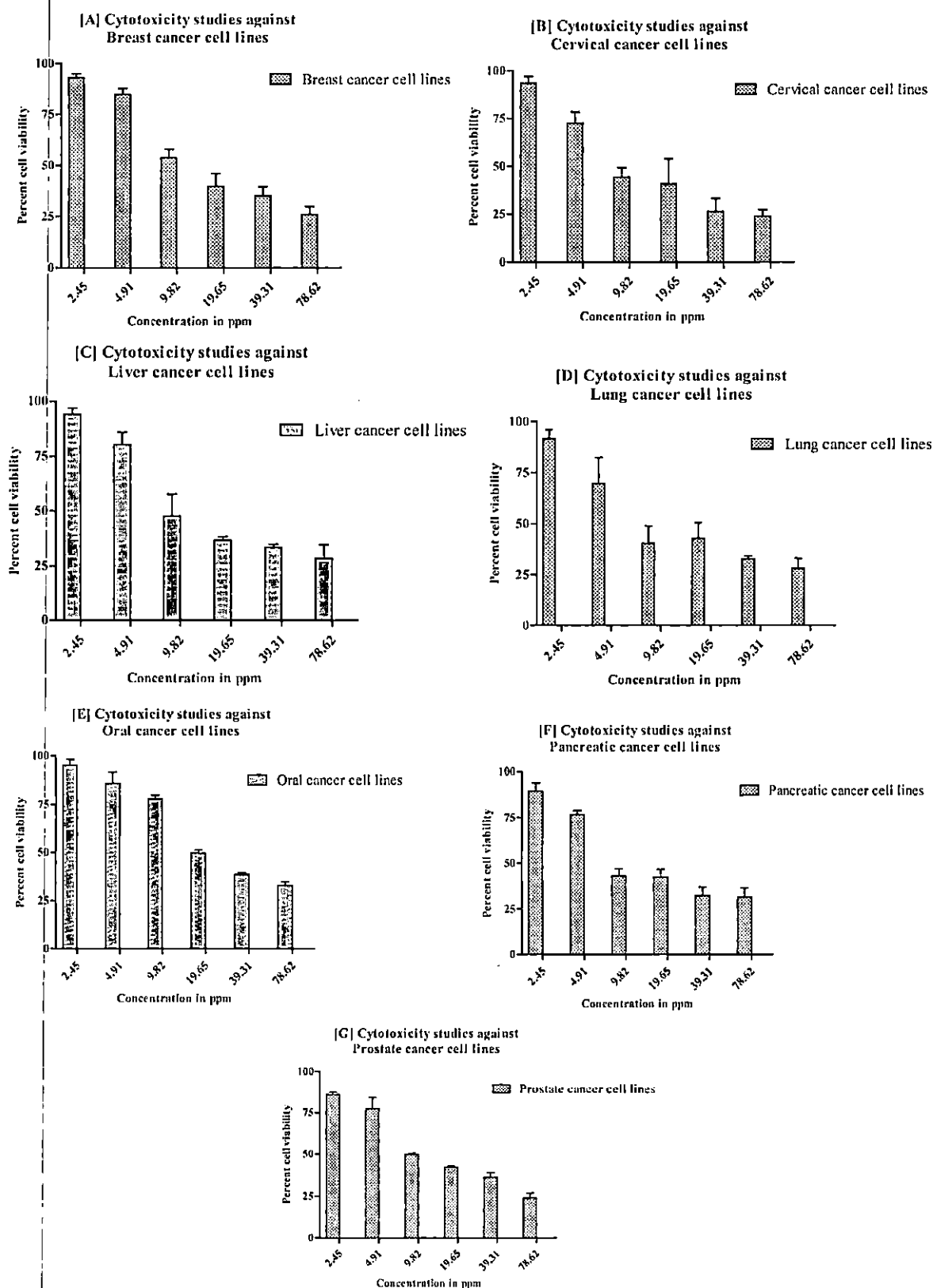


Figure 5. Anticancer activity of SNPs against breast (A), cervical (B), liver (C), lung (D), oral (E), pancreatic (F), and prostate (G) cancer cell lines.

leakage of cytoplasmic contents (lactate dehydrogenase) can be attributed to the excessive intracellular oxidative stress.<sup>24</sup> Further, various studies have demonstrated that SNPs

synthesized using chemical agents have imparted toxic nature, limiting their use in biomedical applications. In the present investigation, the nontoxic nature of SNPs can be due to the

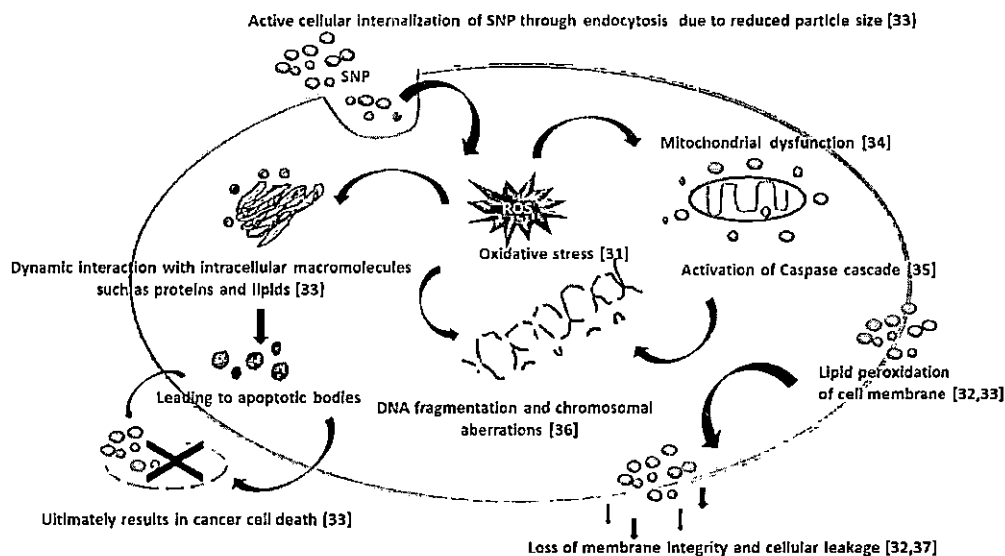


Figure 6. Schematic representation of possible mechanisms for SNP induced anticancer activity.

optimum size and biocompatible phytochemical coating of the nanoparticle.

**Blood Compatibility Assay.** With the development of SNPs-based medicine, the question of their possible toxicity has recently gained attention. In this context, it is highly required to study the toxicity of nanomaterial on blood, specifically erythrocytes. Blood biocompatibility of nanoparticles is studied by evaluating the potential percent hemolysis when exposed to RBCs, as nanoparticles are known to cause membrane damage and cell death.<sup>25</sup> The results of hemolysis assay suggest that the green synthesized SNPs at the concentration of  $78.67 \pm 3.60 \mu\text{g/mL}$  displayed <3% hemolysis, which lies within the biocompatible range in accordance to ISO/TR 7406 [the critical safe biomaterials hemolytic ratio (5%)].<sup>26</sup> Results of hemolysis assay in the present study demonstrated promising blood biocompatibility and therefore could be considered for in vivo biomedical applications.

Few studies showed that erythrocytes exhibited significant lysis on exposure to SNPs, which is contrary to our study.<sup>25</sup> The inert, nontoxic, and biocompatible nature of SNPs demonstrated in our present study can be mostly attributed to the biogenic synthesis of nanoparticles through green chemistry methods, where plant extract was used to reduce silver nitrate to SNPs, and no synthetic chemicals were used. Though the exact mechanism by which SNPs induce hemolysis in erythrocytes remains unclear, the hemolytic activity of SNPs may be attributed to their direct cellular interaction with nanoparticles, the release of free silver ions, or a combination of both events.<sup>24</sup> Moreover, it is well-known that SNPs have high affinity to thiol groups within biological moieties such as proteins or phospholipids of the membrane, thereby promoting denaturation.<sup>27</sup>

**In Vitro Anticancer Assay.** Broad-spectrum biological activities of SNPs make them promising mediators not only in combatting infections but also to deal with serious health distresses such as cancer, principally multidrug resistant cancer cells.<sup>28</sup> In the present investigation, anticancer activity of SC mediated SNPs against human cancer cell lines [liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa)] was assessed using MTT assay. Results of the

anticancer assay of the nanomaterial/active ingredient were evaluated and represented in terms of  $\text{IC}_{50}$  (half-maximal inhibitory concentration).  $\text{IC}_{50}$  represents a quantitative measure of the concentration of a particular drug or material required to inhibit a given biological process (or component of a process, i.e. an enzyme, cell, cell receptor, or microorganism) by half.<sup>29</sup> The  $\text{IC}_{50}$  is thus universally used as a measure of drug potency, and values are typically expressed as a molar concentration. The  $\text{IC}_{50}$  of SNP against above-mentioned cancer cell lines was determined by constructing a dose-response curve and examining the effect of different concentrations of SNP.

Results of the anticancer assay (Figures 5A–G) demonstrated potential anticancer activity of SNPs against all the tested cancer cell lines with varying sensitivity. The  $\text{IC}_{50}$  values were found to be 6.31, 4.002, 5.228, 8.452, 14.37, 7.46, and 6.55  $\mu\text{g/mL}$  against liver (Hep G2), lungs (L-132), pancreas (MIA-Pa-Ca-2), breast (MDA-MB-231), oral (KB cells), prostate (PC-3), and cervical (HeLa) cancer cell lines, respectively, hence confirming its potent anticancer activity. Though exact mechanism by which the SNPs evade the cancer cells, resulting cell death, remains unclear, the anticancer activity of SNPs could be ascribed to several mechanisms (schematically represented in Figure 6) such as active cellular internalization and dynamic interaction with intracellular macromolecules such as proteins and DNA, possibly through production of reactive oxygen species and in situ particle degradation (promoted by the acidic lysosomal environment), ultimately leading to apoptosis and necrotic cell death.<sup>30–34</sup> The difference in the cytotoxic activity of SNPs against the cancer and normal cell lines could be due to the differences in the cellular and metabolic activities (rapid cellular division and higher rate of metabolism). The results firmly implicate that the anticancer effect of SNPs depends on various physicochemical properties such as cell type, particle size, surface charge, binding properties, aggregation potential, and type of capping/coating agent used for SNPs synthesis.<sup>24,27</sup>

## CONCLUSION

In the present study functional, stable, and biocompatible silver nanoparticles were produced by green chemistry method with

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*S. chinensis* bark as a potent bioreducer. The current method of synthesis is more resource-efficient and results in the inherently safer design of nanoparticles and can be pursued in a wide range of contexts. This green chemistry method has led to the generation of SNPs with desirable particle size and stability characteristics. The biocompatible nature of green synthesized SNPs is validated by the absence of cytotoxicity against human fibroblasts and blood erythrocytes. Phytochemicals present in the plant material not only result in effective reduction of silver nitrate to SNPs but also act as a capping agent, rendering biocompatible nature to the nanoparticles. The in vitro anticancer assay of SNPs demonstrated dose dependent anticancer activity in the concentration range of 2–78 µg/mL against human cancer cell lines, hence confirming their potent anticancer activity. The results of the present study provide experimental evidence that SC mediated green synthesized SNPs could serve as a promising anticancer agent to overcome limitations of conventional cancer chemotherapeutics.

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\*K.J., S.D., and R.H.R. contributed equally.

### Notes

The authors declare no competing financial interest.

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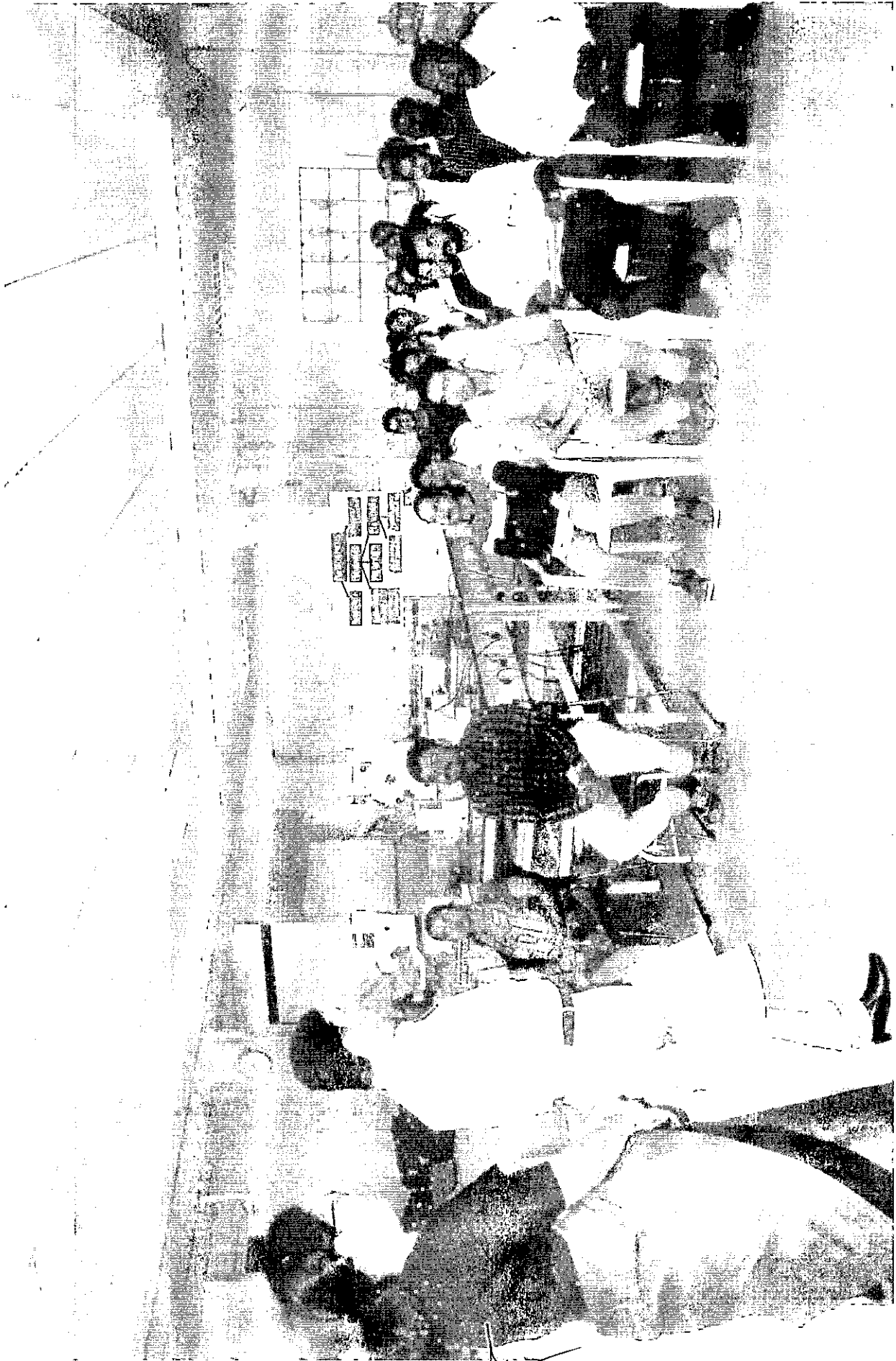
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899  
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DOI: 10.1021/acsbomaterials.7b00707  
ACS Biomater. Sci. Eng. 2018, 4, 892–899





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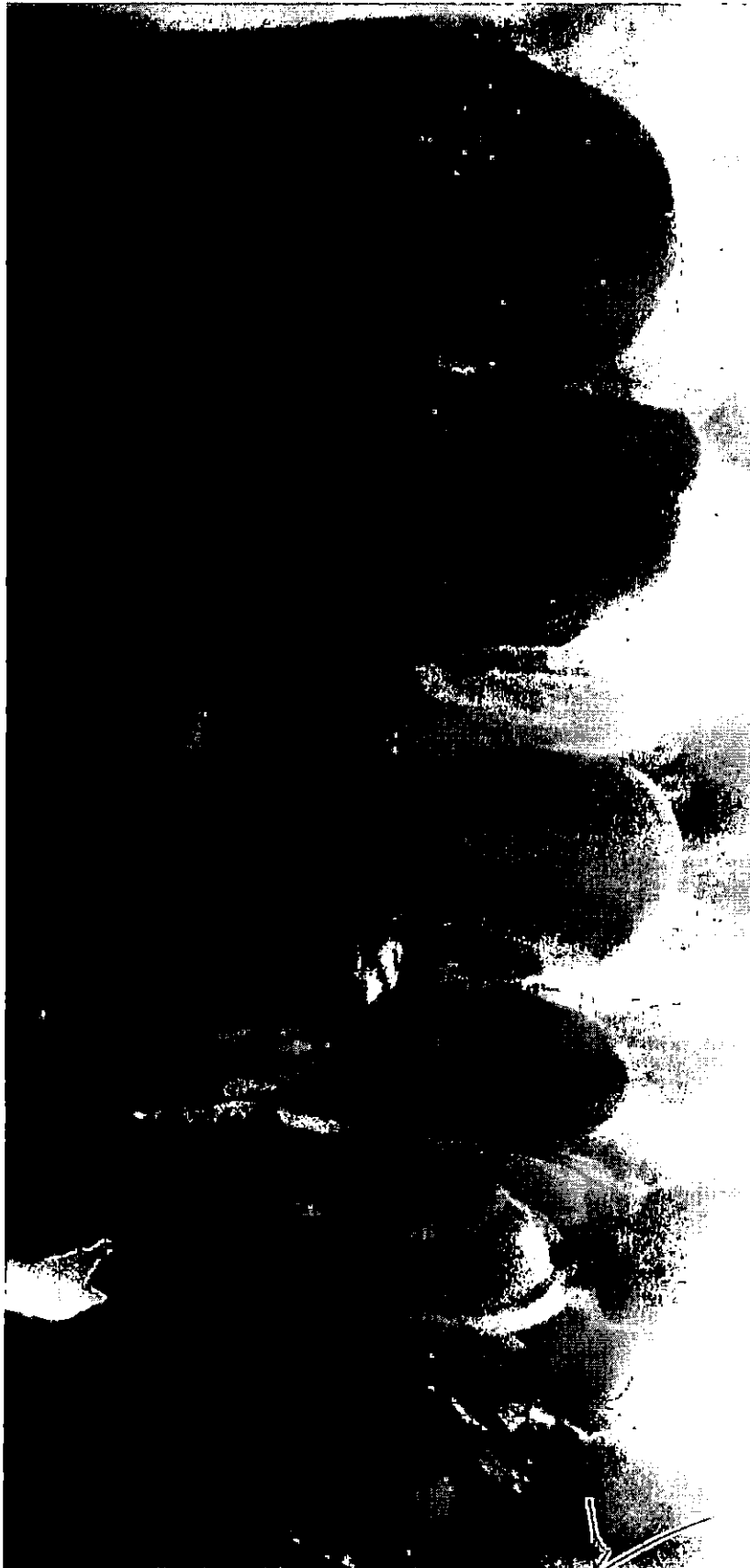
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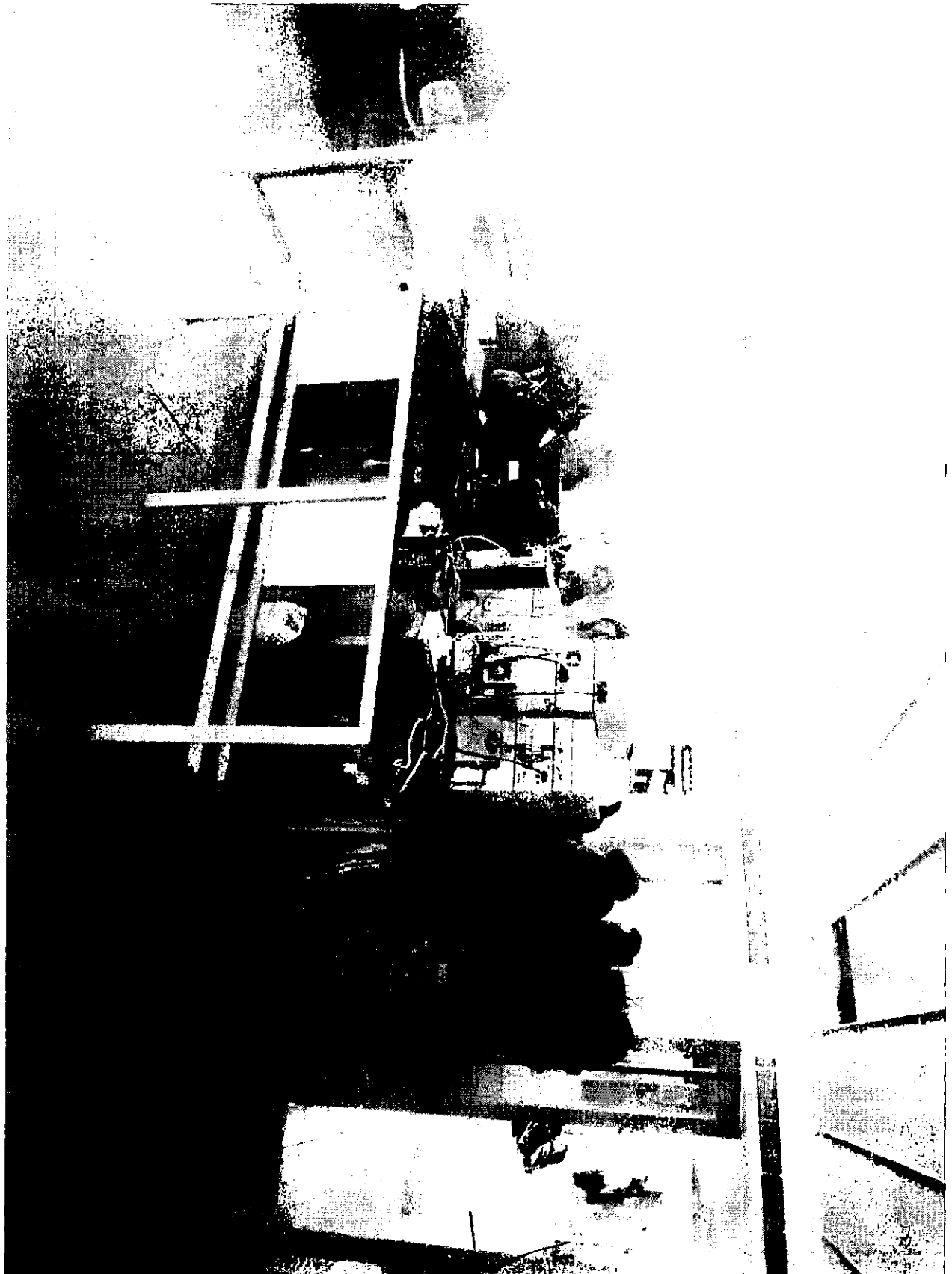
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(21)



Dr. Prabhakar Kore  
BASIC SCIENCE RESEARCH CENTRE

## Application for Research Work

Dr. Prabhakar Kore Basic Science Research Centre [BSRC]

III Floor, V. K. Institute of Dental Sciences [V.K.I.D.S] Campus, KLE University, Belagavi - 590 010

Date:

Name of the Student: Dr./Mr./Mrs./Ms. Dr. Karpoormath

Institution / University [complete address]: Kwarzulu - Natal.

Contact No .....

E-mail ID: .....

Research Work: Masters / Doctorate Dissertation / Short study [if related to others please specify]

collaborative research  
Biological evaluation synthesised chemical compounds.  
Name of Research Guide: Dr./Mr./Mrs./Ms. Dr. Karpoormath

Name of Research Co-guide [if any]: Dr./Mr./Mrs./Ms. ....

Brief for Research Work [not more than 250 words, please attach separate sheet]:

Requirements for Research Work at BSRC: 1. Anticancer  
2. ....  
3. ....

Publication of the research results:

In research work publication BSRC name shall be acknowledged:

Yes / No

Intellectual property arising from the research work [if any]:

Mutual agreement between research guide and BSRC

Sig. of the Student

B. Dahanolu

Sig. of Research Guide/Co-Guide

Sig. of Head, Institution

Institute/Department Seal:

[Signature]  
Dr. V.A. Kothiwale  
Registrar

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Belagavi-590 010, Karnataka

CNT-III

Signature/Dr. J.A. Desai



Dr. Prabhakar Kore  
KLE University

### Application for Research Work

Dr. Prabhakar Kore Basic Science Research Centre [BSRC]

III Floor, V. K. Institute of Dental Sciences [V.K.I.D.S] Campus, KLE University, Belagavi - 590 010

Date: 20/04/2017

Name of the Student: Dr./Mr./Mrs./Ms. Mr. Nihin Desai, Snehal Gajabar, Tyoti Gheji, Rukkeya Deoni

Institution / University [complete address]: S.G.M.C.P. Mahagaon, Gadhinylaj, Kolhapur.

Contact No 9075582078

E-mail ID: desains.sgmcp@gmail.com

Research Work: Masters / Doctorate Dissertation / Short study [if related to others please specify]

Name of Research Guide: Dr./Mr./Mrs./Ms. R.M. Chinkode

Name of Research Co-guide (if any): Dr./Mr./Mrs./Ms. \_\_\_\_\_

Brief for Research Work (not more than 250 words, please attach separate sheet):

- Requirements for Research Work at BSRC:
1. F.I.L, DSC, & RD
  2. P.E.M for Samples
  - 3.

Publication of the research results:

In research work publication BSRC name shall be acknowledged: Yes / No

Intellectual property arising from the research work (if any):

Mutual agreement between research guide and BSRC

Signature  
Sig. of the Student

Signature  
Sig. of Research Guide/Co-Guide

Signature  
Sig. of Head, Institution

Institute/Department Seal:



Signature  
Dr. V.A. Kothiwale  
Registrar

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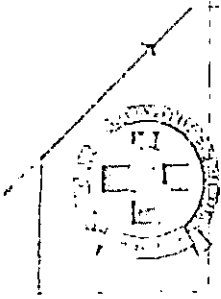
Preparation of Bionanocomposites (BNCs) of Olmesartan for increasing solubility and dissolution using microwave induced diffusion technique.

Abstract:

Since dissolution and diffusion through gastrointestinal membrane is the mechanism by which drug get absorbed oral administration. The major challenge in case of most of drug is poor water solubility. Hence the objective of present study is to develop bionanocomposite (BNCs) by microwave induced diffusion technique (MIND) to enhance solubility and dissolution of poorly water soluble drug olmesartan. Natural drug carrier such as Deacia Quabber Gum was selected for BNCs preparation based on its wetting and surface active agent property. BNCs were prepared by MIND technique and characterized by Fourier transformed infrared spectroscopy (FTIR), Differential scanning calorimetry (DSC), X-ray diffraction studies (XRD) and scanning electron microscopy (SEM). Enhancement in the solubility might be because of generation of drug dispersion at micro and nano scale level. So the development of BNCs is a promising approach to increase solubility and dissolution of poorly water soluble drug.

Dr. V.A. Kothiwale  
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SHIVAJI MAHARAJ COLLEGE OF  
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Ph.: (02327) 275581, Fax: (02327) 275581

Chairman: Adv. Annasaheb D. Chavan-Agalave  
Principal: Dr. R. M. Chimkode

Ref. No.: sgmbpharm/ 2016-17/657

Date: 08/03/17

To,  
The Deputy Director,  
BSRC  
KLE University, Belagavi, Karnataka

Subject: Request for Characterizations of Prepared sample of BNCs by B. Pharm IV<sup>th</sup> Year  
Students of our institute Reg...

Respected Sir,

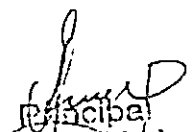
Adverting to the above cited subject, herewith we are sending B. Pharm Final Year students of our institute listed below to characterize prepared sample of BNCs by FTIR, DSC, SEM and Powder XRD to your esteemed organization. As a part of curriculum of Shivaji University, Kolhapur. Students have to submit Project work for the award of B. Pharm Degree and Sir, we are requesting for your kind permission for the same.

Hope you will look into the matter and do the needful

Thanking You.

Name of Students of VI<sup>th</sup> B. Pharm Sem-VIII

1. Mr. Nitin Desai
2. Ms. Snehal A. Gajabar
3. Ms. Rukkaya Desai
4. Ms. Jyoti S. Gheji.

  
Principal  
Dr. R. M. Chimkode  
Smt. Gejagan Maharaj College of Pharmacy,  
Mahagaon, Tal. Gadhinglaj, Dist. Kolhapur  
Pin Code - 416 503

Encl: Students Request Letter.

Received

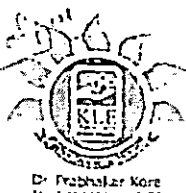
  
Dr. V.A. Kothiwale

Registrar

Institute Code - 6616 Approved by AICTE-New Delhi/PCI-New Delhi/DTE-Mumbai  
KLE Academy of Higher Education and Research, Shivaji University, Kolhapur.  
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Belagavi-590 010, Karnataka

CAT-III

Science / Dr. S. A. Desai



Dr. Prabhakar Kore  
KLE University

### Application for Research Work

Dr. Prabhakar Kore Basic Science Research Centre [BSRC]

III Floor, V. K. Institute of Dental Sciences [V.K.I.D.S] Campus, KLE University, Belagavi - 590 010

Date: 20/04/2017

Name of the Student: Dr./Mr./Mrs./Ms. Mr. Nihin Desai, Snehal Gajabav, Tyoti Gheji, Rukkaya Desai

Institution / University [complete address]: S.G.M.C.P. Mahagaon, Gadhinglaj, Kolhapur.

Contact No 9075582078

E-mail ID: desains.sgmcp@gmail.com

Research Work: Masters / Doctorate Dissertation / Short study [if related to others please specify]

Name of Research Guide: Dr./Mr./Mrs./Ms. R. M. Chimkode

Name of Research Co-guide [if any]: Dr./Mr./Mrs./Ms. -

Brief for Research Work [not more than 250 words, please attach separate sheet]:

- Requirements for Research Work at BSRC: 1. FI, I, 2, DSC, 2 RD
2. P.E.M. for Samples
3.

Publication of the research results:

In research work publication BSRC name shall be acknowledged: Yes / No

Intellectual property arising from the research work (if any):

Mutual agreement between research guide and BSRC

*[Handwritten signature]*

Signature JSC Ref

Sig. of the Student

Sig. of Research Guide/Co-Guide

*[Handwritten signature]*

Sig. of Head, Institution

Institute/Department Seal:



*[Handwritten signature]*  
*[Handwritten signature]*

Dr. V.A. Kothiwale  
Registrar

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# Preparation of Bionanocomposites (BNCs) of Olmesartan for increasing solubility and dissolution using microwave induced diffusion technique.

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Since dissolution and diffusion through gastrointestinal membrane is the mechanism by which drug get absorbed oral administration. The major challenge in case of most of drug is poor water solubility. Hence the objective of present study is to develop bionanocomposite (BNCs) by microwave induced diffusion technique (MIND) to enhance solubility and dissolution of poorly water soluble drug olmesartan.

⊕ Natural drug carrier such as Beacia gualden Gum was selected for BNCs preparation based on its wetting and surface active agent property. BNCs were prepared by MIND technique and characterized by Fourier transformed infrared spectroscopy (FTIR), Differential scanning calorimetry (DSC), X-ray diffraction studies (XRD) and scanning electron microscopy (SEM). Enhancement in the solubility might be because of generation of drug dispersion at micro and nano scale level. So the development of BNCs is a promising approach to increase solubility and dissolution of poorly water soluble drug.



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Ph. : (02327) 275581, Fax : (02327) 275581

Chairman : Adv. Annasaheb D. Chavan-Agalave  
Principal : Dr. R. M. Chirkode

Ref. No.: sgmbpharm/ 2016-17/657

Date: 08/03/17

To,  
The Deputy Director,  
BSRC  
KLE University, Belagavi, Karnataka

Subject: Request for Characterizations of Prepared sample of BNCs by B. Pharm IV<sup>th</sup> Year  
Students of our institute Reg...

Respected Sir,

Adverting to the above cited subject, herewith we are sending B. Pharm Final Year students of our institute listed below to characterize prepared sample of BNCs by FTIR, DSC, SEM and Powder XRD to your esteemed organization. As a part of curriculum of Shivaji University, Kolhapur, Students have to submit Project work for the award of B. Pharm Degree and Sir, we are requesting for your kind permission for the same.

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Encl: Students Request Letter.

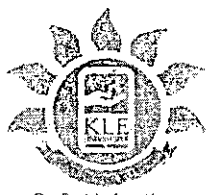
Received,

Dr. V.A. Kothiwale  
Registrar

r. Sarany M.

CAT-II

Dr. HARPREET KOUR  
Physiology, JNMC - Belagavi



Dr. Prabhakar Kore  
Basic Science Research Centre

### Application for Research Work

Dr. Prabhakar Kore Basic Science Research Centre [BSRC]

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Date: 06/04/2017

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Contact No 09620850326

E-mail ID: harpreet.kour@yahoo.co.in

Research Work: Masters / Doctorate Dissertation / Short study [if related to others please specify]

As attached Synopsis

Name of Research Guide: Dr./Mr./Mrs./Ms. Shivaprasad Goudar

Name of Research Co-guide [if any]: Dr./Mr./Mrs./Ms. 1) Dr. V.A Kothiwale  
2) Dr. Sarany Kumar Mishra

Brief for Research Work [not more than 250 words, please attach separate sheet]:

- Requirements for Research Work at BSRC: 1. Oxidative Phos. Assay  
 2. TAU Protein Estimation  
 3. Sample preparation etc.

Publication of the research results:

In research work publication BSRC name shall be acknowledged: Yes / No

Intellectual property arising from the research work [if any]:

Mutual agreement between research guide and BSRC

Sig. of the Student Harpreet Kour      Sig. of Research Guide/Co-Guide Shivaprasad Goudar      Sig. of Head, Institution

Institute/Department Seal:

Harpreet Kour  
Shivaprasad Goudar  
 Dr. V.A. Kothiwale  
 Registrar

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