

# Deependra Singh

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492010

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## ACADEMIC QUALIFICATION

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<b>Ph.D.</b>	UIOP, Pt. R.S.U. Raipur (C.G.)	2008
<b>M.Pharm.</b>	Dr. H.S. Gour V.V. Sagar, (M.P.)	2004
<b>B.Pharm.</b>	B.R.N.C.P, Mandsour (M.P.)	1999
<b>Intermediate</b>	M.P. Board, Bhopal (M.P.)	1993
<b>High School</b>	C.B.S.E Board, New Delhi	1991

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**Ph.D. Topic “Novel approaches for development of drug delivery system for management of wound”.** Different polymer based microspheres were prepared and embedded into hydrogel for co-delivery of antimicrobial agent and debriding enzyme used for complete wound healing. Experiments were designed by using factorial and Box-Behnken design.

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**M. Pharm (Pharmaceutical Biotechnology) Topic “Tissue Culture Studies of *Withania somnifera* L dunal”.** Genetic transformation was done with *Agrobacterium tumifaciens* to increase the production of withanolides. Further suspension cultures were also developed.

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**WORK EXPERIENCE**                      **17 years**

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**RESEARCH EXPERIENCE**              **12 Years**

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**TEACHING EXPERIENCE**              **16 years**

**As Assistant Professor**              Nov. 2008 to till date University Institute of Pharmacy,  
Pt. Ravishankar Shukla University, Raipur-492 010, C.G

<b>As Reader</b>	May 2008 to October 2008 ( <b>6 months</b> ) Rungta College of Pharmaceutical Sciences and Research, Bhilai, (C.G.)
<b>As Lecturer</b>	Dec. 2004 to Apr. 2008 ( <b>3.4 years</b> ), Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur- 492 010, C.G
<b>As Lecturer</b>	Mar.2000 to Aug. 2002. ( <b>2.5 Years</b> ): B.R.Nahata College of Pharmacy, Mandsaur (M.P.).
<b>Marketing Experience</b>	Dec. 1999 to Feb. 2000. <b>Four months</b> , Management Trainee officer, In Universal Medicare Ltd. Mumbai.

### **ADMINISTRATIVE EXPERIENCE**

**Head-** Rungta College of Pharmaceutical Sciences and Research, Bhilai, (C.G.) May08 to Oct08

**Member-**Board of studies July 2008-June 2011

**Member-**Departmental Research Committee

**Member-**University Anti-ragging committee

### **RESEARCH GUIDANCE**

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

Students enrolled - 04

### **FELLOWSHIP / AWARDS**

- 1. Raman Post Doctoral fellowship by University Grants Commission (UGC)** for the year 2014-15.
- 2. UGC Research award 2011 by University Grants Commission (UGC)** for carrying out post-doctoral work on novel delivery systems for complete wound management.
- 3. Best Scientific paper presentation award** in national conference on "Impact of nanotechnology on drug discovery and development" under section Biomaterials 25-27, June 2011, Shimla (H.P).
- 4. 4<sup>th</sup> Young Scientist Award of Chhattisgarh** in medical Sciences including Pharmaceutical Sciences 2006.
- 5. Received Best Paper Award** in Seminar of Indian Society of Pharmacognosy at University Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur, 14-16 March 2006.
- 6. Best Oral presentation** at national conference on "Current trends in Nanotechnology" at Rungta College of Pharmacy, Bhilai.
- 7. G.D Rungta Best Paper award** in AICTE Sponsored National Seminar at University Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur, 2007.
- 8. Best paper award** at 57<sup>th</sup> Indian Pharmaceutical Congress (IPC) Hyderabad 2005.

## 1. RESEARCH PROJECTS

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### Individual projects

S. No	Principal Investigator	Title	Sponsoring Agency	Status
1.	Dr. Deependra Singh	Modernization and upgradation of biotechnology lab	AICTE-MODROB	18.50
2.	Dr. Deependra Singh	Development and Characterization of novel delivery systems for plant actives and extracts	Major Research Project. UGC, 2011.	Completed
3.	Dr. Deependra Singh	Establishment and optimization of hairy root of <i>Costus speciosus</i> for the production of diosgenin	Chhattisgarh Council of Science and Technology, Chhattisgerh In 2011.	Completed

### Group projects

S. No	Role	Proposed research area/	Sponsoring Agency	Sanctioned Amount
1	Core member	One prime area proposed is metabolic wound healing disorders	DST-FIST	35.0 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	10.0 crores

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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
- Designing strategies for protein and peptide delivery.
- Advanced statistical and mathematical modeling methods developed and applied to interpret clinical data.
- Computer aided formulation optimization using Design Expert software.

- Development of novel systems for delivery of plant actives and extracts.
- Plant Tissue Culture Techniques: Development of cultures, genetic transformation, production of secondary metabolites from plant cell cultures, cultivation in bioreactors.

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**RESEARCH PUBLICATIONS      Total 64**

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• Research Papers/Review Published	57
• Web publications	07
• Papers Presented/ Abstracted in Conferences	56
• Book Chapters	06

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**EQUIPMENT EXPOSURE**

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- High speed homogenizer (IKA T10 basic)
  - Lyophilizer (Heto Power dry LL 3000)
  - FTIR (Shimadzu 8400S)
  - Tablet machine (Shakti Instruments Ltd.)
  - Tablet dissolution apparatus (Electrolab Six bas. Type II).
  - HPLC (Shimadzu LC 10AT VP with UV detector),
  - UV spectrophotometer (Shimadzu Pharmaspec 1700),
  - Viscometer (Brookfield LVDV-I+)
  - HPTLC (Camag)
  - ELISA, Immunoelectrophoresis, SDS-PAGE
  - Zetasizer NanoZS (Malvern)
  - RT-PCR
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**REGISTERED PHARMACIST**

**Number-668 (Chhattisgarh)**

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**MEMBERSHIP OF PROFESSIONAL BODIES**

1. Life Member of Indian Pharmaceutical Association.
2. Life Member Indian Society of Pharmacognosy.
3. Life Member of Association of Pharmacy teachers of India (APTI).-CG/LM/017
4. Member of SPIC-MACAY

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## PROFESSIONAL CREDENTIALS

- Vice-President, Chhattisgarh state branch APTI 2013
  - Founder secretary, Chhattisgarh state branch APTI
  - Founder secretary, IPA, Chhattisgarh Local Branch
  - Executive Secretary, IPA, Mandsaur Local Branch. Till 2002.
  - President, Pharmaceutical Society of B.R.Nahata College of Pharmacy, Mandsaur, M.P.
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## INVITED TALK

1. **D.Singh, CGCOST** sponsored National Seminar on “Pharma industry- institute interaction for development of Chhattisgarh”, 08<sup>th</sup> Feb 2014 **Shri Shankaracharya Group of Institutions Faculty of Pharmaceutical Sciences, Durg.**
2. **D.Singh, Market status of herbal medicines of Chhattisgarh: current scenario and future prospects, CCOST** sponsored Training Program on Development of Herbal Lip Formulations with photo- protective effect, 20 January 2014, Shri Rawatpura Sarkar Institute of Pharmacy, Kumhari, Durg (C.G.).
3. **D.Singh, Research projects and funding agencies,** 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. **D.Singh, “Nano-biotechnological approach for wound management”** 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.**
5. **D.Singh, “Novel formulations for plant actives and extracts”** Staff Development Programme on “Plant actives and extracts: Bottlenecks and Challenges” 8-23Feb2013**Columbia Institute of Pharmacy, Tekari, Raipur.**
6. **D.Singh, “Novel delivery systems for plant actives and extracts”** at AICTE sponsored national Seminar on “Phytomedicine”, Manohar Bhai Patel Institute of Pharmacy, Gondia, Maharashtra on 7<sup>th</sup> January 2012.
7. **D.Singh, Staff Development Programme on “Emerging trends in herbal and novel drug delivery systems”** at Manohar Bhai Patel Institute of Pharmacy, Gondia, Maharashtra on 4-16June 2012.
8. **D.Singh, “Drugs and Drug delivery”** in Nanotech Certificate Course. Sept. 2008 at CSVTU, Bhilai. (C.G.)
9. **D.Singh, “Nanotechnology: newer avenues for drug delivery”** in SDP at Gayatri college of Pharmacy, Sambalpur, Orrisa.18<sup>th</sup> may2010.
- 10.**D.Singh, “Wound management using novel strategies”** in One day Orientation Program on "Advances in Pharmaceutical Research & Technology" 24th Feb.2008 Columbia Institute of Pharmacy, Tekari, Raipur.
- 11.**D.Singh, “Novel wound healing strategies”** in One day Orientation Program on "Advances in Pharmaceutical Research & Technology" 24th Feb.2008 **Columbia Institute of Pharmacy, Tekari, Raipur.**

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**PERSONAL INFORMATION**

**Father's Name** Late Mr. R .A. Singh  
**Mother's Name** Mrs. Asha Singh  
**Spouse Name** Dr. (Mrs.) Manju Rawat Singh  
**Date of Birth** 20<sup>th</sup> February 1976

**List of M.Pharm Students Guided**

<b>Name of student</b>	<b>Topic of M.Pharm Thesis</b>	<b>Academic Year</b>
<b>Ekta Rani</b>	Fabrication Of Multiphase Hydrogel For Wound Management Involving Delivery Of Bioactive	<b>2010-11</b>
<b>Surendra Raghuvanshi</b>	Preparation And Evaluation of Gel Enriched With Microsponge of Clobetasol Propionate	<b>2011-12</b>
<b>Sourav Kishore Das</b>	Formulation And Characterization of Nanostructure Lipid Carrier For Improved Topical Delivery of 5-Flurouracil In Skin Cancer	<b>2011-12</b>
<b>Arun Singh Parihar</b>	Development And Optimization of Natural Polymer Coated Nanocarrier of Catalase For Inflammatory Bowel Disease	<b>2012-13</b>
<b>Sanju Dewangan</b>		<b>2013-14</b>

**List of Registered Ph.D Students**

<b>S. No.</b>	<b>Number Enrolled</b>	<b>Date of Registration</b>	<b>Title</b>
1.	Rajendra Jangdey	<b>28 July 2011</b>	Design and characterization of novel drug delivery systems for wound healing
2.	Rajnikant Panik	<b>30 July 2012</b>	Development and characterization of novel carriers for burn wound healing
3.	Mukesh Nag	<b>30 July 2013</b>	Course Work
4.	Satish Patel	<b>30 July 2013</b>	Development and characterization of PDGf-bb and lupeol loaded novel delivery system for wounds in diabetics

**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. Manju Rawat Singh, S. Saraf, S.Saraf, A. Vyas, V. Jain, **Singh D.** *Zanthoxylum alatum*: 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, *Withania somnifera*: 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, Bina Gidwani 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, in press
4. Nagendra S Chauhan, Satish Patel, **Deependra Singh**, Ashish Baldi. Biotechnological Approaches for Conservation and Improvement of Rare and Endangered Medicinal Plants. Biotechnology in Medicine and Herbal Drug Development, First edited by Bansal P, Das SN, 01/2014: pages 167-187; Basera Verlag, Germany., ISBN: 978-81-92064-0-4.
5. 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 edt by Alexandru Mihai Grumezescu, elsiver publisher, vol 5, 2016, 231-253 ISBN: 978-0-323-42865-1.
6. D singh, M Pradhan, S srivastava, SN Murthy, MR singh. Skin autoimmune disease: lipid biopolymer and colloidal delivery system for topical deliverys edt 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. R Jangde, D Singh. Preparation and optimization of quercetin-loaded liposomes for wound healing, using response surface methodology. *Artificial cells, nanomedicine, and biotechnology*, 1-7, 2014.
9. R Jangde, D Singh. Compatibility Studies of Quercetin with Pharmaceutical Excipients Used in the Development of Novel Formulation. *Research Journal of Pharmacy and Technology* 7 (10), 1101-1105, 2014.
10. R Jangde, D Singh. Investigation of Drug-Excipients Compatibility of Ellagic Acid for Development of Formulation Containing Liposomes. *UK Journal of Pharmaceutical and Biosciences* Vol. 2(4), 15-18, 2014.
11. R Jangde, M Singh, D Singh. Development and Determination of Rutin by Spectrofluorimetric Method. *Biomedical & Pharmacology Journal*, Vol. 7(2), 681-686, 2014.
12. Manju Rawat Singh, M. Pradhan, D. Chauhan, M. Nag, **D.Singh**. Vesicular carriers for transcutaneous delivery of bioactives, *Artificial Cells, Blood Substitutes, and Biotechnology: An International Journal*, 2014,IF-1.04

## 2013

13. M. Pradhan, Singh D, Manju Rawat 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
14. Singh D, P. Dubey, M. Pradhan, Manju Rawat Singh. Nanoceramic carriers: versatile nanocarriers for protein and peptides. *Expert opinion in drug delivery*, 2013, 10(2):241-59. IF-4.89
15. Manju Rawat 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)



16. Manju R Singh, Mukesh K Nag, Satish Patel, S. J. Daharwal, **Deependra Singh\***, Novel Approaches for Dermal and Transdermal Delivery of Herbal Drugs, *Research J. Pharmacognosy and Phytochemistry* 2013; 5(6): 271-279
17. Mukesh K. Nag, Satish Patel, Rajnikant Panik, Shikha Shrivastava, Sanjay J. Daharwal, Manju R. Singh, **Deependra Singh\***, Lung Cancer Targeting: A Review, *Research J. Pharm. and Tech.* 6(11): 2013, 1302-1306.
18. Deependra Singh, Mukesh K. Nag, Satish Patel, Madhulika Pradhan, Shikha Shrivastava, SJ Daharwal, Manju R. Singh\* Treatment Strategies in Burn Wounds: An Overview *Research J. Pharmacology and Pharmacodynamics*; 5(6): 2013; 341-352.
19. 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.
20. Mukesh K. Nag, Satish Patel, Shikha Shrivastav, 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

21. 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.
22. Manju Rawat 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.
23. D. Singh, Manju Rawat 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.

## 2011

24. 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. (Cited by in Scopus 1 time).
25. M Singh, D. Singh, S.Saraf, S.Saraf. Influence of selected formulation variables on the preparation of peptide loaded lipospheres, *Trends in medical research*, 2011, 6 (8), 863-876. (Cited by in Scopus 1 times).
26. M Singh, D. Singh, S.Saraf, 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. (Cited by in Scopus 1 time).
27. Junaid Khan, Azajuddin, A. Vyas, M Singh, D. Singh. Acute and chronic effect of Hibiscus rosa sinensis flower extract on anxiety induced exploratory and locomotor activity in mice. *J. Plant Sciences*, 2011, 6(2), 102-107.
28. V. Jain A. Vyas, D. Singh, M. Singh, S.S. Shukla, R. Pandey, Saraf Swarnlata and S. Saraf, TLC Densitometric Method for the Estimation of piperine in Ayurvedic formulation Trikatu Churna, *Oriental Journal of Chemistry* 2011, Vol. 27, No. (1): Pg. 301-304(Thomson Reuter).
29. A. Vyas, S. S. Shukla, R. Patel, R. Pandey, V. Jain, D. Singh and B.P. Nagori, Development and Validation of Spectrophotometric Method for Estimation of

Cephalexin in Bulk and Tablet Dosage Forms, *Oriental Journal of Chemistry*, 2011, Vol. 27, No. (1): Pg. 359-362 (Thomson Reuter).

30. R. Jangde, S. Daharwal, D. Singh, RK Sahu. Development and Characterization of Ethyl Cellulose Coated Microcapsules for Controlled Release of Ampicillin. *Biosciences Biotechnology Research Asia*, 2011; 8(2); 747-752

## 2010

31. D. Singh, Manju Singh, Swarnlata Saraf, 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.
32. D. Singh, Manju Singh, Swarnlata Saraf, 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.
33. 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

34. D. Singh, VK Dixit, S.Saraf, S.Saraf. Formulation optimization of serratiopeptidase loaded PLGA microspheres using selected variables. *PDA Journal of Pharmaceutical Science and Technology*, 2009; 63(2): 103-112.
35. 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.
36. Khan Juned, Ajazuddin, Daharwal SJ, Singh Deependra\*. A Study of Possible Role of Contact Period on the Efficacy of Antidandruff Shampoo. *A Research Journal of Pharmaceutical Dosage Forms and Technology*. 2009(1), 38-40.

## 2008

37. M Rawat, D. Singh, S.Saraf, S.Saraf. Lipid carriers: A versatile delivery vehicle for Proteins and Peptides. *Yakugaku Zasshi (The Pharmaceutical journal of Japan)*. 2008; 128(2): 269-280. (Impact Factor-0.427) (Cited by in Scopus 28 times).
38. D. Singh, M.Rawat, S.J. Daharwal. Hydrogels- A Potent Carter in Wound Healing. *Research Journal of Pharmacy and Technology*. 2008; 1(1):6-13.
39. M.Rawat, S.J. Daharwal, D. Singh. An Overview of Miracle Enzyme- Serratiopeptidase, *Research Journal of Pharmacy and Technology*. 2008; 1(3):124-131.
40. M. Rawat, 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. (Impact Factor-1.50) (Cited by in Scopus 9 times).
41. RB Saudagar, M. Rawat, 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. (Cited by in Scopus 6 times).
42. D. Singh, VK Dixit, S.Saraf, S.Saraf. Optimization of gentamicin loaded Eudragit RS100 microspheres using a factorial design study. *Biol. Pharm. Bull.* 2008; 31(4): 662-667. (Impact Factor-1.81) (Cited by in Scopus 17 times).

43. A.Baldi, D. Singh, V.K.Dixit. Dual Elicitation for Improved Production of Withaferin A by Cell Suspension Cultures of *Withania somnifera*, *Appl Biochem Biotechnol.* 2008, 151 (2-3), 556-564. (DOI 10.1007/s12010-008-8231-2). (Cited by in Scopus 7 times).

## 2007

44. M Rawat, D. Singh, S.Saraf, S.Saraf. Archaeosomes- Archaeobacteria derived novel liposomes. *Indian Drugs*, 2007; 44(7): 497-503.
45. 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. (Cited by in Scopus 2 times).
46. D. Singh, VK Dixit, S.Saraf, S.Saraf. Spectrophotometric determination of Serratiopeptidase and metronidazole in combined dosage forms, *Bioscience, Biotechnology Research Asia.* 2007; 4(1): 305-306.

## 2006

47. V. Jain, D.Singh, Swarnlata Saraf, S. Saraf .Transgenic plants derived immunoproteins – A Review. *Plant archives.* 2006; 6 (2): 41-55.
48. G.Garg, D. Singh, S.Saraf, S.Saraf.  $\alpha$ - Adrenergic Antagonist, treatment of Benign Prostate Hyperplasia: A Review. *Biol. Pharm. Bull.* 2006; 29(8):1554-1558. (Cited by in Scopus 9 times).
49. M Rawat, D. Singh, S.Saraf, S.Saraf. Nanocarriers: Promising vehicle for bioactive drugs. *Biol. Pharm. Bull.* 2006; 29(9):1790-1798. (Cited by in Scopus 137 times).
50. D. Singh, M.Rawat, S.Saraf, S.Saraf. Transformation efficiency of *Agrobacterium tumefaciens* on different explants of *Bhoerhaavia difusa*. *Flora and fauna.* 2006; 11(2): 231-232.

## 2005

51. G.Garg, D. Singh, S.Saraf, S.Saraf. Bioinformatics – A Review, *Bioscience, Biotechnology Research Asia.* 2005; 3(1): 111-114.
52. D. Singh, S.Saraf, S.Saraf . Chemical profile of *Withania somnifera* – A Review, *Planta Indica*, 1(4) Oct. 2005, 6-14.
53. 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.
54. D. Singh, M Rawat, G.Garg, S.Saraf, S.Saraf. *Artemisia scoparia*: A Review, *Pharmacog. mag.* 2005; 2(5): 1-4.
55. G. Ingra, D. Singh, VK Dixit. Biotechnology guided production of L-DOPA, *Bioscience, Biotechnology Research Asia.* 2005; 3(1): 123-124.

## 2004

56. V. Jain, D. Singh, S.Saraf, S.Saraf. Anti fertility agents from plants, *Plant Archives.* 2004; 4 (2): 223-233.

## 2003

57. D. Singh, V.Jain, S.Saraf, S.Saraf. Jivanti: A Review, *Indian Journal of Natural Product.* 2003; 19 (3): 11-15.
58. V. Jain, D. Singh, S.Saraf, S.Saraf. In vitro Free Radical Scavenging Activity of *Lepidium sativum*, *Plant Archives.* 2003; 3 (2): 315-318.

59. V. Jain, D. Singh, S.Saraf, S.Saraf In vitro micropropagation of Rauwolfia serpentina through multiple shoot generation, *Ancient Science of Life*. 2003; 23(1): 44-46.

### **Web publications**

60. 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.
61. K.Dashora, D. Singh, S. Saraf and Swarnlata Saraf. Validation: The essential quality assurance tool for pharma industry: In [pharmainfo.net](http://pharmainfo.net), Dec.2005.
62. S.Saraf, D. Singh, S. Saraf . Iontophoresis: A Review, [www.Pharmainfo.net](http://www.Pharmainfo.net) ,8 Feb 2006.
63. 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.
64. K.Dashora, D. Singh, S.Saraf, S.Saraf Aceclofenac- a potent non-steroidal anti-inflammatory drug. [www.Pharmainfo.net](http://www.Pharmainfo.net).2006. (Cited by in Scopus 4 times).
65. 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.
66. S.Saraf, D. Singh, S. Saraf Acclerants- a review. In [www.Pharmainfo.net](http://www.Pharmainfo.net), 2006

### **List of Staff Development Programmes/Seminars/Workshop attended**

- AICTE sponsored Short Term Training Programme for pharmacy teachers “Current Trends in Pharmaceutics” at Dr. H.S.Gour vishwavidyalaya, sagar, M.P. from 12 June-25 June 2005.
- AICTE sponsored Short Development Programme for pharmacy teachers with the theme “Current Trends in Pharmaceutical analytical techniques” at Pt. Ravishankar Shukla University, Raipur, and C.G. from 24 Feb-10 March 2006.
- Seminar of Indian Society of Pharmacognosy on “current trends in Phytopharmaceuticals” 11-12 March 2006. at Pt. Ravishankar Shukla University, Raipur, C.G.
- AICTE Sponsored Seminar on Quality perspectives of Herbal Cosmetics.8-9 Sep. 2007 at Pt. Ravishankar Shukla University, Raipur, C.G.
- National symposium on current Trends in Pineal research & 4<sup>th</sup> IPSP meeting 5-7 oct.2006.
- Trends and Techniques in chronobiology: A workshop 20-25 march, 2006. At School of life sciences. Pt. Ravishankar Shukla University. Raipur.
- PCI and WHO sponsored professional training programme for pharmacists 25-29 june 2001, at GSITS. Indore.
- PCI sponsored National workshop on Health and Education 28-29 march, 2000. At BRNCP, Mandsoor.
- GOVERNMENT OF INDIA, Ministry of small scale industries Training Programme on ISO 9000: TQM, 16-18 Jan., 2000. Organized by Small Industries Service Institute, Indore.(at Bhopal)

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

1. 3rd C.G. Young Scientist Congress, Raipur, Feb28-01Mar. 2005, Ab.No. MedSc-04.
2. 56th Indian Pharmaceutical congress, Kolkata, 2-4 Dec.2004, Ab No.
3. 10th APTI National Convention, Nagpur, 17-18 oct. 2005, Ab No.PG-68.

4. 7th Annual Symposium, BIOHORIZON, IIT-Delhi, 2005.
5. 57th Indian Pharmaceutical congress, Hyderabad, 2-4 Dec.2005, Ab No. CP14.
6. 57th Indian Pharmaceutical congress, Hyderabad, 2-4 Dec.2005, Ab No. HP04.
7. 57th Indian Pharmaceutical congress, Hyderabad, 2-4 Dec.2005, Ab No. DP20.
8. 4th C.G. Young Scientist Congress, Raipur, Feb28-01Mar. 2005, Ab.No. MedSc-02.
9. CSPS 9th Annual international Symposium on Pharmaceutical Sciences, Canada May 24-27 2006. ab no. 45
10. CSPS 9th Annual international Symposium on Pharmaceutical Sciences, Canada May 24-27 2006. ab no. 56
11. 11th International Congress of Plant Tissue Culture & Biotechnology, Beijing, China, August 13-18, 2006. Ab ID- 486
12. 11th International Congress of Plant Tissue Culture & Biotechnology, Beijing, China, August 13-18, 2006. Ab ID- 419
13. 11th International Congress of Plant Tissue Culture & Biotechnology, Beijing, China, August 13-18, 2006. Ab ID- 425
14. World Congress of Pharmacy and Pharmaceutical Sciences, 66th International Conference of FIP 2006, Salvador, Bahia, Brazil, August 25-31, 2006.
15. FAPRONATURA 2006 First International Symposia about Pharmacology of Natural products and BLACPMA, Varadero, Cuba November 20-24, 2006.(accepted)
16. National symposium on current trends in pineal research October 05-07, 2006. Ab ID40.
17. 12th Asian Symposium on Medicinal plants, Spices and other Natural Products (ASOMPS XII) 13-18 November 2006.Padang, Indonesia (accepted).
18. 8th Joint indo Korean Symposium on Biochemical Engineering and Biotechnology, Biohorizon, IIT Delhi, 22-24th Feb 2007, New Delhi.
19. National seminar of Controlled release society, CRS Indian chapter, 14th Feb, 2007, Mumbai.
20. International conference on nanotechnology, Nanotech insight, 10-17th march, 2007, luxor, Egypt.
21. National seminar on controlled and targeted drug delivery Nanotechnology, 17-18th march, 2007, Dr. H.S. Gour Vishwavidyalaya, Sagar (M.P.)
22. Seminar on "Current advances in novel and cosmetic technology", 19-20 March, 2007, Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur (C.G.)
23. 59th Indian Pharmaceutical Congress, Varanasi, 20-23 Dec.2005, Ab No.467.
24. Dual elicitation for improved production of withaferin A by cell suspension cultures of *Withania somnifera*", in International Conference on New Horizons in Biotechnology (NHBT-07), held at Thiruanantpuram in Dec. 2007.
25. Agrobacterium mediated genetic transformation for production of plant based secondary metabolites" in 47th Annual Meeting of Association of Microbiologists of India, held at Bhopal in Dec. 06.
26. Pathogenic fungi for stimulation of phytoalexin biosynthesis in plant cell cultures" in 47th Annual Meeting of Association of Microbiologists of India, held at Bhopal in Dec. 06.

27. Optimization studies for Withaferin A production in suspension cultures of *W. somnifera* in National Seminar on “Emerging Horizons of Biotechnology”, held at Bilaspur in Nov. 2006.
28. Elicitor-precursor combination for productivity enhancement in transformed culture of *Withania somnifera* in Second World Ayurveda Congress, held at Pune in Nov. 2006.
29. Withaferin A synthesis in *Agrobacterium tumefaciens* mediated transformed cultures of *Withania somnifera* in International conference on Exploring horizons in Biotechnology: A global venture and Third annual convention of Biotech Research Society of India, held at Vallabh Vidyanagar (Bakrol) Gujrat in Nov. 2006.
30. 60th Indian Pharmaceutical congress, New Delhi, 12-14 Dec.2008, Ab.
31. "Advance approaches in drug designing and drug targeting" GRY Institute of Pharmacy, Borawan , Khargone, (M.P.) India. 2009.
32. Recent Advances in Pharmaceutical Technology, Swami Vivekanand College of Pharmacy, Indore, (M.P.) India. 2009.
33. 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.
34. 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.
35. 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
36. 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.
37. 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.
38. 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.
39. 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.).
40. 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.).

41. 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.
42. D.Singh, M.Singh. Development of debriding and antimicrobial loaded microsphere entrapped in cream formulation: An effective approach for complete wound management 18th APTICON 25-27 Oct 2013, Vikas Instt of Pharm Sciences A.P. Ab no.
43. Satish Patel, Deependra Singh, Nagendra S. Chauhan, V.K. Dixit. An oral presentation on Comparative study of Different extract of *Cuscuta reflexa* on hair growth activity, UGC-SAP Sponsored National Seminar on Advances and Avenues in the Development of Cargoes for Bioactive, University institute of Pharmacy, PRSU, Raipur (C.G.)-492010, India, 31 Jan -2nd Feb, 2013.
44. Satish Patel, Deependra Singh, Nagendra S. Chauhan, V.K. Dixit. Evaluation of ether and ethanolic extract of *Phyllanthus niruri* Linn. on Cyclophosphamide Induced Alopecia. APTICON 2013, Vikas Institute of Pharmaceutical Sciences, Rajahmundry, 25th -27th October 2013.
45. Mukesh Nag, Deependra Singh. Preparation and evaluation of microsphere loaded controlled release topical gel of Clobetasol propionate.. APTICON 2013, Vikas Institute of Pharmaceutical Sciences, Rajahmundry, 25th -27th October 2013.
46. M.Pradhan, D.Singh, M.Singh. 18th APTICON 25-27 Oct 2013, Vikas Instt of Pharm Sciences A.P.
47. M.Singh, M.Pradhan, D.Singh. 18th APTICON 25-27 Oct 2013, Vikas Instt of Pharm Sciences A.P.
48. 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
49. Pradhan Madhulika, Singh Deependra, Singh Manju Rawat, 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
50. Singh Deependra, Singh Manju Rawat. 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
51. Singh Manju Rawat, 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.
52. Rajni Kant Panik, Deependra Singh, Manju Singh, Formulation and characterization of retapamulin loaded vesicular carrier for infected burn wound healing application. Abstract No: A134.

53. 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.
54. 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.
55. 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
56. 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.