

## RESUME

### H.N. SHIVAKUMAR

Scopus ID: ID: 56248802800  
Web of Science Researcher ID: T-9418-2018  
Orchid ID; 0000-0003-1596-9941

## 1. ADDRESS

### RESIDENCE:

Door No. 18, 7<sup>th</sup> Cross  
Jenukallu Siddeshwarnagar  
Nandini Layout, Bangalore 560096  
Mob: 09448241420

### OFFICE:

Professor and Head  
Dept of Pharmaceutics,  
KLE University's College of Pharmacy  
Bangalore 560 010  
Tel: 080 23325611  
Web site: <http://www.kleblrpharm.org>  
E-mail: [shivakumarhn@gmail.com](mailto:shivakumarhn@gmail.com),

## 2. EDUCATION

- **Bachelor of Pharmacy (1991)**- Bangalore University, India
- **Master Of Pharmacy- Pharmaceutics (1993)** - Bangalore University, India
- **Ph.D-Pharmaceutics (2006)**-Rajiv Gandhi University of Health Sciences, Karnataka, India.
- **Postdoctoral Research Associate (2008-2009)** – S.N.Murthy Research Group, Noninvasive Drug Delivery Laboratory, Department of Pharmaceutics, The University of Mississippi, University, MS, USA.

## 3. EMPLOYMENT DETAILS

Year	Designation	Subjects Taught/Role	Year	Organization
1993-95	Lecturer	Physical Pharmaceutics	II B.Pharm	P.E.S College of Pharmacy, Hanumanthnagar, Bangalore- 560050, INDIA
		Dispensing Pharmacy	III B.Pharm	
1995-96	Production Executive	Co-ordinate and execute Production activities of Solid oral dosage forms		Bangalore Pharmaceutical and Research Laboratories, Bangalore, INDIA
1996-2002	Lecturer (with B.Pharm)	Physical Pharmaceutics	II B.Pharm	K.L.E.S's college of Pharmacy, Bangalore-560 010, INDIA
		Pharmaceutics	I B.Pharm	
		Dispensing Pharmacy	III B.Pharm	
2002-06	Assistant Professor (With B.Pharm & M.Pharm)	Advanced Industrial Pharmacy	IV B.Pharm	K.L.E.S's college of Pharmacy, Bangalore-560 010, INDIA
		Advances in Drug Delivery systems	I M.Pharm	
		Advise on Thesis	II M.Pharm	

Year	Designation	Subjects Taught/Role	Year	Institution
2006-08	Professor (With B.Pharm & M.Pharm)	Advanced Industrial Pharmacy	IV B.Pharm	K.L.E.S's college of Pharmacy, Bangalore-560 010, INDIA
		Advances in Drug Delivery systems-	I M.Pharm	
		Advise on Thesis	II M.Pharm	
2008-09	Postdoctoral Research Associate	Undertake research activities		S.N.Murthy Research Group Noninvasive Drug Delivery Laboratory, Department of Pharmaceutics, The University of Mississippi, University, MS-38677, USA <a href="http://home.olemiss.edu/~murthy/">http://home.olemiss.edu/~murthy/</a>
2009-Feb 2011	Manager-FD	Set up <i>Design Experiments (DoE)</i> , Establish <i>Design Space, Optimize Process/Product</i> and Implement the Principle of <i>Quality by Design (QbD)</i> in Pharmaceutical Development		Kemwell Pvt Ltd, Bangalore, INDIA, Tel: 080- 39285090 <a href="http://www.kemwellpharma.com/">http://www.kemwellpharma.com/</a>
1 <sup>st</sup> Mar 2011-till date	Professor and HOD	Biopharmaceutics and Pharmacokinetics	I M.Pharm	KLE University's College of Pharmacy, Bangalore 560 010, INDIA
		Advances in Drug Delivery Systems		
		Advise on Thesis for M.Pharm and Ph.D	II M.Pharm	

A total of more than **26 years** of teaching experience with **B.pharm M.Pharm and Ph.D**

#### 4. RESEARCH

**A. M.Pharm Dissertation-**Formulation and Evaluation of Egg albumin pellets of Diclofenac sodium.

**B. Ph.D. Thesis-** “*Design and Evaluation of Colon Specific Drug Delivery Systems for Chronotherapeutic Agents*”. Chronic diseases like rheumatoid arthritis, Angina pectoris and Nocturnal asthma are influenced by body's Circadian Rhythm. The conventional and controlled drug delivery systems available in the market at present do not ensure adequate protection against these diseases. Colon specific multiparticulate systems were designed using different industrially feasible techniques such as microencapsulation; extrusion spheronization & pan coating; direct compression & pan coating. The efficacies of the developed formulations to approximate the chronobiology of the above mentioned diseases were assessed using different *in vitro* techniques. The work undertaken conclusively demonstrated the capability of the techniques employed to devise multiparticulate systems that can be effectively targeted to the colon in view to treat diseases that are influenced by body's Circadian rhythm.

### C. Post-Doctoral Research

The post doctoral research was undertaken at the S.N.Murthy Research Group, Noninvasive Drug Delivery Laboratory, Department of Pharmaceutics, The University of Mississippi, University, MS-38677, USA. The group has been involved in developing noninvasive technologies for therapeutic intervention of diseases and sampling of drugs and biomarkers from tissues.

As a part of the post doctoral research, the feasibility of rapid delivery of iron via transdermal route as an alternative to the conventional parenteral route was investigated. The studies undertaken demonstrated that the combination of electroporation and constant voltage iontophoresis was able to rapidly deliver therapeutic dose of Iron by the transdermal route.

The conventional oral iron therapy suffers from poor bioavailability as iron absorption is pH dependent, site specific and regulated by carrier mediated transport. In this context, the second part of the research aimed to improve the oral bioavailability of iron in an effort to treat Iron deficiency and iron deficiency anemia (IDA). The work involved passive targeting of iron loaded albumin microspheres to 'M cells' of the Payer's patch in view to enhance the oral iron bioavailability. The improvement in the oral iron bioavailability as a result of targeting was successfully demonstrated by simple pre-clinical studies involving normal rats.

The research also was focused to develop a bilayered nail lacquer of terbinafine hydrochloride that can be used for the treatment of onychomycosis. The ability of the bilayered nail lacquer to enhance the *in vitro* permeation and the *in vitro* nail drug load was clearly evident from the studies undertaken in Franz diffusion cells using cadaver nail plates. Clinical studies involving healthy human volunteers successfully demonstrated the efficacy of the lacquer to enhance the nail drug load compared to a monolayer lacquer.

## 5. AWARDS

- i. Honored with the '*Best Teacher award for the year 2015*' from *KLE University*, Belagavi.
- ii. Bestowed with the *S.T.A.R.S award* on 10<sup>th</sup> Nov 2016 for Teachers for '*Excellence in Academic Research*' by the American Association of Government College of Pharmacy (Bengaluru) Alumni, New York, U.S.A
- iii. Conferred with '*Award for Research Publication*' on 12/09/2019 by *VGST, Department of Information Technology, Biotechnology, Science and Technology, Karnataka Science and Technology Promotion Society, Govt of Karnataka* for the year 2018-19 (No. KSTeP5/VGST-ARP/2018 -19/322 dated 20/07/2019).
- iv. Presented with the '*Best Scientist Award*' on 5-09-2020 by *KLE University*, Belagavi

## 6. GRANTS

- i. Successfully completed a project entitled "*Development of fast-dissolving tablets for neurological disorders*" under Research Project Scheme (Ref: 8023/BOR/RPS-162/2006-07) supported by under of AICTE, New Delhi (Rs. 10.00 Lacs), INDIA.

- ii. Completed projects involving '*transdermal delivery of iron*' and '*transungual delivery of antimycotics*' as a part of Postdoctoral studies for which the candidate was awarded a fellowship of \$ 24000 per annum from July 2008 to Oct 2009 by The University of Mississippi, MS-38677, USA.
- iii. Completed the Project entitled "**Formulation of Guinidine HCl gels for preclinical testing in a rodent model for treatment of topical scars**" funded by The Dept. of Pharmaceutics, *University of Mississippi, MS, USA* in the year 2013.
- iv. Completed the project entitled "**Formulation and Evaluation of inhalable mucoadhesive microparticles of streptomycin**" funded by *VGST, DITBST* (Rs 30,000/-) under *Science Projects in college education (SPiCE)* for the year 2012-13 (Ref: No. VGST/P-10/SPiCE/2012-13/218).
- v. Completed the project entitled "**Design and Evaluation of Ocular Inserts of Dorzolamide Hydrochloride using natural Bioadhesive film formers**" funded by *VGST, DITBST* (Rs 30,000/-) under *Science Projects in college education (SPiCE)* for the year 2013-14 (Ref: No. VGST/P-10/SPiCE/2013-14).
- vi. Principal Investigator for the project entitled "Development of Bio adhesive nanoparticles for vaginal delivery of selected anti retrovirals" funded by *VGST, DITBST* (Rs 30 Lakhs) under the *Center of innovative Science engineering and Education* of scheme of *VGST, Department of Information Technology, Biotechnology, Science and Technology, Karanataka Science and Technology Promotion Society, Govt of Karnataka* for the year 2018-19, 19-20 and 20-21 (No. KSTePS/VGST-CISEE/2018-19/GRD No.747/315 dated 20th July 2019).

## 7. LAURELS

Biography included in 7<sup>th</sup> edition of Marquis *Who's Who is Medicine and Healthcare* in USA for the year 2009-2010.

## 8. COLLABORATION AND CONSULTANCY

### 1. International Collaboration

Collaborator with *Noninvasive Drug Delivery Laboratory, Department of Pharmaceutics, The University of Mississippi, MS, USA* (<http://home.olemiss.edu/~murthy/groupmembers.html>)

- b. Facilitate Design Experiments (DoE), Establish Design Space and Optimize Process/Product in the ongoing projects.
- c. Pharmacokinetic testing of prototype formulations

### 2. Industrial Consultation

- a. Consultant Scientist at *Institute for Drug Delivery and Biomedical Research (IDBR)*, Bangalore [www.IDBRresearch.com](http://www.IDBRresearch.com)
- b. Consultant Scientist in Formulation Development with *DermaPerm Research Inc.*, Bangalore, <http://www.dermaperm.com/>

- c. Consultant with *Kemwell BioPharma Pvt. Ltd., Bangalore* [www.kemwellbiopharma.com](http://www.kemwellbiopharma.com) to set up Design Experiments (*DoE*), Establish Design Space, Optimize Process/Product and Implement the Principle of Quality by Design (*QbD*) in Pharmaceutical Development.
- d. Consultant with *SPI Pharma-India branch, Bangalore* (<http://www.spipharma.com>) for the below mentioned projects
  - i. Design of Co-processed excipient systems for enhanced physicochemical and organoleptic properties
  - ii. Dissolution of powdered dosage forms in USP IV flow through dissolution apparatus
  - iii. Transport studies across porcine buccal mucosa
- e. Consultant with *Syngene International Ltd, Bangalore* ([www.syngeneintl.com](http://www.syngeneintl.com)) for the project “*Spray drying for enteric coating*”
- f. Consultant with *Semler Research Inc, Bangalore* (<http://www.semllerresearch.com/>)
  - i. To train the Formulation Development team to perform (*DoE*), Establish Design Space, Optimize Process/Product and Implement the principles of Quality by Design (*QbD*) in Pharmaceutical Development
  - ii. To train the Formulation Development team to undertake Transdermal feasibility studies
- g. Consultant with *Stevia World Agrotech Pvt. Ltd., Bengaluru* ([www.steviaworld.com](http://www.steviaworld.com)) for the project “*Development and scale up of sugar free tablets of Stevia*”
- h. Consultant with *Nuwill Research and Innovations Pvt. Ltd., Bengaluru* ([www.nuwillresearch.com](http://www.nuwillresearch.com)) for the project “*Development and evaluation of Injectable suspensions*”
- i. Consultant with *Institute for Drug Delivery and Biomedical Research (IDBR), Bangalore* [www.IDBResearch.com](http://www.IDBResearch.com) for the projects
  - i. *Sterility testing of microneedles*
  - ii. *Formulation and viscosity profiling of topical creams*

*Generated an amount exceeding one 1.5 Lakhs to the department through Industrial research and consultancy*

## **9. BOOK CHAPTERS: 06**

- a. Chapter entitled “*Methods of enhancing bioavailability of drugs*” in the book “**Advances in Pharmaceutical Technology**” Pg 143-152, ISBN 13: 978-81-250-3309-7, ISBN 10: 81-250-3309-2, 2008. Publisher: *Oriental Longman, India.*
- b. Authored book chapter “*Topical and Transdermal Drug Delivery*” for the book “**Hand book on Non-invasive drug delivery systems**” Pg 1-36, 2010, ISBN: 978-0-8155-2025-2, 2010 (Publisher: **Elsevier Inc. USA**). (<http://www.sciencedirect.com/science/book/9780815520252>)

- c. Authored book chapter “*Topical Nail Formulation*” in the book entitled “*Topical Nail Products and Ungual Drug Delivery*” Pg 61-85, ISBN 978-1-4398-1129-0 2013 (Publishers: Taylor and Franics, USA), (<http://www.crcpress.com/product/isbn/9781439811290>).
- d. Authored book chapter “*Approaches to enhance Ungual and Transungual drug Delivery*” in the book entitled “*Topical Nail Products and Ungual Drug Delivery*” Pg 87-121, ISBN 978-1-4398-1129-0, 2013 (Publishers: Taylor and Franics, USA), (<http://www.crcpress.com/product/isbn/9781439811290>)
- e. Authored a book chapter “*Topical Products applied to the Nail*” for the book ‘*Cosmetic formulations: Principle and Practice*’ Edited by Heather A.E. Benson, Michael S. Roberts, Vania Rodrigues Leite-Silva, Kenneth Walters, Pg 381-400, 2019. (Publishers: CRC press).
- f. Authored the chapter “*Quality by Design (QbD) principles in the development of Transdermal Drug Delivery Products*” for the book “*Dermal Drug Delivery: From Innovation to Production*”. 1<sup>st</sup> Edition, Edited by Tapash K. Ghosh Pg: 164-81, 2020 (Publishers: CRC press).

#### 10. PATENTS FILED: 06

- i. “*Transdermal delivery of Iron*” Indian Patent Application No: **201641023376** (E-45/3677/2016/CHE), dated 06/07/2017 (Applicant)
- ii. “*Iontophoresis Patch for Transdermal Delivery of Iron*” Indian Patent Application No: **201641027390** (E-45/3676/2016/CHE), dated 09/08/2017 (Applicant)
- iii. “*Rapidly dissolving oral films for Tobacco Abstinence*” Indian Patent Application No. 7053/CHE/2015, dated 30/12/2015 (Inventor)
- iv. “*Systems for sub dermal delivery of Therapeutic agents*” Indian Patent Application No. **201741010852**, dated March 27<sup>th</sup> 2017 (Inventor)
- v. “*Cisplatin nanoparticle composition, method for the preparation thereof*” Indian patent Application No. **201741041197** dated 17th November 2017 (Inventor).
- vi. “*Cisplatin nanoparticle composition, method for the preparation thereof*” PCT International application No. PCT/IB2018/059027 dated 16<sup>th</sup> Nov 2018 (Inventor)
- vii. “*Sublingual Microsert Technology for delivery of drugs*” Indian patent Application No. **201941022798** dated 8<sup>th</sup> June 2019 (Inventor).



## 11. SELECTED PUBLICATIONS

54	Manasa M, Shivakumar H.N. "Oral raft forming in situ gelling system for site specific delivery of calcium" <i>Journal of Drug Delivery Science and Technology</i> (In press) [ <b>Journal Impact Factor: 2.734</b> ].
53	Priyadeep Bhutani, Rekha U. Shivakumar H. N., Prabhakar K. Ranjanna. "Rapid and cost-effective LC-MS/MS method for determination of hydroxycitric acid in plasma: Application in the determination of pharmacokinetics in commercial Garcinia preparations" <i>Biomedical Chromatography</i> . Early online 19 <sup>th</sup> May 2020.
52	Vanaja K, Zare M, Basavaraju B, Salwa S, Murthy S.N, <i>Shivakumar H.N.</i> "Thermosensitive in situ liposomal gels loaded with antimicrobial agent for oral care in critically ill patients" <i>Therapeutic Delivery</i> . 2020 Apr;11(4):231-243 [ <b>Journal Impact Factor:2.12</b> ].
51	Swathi H.P, Anusha M.V, Guin JP, Murthy S.N, Kanni P, Varshney L, Suresh S, <i>Shivakumar H.N.</i> Effect of gamma sterilization on the properties of microneedle array transdermal patch system. <i>Drug Development and Industrial Pharmacy</i> . April 2020: 46 (4); 606-620 [ <b>Journal Impact Factor: 2.29</b> ].
50	Fatima T, Srinivas A, Vijay Kumar S, Srinath R, <i>Shivakumar H.N</i> , Biswas S.K., Mozammel H, Murthy S.N. Topical Formulation of Pilocarpine for Diagnosis of Cystic Fibrosis. <i>J Pharm Sci</i> 2020 May; 109 (5):1747-1751 [ <b>Journal Impact Factor: 3.0</b> ]. [ <a href="#">Appeared as a featured cited article in the Journal in the month of May 2020</a> ]
49	<i>Shivakumar H. N.</i> , Ruchira S. Kotian. "Design and Development of Transdermal Drug Delivery of Nonsteroidal Anti-inflammatory Drugs: Lornoxicam". <i>Journal of Reports in Pharmaceutical Sciences</i> . July-Dec 2019: 8(2); 277-283 [ <b>Journal Impact Factor: 0.54</b> ].
48	Maurya A, <i>Shivakumar HN</i> , Honnavar S, Salwa M, Murthy SN, Rapidly dissolving Microneedle Patches for Transdermal Iron Replenishment Therapy, <i>Journal of Pharmaceutical Sciences</i> 2018, 107 (6), 1642-47 [ <b>Journal Impact Factor: 3.0</b> ].
47	S Arunkumar, <i>H.N.Shivakumar</i> , S.Narasimha. Murthy. Effect of terpenes on transdermal iontophoretic delivery of diclofenac potassium under constant voltage. <i>Pharm. Dev. Technology</i> 2018, VOL. 23, NO. 8, 806–814 [ <b>Journal Impact Factor: 2.451</b> ].
46	Preethi, G.B., <i>Shivakumar, H.N.</i> , Kumar, M.R., Sweta, N. Prototype self emulsifying system of etravirine: Design, formulation and <i>in vitro</i> evaluation. <i>Int. J. of App. Pharm.</i> 2018, 10 (2), 13-19.
45	Pimparade M.B, Vo A, Maurya A, Bae J, Morott JT, Feng X, Kim DW, Kulkarni VI, Tiwari R, Vanaja K, Murthy R, <i>Shivakumar H.N</i> , Neupane D, Mishra S.R, Murthy N, Repka M. A. Development and evaluation of an oral fast disintegrating anti-allergic film using hot-melt extrusion technology. <i>Eur. J. Pharm Biopharm.</i> 2017, 119, 81-90 [ <b>Journal Impact Factor: 3.756</b> ].
44	Reena M, Rangappa S, Repka M.A, Vanaja K, <i>Shivakumar H.N</i> , Murthy S.N. Infrared thermal measurement method to evaluate skin cooling effect of topical products and the impact of microstructure of creams. <i>Journal of Drug Delivery Science and Technology</i> 2017, 39, 296-99 [ <b>Journal Impact Factor: 2.297</b> ].
43	Kushwaha A, Sharma P, <i>Shivakumar HN</i> , Rappleye C, Zukiwski A, Proniuk S, Murthy SN. Trans-ungual Delivery of AR-12, a novel antifungal agent. <i>AAPS PharmSciTech</i> 2017 Oct; 18 (7):2702-2705 DOI: 10.1208/s12249-017-0752-y [ <b>Journal Impact Factor: 2.451</b> ].

42	Preethi, G.B., Banerjee, S., <b>Shivakumar, H.N.</b> , Ravi Kumar, M. Formulation of fast-dissolving tablets of doxazosin mesylate drug by direct compression method. <i>Int. J. of App. Pharm.</i> 2017, 9(5), 22-28.
41	Manasa M <b>Shivakumar HN</b> . Formulation and evaluation of gastroretentive floating multiparticulate system of lisinopril. <i>Ind J Health Sci. Biomed. Res.</i> KLEU 2017, 10(1), 50-56.
40	Kushwaha A, <b>Shivakumar HN</b> , Murthy SN. Iontophoresis for drug delivery into the nail apparatus: Exploring hyponychium as the site of delivery. <i>Drug Dev Ind Pharm</i> , Accepted for publication 2016, 42 (10), 1678-82. [ <b>Journal Impact Factor: 2.015</b> ].
39	Manda P, Kushwaha AS, Kundu S, <b>Shivakumar HN</b> , Jo SB, Murthy SN. Delivery of Ziconotide to cerebrospinal fluid via intranasal pathway for treatment of chronic pain. <i>J Control Release</i> 2016, 224, 69-76 [ <b>Journal Impact Factor: 7.70</b> ].
38	Modepalli N, <b>Shivakumar HN</b> , McCrudden MTC, Donnelly RF, Banga A, Murthy SN, Transdermal delivery of Iron using soluble microneedles: Dermal Kinetics and Safety. <i>J Pharm Sci</i> 2016, 105, 1196-1200 [ <b>Journal Impact Factor: 3.0</b> ].
37	S. Arunkumar, <b>H.N.Shivakumar</b> , B.G.Desai and Purnima Ashok. Effect of gel properties on transdermal iontophoretic delivery of diclofenac sodium. <i>e-polymers</i> 2016, 16 (1), 25-32 [ <b>Journal Impact Factor: 1.111</b> ].
36	S. Arunkumar, Purnima Ashok, B.G. Desai and <b>H.N.Shivakumar</b> . Effect of chemical penetration enhancers on Transdermal delivery of diclofenac sodium under constant voltage. <i>Journal of Drug Delivery Science and Technology</i> 2015, 30 (A), 171-79 [ <b>Journal Impact Factor: 2.297</b> ].
35	Avadhesh K, <b>Shivakumar HN</b> , Jacob M, Shobharani Hiremath, Sachidanada Aradhya, Repka MA, Narasimha Murthy S. Trans-ungual Delivery of Itraconazole Hydrochloride by Iontophoresis <i>Drug Dev Ind Pharm</i> , 2015, 41(7), 1089-94 [ <b>Journal Impact Factor: 2.015</b> ]
34	Naresh M, <b>Shivakumar HN</b> , Kanni KPL, Murthy SN. Transdermal Iron Replenishment Therapy. <i>Therapeutic Delivery</i> 2015, 6(6), 661-68.
33	Pimparade MB, Morott JT, Park J-B, Kulkarni VI, Majumdar S, Murthy SN, Lian Z, Pinto E, Bi V, Durig T, Murthy R, <b>Shivakumar HN</b> , Vanaja K, Kumar PC, Repka MA. Development of taste masked caffeine citrate formulations utilizing hot melt extrusion technology and <i>in vitro–in vivo</i> evaluations. <i>Int. J Pharm.</i> 2015, 487, 167-76 [ <b>Journal Impact Factor: 3.65</b> ].
32	Nandini PT, Doijjad RC, <b>Shivakumar HN</b> , Dandagi PM. Formulation and Evaluation of Gemcitabine loaded Solid Lipid Nanoparticles. <i>Drug Delivery</i> 2015, 22 (5), 647-51 (DOI:10.3109/10717544.2013.860502) [ <b>Journal Impact Factor: 2.015</b> ]
31	<b>Shivakumar HN</b> , Repka MA, Narasimha Murthy S. Transungual delivery: An update. <i>J. Drug Deliv. Sci. Tech</i> , 2014, 24 (3), 301-310 [ <b>Journal Impact Factor: 0.734</b> ].
30	Modepalli N, <b>Shivakumar HN</b> , Hiremath N, Narasimha Murthy S. Biophysical techniques for transdermal delivery of Iron. <i>J. Drug Deliv. Sci. Tech</i> , 2014, 24 (3), 289-91 [ <b>Journal Impact Factor: 0.734</b> ].
29	Angamuthu M, <b>Shivakumar HN</b> , Raman V, Jo S, Cegu P, Murthy SN. Controlled-release injectable containing Terbinafine/PLGA microspheres for onychomycosis



	treatment <i>J Pharm Sci</i> 2014, 103 (4), 1173-83 [ <b>Journal Impact Factor: 3.055</b> ]
28	Juluri A, Modepalli N, Jo S, Repka MA, <b>Shivakumar HN</b> , Murthy SN. Minimally invasive transdermal delivery of iron dextran <i>J.Pharm Sci</i> 2013, 102 (3), 987-993 [ <b>Journal Impact Factor: 3.055</b> ].
27	Siva Ram Kiran, <b>Shivakumar H.N</b> , Micheal Repka, S.Narasimha Murthy. Formulation and evaluation of Carnosic acid nanoparticles for Upregulation of neurotrophins in the brain. <i>J. Drug Target</i> 2013, 21 (1), 44-53 [ <b>Journal Impact Factor: 2.995</b> ].
26	<b>H.N.Shivakumar</b> , Abhishek Juluri, B.G.Desai, S.Narasimha Murthy. Ungual and Transungual drug delivery. <i>Drug Dev Ind Pharm</i> , 2012, 38 (8), 901-911. [ <b>Journal Impact Factor: 2.015, 35 citations, <u>listed in the top 10 most cited articles in the year 2014</u></b> ].
25	Abhishek Juluri, Siva Ram Kiran Vaka, Micheal Repka, <b>Shivakumar H.N</b> , S.Narasimha Murthy. Early stage technologies for Dermal and Transdermal Drug Delivery: Magnetophoresis and Electret. <i>Transdermal</i> Nov 2011, 3 (6), 19-21.
24	Siva Ram Kiran Vaka, <b>Shivakumar H.N</b> , S.Narasimha Murthy. Constant Voltage 'Iron'tophoresis. <i>Pharm. Dev. Technol</i> 2011, Oct, 16 (5), 483-488. [ <b>Journal Impact Factor: 1.386</b> ]
23	<b>Shivakumar HN</b> , Vaka S.K, Satheesh Madhav N.V, Murthy S.N. Bilayered nail lacquer of terbinafine hydrochloride for treatment of Onychomycosis. <i>J.Pharm Sci</i> 2010, 99 (10), 4267-76 [ <b>Journal Impact Factor: 3.055, 20 citations</b> ]
22	<b>Shivakumar H.N</b> , Vaka S.K, Murthy S.N. Albumin microspheres for oral delivery of iron. <i>J. Drug Target</i> . 2010, 18 (1), 36-44. [ <b>Journal Impact Factor: 2.995</b> ]
21	Somasekhar V, Gowrisankar D, <b>Shivakumar HN</b> . Development and validation of a rapid RP-HPLC method for the determination of venlafaxine hydrochloride in pharmaceutical dosage forms using experimental design 2009, 6(4), 1091-1102 [ <b>Journal Impact Factor: 0.516</b> ].
20	Jamakandi VG, Mulla JS, Vinay BL, <b>Shivakumar H.N</b> . Formulation, Characterization and Evaluation and matrix-type transdermal patches of model hypertensive drug. <i>Asian J. Pharm.</i> 2009, 3 (1), 59-65. [ <b>Journal Impact Factor: 0.34, 52 citations</b> ]
19	Pandey VP, Balaji A, <b>Shivakumar HN</b> , Srinivasan N. Mild Hypothermia enhances transdermal permeation of ketotifen. <i>Asian J Chemistry</i> 2008, 6 (20), 4315-19 [ <b>Journal Impact Factor: 0.266</b> ].
18.	<b>Shivakumar H.N</b> , Rajesh Pastel and Desai B.G Formulation optimization of propranolol hydrochloride microcapsules employing a central composite design. <i>Indian Journal of Pharmaceutical Sciences</i> , 2008, 70 (3), 408-413. [ <b>Journal Impact Factor: 0.626</b> ].
17.	<b>Shivakumar H.N</b> , Desai B.G and Deshmukh G. Design and evaluation of diclofenac sodium controlled release solid dispersions by response surface methodology <i>Indian Journal of Pharmaceutical Sciences</i> , 2008, 70 (1), 22-29. [ <b>Journal Impact Factor: 0.626, 42 citations</b> ].

16.	<b>H.N.Shivakumar</b> , P.B.Patel, B.G.Desai Purnima Ashok and S.Arulmozhi, “Design and statistical optimization of glipizide loaded lipospheres using response surface methodology” <i>Acta Pharmaceutica</i> , 57 (3), 2007, 269-285 [ <b>Journal Impact Factor: 1.162</b> ]
15	<b>Shivakumar H.N</b> , Desai B.G, Subhash P.G, Purnima Ashok, Hulkoti B. Design of ocular inserts of brimonidine tartrate by response surface methodology. <i>Journal of Drug Delivery Science and Technology</i> 17 (6), 2007, 421-430. [ <b>Journal Impact Factor: 1.088</b> ]
14.	<b>Shivakumar H.N</b> , Desai B.G, Pandya S, Karki S.S. Influence of $\beta$ -cyclodextrin complexation on glipizide release from hydroxypropyl methylcellulose matrix tablets. <i>PDA J. Pharm. Tech</i> 61 (6), 2007, 472-491.
13.	<b>Shivakumar. H.N</b> , Desai B.G, Murthy S.N., Ashish Sharma, The disintegration and dissolution of nabumetone nispersible tablets. <i>Pharmaceutical Technology</i> . December, 2007, 60-68.
12	<b>Shivakumar H.N</b> , Desai B.G, Patel M, Optimization of gastroretentive systems for oral controlled delivery of cinnarizine using response surface methodology. <i>ARS Pharmaceutica</i> , 48 (1), 2007, 55-81.
11	Murthy S.N, Waddell D, <b>Shivakumar H.N</b> , Balaji A. Iontophoretic permselectivity of nail plate. <i>J. Derm.Sci.</i> 2007:46, 150-152. [ <b>Impact Factor: 3.713, 52 citations, listed as the 11<sup>th</sup> most cited article in the year 2009</b> ]
10	<b>Shivakumar H.N</b> , Sarasija Suresh, Desai B.G. Design and evaluation pH sensitive minitables for chronotherapeutic delivery of theophylline. <i>Indian Journal of Pharmaceutical Sciences</i> , 2007, 69 (1), 73-79. [ <b>Journal Impact Factor: 0.626</b> ].
9	<b>Shivakumar H.N</b> , Sarasija Suresh, Desai B.G. Design and evaluation of pH sensitive multiparticulate systems for chronotherapeutic delivery of diltiazem hydrochloride <i>Indian Journal of Pharmaceutical Sciences</i> , 2006, 68 (6), 781-787. [ <b>Journal Impact Factor: 0.626, 41 citations</b> ].
8.	Sarasija Suresh, <b>Shivakumar H.N</b> , Kiran kumar G. Effect of beta cyclodextrin complexation on the solubility and dissolution rate of carbamazepine from tablets. <i>Indian Journal of Pharmaceutical Sciences</i> , 2006, 68 (3), 301-307. [ <b>Journal Impact Factor: 0.626, 21 citations</b> ].
7	<b>Shivakumar H.N</b> , Sarasija Suresh, Desai B.G. Design and evaluation of multiparticulate system for chronotherapeutic delivery of meloxicam” <i>Indian Drugs</i> , 2006, 43, 258-262.
6	<b>Shivakumar H.N</b> , Sarasija Suresh, Desai B.G. Design and evaluation of controlled onset extended release multiparticulate system for chronotherapeutic delivery of ketoprofen. <i>Indian Journal of Pharmaceutical Sciences</i> , 2006, 68 (1), 76-82. [ <b>Journal Impact Factor: 0.626, 19 citations</b> ].
5	<b>Shivakumar H.N</b> , Sarasija Suresh, Venkataram S, Design and evaluation of multiparticulate system for chronotherapeutic delivery of diclofenac sodium” <i>Indian Journal of Pharmaceutical Sciences</i> , 2002, 64 (2), 133-137. [ <b>Journal Impact Factor: 0.626</b> ].

4	<b>Shivakumar H.N</b> , Nath B.S, Desai B.G. Comparative evaluation of hydro tropically and thermally gelled starch pastes as granulating agents for diclofenac sodium. <i>Indian Journal of Pharmaceutical Sciences</i> , 2001, 63 (2), 144-147. [ <b>Journal Impact Factor: 0.626</b> ].
3	<b>Shivakumar H.N</b> , Nath B.S, Desai B.G. Shivakumar H.N, Nath B.S, Desai B.G. Effect of added HPMC and HEC on the release of cetostearyl alcohol embedded diclofenac sodium from tablets for control release. <i>The Eastern Pharmacist</i> , 2001, 518, 117-119.
2	Nath B.S, <b>Shivakumar H.N</b> , A 2 <sup>3</sup> factorial study on factors influencing meloxicam beta cyclodextrin complexation for better solubility. <i>Indian Journal of Pharmaceutical Sciences</i> , 2000, 62, 129-132. [ <b>Journal Impact Factor: 0.626, 16 citations</b> ].
1	<b>Shivakumar H.N</b> , Srinath M.S, Nath B.S. Effect of added additives on the release kinetics of diclofenac sodium from heat coagulated egg albumin pellets for control release” <i>The Eastern Pharmacist</i> , 1999, 499, 109-111.

Citation Indices	All	Since 2015
Citations	574	781
h-index	20 (scopus: 13)	17
i10-index	39	28

## 12. RESEARCH PAPERS PRESENTED (POSTER AND PODIUM)

47. **Quality Improvement Programme** on ‘*Advanced Trends in Pharmaceutics*’ on 19<sup>th</sup> March 2018, at JSS University, Ooty, Tamil Nadu. Topic: “*Transdermal Drug Delivery Technologies*”
46. Delivered a lecture on “Transdermal Drug Delivery systems” at Anna University, Tiruchinapalli, on 10<sup>th</sup> July 2017.
45. Two days National level symposium “DBT-Heralding a New Era for Bio-innovations” Organized by DBT at MLA College for Women, Benagaluru, 16<sup>th</sup> -17<sup>th</sup> Feb 2016 Topic: “Insight on BIG scheme”
44. Iontophoresis of Lipophilic Drug by Complexing with Charged Cyclodextrin, at 67<sup>th</sup> IPC, Mysore 19-21<sup>st</sup> Dec 2015
43. In-Vitro metabolism of tetrahydrocannabinol in Human Epidermal Keratinocytes at 67<sup>th</sup> IPC, Mysore 19-21<sup>st</sup> Dec 2015
42. Convective transport of drugs into the skin from topical formulations, at 67<sup>th</sup> IPC, Mysore 19- 21<sup>st</sup> Dec 2015
41. **United Kingdom India Education Research Initiative (UKIERI) workshop on “Healthcare Devices: Technologies and Translation”, CENSE Auditorium, IISc, Bangalore 26<sup>th</sup> - 27<sup>th</sup> March 2015. Topic: ‘Iron’tophoresis**
40. **AICTE sponsored workshop, 9<sup>th</sup>-20<sup>th</sup> March 2015 “Pharmaceutical Technology with current trends & Future Scope in Formulation Development”, KLE University, Belagavi Transdermal Drug Delivery Technologies (20<sup>th</sup> March 2015).**
39. Resource person at UDEHP workshop on “*Research Methodology and Grant writing*”, 20<sup>th</sup> Dec 2014, KLEU CoP, Bangalore (Topic: Manuscript Writing)

**AAPS Annual Convention Nov 2-6, 2014, San Diego, CA, USA, 2014.**

38. Transdermal Delivery of diclofenac using constant voltage iontophoresis and chemical penetration enhancers
37. Transdermal permeation of diclofenac from sodium hyaluronate gels
36. Transdermal Delivery of Folic Acid (Vitamin B9) by Iontophoresis
35. Transdermal Iron Therapy

**AAPS Annual Convention Nov 10-4, 2013, San Antonio, USA, 2013.**

34. Percutaneous iron replenishment therapy (PIRT): is passive transdermal delivery of iron possible?
33. Micro-reservoir patch: a simple solution to overcome dose dumping in defective transdermal patches
32. Nipredipine pressure sensitive adhesive patches for treating diabetic wounds
31. Effect of iontophoresis on the barrier properties of the stratum corneum in scar skin and normal skin in humans
30. Do regional differences in sub-epidermal water content determine the trans-epidermal water loss (TEWL)?
29. Bioadhesive film forming formulation for topical delivery of drugs.
28. Effect of pre-treatment with alum on iontophoretic transdermal delivery of drugs.
27. Dermatokinetics of Vitamin C, a well-known anti-ageing agent
26. Convective transport of drugs into the skin from topical formulations.
25. Effect of pre-treatment with enhancers on dermatokinetics of diclofenac sodium.
24. Effect of mild hyperthermia (fever) on the iontophoretic transdermal delivery of drugs.

**63rd Indian Pharmaceutical Congress Dec 16-18, 2011, Bengaluru**

23. Mucoadhesive microspheres of acyclovir to improve bioavailability
22. Solubility enhancement of simvastatin by solid dispersion technique
21. Carvedilol-chitosan co-crystals for enhancement of dissolution rate and bioavailability

**AAPS Annual convention, meeting and Exposition Oct 24-28 2011, Washington DC, USA**

20. Formulation and Evaluation of Carnosic Acid Nanoparticulate System for Upregulation of Neurotrophins in the Brain upon Intranasal Administration
19. Effect of Nail Microporation and Electropulse Treatment on the Trans-ungual Permeation of Terbinafine Hydrochloride

**AAPS Annual convention, meeting and Exposition Nov 8-12 2009, Los Angeles, USA**

18. "Iontophoresis" transdermal patch based on constant voltage iontophoresis
17. Albumin microspheres for oral delivery of iron
16. Bilayered nail lacquer of terbinafine hydrochloride for treatment of Onychomycosis

**Pharma Forum May 20-21 2009, The University of Mississippi, University, MS, USA**

15. *Albumin microspheres for oral delivery of iron (Podium Presentation)*

**AAPS Annual convention, meeting and Exposition Nov 2008, Atlanta, GA, USA**

14. Design and evaluation of mucoadhesive microcapsules of nateglinide
13. Formulation of CAB-CAP microcapsules of propranolol hydrochloride.
12. Transdermal delivery of venlafaxine HCl by iontophoresis and chemical enhancers.

- 23rd National Conference of Indian Pharmacy Graduates Association, Chennai, Nov 2006.**
- Design and evaluation of diclofenac sodium-eudragit controlled release systems

- APTI-11th Annual National Convention Sept 2006, Bangalore.**
- Design of glipizide loaded lipospheres using  $3^2$  factorial design
  - Development of floating tablets for controlled delivery of cinnarizine

- The 6th Asian Conference on Clinical Pharmacy, July 2006, Bangkok, Thailand.**
- A Chronotherapeutic focus on the development of colon-specific drug delivery system for diltiazem hydrochloride
  - Recent trends in transdermal delivery –minimally invasive techniques
  - Preparation and characterization of glipizide  $\beta$  cyclodextrin complex to improve solubility

- 57th Indian Pharmaceutical Congress, Hyderabad, India, Dec 2005.**
- Formulation and Evaluation of drug-loaded ocular inserts based on cellulose acetate
  - Design and evaluation of fast dissolving tablets of nabemutone by  $2^3$  Factorial design

- 6th International Symposium on Advances in Technology and Business Potential of Novel Drug Delivery Systems, Feb 2005, Mumbai, India.**
- Design and evaluation of multiunit systems of theophylline for site-specific release to the colon

- 5<sup>th</sup> International Symposium on Advances in Technology and Business Potential of Novel Drug Delivery Systems, Feb 2004, Mumbai.**
- Design and evaluation of multiparticulate systems of ketoprofen for site-specific release to the colon

- 3<sup>rd</sup> International Symposium on Advances in Technology and Business Potential of Novel Drug Delivery Systems, Feb 2002, Mumbai.**
- Design and evaluation of a colon specific drug delivery system for chronotherapeutic delivery of meloxicam.

### **13. CONFERENCES/WORKSHOPS/SEMINARS ATTENDED**

- UDEHP workshop on ‘Recent Trends in Research Methodology’ at Sharada Sabhangana, 14-15<sup>th</sup>, Feb 2020, KLE University’s College of Pharmacy, Bengaluru.
- UDEHP workshop on ‘Novel approaches in Teaching and Learning’ at Sharada Sabhangana, 1-2<sup>nd</sup>, Feb 2019, KLE University’s College of Pharmacy, Bengaluru.
- UDEHP workshop on ‘Novel approaches in Teaching and Learning’ at Sharada Sabhangana, 1-2<sup>nd</sup>, Feb 2019, KLE University’s College of Pharmacy, Bengaluru.
- UDEHP workshop on ‘Role of Pharmacist in Patient Safety and Medication’ at Sharada Sabhangana, 14-15, Sep 2018, KLE University’s College of Pharmacy, Bengaluru.

5. UDEHP workshop on 'Research Methodology and Biostatistics-Application in scientific research' at Sharada Sabhangana, 21-22 April 2018, KLE University's College of Pharmacy, Bengaluru
6. One day International workshop on "Topical Dermatological Dosage forms" sponsored by Controlled Release Society Indian Chapter 24<sup>th</sup> Jan 2017.
7. UDEHP workshop on 'The Art of Communicating Science' at Sharada Sabhangana, KLE University's College of Pharmacy, Bengaluru Sept 8<sup>th</sup> and 9<sup>th</sup>, 2017
8. Indo-Global Education Summit and Expo 2017, The Lalit Ashok, Kumara Krupa High Grounds, Bengaluru - July 24, 2017.
9. PCI sponsored workshop on Sensitization of syllabus for B.Pharm and M.Pharm Courses at Krupanidhi College of Pharmacy, Bengaluru, July 14<sup>th</sup> 2017.
10. UDEHP workshop on 'Challenges and Opportunities in Drug Discovery and Development' at Sharada Sabhangana, KLE University's College of Pharmacy, Bengaluru Feb 17<sup>th</sup> and 18<sup>th</sup>, 2017.
11. International Workshop on Topical Dermatological Dosage Forms Organized by Controlled Release Society- Indian Chapter at SciTech Center, Jogeswari, Mumbai, on 24th January, 2017
12. Graduate Employability workshop organized by Jain University on 17<sup>th</sup> Nov 2016.
13. An international Workshop 'IDBR 2016', organized by IDBR at Bengaluru on 16<sup>th</sup> July 2016.
14. UDEHP workshop on 'Pharmaceutical Product Development' at Sharada Sabhangana, KLE University's College of Pharmacy, Bengaluru April 22<sup>nd</sup> and 23<sup>rd</sup>, 2016.
15. Taylor & Francis Editorial Roundtable 2016 at LeMeridian, Bengaluru on 8<sup>th</sup> March 2016
16. Two days National level symposium "DBT-Heralding a New Era for Bio-innovations" Organized by DBT at MLA College for Women, Benagaluru, 16<sup>th</sup> -17<sup>th</sup> Feb 2016.
17. United Kingdom India Education Research Initiative (UKIERI) workshop on "Healthcare Devices: Technologies and Translation", CENSE Auditorium, IISc, Bangalore 26<sup>th</sup> - 27th March 2015
18. AICTE sponsored workshop, 9th-20th March 2015 "Pharmaceutical Technology with current trends & Future Scope in Formulation Development", KLE University, Belagavi
19. UDEHP workshop on "Research Methodology and Grant writing" at Sharada Sabhangana, KLE University's College of Pharmacy, Bengaluru Dec 20, 2014.
20. UDEHP workshop on "Current Trends in Pharmaceutical Research" at Sharada Sabhangana, KLE University's College of Pharmacy, Bengaluru April 5-6, 2013



21. UDEHP workshop on “Student Assessment” at KLE University, JNMC Campus Belgaum on March 13<sup>th</sup>, 2013
22. “Author’s Workshop” conducted by Springer and Edanz along with Christ University at Christ University, Bangalore on 28<sup>th</sup> Jan 2013.
23. UDEHP workshop on “Current Trends in Pharmaceutical Research” at Sharada Sabhangana, KLE University’s College of Pharmacy, Bengaluru April 5-6, 2013
24. UDEHP workshop on “Exposure of the participants to CGMP” at Sharada Sabhangana, KLE University’s College of Pharmacy, Bengaluru April 27 & 28, 2012
25. Speaker at Pre-conference on “Writing Experimental Protocols in Pharmaceutics” at Al-Ameen college of Pharmacy, Bengaluru, Indian Pharmaceutical Congress (63<sup>rd</sup>), Dec 14-15<sup>th</sup> 2011, Bengaluru
26. UDEHP workshop on “Novel Concepts in Pharmaceutical Research and Process Validation” at KLE University’s College of Pharmacy, Bangalore July 25 & 26, 2011
27. UDEHP workshop on “Ethano-medical aspects of herbal drugs” at KLE University’s College of Pharmacy, Bangalore April 26 & 27, 2011
28. “Pharmaforum 2009”, The University of Mississippi, University, MS, USA, May 20-21<sup>st</sup> 2009.
29. “2008 AAPS Annual Meeting and Exposition” Nov 16<sup>th</sup> to 20<sup>th</sup> 2008, Atlanta GA, USA.
30. “Sixth International Symposium on Advances in Technology and Business Potential of Novel Drug Delivery Systems” held at Mumbai, India, Feb 2005.
31. Participated in a one-day workshop on “Research Methodology, Bio statistics and Ethical aspect of Research” at Rajiv Gandhi University of Health Sciences, Bangalore, India, on 26<sup>th</sup> August 2004.
32. “Sixth International Symposium on Advances in Technology and Business Potential of Novel Drug Delivery Systems” held at Scitech center, Mumbai, India, Feb 2004.
33. “International Convention of Pharmacy Educators” held at Hotel Atria, Bangalore, India on the 16<sup>th</sup> and 17<sup>th</sup> March 2002
34. “Second International Symposium on Stability Testing and Regulatory Requirements for Drugs and Pharmaceuticals” held at Hotel Mandovi Panjim, Goa, India, on March 9<sup>th</sup> and 10<sup>th</sup> 2001
35. “International Hands on Dissolution and Bioequivalence Workshop” conducted at Hotel Atria, Bangalore, India, on the 27<sup>th</sup> and 28<sup>th</sup> January 2001
36. “Pharmaceutical Engineering Work shop” Conducted at Al-Ameen College of Pharmacy, Bangalore from 28<sup>th</sup> to 30<sup>th</sup> Aug 2000, Bangalore, India.
37. “Second Annual Convention of APTI” on the 1<sup>st</sup> and 2<sup>nd</sup> March 1997 at Bangalore, India, organized by Al-Ameen College of Pharmacy, Bangalore.

38. Served as a Volunteer at the Scientific Sessions at the 44<sup>th</sup> Indian Pharmaceutical Congress held at Bangalore, India from 8<sup>th</sup> to 10<sup>th</sup> January 1993.

### 13. PROJECTS GUIDED:

**M.Pharm: 40**

**Ph. D:** 02 (Awarded), Ongoing: 05

1. *Modification Of Physical Properties Of Some Selected Anti-Diabetics To Enhance Solubility, Dissolution And Therapeutic Efficacy*
2. *Formulation and Evaluation of Iontophoretic Patch System of Diclofenac Salts*
3. Formulation and evaluation of lipid based drug delivery systems for oral administration of poorly soluble antiviral drug
4. Formulation and Evaluation of Transdermal Patch of Lornoxicam
5. Formulation and evaluation of gastroretentive DDS for Calcium
6. Design and Evaluation of chronotherapeutic system for Salbutamol sulphate
7. Design and Evaluation of rapidly penetrating transdermal system for Aceclofenac
8. Formulation and evaluation of vaginal drug delivery system of Tenofovir : An experimental study
9. Development and evaluation of transdermal drug delivery system of Zaltoprofen : An experimental study

### 14. ASSOCIATE EDITOR

Drug Development and Industrial Pharmacy

### 15. MANUSCRIPT REVIEWER

1. AAPS Pharm. Scitech.
2. Drug Development and Industrial Pharmacy.
3. International journal of Pharmaceutics
4. PDA journal of Pharmaceutical sciences
5. International Journal of Pharmaceutics

### 16. RESOURCE PERSON

1. AICTE sponsored *Quality Improvement Programme on 'Advanced Trends in Pharmaceutics'* on 19<sup>th</sup> March 2018, at JSS University, Ooty, Tamil Nadu. Topic: "*Transdermal Drug Delivery Technologies*"
2. Invited to deliver a Expert lecture on "*Transdermal Drug Delivery*" at University College of Engineering, Anna University, BIT campus, Tiruchinapalli, Tamil Nadu.
3. Two days National level symposium "*DBT-Heralding a New Era for Bio-innovations*" Organized by DBT at MLA College for Women, Benagaluru, 16<sup>th</sup> -17<sup>th</sup> Feb 2016. Topic: "Insight of the BIG scheme"
4. At *United Kingdom India Education Research Initiative (UKIERI)* workshop on "*Healthcare Devices: Technologies and Translation*", CENSE Auditorium, IISc, Bangalore 26th - 27th March 2015. Topic: "*Iron'tophoresis*"

5. AICTE sponsored workshop “*Pharmaceutical Technology with current trends & Future Scope in Formulation Development*”, 9<sup>th</sup>-20<sup>th</sup> March 2015 KLE University, Belagavi  
Topic: *Transdermal Drug Delivery Technologies (20<sup>th</sup> March 2015)*.
6. Resource person at UDEHP workshop on “*Research Methodology and Grant writing*”, 20<sup>th</sup> Dec 2014, KLEU CoP, Bangalore (Topic: Manuscript Writing).
7. At *Semler Research Center Pvt. Ltd.*, Bangalore on “*QbD Principles in Formulation Development*” to the FD team on 29<sup>th</sup> Nov 2012.
8. At PDU Conference hall, *Kemwell Biopharma Pvt. Ltd.*, Bangalore on “*QbD in Formulation Development*” to the R & D team on 13<sup>th</sup> Oct 2012.
9. At the pre-conference workshop on “*Protocol writing*” during the *63<sup>rd</sup> IPC Bengaluru 14<sup>th</sup>-15<sup>th</sup> Dec 2011* on “*Research Protocol in Pharmaceutics*”.
10. Delivered a presentation on “*Protocol Writing*” At KLE college of Pharmacy on 08<sup>th</sup> Jan 2011.

#### **17. MEMBERSHIP**

- i. Karnataka State Pharmacy Council (Reg # 15594) <http://www.kspcdic.com/>
- ii. Controlled Release Society-Indian Chapter
- iii. Association of Pharmacy Teachers of India (#KA/KM-610)  
<http://www.aptiindia.org/>
- iv. Derma Perm Research Inc., <http://www.dermaperm.com/>

#### **18. REFERENCES:**

##### **Dr. Raman Dang**

Principal

K.L.E.S's College of Pharmacy

Rajajinagar, Bangalore 560010,

Mob: 9945846106; E mail: [ramandang2017@gmail.com](mailto:ramandang2017@gmail.com)

##### **Dr S. Narasimha Murthy**

Professor-Pharmaceutics

113, Faser Hall

The University of Mississippi

Univeristy, MS 38677,

Tel: 662-915-5164, Fax: 662-915-1177

[murthy@olemiss.edu](mailto:murthy@olemiss.edu)

(Dr. H.N. SHIVAKUMAR)