

# ManjuSingh

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## ACADEMIC QUALIFICATION

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<b>Ph.D.</b>	UIOP, Pt. R.S.U. Raipur (C.G.)	2009
<b>M.Pharm.</b>	Dr. H.S. Gour V.V. Sagar, (M.P.)	2004
<b>B.Pharm.</b>	H.N.B. Garhwal University, Srinagar	2001
<b>Intermediate</b>	C.B.S.E Board, New Delhi	1996
<b>High School</b>	C.B.S.E Board, New Delhi	1994

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**Ph.D. Topic“Development and Characterization of Novel Delivery Systems for Proteins and Peptides”.** Three different types of delivery systems were prepared and optimized- Nanocarrier system, Microsphere system and lipospheres system for oral delivery of proteolytic enzymes. Experiments were designed by using factorial and Box-Behnken design to minimize the experimental runs and to enhance the reproducibility.

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**M. Pharm (Pharmaceutical Biotechnology)Topic“Controlled and prolonged interferon therapy using a novel approach”.** Interferon- $\alpha$  was pegylated to improve its stability and further encapsulated into multivesicular liposomes to improve the entrapment and depot effect effective for Hepatitis B.

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**WORK EXPERIENCE**                      **12 years**

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**RESEARCH EXPERIENCE**                **11 years**

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**TEACHING EXPERIENCE**                **11.5 years**

**As Assistant Professor**                Oct2008 to till date University Institute of Pharmacy,

**As Lecturer** Pt.RavishankarShuklaUniv, Raipur492 010, C.G (7.5 years)  
Nov. 2005 to Oct 2008 (3 years), Institute of Pharmacy,  
Pt. Ravishankar Shukla University, Raipur- 492 010, C.G

**As Lecturer** Nov. 2004 to Oct. 2005. (1 Year): Rameesh Institute of  
Pharmaceutical Sciences, Greater Noida, (U.P.).

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### **ADMINISTRATIVE EXPERIENCE**

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**Member**-Board of studies July 2011-June 2014

**Member- CPCSEA, Govt of India**

**Secretary**-Staff council 2013

**Member**-Departmental Research Committee

**Warden**- University Girls' hostel since Nov 2011

**Faculty-In-charge**- Student activity such as Annual activities, cultural events, sports, pharmacy week etc

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### **RESEARCH GUIDANCE**

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Approved Ph.D. Guide at Pt. Ravishankar Shukla University, Raipur (C.G.)

Students enrolled – 02

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### **FELLOWSHIP / AWARDS**

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1. Best Scientific paper presentation award in national conference on “Impact of nanotechnology on drug discovery and development” under section Drug Delivery 25-27, June 2011, Shimla (H.P).
  2. 4<sup>th</sup> Young Scientist Award of Chhattisgarh in Biotechnology 2006.
  3. Received Best Paper Award in Seminar of Indian Society of Pharmacognosy at University Institute of Pharmacy, Pt. RavishankarShukla University, Raipur, 14-16 March 2006.
  4. Qualified National Level Test GATE conducted by Indian Institute of Science, Bangalore with 88.00 percentile.
  5. Received AICTE-JRF Scholarship for pursuing M.Pharm.
  6. Received 1<sup>st</sup>, 3<sup>rd</sup>, 1<sup>st</sup> prize in District and State Level Essay Writing Competition respectively, Organized by Ministry of H.R.D., Department of Culture, Govt. of India in the year 1991, 1992 and 1995.
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### **RESEARCH PROJECTS**

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### Individual projects

S. No	Principal Investigator	Title	Sponsoring Agency	Amount (lakhs)	Status
1	Dr. (Mrs.)Manju Singh	Corticosteroid and Keratolytic agent loaded nanostructured lipid constructs: Novel topical system for treatment of psoriasis	Major Research Project. UGC, 2012.	9.75	Ongoing
2	Dr. (Mrs.)Manju Singh	Natural polymer based lipospheres: Versatile delivery carriers for proteins and peptides	Chhattisgarh Council of Science and Technology, Chhattisgarhin 2011.	2.0	Completed

### Group projects

S. No	Role	Proposed research area/	Sponsoring Agency	Sanctioned Amount
1	Core member	One prime area proposed is Protein and peptide delivery	DST-FIST	35 lakhs
2	Core member	Identification, documentation, conservation, isolation, and development of delivery systems for treatment of diseases/disorders prevalent in the state of Chhattisgarh	National centre for natural resources funded by Department of Science and Technology, India	10crores

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## RESEARCH AREA

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- Formulation of multiple bioactive delivery using novel delivery systems like multiphase hydrogels, nanosystems, microspheres.
  - Formulation of drugs for improved bioavailability, especially using materials science to design sophisticated drug delivery agents
  - Topical lipid particulate systems for skin disorders like psoriasis, atopic dermatitis
  - Designing strategies for protein and peptide delivery.
  - Computer aided formulation optimization using Design Expert software.
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## RESEARCH PUBLICATIONS    Total 54

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• Research Papers/Review Published	49
• Web publications	04
• Papers Presented/ Abstracted in Conferences	38
• Book Chapters	05
• Communicated	03

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## EQUIPMENT EXPOSURE

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- High speed homogenizer (IKA T10 basic)
- Lyophilizer (Heto Power dry LL 3000)
- FTIR (Shimadzu8400S)
- HPLC (Shimadzu LC 10AT Vpwith UV detector),
- UV spectrophotometer (Shimadzu Pharmaspec 1700),
- Viscometer (Brookfield LVDV-I+)
- HPTLC (Camag)
- ELISA, Immunoelectrophoresis, SDS-PAGE
- ZetasizerNanoS
- RotavaporIKA
- Probe Sonicator (Sonics)

**MEMBERSHIP OF PROFESSIONAL BODIES**

- **Life Member of Indian Pharmacy Graduates Association (LM-2643)**
  - **Life Member of Association of Pharmacy Teachers of India (CG/LM 028)**
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**INVITED TALK**

1. **M.Singh, Cellular Uptake and Toxicity issues of Herbal Particulate systems**, AICTE sponsored National seminar on “Recent developments for modernization of Indian traditional formulations”, 24-25 January 2014, Columbia Institute of Pharmacy, Tekari, Raipur..
2. **M.Singh, Topical particulate systems in herbal therapy:uptake and toxicity issues**, CCOST sponsored workshop under the project “Development of herbal lip formulations with photo protective effects, 20<sup>th</sup> January 2014, SRSIP, Kumhari, Durg (C.G.)
3. **M.Singh, Design of Experiments-Potential tool in product development**, AICTE sponsored SDP on Novel formulations for plant actives and extracts, 3-17<sup>th</sup> December 2013, University Institute of Pharmacy, Pt. R.S.U, Raipur.
4. **M.Singh, IPR: an overview**. CCOST sponsored seminar on Rules and Precincts of IPR and Regulatory affairs for Indian drugs on 29-30 September 2013 at Columbia Institute of Pharmacy, Tekari, Raipur.
5. **M.Singh,Herbal Medicines for autoimmune disorders**. AICTE sponsored seminar on Investigation of ethno-medicinal plants used by ethnic group of Chhattisgarh at Columbia Institute of Pharmacy, Tekari, Raipur.
6. **M.Singh, “Nanoformulations for intracellular protein delivery”** DBT sponsored National Seminar on “Advances in Molecular Pharmaceutics, Nanomedicine, Nanobiotechnology and Drug Research”, 17<sup>th</sup> March 2013 **Columbia Institute of Pharmacy, Tekari, Raipur.**
7. **M.Singh, “Experimental Designing in pharmaceutical formulations”** Staff Development Programme on “Plant actives and extracts: Bottlenecks and Challenges”8-23Feb2013**Columbia Institute of Pharmacy, Tekari, Raipur.**
8. **M.Singh,Role of experimental designing in modern formulation development**. UGC sponsored Workshop on Chromatographic and spectroscopic analysis ofphytoconstituents, 14<sup>th</sup> to 16<sup>th</sup> march 2013
9. **M.Singh, “Novel topical delivery systems for bioactives”** at AICTE sponsored national Seminar on “Phytomedicine”, ManoharBhai Patel Institute of Pharmacy, Gondia, Maharastra on 7<sup>th</sup> January 2012.
10. **M.Singh, “Optimization techniques in pharmaceutical formulations”** in three daysNational seminar on “Advances in Pharmaceutical Research”Feb.2011 **University Institute of Pharmacy, Pt. R.S.U, Raipur.**
11. **M.Singh, “Novel strategies for protein and peptide delivery”** in One day Orientation Program on “Advances in Pharmaceutical Research & Technology” 24<sup>th</sup> Feb.2008**Columbia Institute of Pharmacy, Tekari, Raipur.**

**12. M.Singh, “Novel formulation for transcutaneous delivery of proteins”** UGC sponsored National Seminar on Recent advances in novel and cosmetic technology at Institute of Pharmacy, Pt. RavishankarShukla University, Raipur (C.G.), 19-20<sup>th</sup> March 2007.

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**PERSONAL INFORMATION**

<b>Husbands’s Name</b>	Dr. D. Singh
<b>Father’s Name</b>	Mr. S.S. Rawat
<b>Mother’s Name</b>	Mrs. ManthaRawat
<b>Date of Birth</b>	08 <sup>th</sup> August 1978
<b>Marital Status</b>	Married

### Conferences organized

S.No	Position held	Name of conference	Date
1.	<b>Chairman-Scientific committee</b>	UGC-SAP Advancements and avenues in the development of cargoes for plant actives	31Jan-2 Feb 2013
2.	<b>Organizing secretary</b>	UGC sponsored Chromatographic and spectroscopic analysis for phytoconstituents	14-16 March 2013
3.	<b>Chairman-Scientific committee</b>	UGC sponsored Recent advances in pharmaceutical research	28-30 January 2011

### Annexure V

#### List of M.Pharm Students Guided

Name of student	Topic of M.Pharm Thesis	Academic Year
Dhani Patel	Preparation and Evaluation of cream enriched with Tacrolimus loaded Nanolipid carrier	<b>2010-11</b>
KusumPradhan	Development and Characterization of natural polymer based lipid microspheres for delivery of curcumin	<b>2011-12</b>
Anjali Gabel	Development and Characterization of Tacrolimus loaded ethosome for transdermal delivery	<b>2011-12</b>
AvinashKurrey	Formulation Development and optimization of Gastro-Retentive floating hollow microspheres of Diacerin	<b>2011-12</b>
Alka		<b>2013-14</b>

#### List of Registered Ph.D Students

S. No.	Number Enrolled	Date of Registration	Title
1.	Madhulika Pradhan	<b>28 July 2011</b>	Development and Characterization of Corticosteroid and keratolytic agent loaded lipid particulate systems for psoriasis
2.	Shikha Srivastava	<b>31 July 2013</b>	
3.	Pooja Dubey Upadhyay		Course Work

## List of Publications

### Patents Applied

1. Indian Patent application, A composition comprising multiple drug loaded omega-3-fatty acid formulations for dermal disorders and method, 3821/1016/MUM/2013
2. Indian Patent application, Composition and method of multiple drug loaded bio-compatible hydrogel for complete wound healing, 3823/1018/MUM/2013
3. Indian Patent application, Dual delivery of arginine and growth factor nanoparticles incorporated in novel hydrogel for wound healing management, Date of application: 4.11.13/MUM/2013

### Book Chapters

1. **ManjuRawat Singh**, S. Saraf, S.Saraf, A. Vyas, V. Jain, Singh D.Zanthoxylumalatum: A miraculous species from genus Zanthoxylum, Ed. VK Gupta, "Natural Products: Research Review - Vol. 2, M/S Daya Publishing House, New Delhi, 2014, 381-397.
2. Singh D, **ManjuRawat Singh**, S. Saraf, Withaniasomnifera: Rigors and vigors of medicinal plant of towering efficacy, Ed. VK Gupta, "Natural Products: Research Review - Vol. 2, M/S Daya Publishing House, New Delhi, 2014, 399-415.
3. Amber Vyas, **Manju Singh**, Deependra Singh, Vishal Jain, BinaGidwani and Nagendra Singh Chauhan Utilization of Cyclodextrin and its Derivatives in Novel Delivery of Herbal Constituents and Bioactives, Bioactive Phytochemicals: Perspectives for Modern Medicine, Vol. 2 Chapter-22,471-498 Daya Publishing House, New Delhi, 2012.
4. **Manju Rawat Singh**, Satish Patel and Deependra Singh. Natural polymer-based hydrogels as scaffolds for tissue engineering. In Nanobiomaterials in Soft Tissue Engineering Applications of Nanobiomaterials ed by Alexandru Mihai Grumezescu, elsiver publisher, 2016, 231-253 ISBN: 978-0-323-42865-1.
5. D singh, M Pradhan, S srivastava, SN Murthy, **MR singh**. Skin autoimmune disease: lipid biopolymer and colloidal delivery system for topical deliverys ed by Alexandru Mihai Grumezescu, elsiver publisher, vol 10, 2016, 1611293.

### 2016

1. Shikha Srivastava, Satish Patel, S.J. Daharwal, Deependra Singh, Manju Singh Rheumatoid Arthritis: An Autoimmune Disease Prevalent in Females. Jan 2016 · Research Journal of Pharmacy and Technology.

### 2015

2. Design, characterization and skin permeating potential of Fluocinolone acetonide loaded nanostructured lipid carriers for topical treatment of psoriasis. M Pradhan, D Singh, SN Murthy, MR Singh. Steroids 101, 56-63
3. Development characterization and skin permeating potential of lipid based novel delivery system for topical treatment of psoriasis. M Pradhan, D Singh, MR Singh. Chemistry and physics of lipids 186, 9-16. Citation = 2



4. Multifunctional Iron Bound Lactoferrin and Nanomedicinal Approaches to Enhance Its Bioactive Functions JR Kanwar, K Roy, Y Patel, SF Zhou, MR Singh, D Singh, M Nasir. *Molecules* 20 (6), 9703-9731
5. Inflammatory Bowel Disease: Pathogenesis, Causative Factors, Issues, Drug Treatment Strategies, and Delivery Approaches. D Singh, S Srivastava, M Pradhan, JR Kanwar, MR Singh. *Critical Reviews™ in Therapeutic Drug Carrier Systems* 32 (3), 181-214
6. D Singh, S Singh, J Sahu, S Srivastava, MR Singh Ceramic nanoparticles: Recompense, cellular uptake and toxicity concerns. *Artificial cells, nanomedicine, and biotechnology*, 2015
7. D Singh, M Singh, S Saraf, BL Tekwani Novel drug delivery approaches for improving therapeutic applications of berberine. *Planta Medica*, 2015

## 2014

8. Deependra Singh, ShikhaSrivastava, MadhulikaPradhan and ManjuRawat Singh, Treatment strategies for Inflammatory Bowel Disease: pathogenesis, causative factors, issues, drugs and delivery approaches, *Crit Rev Ther Drug Del Sys*, Submitted after minor revision (IF-3.02)
9. M.Pradhan, Singh D, ManjuRawat Singh, Development characterization and skin permeating potential of lipid based novel delivery system for topical treatment of psoriasis, *ChemPhys of lipids*, Submitted after major revision. (IF-2.41)
10. M.Pradhan, Singh D, ManjuRawat Singh, Influence of selected variables on fabrication of Triamcinolone acetonide loaded solid lipid nanoparticles for topical treatment of dermal disorders, *Artificial Cells, Nanotechnology and Biotechnology*, 2014, (Submitted after revision) IF-1.04
11. ManjuRawat Singh, KusumPradhan, J.R. Kanwar, Deependra Singh.Lipid Based Particulate Systems for Delivery of Plant Actives and Extracts: Extraction, Prospective carriers and safety issues, *Expert Opinion in Drug Delivery*, (Submitted after revision) IF-4.85.
12. M.Pradhan, Singh D, J.R. Kanwar, ManjuRawat Singh, Lipid vehicular systems: Role in transcutaneous uptake and related cytotoxicity issues, *J. Control release*, (Submitted after revision) IF-8.07.
13. Deependra Singh, Satpal Singh, JageshwariSahu, ShikhaSrivastava, ManjuRawat Singh, Ceramic nanoparticles: Recompense, cellular uptake and toxicity concerns, *Artificial Cells, Nanotechnology and Biotechnology*,(submitted after Revision) IF-1.04.
14. ManjuRawat Singh, Deependra Singh, Optimization and fabrication of multiphase hydrogel for complete wound management,*Artificial Cells, Nanotechnology and Biotechnology*,(Under Revision) IF-1.04.
15. Yogesh Patel, ManjuRawat Singh, Deependra Singh, Muhammad Nasir, Rupinder K Kanwar, RakeshSehgal and Jagat R Kanwar, Multifunctional iron bond lactoferrin and nanomedicinal approaches to enhance its bioactive functions, *Drug discovery today*, Minor revision submitted. IF-4.80
16. ManjuRawat Singh, M. Pradhan, M. Nag, D.Singh. Vesicular carriers for transcutaneous delivery of bioactives, *Artificial Cells, Nanotechnology and Biotechnology*, 2014, Feb 25 EpubIF-1.04.
17. Kurrey A, Suresh PK, Singh MR. Hollow microspheres as a drug carrier: An overview of fabrication and in vivo characterization techniques. *Chron Young Sci* 2014;5:1-10.

## 2013

18. M.Pradhan, Singh D, ManjuRawat Singh\*, Novel colloidal carriers for psoriasis: current issues, mechanistic insight and novel delivery approaches, *J. Control. Rel.* 2013, 170 (3), 380-395.IF-8.07
19. Singh D, P.Dubey, M.Pradhan, ManjuRawat Singh\*.Nanoceramiccarriers:versatilenanocarriersfor protein and peptides. *Expert opinion in drug delivery*, 2013, 10(2):241-59. IF-4.89
20. ManjuRawat Singh, S. Saraf, A. Vyas, V. Jain, Singh D. Innovative approaches in Wound healing: Trajectory and advances, *Artificial Cells, Blood Substitutes, and Biotechnology: An International Journal*, 2013, epub. Informa healthcare.IF-1.04 (Most read article on journal website)
21. Manju R Singh, Mukesh K Nag, Satish Patel, S. J. Daharwal, Deependra Singh\*, Novel Approaches for Dermal and TransdermalDelivery of Herbal Drugs, *Research J. Pharmacognosy and Phytochemistry* 2013; 5(6): 271-279
22. Mukesh K. Nag, Satish Patel, RajnikantPanik, ShikhaShrivastava, Sanjay J. Daharwal,Manju R. Singh, Deependra Singh,Lung Cancer Targeting: A Review, *Research J. Pharm. and Tech.* 6(11): 2013, 1302-1306.
23. Deependra Singh, Mukesh K. Nag, Satish Patel, MadhulikaPradhan, ShikhaShrivastava, S.J. Daharwal, Manju R. Singh, Treatment Strategies in Burn Wounds: AnOverview. *Research J. Pharmacology and Pharmacodynamics*; 5(6): 2013; 341-352.
24. Satish Patel, Mukesh K. Nag, S.J. Daharwal, Manju R. Singh, Deependra Singh, Plant Toxins: An Overview, *Research Journal of Pharmacology and Pharmacodynamics (RJPPD)*. 5(5), 2013, 283-288.
25. Mukesh K. Nag, Satish Patel, ShikhaShrivastav, S.J. Daharwal, Manju R. Singh, Deependra Singh, An Overview of Diabetes mellitus with Emphasis on Non Invasive Techniques of Insulin Delivery, *Research Journal of Science and Technology* 5(4): Oct-Dec,2013.

## 2012

26. A.Vyas, S.K.Das, D. Singh, B.Gidwani, V.Jain, Manju Singh. Recent nanoparticulate approaches of drug delivery for skin cancer. *Trends in applied science research*, 2012, 7:620-635.
27. ManjuRawat Singh, Pradhan K, Singh D. Lipid Matrix Systems with emphasis on Lipid microspheres: Potent Carriers for Transcutaneous Delivery of Bioactives. *Curr Drug Deliv.* 2012, 9(3):243-54.04 (Most read article on subject area)
28. D. Singh, ManjuRawat Singh. Development of antibiotic and debriding enzyme loaded PLGA microspheres entrapped in PVA-Gelatin hydrogel for complete wound management, *Artificial Cells, Blood Substitutes, and Biotechnology: An International Journal*, 2012, 40(5), 345-53.IF-1.04

## 2011

29. D. Singh and Manju Singh. Development of delivery cargoes for debriding enzymes effective in wound healing. *Trends in applied science research*, 6(2), 102-107.
30. M Singh, D. Singh, S.Saraf. Influence of selected formulation variables on the preparation of peptide loaded lipospheres, *Trends in medical research*, 2011, 6 (8), 863-876.

31. M Singh, D. Singh, S.Saraf. Formulation optimization of controlled delivery system for antihypertensive peptide using response surface methodology, *American Journal Drug Discov. Dev.*, 2011, 1 (3), 174-187.
32. Junaid Khan, Azajuddin, A. Vyas, M Singh, D. Singh. Acute and chronic effect of *Hibiscus rosasinensis* flower extract on anxiety induced exploratory and locomotor activity in mice. *J. Plant Sciences*, 2011, 6(2), 102-107.
33. V. Jain A. Vyas, D. Singh, M. Singh, S.S. Shukla, R. Pandey, SarafSwarnlata and S. Saraf, TLC Densitometric Method for the Estimation of piperine in Ayurvedic formulation TrikatuChurna, *Oriental Journal of Chemistry* 2011, Vol. 27, No. (1): Pg. 301-304(Thomson Reuter).

## 2010

34. D. Singh, Manju Singh, SwarnlataSaraf , V.K. Dixit and S. Saraf, Optimization and Characterization of Gentamicin Loaded Chitosan Microspheres for Effective Wound Healing, *Indian J. Pharm. Educ. Res.* 2010; 44(2): 171-182.
35. D. Singh, Manju Singh, SwarnlataSaraf , V.K. Dixit and S. Saraf, Formulation Optimization of Metronidazole Loaded Chitosan Microspheres for Wound Management by 3-Factor, 3-Level Box-Behnken Design. *Micro and Nanosystems*, 2010;2(2): 70-77. (Cited by in Scopus 2 times).
36. D. Singh, M. Singh, VK Dixit, S.Saraf, S.Saraf. Effect of formulation variables on preparation of GM loaded PLGA microspheres, *Indian drugs*. 2010, 47:12; 35-44.

## 2009

37. ManjuRawat, SwarnlataSaraf. Formulation optimization of double emulsification method for preparation of enzyme-loaded Eudragit S100 microspheres, *Journal of Microencapsulation*, 2009, Vol. 26, No. 4, 306-314.
38. M Rawat, D. Singh, S.Saraf, S.Saraf. Development and in vitro evaluation of polar lipid based lipospheres for oral delivery of peptide drugs, *International Journal of Drug Delivery*. 2009;1(1):15-26.

## 2008

39. M Rawat (Singh), D. Singh, S.Saraf, S.Saraf. Lipid carriers: A versatile delivery vehicle for Proteins and Peptides. *YakugakuZasshi (The Pharmaceutical journal of Japan)*. 2008; 128(2): 269-280.
40. D. Singh, M.Rawat (Singh), S.J. Daharwal. Hydrogels- A Potent Carter in Wound Healing. *Research Journal of Pharmacy and Technology*. 2008; 1(1):6-13.
41. M.Rawat (Singh), S.J. Daharwal, D. Singh. An Overview of Miracle Enzyme-Serratiopeptidase, *Research Journal of Pharmacy and Technology*. 2008;1(3):124-131.
42. M. Rawat (Singh), D. Singh, S. Saraf, S. Saraf. Development and in vitro evaluation of alginate gel encapsulated chitosan coated ceramic nanocores for oral delivery of enzyme, *Drug Development and Industrial Pharmacy*. 2008; 34(2): 181-188.
43. RB Saudagar, M. Rawat (Singh), D. Singh, S.Saraf, S.Saraf. Development and Validation of Derivative Spectrophotometric Method for Determination of Serratiopeptidase in Pharmaceutical Formulation. *Oriental Journal of Chemistry*. 2008; 23(2):113-114.
44. M.Rawat (Singh),S.Saraf.Lipospheres: Emerging carriers for proteins and peptides, *Int. J. Pharm. Sci. Nanotech*. 2008, 1(3).

## 2007

45. M Rawat, D. Singh, S.Saraf, S.Saraf. Archaeosomes- Archaeobacteria derived novel liposomes. *Indian Drugs*, 2007; 44(7): 497-503.
46. M.Rawat, D. Singh, S.Saraf, S.Saraf. An overview of biochemical aspects of DNA vaccines, *Asian Journal of Biochemistry*. 2007; 2(4): 208-223.
47. ManjuRawat, ShailendraSaraf, and SwarnlataSaraf. Influence of selected formulation variables on the preparation of enzyme-entrapped eudragit S100 microspheres, *AAPS PharmSciTech*. 2007 October; 8(4): 289–297.

## 2006

48. S.P.Vyas, M Rawat (Singh), A. Rawat. Pegylated protein encapsulated multivesicular liposomes: a novel approach for sustained release of interferon alpha. *Drug DevInd Pharm*, 2006, 32, 699-707.
49. M. Rawat (Singh), D. Singh, S.Saraf, S.Saraf. Nanocarriers: Promising vehicle for bioactive drugs. *Biol. Pharm. Bull.* 2006; 29(9):1790-1798. (cited by in scopus 117 times)
50. D. Singh, M.Rawat (Singh), S.Saraf, S.Saraf. Transformation efficiency of *Agrobacterium tumefaciens* on different explants of *Bhoerhaaviadifusa*. *Flora and fauna*. 2006; 11(2): 231-232.

## 2005

51. G.Garg, D. Singh, M. Rawat, K. Dashora, S.Saraf, S.Saraf. Biosensors A New Analytical tool: A Review. *Biosciences, Biotechnology Research Asia*. 2005; 3(2): 219-228.
52. D. Singh, M. Rawat, G.Garg, S.Saraf, S.Saraf. *Artemisia scoparia*: A Review, *Pharmacog. mag.* 2005; 2(5): 1-4.

## Web publications

53. M. Rawat, Pharma profession- Opportunities ahead, [www.pharmainfo.net](http://www.pharmainfo.net) 20 January 2007.
54. D. Singh, M.Rawat, S.Saraf, S.Saraf Isoflavones: A Natural Substitute for Postmenopausal Management [www. Pharmainfo.net](http://www.Pharmainfo.net) 01 February 2006.
55. D. Singh, M.Rawat, S.Saraf, S.Saraf Quetiapine- a potent ant schizophrenic drug. In [www.Pharmainfo.net](http://www.Pharmainfo.net) 17 may 2006.
56. M Rawat, D. Singh, S.Saraf, S.Saraf. Novel non-viral gene carrier system: recent progress and current status, Published in [www.Pharmainfo.net](http://www.Pharmainfo.net). Nov 2005.

## List of Staff Development Programmes/workshops attended

1. UGC sponsored 21 days UGC sponsored Refresher Programme by Academic Staff College Pt. RavishankarShukla Univ., Raipur 10<sup>th</sup> Feb 2014 to 3<sup>rd</sup> March 2014
2. UGC sponsored 21 days UGC sponsored Refresher course by Academic Staff College Pt. RavishankarShukla Univ., Raipur 1 Dec 2012 to 21 Dec 2012.
3. UGC sponsored 28 days UGC sponsored Orientation Programme by Academic Staff College Pt. RavishankarShukla Univ., Raipur 1<sup>st</sup> Sept 2012 to 28<sup>th</sup> Sept 2012
4. AICTE sponsored Short Development Programme for pharmacy teachers “Current Trends in Pharmaceutics” at Dr. H.S.Gourvishwavidyalaya, sagar, M.P. from 12 June-25 June 2005.
5. AICTE sponsored Short Development Programme for pharmacy teachers with the theme “Current Trends in Pharmaceutical analytical techniques” at Pt. Ravishankar Shukla University, Raipur, C.G. from 24 Feb-10 March 2006.

6. Seminar of Indian Society of Pharmacognosy on “current trends in Phytopharmaceuticals” 11-12 March 2006.

### **Papers Presented / Abstracted In Conferences**

1. 4th C.G. Young Scientist Congress, Raipur, Feb28-01Mar. 2006, Biotechnology Ab no. 02.
2. Seminar of Indian Society of Pharmacognosy on “Current advances in Phytopharmaceuticals” at Pt. Ravishankar Shukla University, Raipur, C.G. from 11-12 March 2006. PIOP-15, 31, 39.
3. Poster presented on 2<sup>nd</sup> international symposium on drug discovery and process research. Feb.10-12, 2006, Belgaum, INDIA. Ab No. 143-238.
4. CSPS 9<sup>th</sup> Annual international Symposium on Pharmaceutical Sciences. Canada, May 24-27 2006, ab no.45
5. 11<sup>th</sup> International Congress of Plant Tissue Culture & Biotechnology, Beijing, China, August 13-18, 2006. Ab No. P-1387.
6. World Congress of Pharmacy and Pharmaceutical Sciences, 66<sup>th</sup> International Conference of FIP 2006, Salvador, Bahia, Brazil, August 25-31, 2006.
7. Development and characterization of novel nanocarriers for oral delivery of enzyme, Nanotech insight, 10-17<sup>th</sup> march, 2007, luxor, Egypt.
8. Development and characterization of chitosan coated nanocarriers for oral delivery of enzyme, Biohorizon, IIT Delhi, 21-24<sup>th</sup> Feb 2007, New Delhi.
9. Carbohydrate stabilized ceramic nanocores for oral delivery of enzyme, CRS Indian chapter, 14<sup>th</sup> Feb, 2007, Mumbai.
10. National seminar on controlled and targeted drug delivery Nanotechnology, 17-18<sup>th</sup> march, 2007, Dr.H.S. GourVishwavidyalaya, Sagar (M.P.)
11. UGC sponsored Seminar on “Current advances in novel and cosmetic technology”, 19-20 March, 2007, Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur (C.G.) PNCT 25, 31.
12. AICTE Sponsored Seminar on “Quality perspectives of herbal cosmetics”, 8-9<sup>th</sup> Sep, 2007, Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur (C.G.) QPHC/CR/P-18.
13. 59<sup>th</sup> Indian Pharmaceutical Congress, Varanasi, 20-23 Dec. 2007, Ab No.468.
14. National seminar on research and Education in Pharmaceutical science at GRY institute of Pharmacy, Borawan, Khargone, 2008, Ab No. IP/REPS/PP101
15. 60<sup>th</sup> Indian Pharmaceutical Congress, New Delhi, 12-14 Dec. 2008, Ab No.607.
16. "Advance approaches in drug designing and drug targeting" GRY Institute of Pharmacy, Borawan,Khargone, (M.P.) India. 2009.
17. Recent Advances in Pharmaceutical Technology, Swami Vivekanand College of Pharmacy, Indore, (M.P.) India. 2009.
18. Fabrication of multiphase hydrogel containing Serratiopeptidase and Gentamicin loaded PLGA Microspheres for effective and complete wound healing. FIP Pharmaceutical Sciences 2010 World Congress, 14–18 November 2010 abstract No: 1018.

19. Preparation and optimization of polar lipid based lipospheres for oral delivery of peptide drugs. FIP Pharmaceutical Sciences 2010 World Congress, 14–18 November 2010 abstract No: 1017.
20. Multiphase hydrogel loaded Dual drug delivery carriers containing antibiotic and debriding enzyme loaded PLGA Microspheres: An effective approach for complete wound healing, 38th Annual Meeting & Exposition of the Controlled Release Society, National Harbor, Maryland, U.S.A., July 30–August 3, 2011, Ab no. 100633
21. Formulation optimization of cetyl alcohol lipospheres of serratiopeptidase using selected variables, 38th Annual Meeting & Exposition of the Controlled Release Society, July 30–August 3, 2011 in National Harbor, Maryland. Abstract ID 100641.
22. Neomycin and Serratiopeptidase Combo Loaded PLGA Microspheres Entrapped in PVA-Gelatin Hydrogel, 11th International Hydrocolloids Conference on Biofunctionality and technofunctionality of Hydrocolloids, Purdue University, IN, 14-18 May 2012, Ab no. 104.
23. Novel Topical Formulation of Curcumin Lipospheres Containing Combination of Lipids and Natural Polymer for Anti-inflammatory Activity, 11th International Hydrocolloids Conference on Biofunctionality and technofunctionality of Hydrocolloids, Purdue University, IN, 14-18 May 2012, Ab no. 105.
24. M.Pradhan, D.Singh, M.Singh. Solid Lipid Nanoparticles: A potential carrier for topical drug delivery Abstract no.429. Shastrarth-An International Conference 8-9 February, 2013, Rungta Group of Colleges, Bhilai, Chattisgarh, India (Published in Wiley Sc.).
25. Rajni Kant Panik, Deependra Singh, Manju Singh. Deformable vesicular carrier: A promising tool for burning wound healing. Abstract no.444. Shastrarth-An International Conference 8-9 February, 2013, Rungta Group of Colleges, Bhilai, Chattisgarh, India (Published in Wiley Sc.).
26. R.Panik, M.Singh, D.Singh. Development and characterization of novel system for wound healing, Wound care con-2013, 2<sup>nd</sup> International and 7<sup>th</sup> Annual conference of The society of wound care & Research(SWCR) 11-13<sup>th</sup> Oct.2013 Department of Plastic surgery, Jawaharlal Institute of postgraduate medical education and research (JIPMER) Pondicherry, India.
27. D.Singh, M.Singh. Development of debriding and antimicrobial loaded microspherentrapped incream formulation: An effective approach for complete wound management 18th APTICON 25-27 Oct 2013, VikasInstt of Pharm Sciences A.P.Ab no.
28. M.Pradhan, D.Singh, M.Singh. 18th APTICON 25-27 Oct 2013, VikasInstt of Pharm Sciences A.P.
29. M.Singh, M.Pradhan, D.Singh. 18th APTICON 25-27 Oct 2013, VikasInstt of Pharm Sciences A.P.
30. D.Singh, M.Singh. Delivery of Serratiopeptidase by natural polymer based lipospheres.AICTE Sponsored national Seminar on Emerging trends and innovation in drug delivery and pharmaceutical sciences 20 Oct 2013 Columbia Institute of Pharmacy, Tekari, Raipur
31. PradhanMadhulika, Singh Deependra, Singh ManjuRawat, Nanostructured lipid carriers of halobetasol propionate: potential vehicle for topical treatment of psoriasis. Abstract No: A125. 65<sup>th</sup> Indian Pharmaceutical Congress held from 20<sup>th</sup>- 22<sup>nd</sup> December 2013, Noida, Delhi

32. Singh Deependra, Singh ManjuRawat. Preparation and *in vitro* characterization of dual drug loaded biocompatible chitosan based carrier for complete wound management. Abstract No: A128. 65<sup>th</sup> Indian Pharmaceutical Congress held from 20<sup>th</sup>- 22<sup>nd</sup> December 2013, Noida, Delhi
33. Singh ManjuRawat, Singh Deependra Preparation and *in vitro* characterization of clobetasol propionate containing solid lipid nanoparticles for dermatological preparations. Abstract No: A129. 65<sup>th</sup> Indian Pharmaceutical Congress held from 20<sup>th</sup>- 22<sup>nd</sup> December 2013, Noida, Delhi.
34. Rajni Kant Panik, Deependra Singh, Manju Singh, Formulation and characterization of retapamulin loaded vesicular carrier for infected burn wound healing application. Abstract No: A134.
35. Jangde R.K., Singh D. and Singh M. Development of a spectrofluorimetric method for the determination of quercetin. Abstract No: A12. 65<sup>th</sup> Indian Pharmaceutical Congress held from 20<sup>th</sup>- 22<sup>nd</sup> December 2013, Noida, Delhi.
36. Patel, S.; Singh, D.; Singh, M. Free paper session on Ursolic acid loaded polymer dressings reduce inflammation and improve healing in diabetic rat. 8th Annual National Conference of Society for Wound Care and Research organised by Department of Burns, Plastic surgery, PGIMER, Dr. Ram Manohar Lohiya Hospital, New Delhi-110001, 12-14 Sept 2014.
37. Patel, S.; Singh, D.; Singh, M. Plant Bioactive-Loaded Polymer Dressings Reduce Inflammation and Improve Healing in Diabetic Rat. In Proceedings of the 1st Int. Electron. Conf. Med. Chem., 2–27 November 2015; Sciforum Electronic Conference Series, Vol. 1, 2015 , A025; doi:10.3390/ecmc-1-A025
38. Singh D.; Singh, M. Bahadur AN P Establishment of and optimization of hairy root of *Costus speciosus* for efficient production of Diosgenin. 3<sup>rd</sup> international SFEC conference 19-21 Feb, 2016 Raipur.