

CURRICULUM VITAE

S. NARASIMHA MURTHY

RESIDENCE

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EDUCATION

1988-1992 Bachelor of Pharmacy (Bangalore University, India)
1992-1994 Master of Pharmacy- Pharmaceutics (Bangalore University, India)
1996-2002 PhD-Pharmaceutics (Bangalore University, India)
2002-2005 Postdoctoral Research Associate- Molecular and Cellular Biophysics at
Roswell Park Cancer Institute, Buffalo, NY, USA.

POSITIONS AND INSTITUTES

1994-2002 Assistant Professor (Pharmaceutics)- M.S.R College of Pharmacy, India
2005-2006 Assistant Professor (Pharmaceutics)-Ohio Northern University, OH
2006-2011 Assistant Professor (Pharmaceutics) – The University of Mississippi, MS
2011- Associate Professor (Pharmaceutics)-The University of Mississippi, MS
2013- Founder-Director, Institute for Drug Delivery and Biomedical Research,
Bangalore India (www.IDBResearch.Org)

OTHER AFFILIATIONS

Research Associate Professor- Research Institute of Pharmaceutical Sciences
Chair-Dermatopharmaceutics Focus Group-AAPS
Member- AAPS Member groups Co-ordination Committee
Manager-Phoretex Pharma LLC, Oxford, MS.
Chief Scientific Advisor-Dermaperm Research Inc, Bangalore, India.
Editor in Chief-Research and Reports in Transdermal Drug Delivery
Member of the Roaster of Central Scientific Review, Dermatology, Rheumatology and
Inflammation Committee, CRS, **National Institutes of Health.**

Editorial Advisory Board Member

Journal of Pharmaceutical Research
Drug Development and Industrial Pharmacy
Recent Patents on Drug Delivery & Formulation.

Clinical Medicine-Dermatology.
ScientiaPharmaceutica.
The Open Dermatology Journal
Journal of Interactive experiment and protocol

Research Grant Reviewer

National Institutes of Health, USA
Wellcome Foundation, UK
British Skin Foundation, UK
Ohio Northern University, Ada, OH
Department of Innovation, Government of Italy
Portuguese Foundation for Science and Technology

Ph.D Dissertation Reviewer/Evaluator

The University of Mississippi, Oxford, MS
Jadavpur University, Kolkata, India.
Manipal Academy of Higher Education, Manipal, India.
Vinayaka Missision University, Coimbatore, India
Tamilnadu MGR University, Chennai, India
Berhampur University, Orissa, India.

AWARDS & RECOGNITION

2013 Top Reviewer by the American Pharmacists Association (APhA)
2011 Top Reviewer by the American Pharmacists Association (APhA).
2011 Top Reviewer” by Elsevier Publications Ltd.
2010 Certification of “Highly cited publication in Journal of Dermatological Sciences”.
2010 New Investigator Award- The University of Mississippi School of Pharmacy.
2009 Top Reviewer by the American Pharmacists Association (APhA)
2008 “Global Indus Technovator’s Award” from MIT, Boston, MA.
2008 Top Reviewer by the American Pharmacists Association (APhA)
2007 Faculty Research Fellow. The University of Mississippi.
2006 Endowed Chair for Research at Ohio Northern University, Ada, OH.
2006- Biography included in Marquis Who’s Who in the World (23rd Edn)
2005- Biography included in Marquis Who’s Who in Science and Engineering
2005- Biography included in Marquis Who’s Who is Health and Healthcare.

RESEARCH GRANTS (PRINCIPAL INVESTIGATOR-MURTHY)

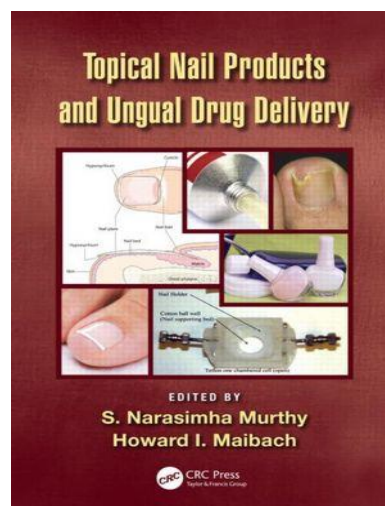
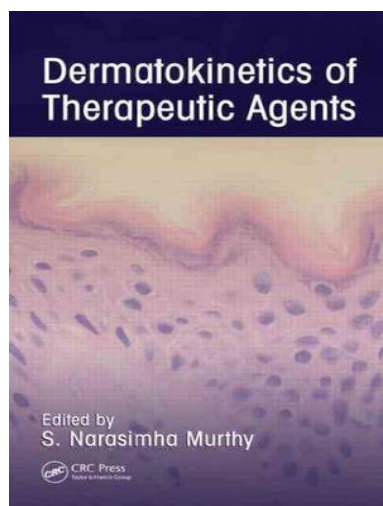
2014-19	TOPICALS PRODUCTS AND CQA (<u>1U01FD005233-01</u>) funded by USFDA	\$1.250.000
2014-15	NAIL PENETRATION OF ANTIFUNGAL DRUG (ARNO THERAPEUTICS, USA)	\$22,500

2014-15	Dermal Delivery of therapeutics using Cyclodextrins (Ligand Ltd, CA)	\$40,000
2013	Travel grant-3 rd European Cyclodextrin Conference in Turkey. Cydex Pharmaceuticals, La Jolla, CA	\$4,000
2013-14 Role: PI	Formulation of Intrathecal Controlled Release Microspheres Small grant program (COBRE awarded to Univ. Mississippi)	\$50,000
2012-14 Role-PI	Taste Masking of API's by Hot melt Extrusion Roquette Pharma, Chicago, IL	\$10,000
2012-14 Role-PI	A Novel method for treating Chronic pain National Institute of Neurological Disorders and Stroke (NINDS)	\$369,000
2010-12 Role-PI	Transdermal delivery of iron National Institute of Neurological Disorders and Stroke (NICHD)	\$138,000
2010 Role-PI	Bioadhesive properties of Nail lacquers Chanelle Group, France	\$5000
2009-11 Role: PI	Vehicles to enhance nose to brain bioavailability of drugs CORE-NPN (NCRR)-Junior Investigator	\$264,000
2008-09 Role: PI	Rapid transdermal delivery of drugs. Transport Pharmaceuticals Inc.	\$140,000
2008-10 Role: PI	Electropulsation mediated Drug therapy for Onychomycosis National Institute of Biomedical Engineering and Bioimaging (NIBIB)	\$150,000
2007-08 Role: PI	Iontophoretic trans-ungual Delivery of Drugs" Transport Pharmaceuticals Inc.	\$128,000
2007-08 Role: PI	Noninvasive transcorneal drainage of aqueous humor Faculty Research Fellow-2007, Univ. of Mississippi.	\$ 8,000
2007-2009 Role:PI	Enhancement of brain uptake of Neurotrophins CORE-NPN (NCRR)-Small grants program	\$20,000
2006-2009 Role: PI	Electroporation and transcutaneous extraction of drugs National Institute of Arthritis Musculoskeletal and Skin diseases (NIAMS)	\$145,000
2005-06 Role: PI	Electret Effects on the Skin permeability Rad Elec Inc., MD	\$ 10,000

2005-06	Effect of electroporation on transcorneal water permeation	
Role: PI	Endowed Chair Research Grant-Ohio Northern University	\$ 21,000
2005-06	ONU Teaching with Technology Grant	
Role-PI	Office of Dean-Ohio Northern University	\$ 5,000
2001	Travel grant from Karnataka State Pharmacy Council for presentation of Research paper at FIP2000, Sydney, Australia. 2001.	Rs 15,000

PUBLICATIONS

BOOKS- CHIEF EDITOR



BOOK CHAPTERS (Eleven)

Chapters authored in the book "Advances in Pharmaceutical Technology" Edited by Shobharani R. Hiremath. (Publisher: Orient Longman).

1. Transdermal drug delivery
2. Ocular drug delivery
3. Intranasal drug delivery
4. Buccal drug delivery
5. Implant Drug delivery systems

Chapter authored in the book "Minimally invasive techniques of drug delivery" edited by Dr.Kulkarni, DPT laboratories. (CRC Press)

6. Dermal and Transdermal drug delivery

Chapter authored in the book "Percutaneous Enhancement Techniques edited by Dr.Howard Maibach.

7. Therapeutic applications of Transdermal Electroporation

Chapters authored in the book “Dermatokinetics of therapeutic agents” edited by S.Narasimha Murthy

8. Formulation approaches to modulate the dermatokinetics of drugs

Chapters authored in the book “Topical Nail Products and Ungual Drug Delivery” edited by S.Narasimha Murthy

9. Topical nail formulations

10. Approaches to enhance ungual and trans-ungual drug delivery.

11. *In vitro* and *in vivo* models to evaluate topical nail formulations.

PEER REVIEWED PUBLICATIONS

1. Maurya A, **Murthy S.N.** Pretreatment with Skin Permeability Enhancers: Importance of composition and duration of treatment in diclofenac delivery. *J.Pharm.Sci.* 2014: 103(4), 1178-83
2. Juluri, A., **Murthy, S. N** (2014). Transdermal iontophoretic delivery of a liquid lipophilic drug by complexation with an anionic cyclodextrin. *Journal of Controlled Release*, 2014:189, 11-18.
3. Manda P, Angamuthu M, Hiremath S, **Murthy S.N.** Iontophoretic drug delivery for the treatment of scars” *J.Pharm Sci* 2014,:03(6), 1638-42
4. Jo.S, **Murthy S.N** et al., Quinone Propionic Acid-based Redox-triggered Polymer Nanoparticles for Drug Delivery: Computational Analysis and *in Vitro* Evaluation. *J.Applied. Polymer.Sci (In Press)*
5. Shivakumar H.N, Repka M.A, **Murthy S.N.** Delivery of drugs across the nail plate. *J.Drug.Del.Sci. Tech.* 2014.
6. Abhshek J, Shivakumar H.N, Vanakja K, **Murthy S.N.** Passive approaches of transcutaneous vaccine delivery *J.Drug.Del.Sci. Tech.* 2014
7. Modepalli N, **Murthy S.N.** Irontophoresis for treating Anemia. *J.Drug.Del.Sci. Tech.* 2014
8. Angamuthu M, **Murthy S.N.** Controlled release Intralesional Injection of Terbinafine hydrochloride for treating onychomycosis. *J.Pharm.Sci* 2014:103(4), 1178-1183.
9. Perumal. O., **Murthy S. N.**, & Kalia, Y. N. The Development of Modern Transdermal Drug Delivery Systems and Future Trends. *Skin Pharmacol. Physiol.*, 2013: 26(4-6), 331-342.
10. **Murthy, S. N.** Iontophoresis for treating nail diseases. *Therapeutic delivery*, 2013: 4(6), 647-650.
11. Loria, M. J., White, S. W., Robbins, S. A., Salmeto, A. L., Hymel, K. A., **Murthy, S. N.**, & Sufka, K. J. Brain-derived neurotrophic factor response in vulnerable and resilient genetic lines in the chick anxiety-depression model. *Behavioral Brain Res.*. 2013: 245, 29-33.
12. Juluri A, Modepalli N, Shivakumar H.N, Repka M, Jo.S, **Murthy S.N.**, Minimally invasive transdermal delivery of iron dextran using microneedles. *J.Pharm.Sci.* 2013:102(2), 987-993.

13. Juluri A, Reddy P, **Murthy S.N.** Transdermal Iontophoretic Delivery of Propofol, a General Anesthetic in the form of its Phosphate Salt. *J.Pharm.Sci.* 2013:102(3), 500-507.
14. Modepalli N, Repka, M, Jo.S, **Murthy S.N.** Microporation and Iontophoresis for treating iron deficiency anemia. *Pharm Res.* 2013: 30(3), 889-98.
15. Vaka SRK, Shivakumar HN, Repka M.S, **Murthy S.N.** Formulation and Evaluation of carnosic acid nanoparticles for nose to brain delivery. *J.Drug.Targ.* 2013: 21(1), 44-53.
16. **Murthy S. N.** Transdermal drug delivery: approaches and significance. *Research and Reports in Transdermal Drug Delivery*, 2012:1, 1-2.
17. Nair A.B, Vaka Siva Ram K, **Murthy S.N.** *In vitro* and *In vivo* evaluation of a hydrogel based prototype transdermal patch system of alfuzosin hydrochloride. *Pharm Dev Technol.* 2012: 17(2),158-63.
18. Manda P, Sammeta S M, Repka MA, **Murthy S.N.** Iontophoresis across the proximal nail fold to target drugs to the nail matrix. *J Pharm Sci.* 2012: 101(7), 2392-2397.
19. Shivakumar, H. N., Juluri, A., Desai, B. G., & **Murthy S. N.** Ungual and transungual drug delivery. *Drug Dev & Ind Pharm.*, 2012: 38(8), 901-911.
20. Vaka S.R, **Murthy S.N.** Repka, M.A and Nagy T. Upregulation of edogenous neurotrophin lelves in the brain by intrnasal administration of carnosic acid. *J.Pharm.Sci*, 2011: 100(8) 3139-45.
21. Juluri A, Vaka Siva Ram Kiran, Shivakumar HN, **Murthy S.N.** Early stage technologies for dermal and transdermal drug delivery: Magnetophoresis and Electret. *Transdermal Magazine.* 2011: 3(6), 19-21.
22. Nair A.B, Vaka Siva Ram Kiran, **Murthy S.N.** Trans-ungual delivery of terbinafine by iontophoresis in onychomycotic nails. *Drug Dev Ind Pharm.* 2011: 37(10), 1253-1258.
23. Vaka Siva Ram Kiran, **Murthy S.N.**, O'Haver J, Repka M.A.A Platform for Predicting and Enhancing Model Drug Delivery across the Human Nail Plate. *Drug Dev Ind Pharm.* 2011: 37(1), 72-79.
24. Sammeta S.M, Repka M.A, **Murthy S.N.** Magnetophoresis in combination with chemical enhancers for transdermal drug delivery. *Drug Dev Ind Pharm.* 2011: 37(9), 1076-1082..
25. Vaka Siva Ram Kiran, Shivakumar H.N, **Murthy S.N.** Constant Voltage Iron"tophoresis *Pharm Dev Technol.* 2011: 16(5), 483-488
26. Vaka SRK, **Murthy S.N.**, Balaji A, Repka M.A. Delivery of brain derived neurotrophic factor via nose to brain pathway. *Pharm. Res.* 2012: 29(2), 441-447.
27. Manda P, Hargett J.K, Vaka Siva Ram Kiran, Repka M.A, **Murthy S.N.**, Delivery of cefotaxime to the brain via intranasal administration. *Drug Dev Ind Pharm.* 2011: 37(11), 1306-1310.
28. **Murthy S.N.**, Sammeta S.M, Bowers C. Magnetophoresis for enhancing transdermal drug delivery: mechanistic studies and patch design. *J Control Release.* 2010: 148(2), 197-203
29. Nair A.B, **Murthy S.N.** Effect of polyethylene glycols on the trans-ungual delivery of terbinafine. *Curr. Drug. Deliv.* 2010: 7(5), 407-14.
30. Vaka S.R.K, **Murthy S.N.** Enhancement of nose-brain delivery of therapeutic agents

- using peppermint oil for treating neurodegenerative diseases. *Die Pharmazie*. 2010: 65, 690-692
31. Shivakumar H.N, Vaka S.R.K, **Murthy S.N.** Bilayered nail lacquer of terbinafine hydrochloride for treating onychomycoses. *J. Pharm. Sci.* 2010: 99(10), 4267-4276.
 32. **Murthy S.N**, Nair A.B, Hammer N, Vaka S.R.K, Wright A.E. Dermatokinetics of nanoparticles (25nm). *Int. J. Innovative Pharm. Res.* 2010: 1(2), 37-43.
 33. Sammeta S.M, Vaka S.R.K, **Murthy S.N.** Transcutaneous electroporation mediated delivery of doxepin-HPCD complex: a sustained release approach for treatment of postherpetic neuralgia. *J Control Release*. 2010: 142(3), 361-67.
 34. Sammeta S.M, **Murthy S.N.** ChilDrive-A technique to deliver drugs to the synovial cavity via topical administration. *Pharm. Res.* 2009: 26(11), 2535-40.
 35. Charoo N.A, Rahman Z, Repka M.A, **Murthy S.N.** Electroporation: An avenue for transdermal Delivery. *Curr. Drug. Deliv.* 2010: 7(2), 125-36.
 36. Shivakumar H.N, Vaka S.R.K, **Murthy S.N.** Albumin microspheres for oral delivery of iron. *J. Drug Target.* 2010: 18(1), 36-44.
 37. Nair A.B, Kim H.D, Davis S.P, Etheredge R, Barsness M, Friden P.M, **Murthy S.N.** An ex vivo toe model used to assess applicators for iontophoretic ungual delivery of terbinafine. *Pharm. Res.* 2009: 26(9), 2194-2201.
 38. Nair, A.B., Sammeta, S.M., Kim, H.D., Chakraborty, B., Friden, P.M and **Murthy, S.N.** Alteration of the diffusional barrier property of the nail leads to greater terbinafine drug loading and permeation. *Int. J. Pharm.* 2009: 375(1), 22-27.
 39. **Murthy S.N**, Vaka S.R.K, Sammeta S.M, Nair A.B. TranScreen-N: Method for rapid screening of trans-ungual drug delivery enhancers. *J. Pharm. Sci.* 2009: 98(11), 4264-4271.
 40. Nair A.B, Kim H.D, Chakraborty B, Singh J, Zaman M, Gupta A, Friden P.M, **Murthy S.N.** Ungual and Trans-ungual Iontophoretic Delivery of Terbinafine for the Treatment of Onychomycosis. *J. Pharm. Sci.* 2009: 98(11), 4130-40.
 41. **Murthy S.N**, Vaka S.R.K. Irontophoresis-Transdermal delivery of iron by iontophoresis. *J. Pharm. Sci.* 2009: 98 (8), 2670-76.
 42. Vaka S.R.K, Sammeta S.M, Day L.B, **Murthy S.N.** Delivery of Nerve Growth Factor to brain via intranasal administration and enhancement of brain uptake. *J. Pharm. Sci.* 2009: 98(10), 3640-46.
 43. Sammeta S.M, Vaka S.R.K, **Murthy S.N.** Dermal drug levels of antibiotic (cephalexin) determined by electroporation and transcutaneous sampling (ETS) technique. *J. Pharm. Sci.* 2009: 98 (8), 2677-85.
 44. **Murthy S.N**, Sammeta S.M, Vaka S.R.K. OcuDrain-E - A noninvasive technique for reduction of intraocular pressure. *Int. J. Pharm.* 2009: 369 (1): 92-95.
 45. Sammeta S.M, Vaka S.R.K, **Murthy S.N.** Transcutaneous sampling of ciprofloxacin and 8-methoxypsoralin by electroporation (ETS) technique. *Int. J. Pharm.* 2009: 369(1-2): 24-29.
 46. Sammeta S.M, Vaka S.R.K, **Murthy S.N.** Transdermal drug delivery enhanced by low voltage electropulsation (LVE). *Pharm. Dev. Technol.* 2009: 14(2): 159-164.
 47. Nair A.B, Sammeta S.M, Vaka S.R.K, **Murthy S.N.** A study on the effect of inorganic salts in trans-ungual drug delivery of terbinafine. *J. Pharm. Pharmacol.* 2009: 61(4),

- 431-37.
48. Nair A.B, Vaka S.R.K, Sammeta S.M, Kim H.D, Friden P.M, Chakraborty B, **Murthy S.N.** Trans-ungual iontophoretic delivery of terbinafine hydrochloride. *J. Pharm.Sci.* 2009: 98(5), 1788-96.
 49. Vaka S.R.K, Sammeta S.M, Day L.B, **Murthy S.N.** Transcorneal iontophoresis for delivery of ciprofloxacin hydrochloride. *Curr. Eye. Res.* 2008: 33(8), 661-667.
 50. Sammeta S.M, Vaka S.R.K, Mathur S.K, **Murthy S.N.** Non invasive transcutaneous sampling of glucose by electroporation. *J Diabetes Sci Technol.* 2008: 2(2), 250-254.
 51. **Murthy S.N**, Zhang S. Electroporation and transcutaneous sampling (ETS) of acyclovir. *J. Derm. Sci.* 2008: 49(3), 249-251.
 52. **Murthy S.N**, Boguda V.A, Payasada K. Electret enhances Transdermal Drug Permeation. *Biol. Pharm. Bull.* 2008: 31(1), 99-102.
 53. **Murthy S.N**, Waddell D, Bowers C.P. Iontophoretic permselectivity of nail plate. *J. Derm. Sci.* 2007: 46(2), 150-152.
 54. **Murthy S.N**, Wiskirschen D, Bowers C.P. Iontophoretic drug delivery across human nail. *J. Pharm. Sci.* 2007: 96(2), 305-311.
 55. **Murthy S.N**, Zhao Y, Marlan K, Kazim L.T, Hui S.W, Sen A. Lipid and electroosmosis enhanced transdermal delivery of insulin by electroporation. *J. Pharm. Sci.* 2006: 95(9) 2041-2050.
 56. **Murthy S.N**, Zhao Y, Hui S.W, Sen A. Synergistic effect of anionic lipid enhancer and electroosmosis for transcutaneous delivery of insulin. *Int. J. Pharm. Sci.* 2006: 326 (1), 1-6.
 57. **Murthy S.N**, Vishwanath. B. N-octyl-beta-thioglucoside enhances the transdermal permeation of ketotifen. *Pharmazie.* 2006: 1, 75-76.
 58. **Murthy S.N**, Bryant. B, Mehta V. Recent advances in neonatal therapy. *Annals of Pharmacotherapy.* 2006. 40: 710-719.
 59. **Murthy S.N**, Vishwanath B, Bharath S. Bioadhesive tablets for controlled transdermal delivery of drugs. *PDA journal of Pharmaceutical Sciences* 2005: 59(6), 355-359.
 60. **Murthy S.N**, Zhao Y, Hui S.W, Sen A. Electroporation and Transcutaneous extraction for Pharmacokinetic studies of Drugs. *J. Control. Release.* 2005: 105, 132-141.
 61. Zhao Y, **Murthy S.N**, Sen A, Hui S.W. Induction of cytotoxic T lymphocytes by electroporation-enhanced needle-free skin immunization vaccine. *Vaccine*, 2006: 24(9), 1282-1290.
 62. **Murthy S.N**, Sen A, Zhao Y, Hui S.W. Cyclodextrin enhanced transdermal delivery of piroxicam and Carboxyfluorescein by electroporation. *J. Control. Release.* 2004: 99(3), 393-402.
 63. **Murthy S.N**, Hiremath S.R, Paranjothy K.L.K. Clinical Pharmacokinetic and Pharmacodynamic evaluation of transdermal drug delivery systems of salbutamol sulfate. *Int. J. Pharm.* 2004: 287(1), 47-53.
 64. **Murthy S.N**, Sen. A, Hui S.W. Surfactant enhanced transdermal delivery by electroporation. *J. Control. Release.* 2004: 98 (2), 307-315.
 65. **Murthy S.N**, Sen. A, Zhao Y, Hui S.W. Temperature influences the post-electroporation permeability state of skin *J. Pharm. Sci.* 2004: 93(4), 908-915.

66. **Murthy S.N**, Hiremath S.R, Paranjothy K.L.K. Preparation and Evaluation of transdermal drug delivery systems of carboxymethyl guar. *Int. J. Pharm.* 2004: 272 (10), 11-18.
67. **Murthy S.N**, Sen. A, Zhao Y, Hui S.W. pH influences the post-pulse permeability state of the skin after electroporation. *J. Control. Release.* 2003: 93, 49-57.
68. **Murthy S.N**, Hiremath S.R. Preformulation evaluation of transdermal films of hydroxypropyl methylcellulose and sodium carboxymethyl cellulose. *Int. J. Pharm. Excipients*, 2002: 12, 34-38.
69. **Murthy S.N**, Hiremath S.R, Paranjothy K.L.K . Preformulation evaluation of transdermal films of sodium carboxymethyl guar. *Int. J. Pharm. Excipients*, 2001: Jan-Mar, 13-17.
70. **Murthy S.N**, Hiremath S.R. Preparation and evaluation of controlled release transdermal drug delivery systems of salbutamol sulfate-theophylline. *Drug Dev. Ind. Pharm*, 2001: 27(10), 1057-1062.
71. **Murthy S.N**, Hiremath S.R, Physical versus chemical permeation enhancers in transdermal drug delivery. *AAPS PharmSciTech*, 2001: 2(1), 1-5.
72. **Murthy S.N**, Mahesh S, Sanoferjan, Swamy N. Formulation and Evaluation of beta-cyclodextrin complexes of Tenoxicam. *Indian. J. Pharm. Sci*, 2000: 62(2), 119-123.
73. **Murthy S.N**. Magnetophoresis, A novel approach in transdermal delivery of Drugs. *Die Pharmazie*, 1999: 54, 377.
74. **Murthy S.N**, Hiremath S.R. Effect of magnetic field on the transdermal permeation of Salbutamol sulfate and terbutaline sulfate. *Indian drugs*: 1999, 36(10), 663-665.
75. Mahesh S, **Murthy S.N**, Bharath S, Madhavan V. Modification of physical characteristics of DCP by co-drying with beta-cyclodextrin. *Indian drugs*, 1999: 36(9), 601-604.
76. **Murthy S.N**, Hiremath S.R. A Thermodynamical approach to the diffusion of terbutaline sulfate from the transdermal films. *Indian J. Pharm. Sci.*, 1999: 61(3), 141-143.
77. Mahesh S, **Murthy S.N**, Swamy N, Paranjothy K.L.K. Formulation and evaluation of Isopropyl antipyrine oral suspensions. *Indian. J. Pharm. Sci*, 1998: 60(2), 90-95.
78. **Murthy S.N**, Hiremath S.R Comparative pharmacokinetic and pharmacodynamic evaluation of oral versus transdermal formulations of terbutaline sulfate. *Indian Drugs*, 1998: 35(1), 34-36.
79. **Murthy S.N**, Preparation and Evaluation of floating microspheres by core solubilization technique. *Indian Drugs*, 1997: 34(11), 674-675.
80. **Murthy S.N**. Biodegradable polymer matrix based ocuserts of diclofenac sodium. *Indian Drugs*, 1997: 34(6), 336-338.
81. **Murthy S.N**, Hamsa V. Enhancer synergism of propylene glycol and PEG-400 in terbutaline sulfate - Transdermal drug delivery systems. *Indian Drugs*, 1997: 34(4), 224-226.
82. Jacob VC, **Murthy S.N**. Saravanan J. Spectrophotometric estimation of busipirone hydrochloride in pharmaceutical formulation. *Indian drugs*. 1997: 34(1), 24-25
83. **Murthy S.N**, Hamsa V. Drug release studies from terbutaline sulfate films across human cadaver skin. *Indian. J. Pharm. Sci*, 1997: 64(2), 75-78.

84. **Murthy S.N**, Bhaskaran S, Hamsa V. Comparative release studies of transdermal films of terbutaline sulfate across various diffusion barriers. *Indian. J. Pharm. Sci*, 1996: 58(4), 150-153.
85. **Murthy S.N**, Hamsa V, Bhaskaran S. Formulation and evaluation of transdermal files of terbutaline sulphate. *Ind. J. Pharm.Sci*. 1995: 57(5), 207.

SCIENTIFIC PRESENTATIONS (POSTERS/PODIUM)

CRS Annual Meeting 2015 (Submitted)

162. Mechanism of drug penetration during short duration exposure to skin
161. Transdermal iontophoretic delivery of propofol: Salt versus Captisol complex
160. Transdermal Iron Replenishment Therapy
159. Microreservoir design to minimize dose dumping from transdermal patches

First European Conference Pharmaceutics, Reims, France

158. Captisol enabled transdermal delivery of drugs by iontophoresis

American Association of Pharmaceutical Scientists Conference, 2014, San Diego, CA

157. Transdermal permeation of diclofenac salts from sodium hyaluronate gels.
156. Transdermal delivery of diclofenac salts using constant voltage iontophoresis and chemical permeation enhancers
155. Caffeine anhydrous taste masking by Hot melt extrusion
154. Hydrogel containing cyclodextrin complex of testosterone passive permeation and iontophoretic transport across the skin
153. Plasma and brain pharmacokinetics of propofol
152. Transdermal permeation of vit B12
151. Intranasal delivery of flurocytosine
150. A topical controlled release formulation for the treatment of postherpatic neuralgia
149. Utilization of hot melt extrusion technique for developing controlled-release hyaluronic acid
148. Controlled release injection for intrarticular treatment of osteoarthritis.
147. Hot melt extrusion technique as a novel continuous process for manufacturing semi solid cream formulations.
146. Alternate modes of delivery of ziconotide
145. Intranasal controlled release gel using a biodegradable multiblock copolymer
144. Does iontophoresis deliver drugs via non-follicular pathways?
143. Paramagnetic medium to enhance the magnetophoretic transdermal delivery of drugs.
142. Unveiling the mechanism of drug penetration into stratum corneum during the short duration exposure of topical formulation
141. Transdermal delivery of folic acid (Vit B9) by iontophoresis.

Neuroscience Conference-UMMC-Jackson –Jan 2014

- 140. Nose to brain delivery of antimicrobial agents to treat opportunistic infections
- 139. Chronic pain management by nose to CSF delivery of ziconotide
- 138. Noninvasive induction of sedation and anesthesia

Natural Products Research Center-Research Presentations Dec-2013

- 137. Chronic pain management by intranasal administration of a conotoxin.
- 136. Pain free injection technology to treat iron deficiency in pregnant women and children.
- 135. Micro-reservoir patch: a simple solution to overcome dose dumping in defective transdermal patches
- 134. Biophysical measures of human skin and correlations to barrier functions and drug transport properties
- 133. Constant current dc iontophoresis for transdermal drug delivery: effects on skin biophysical properties
- 132. Effect of pre-treatment with enhancers on the transdermal permeation of diclofenac sodium.
- 131. Dermatokinetics of vitamin C, a well-known anti-ageing agent
- 130. Solid dispersion of zaleplon cyclodextrin complexes and their efficiency evaluation
- 129. Are cyclodextrins a viable tool for zotepine solubilization?
- 128. *In situ* intranasal gels of ziconotide for enhanced CNS bioavailability.

AAPS Annual Convention and Meeting 2014, San Antonio, TX

- 127. Solid dispersion of zaleplon cyclodextrin complexes and their efficiency evaluation
- 126. Are cyclodextrins a viable tool for zotepine solubilization?
- 125. Nose to cerebrospinal fluid delivery of ziconotide
- 124. *In situ* intranasal gels of ziconotide for enhanced CNS bioavailability.
- 123. Formulation and evaluation of *in situ* intranasal gels for CNS delivery of cefotaxime
- 122. A novel multiblock copolymer *in situ* gels for CNS delivery of cefotaxime
- 121. Preparation and characterization of zotepine solid dispersions by cyclodextrin complexation.
- 120. Zaleplon (BCS class II model drug) solubility enhancement by native and modified betacyclodextrins.
- 119. Celecoxib (BCS class II model drug) solubility enhancement by cyclodextrin complexation
- 118. Soluble iron microneedles: fabrication and *in vitro* evaluation
- 117. Dermatokinetics of iron following application of soluble microneedles
- 116. Transdermal delivery of iron dextran using soluble microneedles
- 115. Percutaneous iron replenishment therapy (PIRT): is passive transdermal delivery of iron possible?
- 114. Potential risk of penetration of iron into skin from cosmetics
- 113. Micro-reservoir patch: a simple solution to overcome dose dumping in defective

transdermal patches

112. Nifedipine pressure sensitive adhesive patches for treating diabetic wounds
111. Polyols as plasticizers for efficient hot melt extrusion processability of maltodextrins
110. Griseofulvin taste masked by hot melt extrusion for pediatric and geriatric reconstitutable suspension
109. Effect of iontophoresis on the barrier properties of the stratum corneum in scar skin and normal skin in humans
108. Combined use of microneedles and iontophoresis for transcutaneous sampling of drugs and biomarkers.
107. Do regional differences in sub-epidermal water content determine the trans-epidermal water loss (TEWL)?
106. Bioadhesive film forming formulation for topical delivery of drugs
105. Continuous versus discontinuous application modes of iontophoresis on the trans-ungual delivery of itraconazole.
104. Conductive topical nail lacquer for trans-ungual iontophoresis
103. Losartan loaded hydrogel microparticles for delivery of drugs to treat chronic wounds
102. Reverse iontophoresis for trans-ungual drug delivery.
101. Effect of pre-treatment with alum on iontophoretic transdermal delivery of drugs
100. Dermatokinetics of vitamin C, a well-known anti-ageing agent
99. Convective transport of drugs into the skin from topical formulations
98. Effect of pre-treatment with enhancers on dermatokinetics of diclofenac sodium
97. Effect of mild hyperthermia (fever) on the iontophoretic transdermal delivery of drugs.
96. Formulation and evaluation of drug-in-adhesive dermal patch of diclofenac sodium.

AAPS Annual Convention and Meeting 2012, Chicago, IL

95. Are cyclodextrins a viable tool for zotepine solubilization?
94. Effect of molecular association on the transdermal permeation of propranolol hydrochloride
93. Effect of molecular association on the transdermal permeation of promethazine hydrochloride
92. Iontophoretic drug delivery for the treatment of scars
91. Electroporation of skin using anionic cyclodextrins
90. IVIVC of an immediate release formulations of a water insoluble drug, zotepine, produced by hot melt extrusion
89. Iontophoretic delivery of liquid lipophilic drug
88. Effect of pre-treatment with chemical permeation enhancers on iontophoretic delivery of drugs
87. Delivery of propofol from SBE- β -CD complex
86. Microdomain transdermal drug delivery
85. Transdermal iontophoretic delivery of propofol – a central anesthetic
84. Effect of pre-treatment with enhancers on the skin permeation of diclofenac

- 83. Controlled release intralesional injection for the treatment of onychomycosis
- 82. Trans-ungual iontophoretic delivery of itraconazole
- 81. Topical treatment of hypertrophic scars

AAPS Annual Convention and Meeting 2011, Washington, DC

- 80. Formulation and evaluation of carnosic acid nanoparticulate system for upregulation of neurotrophins in the brain upon intranasal administration.
- 79. Effect of nail microporation and electropulse treatment on the trans-ungual permeation of terbinafine hydrochloride.
- 78. Sublingual immunotherapy using allergens from house dust mites
- 77. Nose to brain delivery of cefotaxime to treat meningitis
- 76. Minimally invasive method for delivery of iron-dextran via transdermal route

AAPS Annual Convention and Meeting 2010, New Orleans, LA

- 75. Transdermal drug delivery by magnetophoresis in combination with chemical Permeation enhancers.
- 74. Microdomain Transdermal Drug delivery systems (MTD).
- 73. Enhancement of brain uptake of intranasally administered brain derived neurotrophic factor using chitosan as barrier modulating agent.
- 72. Intranasal formulation of carnosic acid for upregulation of neurotrophins in the brain.
- 71. Transdermal diffusion of drugs from powder form.
- 70. Iontophoretic delivery across the proximal nail fold to target drugs to the nail matrix.

PharmForum-SRDG Annual Meeting 2010, Oxford, MS

- 69. Magnetophoresis for enhancing transdermal drug delivery: mechanistic studies and patch design. ([Best podium presentation award](#))
- 68. Intranasal formulation of carnosic acid for upregulation of neurotrophins in the brain. ([Best poster award](#))

AAPS Annual Convention and Meeting 2009, Los Angeles, CA

- 67. Effect of Transcutol P on the *in vitro* trans-ungual permeation of terbinafine by iontophoresis.
- 66. Development of an ex vivo toe model to study trans-ungual iontophoretic delivery of terbinafine.
- 65. Effect of polyethylene glycols on the iontophoretic trans-ungual delivery of terbinafine.
- 64. Iontophoretic delivery of gallium into human skin in vitro.
- 63. Skin permeability and dermatokinetic studies of nanoparticles.
- 62. Development of iontophoretic transdermal drug delivery system of alfuzosin hydrochloride.
- 61. Albumin microspheres for oral iron delivery.
- 60. Bilayered nail lacquer of terbinafine hydrochloride for treatment of

onychomycosis.

- 59. Transdermal permeation of drugs in solid state.
- 58. "Chil-Drive Iontophoresis" (CDI): Transdermal targeting of drugs to the synovial joints.
- 57. "Trap-Drive Iontophoresis": Transdermal targeting of drugs to muscle.
- 56. "Magnetophoresis": Magnetic field to enhance transdermal drug delivery.
- 55. "Electromicrodialysis": A technique for enhancement of recovery of drugs in cutaneous microdialysis.
- 54. "Irontophoresis" Transdermal Patch based on Constant Voltage Iontophoresis.
- 53. Drug delivery across the human nail plate using chemical etchants.

PharmForum-SRDG Annual Meeting 2009, Oxford, MS

- 52. Transcutaneous sampling of analytes by electroporation: A noninvasive approach.
(Best poster award)
- 51. Transdermal Iron patch.
- 50. Trans-ungual delivery of terbinafine hydrochloride from iontophoretic applications: *in vitro* evaluation.
- 49. Albumin microspheres for oral iron delivery.

Neuroscience and Behavior Research Day 2008, Jackson, MS

- 48. Electrically mediated transdermal delivery of doxepin for sustained release effect in treatment of postherpetic neuralgia.
- 47. Nose to brain delivery of macromolecules.

AAPS Annual Convention and Meeting 2008, Atlanta, GA

- 46. Noninvasive transcutaneous delivery of sustained release formulation of doxepine HCl.
- 45. Electropulsation for Trans-ungual Drug delivery.
- 44. Trans-ungual iontophoresis of terbinafine hydrochloride: Drug depot formation in the nail plate.
- 43. Coulombic dose controlled ungual and trans-ungual iontophoretic delivery of terbinafine hydrochloride.
- 42. Terbinafine hydrochloride delivery from iontophoretic applicators using an in-vitro nail delivery model.
- 41. TranScreen-NTM: Screening of Trans-ungual Drug Delivery enhancers.
- 40. Transcorneal Iontophoresis of Ciprofloxacin Hydrochloride: Rapid delivery method to form drug depot.
- 39. Effect of permeation enhancers on brain uptake of intranasally administered Nerve Growth Factor.
- 38. Dermatokinetics of antibiotics by electroporation and transcutaneous sampling.
- 37. Transcutaneous sampling of analytes by electroporation: a noninvasive approach.
- 36. Electrets as novel physical permeation enhancers.

PharmForum-SRDG Annual Meeting 2008, Little rock, AR

- 35. Enhancement of brain uptake of intranasally administered nerve growth factor.
- 34. Transcutaneous Sampling (ETS) of drugs and analytes by electroporation.

Controlled release Society Meeting 2008, NY

- 33. Tran-ungual iontophoresis for delivery of terbinafine hydrochloride.

AAPS Annual Convention and Meeting 2007, San Diego, CA

- 32. Low voltage electroporation mediated transdermal delivery.

Ohio Pharmacists Conference 2005, Columbus, OH

- 31. Iontophoretic delivery of drugs across the human nail.
- 30. Reversibility of skin properties by poloxamer and EDTA.
- 29. Enhancement of aqueous solubility of propofol by complexation with cyclodextrin.
- 28. Desorption mediated sustained release ibuprofen from chitosan beads.
- 27. Formulation and Evaluation of HPMCAS coated controlled release capsules of theophylline.
- 26. Iontophoretic delivery of drugs across the human nail.
- 25. Reversibility of skin properties by poloxamer and EDTA.
- 24. Enhancement of aqueous solubility of propofol by complexation with cyclodextrin.
- 23. Desorption mediated sustained release ibuprofen from chitosan beads.

AAPS Annual Convention and Exposition 2005 Nashville, TN.

- 22. Influence of surfactants on the electroporation threshold and Transdermal delivery of drugs by electroporation". (Symposium of Combination of medical devices).

FIP 2001, Singapore

- 21. Magnetophoresis and the factors influencing transdermal permeation magnetophoretic delivery of drugs.

Indian Pharmaceutical Congress 2001, New Delhi, India

- 20. Desorption controlled release transdermal patches for simultaneous delivery of Theophylline & Salbutamol.
- 19. A study on optimizing photodegradation of surfactants in effluent treatment plants.
- 18. In vitro release evaluation of piroxicam liquisolid tablets.
- 17. Study of organogels as vehicle for tropical delivery of diclofenac sodium.

Indian Pharmaceutical Congress 2000, Hyderabad, India

- 16. Magnetic field: A replacement for chemical transdermal drug permeation enhancers.

FAPA 2000, Sydney, Australia

- 15. Magnetophoresis: A physical approach towards transdermal drug permeation enhancement.

Indian Pharmaceutical Congress 1999, Indore, India

14. Formulation and Evaluation of transdermal multiple drug delivery systems of theophylline and salbutamol sulfate.
13. Formulation and evaluation of magnetophoretic transdermal drug delivery systems of terbutaline sulfate.

Indian Pharmaceutical Congress 1998, Mumbai, India

12. Formulations and evaluation of chlorazoxazone oral suspensions.
11. Magnetophoresis: A novel approach in transdermal drug delivery.
10. Magnetophoretic delivery: A study on various factors influencing.

Indian Pharmaceutical Congress 1997, Trivandrum, India

9. Formulation and evaluation of propyphenazone oral suspensions.
8. Monolayer polymer matrix of Isoxsuprine Hydrochloride for transdermal drug delivery.
7. Formulation and evaluation of multiple emulsions of pentoxifylline hydrochloride.
6. An observation on synergistic phenomenon of β -CD in solid dispersion of isopropylantipyrine.

Conference of Indian Pharmacy Graduate Students Association IPGA 1997, Madhurai, India

5. pH sensitive gel forming ophthalmic drops of diclofenac sodium.
4. Formulations and evaluation of cyclodextrin complexes of Tenoxicam.

Indian Pharmaceutical Congress 1996, Chennai, India

3. Enhancer synergism of propylene glycol and peg-400 in terbutaline sulphate transdermal drug delivery systems.
2. Preparation and evaluation of hollow microspheres by core dissolution technique.
1. Spectrophotometric determination of Buspirone hydrochloride.

INVITED SPEAKER/SEMINARS

1. AAPS Annual Meeting and Convention (Nov-10-14th, 2013), San Antonio, TX
“ Approaches to provide better end of life care in hospice patients”
Organizer and Moderator
2. International Hematology and Blood Disorders (2013) Conference, Raleigh, NC
“Transdermal Iron Replenishment Therapy”
<http://www.omicsgroup.com/conferences/hematology-blood-disorders-2013/scientific-programme.php?day=1&sid=183&date=2013-09-23>
3. First International Convention on “Emerging trends in Chemical and Pharmaceutical

Sciences, Anatapur, India (June 28-30, 2013)

Title of presentation: "Biophysical Approaches of Transdermal Drug Delivery"

4. 3rd European Cyclodextrin Conference (Oct 2-4th, 2013), Antalya, Turkey
"Cyclodextrins in Dermal and Transdermal Drug Delivery"
5. 244th American Chemical Society (ACS) meeting, Philadelphia, PA (2012)
"Potential agents to enhance the expression of growth factors in the brain"
<http://abstracts.acs.org/chem/244nm/program/divisionindex.php?nl=1&act=presentations&val=Neuroactive+Compounds+from+Natural+Products&ses=Neuroactive+Compounds+from+Natural+Products&prog=114441>)
5. Second World Neuroscience Conference (2013) (Online presentation)
"Neurotrophinogenic agents" Speaker and Chair
http://www.nature.com/natureevents/science/events/19534TM_s_2nd_World_Neuroscience_Online_Conference_Free
6. First World Neuroscience Conference (2012) (Online conference)
"Nose to Brain Delivery of Neurotrophins"
http://www.nature.com/natureevents/science/events/16483TM_s_1st_World_Neuroscience_Online_Conference
7. International symposium on Advances in Pharmaceutical Sciences, Kakatiya University, India(2012)
"Intranasal Delivery of Neurotrophins: What you can learn from my mistakes"
8. Workshop on Transdermal Drug Delivery Systems -PharmEd Resources Inc, Philadelphia, PA. (2011)
"Early Stage Technologies in Transdermal Drug Delivery"
9. Indian Pharmaceutical Congress (2010), Manipal, India.
"How to write a Research Grant on Drug Delivery Systems"
10. Advances in Pharmaceutical Sciences-Berhampur University (2010)
"Novel Applications of Electrically Mediated Drug Delivery Techniques"
11. Indian Council for Medical Research (ICMR)- ICMR, Belgaum (2009)
"Transdermal delivery of natural products."
12. Indian Pharmaceutical Congress-Ahmedabad, India (2009)
"Emerging techniques of transdermal drug delivery enhancement"
13. Dermacon Conference of Indian Dermatologists Association, Bangalore, India(2009).
"Nanotechnological products in Dermal Delivery of Drugs"

14. Indian Pharmaceutical Congress-New Delhi, India (2008)
"Ungual Delivery of Drugs by Iontophoresis"
15. AAPS annual Convention and Exposition Nashville, TN (2005)
"Influence of surfactants on the electroporation threshold and Transdermal delivery of drugs by electroporation". (Symposium of Combination of medical devices).
16. Mylan Technologies, Burlington, VT. (2005)
"Electrically and Magnetically mediated transdermal drug delivery".
17. Roswell Park Cancer Institute, Buffalo, NY (2005)
"Transdermal drug delivery for the treatment for Asthma-A formulation approach"
18. College of Pharmaceutical Sciences, MAHE, Manipal-, India (2003)
"Magnetophoresis in transdermal drug delivery"
19. AAPS annual convention and Exposition (2002), Toronto, Canada.
Technological approaches to TDD- "Magnetophoresis for transdermal drug delivery".

MANUSCRIPT REVIEWER

1. BBA-Biomembranes
2. International journal of Molecular Sciences
3. Journal of Pharmaceutical Sciences
4. Pharmaceutical Research.
5. Journal of Controlled Release.
6. Journal of Pharmacology & Experimental Therapeutics.
7. AAPS Pharm. Sci.
8. AAPS Pharm. Scitech.
9. Drug Development and Industrial Pharmacy.
10. Journal of Pharmacy Pharmacology.
11. International journal of Pharmaceutical Excipients.
12. Journal of Pharmacy and Pharmaceutical Sciences.
13. European journal of Pharmaceutical sciences.
14. Biological and Pharmaceutical Bulletin.
15. Pharmaceutical Development and Technology
16. International journal of Pharmaceutics
17. Journal of Microencapsulation
18. Laser in Surgery and Medicine
19. PDA journal of Pharmaceutical sciences
20. Investigative ophthalmology and Visual science
21. Journal of Drug Targeting
22. Current Drug Delivery
23. Recent Patents on Drug Delivery and Formulation
24. Clinical Medicine-Dermatology

25. Scientia Pharmaceutics
26. The Open Dermatology journal
27. European journal of Pharmaceutics and Biopharmaceutics
28. Drug Delivery and Translational Research
29. Therapeutic Delivery
30. Mycotherapia
31. Journal of Ayurveda and Integrative Medicine
32. E3 Journal of Biotechnology and Pharmaceutical research

MENTORING

Postdoctoral Research Associates

1. Dr.H.N.Shivakumar- (2008-10) (Current position: Director of Institute for Drug Delivery and Biomedical Research, Bangalore, India)
Research Area: Oral Iron Delivery Systems
2. Dr.Anroop Nair (2008-10) (Current position: Professor-Pharmaceutics-King Faisal College, Saudi Arabia)
Research Area: Iontophoretic drug delivery across the nail plate
3. Manju Rawat Singh (2015-2016) (Present)
Research Area: Temperature effect on Drug permeation across the biomembranes.
4. Srinatha Anegunda (2015-2017) (Present)
Topical products and Critical Quality Attributes.

Ph.D Graduates (Year of Graduation)

1. Dr.Srinivasa Murthy Sammeta (2010)(Current position: Senior Research Scientist, Watson, Salt Lake City, Utah)
Dissertation title: Novel Biophysical Techniques of Transdermal Drug Delivery
2. Dr. Sivaram K Vaka (2011)(Current Position: Sr. Research Scientist, Kashiv Pharma, NJ)
Dissertation title: Nose to Brain Delivery of Neurotrophins
3. Prashanth Manda (Present)
Dissertation title: Nose to CSF Delivery of Ziconotide
4. Naresh Modepalli (Present)
Dissertation title: Transdermal Iron Replenishment Therapy
5. Abhishek Juluri (Present)

Dissertation title: Transdermal Delivery of Lipophilic liquids

6. Abhijeet Maurya (Present)

Dissertation title: Mechanisms of Drug Absorption following Short term Exposure to Skin.

7. Avadhesh Kushwaha (Present)

Dissertation title: Novel approaches of treating Keloid Scar

8. Muralikrishna Angamuthu (Present)

Dissertation title: Intranasal Delivery of Antiepileptics.

9. Marey Almagrabhi (Present)

Dissertation title: Transdermal therapeutic systems for treatment of migraine.

10. Vijay Kumar Mahdeedk (Present)

Dissertation: Sublimation as a pharmaceutical processing technology of API's.

Undergraduate and Honors Students

1. Jamie K. Harget (BS-Biology-Univ of Mississippi) (2010)

Project title: Intranasal delivery of cefotaxime

Publication: *Drug Dev Ind Pharm.* 2011. 37(11), 1306-1310.

2. Dora Wiskirschen (PharmD-Ohio Northern University)(2005-2006)

Project title: Transungual iontophoresis

Publication: *J. Pharm. Sci.* 2007. 96: 305-311.

3. Daniel C Waddell (BS-Chemistry-Ohio Northern University) (2005-2006)

Project title: Permselective nature of nail plate

Publication: *J.Derm.Sci*, 2007, 46(2),150-2

4. Luke Keller (PharmD--Ohio Northern University)(2005-06)

Project title: Effect of electroporation on transcorneal water evaporation.

TEACHING

Pharm.D Courses

PHAR 332 (PY1)-Pharmaceutical Dosage forms-3 Credits-Course Coordinator

PHAR 435(PY2)-Pharmaceutical Stability (Elective)-2 Credits-Course Coordinator

PHAR433 (PY1)- Dermal Transdermal Delivery of Drugs section only

Graduate Courses

PHAR 545 Pharmaceutical Stability-3 Credits-Course Coordinator

PHAR531 Seminars in Pharmaceutical Sciences- 2Credits-Course Coordinator

CONSULTING

Manager- Phoretex Pharma LLC a Consulting company found in 2011.

Services

Toxicology related: Expert witness (testimony, including affidavits, depositions, and trial appearances) for both civil and criminal drug related cases in Complications due to Drug-Delivery systems (Ex: implants, nanotechnology products), Toxicological issues due to medical malpractice, Malfunctioning of Drug Delivery products/devices and Drug abuse (Ex:Fentanyl products, Alcohol, Nicotine)

Patents related (related to pharmaceuticals): Expert opinion/Reports regarding Patent related issues (Reviews, Obviousness, Infringement etc) in the area of Pharmaceutical dosage forms.

Pharmaceuticals: Consulting services in the area of Development and Evaluation of Oral, Transdermal, Topical (Skin and Nail), Transmucosal, Intranasal and Advanced Drug Delivery Products and Technologies.

Projects Undertaken

Pharmaceutical companies

1. Glaxo Smithkline, USA
A novel transdermal drug delivery approach-Data review and Expert opinion
2. Guidepoint Global, NY
Novel Transdermal drug Delivery Technologies
3. Dr.Reddy's Laboratories, USA
Transdermal patches of rivastigmine
4. Arno Therapeutics, USA
Topical treatment of fungal infections of the nail.
5. Roquette America

Hot melt extrusion of Roquette excipients

Deposition and Testimonies

1. London and USA
Deposition provided regarding a Fentanyl toxicity case.
2. Gradient Technologies LLC
Patent related issues on magnetophoretic drug delivery systems.

S.NARASIMHA MURTHY