

CURRICULUM VITAE

Dr. Nirmal Singh

M.Sc. UGC-NET, GATE, Ph.D. Organic Chemistry

CSIR UGC-NET (AIR =11) & GATE (Percentile = 93.37) qualified

Publications: 45

Journals: 13 (SCI)

Conferences: 21

FDPs / STCs / Workshops: 14

Editorial Board Memberships: 04

Life memberships of scientific bodies: 03

Teaching Experience: 15+ years



PRESENT POSITION: Assistant Professor & HEAD, Post Graduate Department of Chemistry, R.S.D. College, Ferozepur City (Pb.) (Affiliated to Panjab Univ. Chandigarh – INDIA)
Nodal Officer, B.Voc. MLMDT

RESEARCH AREA:

Asymmetric synthesis of carbohydrate derived non-ionic Gemini surfactants, Drug Chirality, Chiral Recognition for aromatic α -amino acids, nucleobases, polycyclic aromatic hydrocarbons, Photo-degradation of pesticides, drug solubility.

BIOGRAPHICAL DATA

DOB: 22 Oct., 1975

Marital Status: Married

Father's Name: Gurbax Singh

Place of Birth: Faridkot – Punjab – INDIA

Citizenship: INDIAN

EDUCATION

Ph.D –[ORGANIC CHEMISTRY]

Title Of Ph.D: *Synthesis, Characterization and Use of Carbohydrates derived Surfactants as Micellisation and reverse micellisation probes.*

CSIR UGC – NET (Human Resource Development Group, Council of Scientific & Industrial Research)

Qualified in CHEMICAL SCIENCES

All India Rank: 0011

GATE TEST (Graduate Aptitude Test in Engineering) Qualified in Chemistry

GATE Score: 412

Percentile: 93.37

Master of Science, 1999 (APPLIED CHEMISTRY)

Deptt. Of Pharmaceutical Sciences. GURU NANAK DEV UNI. AMRITSAR (PUNJAB) INDIA 1997– 1999
(1st Division)

Bachelor of Science, 1997 (MEDICAL)

Govt. Brijindra College, Faridkot, PUNJABI UNI. PATIALA (PUNJAB) - INDIA,
1994– 1997 (1st Division)

Professional Qualification: M.Sc. Comp. Sci.

Post Graduate Diploma in Computer Application, Kurukshetra Univ. Kurukshetra.

Master of Science, 2003 (Computer Science), Guru Jambheshwar University, Hisar

TEACHING EXPERIENCE

More than 15 years teaching experience as a chemistry Lecturer/Assistant Professor/ Head of Deptt.

PUBLICATION LIST: 13 SCI

Sr. No.	Author/s	Title of the paper	Year, volume, page no.	Journal Name	ISSN no. & Impact factor
1.	Nirmal Singh Renuka Garg; Harshdeep Rana;	Fabrication of guar gum-nanocellulose biodegradable composites: Evaluation of mechanical and barrier properties	In communication	Carbohydrate Polymers	ISSN: 0144-8617 I.F. 9.381
2.	Nirmal Singh Renuka, Renu Gupta, , Ajay Bansal	Eliminating pesticide, quinalphos from surface waters using synthesized GO-ZnO nanoflowers: characterization, degradation pathways and kinetic study	Online available on 11-Aug-2021	Chemosphere	ISSN no. 0045-6535 I.F. 7.086
3.	Nirmal Singh, Lalit Sharma	Use of Carbohydrate derived surfactants and non-ionic Gemini surfactant in enhancing aqueous solubility of poorly water soluble drug viz. Glibenclamide - A Comparative Study	In communication	Indian Journal of pharmaceutical education and reasearch	ISSN: 0019-5464 I.F. 0.686
4.	Nirmal Singh,Renuka, Renu Gupta, Ajay Bansal	Characterization and performance evaluation of synthesized ZnO nanoflowers, nanorods, and their hybrid nanocomposites with graphene oxide for degradation of Orange G	2021, online published 3 rd June 2021	Environmental Science and Pollution Research	ISSN no. 0944-1344 I.F. 4.223
5.	Nirmal Singh, Lalit Sharma	Synthesis, Characteristics and Application of Novel Non-Ionic Gemini Surfactants as Reverse Micellar Systems for Encapsulation of Some Aromatic alpha-Amino Acids in n-Hexane	2020, 57(3), 247-251	Tenside Surfactants Detergents Hanser, Germany	ISSN: 1097-3958 I. F. 1.02

6.	Nirmal Singh and Lalit Sharma	Synthesis of Carbohydrate derived non-ionic Gemini surfactants & study of their micellar and reverse micellar behavior - A review	2019, 16(8), 607-614	Letters in Organic Chemistry	ISSN: 1570-1786 I.F. 0.867
7.	Nirmal Singh, Lalit Sharma	Enantioseparation of D- and L-isomers of chiral drugs for improving their bioavailability – some techniques including micellization with gemini surfactants	2018, 52(3), 334-341.	Indian Journal of Pharmaceutical Education and Research, India	ISSN : 0019 – 5464 I.F. 0.219 (Thomson Reuters’ @ 2014)
8.	Nirmal Singh, Lalit Sharma	Novel Carbohydrate based Non-Ionic Gemini Surfactants with flexible spacer as reverse micellar systems for encapsulation of D- and L-enantiomers of some aromatic α -amino acids in n-hexane	2018, 55(3), 220-225	Tenside Surfactants Detergents Hanser, Germany	ISSN: 1097-3958 I. F. 1.02
9.	Nirmal Singh, Lalit Sharma	Enhancement of solubility of glibenclamide and clofibrate drugs using carbohydrate based non-ionic surfactants by micellization	2017, 4(2), 186-192	Indo-American Journal of Pharmaceutical Sciences, India	ISSN : 2231-6876 I. F. 0.437
10.	Nirmal Singh, Lalit Sharma	Synthesis and Use of novel carbohydrate derived non-ionic surfactants for enhancing Aqueous solubility of Norfloxacin by Micellization	2016, 8(3), 33 – 37	Trends in Carbohydrate Research, India	ISSN: 0975- 0304 I. F. 0.562
11.	Nirmal Singh, Lalit Sharma	Chiral Recognition of Enantiomers of Chiral Drugs with novel Carbohydrate based Gemini surfactants by micellization – A new approach	2016, 6(4), 627 - 636	American Journal of Pharmatech Research, India	ISSN: 2249-3387 I. F. 1.123
12.	Lalit Sharma, Saroj & Nirmal Singh	Reverse micellar encapsulation of D- and L- enantiomers of some aromatic α -amino acids and nucleobases by glucose derived non-ionic gemini surfactants in neat n-hexane	2015, 18(1), 33 - 39 DOI: 1007/s11743-014-1595-0 I	Journal of Surfactants and Detergents Springer, USA	ISSN: 0932-3414 I. F.1.866
13.	Lalit Sharma, Saroj & Nirmal Singh	Micellar encapsulation of some polynuclear aromatic hydrocarbons by glucose derived non-ionic gemini surfactants in aqueous medium	2014, 51(4), 441-444	Tenside Surfactants Detergents Hanser, Germany	ISSN: 1097-3958 I. F. 1.02

In proceedings: Full papers 07

Sr. No.	Author/s	Title of the paper	Year, Volume, Page no.	Journal Name	ISSN/ISNB no.
1.	Nirmal Singh	Role of Gemini Surfactants in Nanotechnology as Drug Delivery System for encapsulation of Poorly water soluble drugs	2018, 35-43	Advance in nuclear and solid state Physics, UGC approved national seminar	978-93-86954-16-9
2.	Nirmal Singh, Lalit Sharma	Synthesis, Micellar and Reverse micellar study of non-ionic conventional surfactants and non-ionic Gemini surfactants	2017, 67-72	National Conference on Frontiers in Material and Research FMRA – 2017	ISBN: 978-93-86724-88-5
3.	Nirmal Singh, Lalit Sharma	Encapsulation of poorly water soluble drugs with novel Non-ionic Gemini surfactants by Micellization	2016, 6-9	Annual International conference on Chemical Processes, Ecology & environmental Engineering , ICCPEE'16. 2016, Pattaya, THAILAND	ISBN: 978-93-84468-51-4
4.	Nirmal Singh, Lalit Sharma	Drug Isomerism & Novel approach to encapsulate Enantiomers of Chiral drug with carbohydrate derived surfactants/gemini surfactants by micellization	2016, 44-48	Interdisciplinary conference on Frontiers in Material Research & Applications (FMRA - 2016) SBS STC Ferozepur	ISBN : 978-93-86256-10-2
5.	Nirmal Singh, Lalit Sharma	Use of non-ionic Gemini Surfactants for encapsulation of poorly water soluble drugs	2015, 88-92	2 nd national conference on Frontiers in Materials Research & Applications, SBS STC , Ferozepur (Pb.) INDIA	ISBN: 978-93-85777-23-3
6.	Nirmal Singh, Lalit Sharma	Enhancing Solubility of Poorly water soluble Drugs with Surfactants by Micellization	2015, 250 - 253	internat. Multi-track conference on Sci. Engg. and Technical Innovation, CT Institute Jalandhar (Pb.) INDIA	ISBN: 978-81-929077-3-4
7.	Nirmal Singh, Lalit Sharma	Gemini Surfactants : A distinct Class of Self-assembling Amphiphile Molecules	2014, 184-190	international conference on frontiers in materials and res. Application, SBS STC Ferozepur (Pb.) INDIA	ISBN: 978-93-83842-92-6

ABSTRACTS PUBLISHED IN INTERNATIONAL CONFERENCE: 04 (02 OUTSIDE INDIA)

1. Lalit Sharma & **Nirmal Singh**
“*Role of Carbohydrate moiety in enhanced micellar encapsulation of drug Clofibrate*”
2015 CARBO-XXX Conference at **Pondicherry University** from Dec. 29-31, 2015 Poster Presented
2. Lalit Sharma & **Nirmal Singh**
“*Reverse Micellar Encapsulation of D- and L- Enantiomers of α - Amino Acids using d-Glucose derived non-ionic Surfactants having a Linear Spacer*” 2015 18th European Carbohydrate “Symposium Eurocarb 18 at **Moscow (Russia)** from Aug. 2-6, 2015 Paper Presented in Poster Mode
3. Lalit Sharma & **Nirmal Singh**
“*Reverse Micelle Encapsulation of Aromatic α -Amino acids by Glucose based Nonionic Bent Gemini Surfactants*” 2014 20th International Symposium on Surfactants in Solution (SIS2014) at **University of Coimbra (Portugal)** from June 22 –27, 2014 Paper Presented in Poster mode
4. Lalit Sharma & **Nirmal Singh**
“*Solubility enhancement studies for poorly water soluble drugs norfloxacin and glibenclamide by micellar encapsulation using d-glucose based non-ionic surfactants*”
2014 27th International Carbohydrate Symposium at **Indian Institute of Science, Bangalore** from January 12- 17, 2014. Paper Presented in Poster mode

CONFERENCE/SEMINAR ATTENDED: 21

1. International conference on “Advances in chemical and material sciences ACMS-2022” platinum jubilee of Indian institute of chemical engineer. : **PHOTOCATALYTIC DEGRADATION OF IMIDACLOPRID USING SYNTHESIZED RECYCLABLE TITANIA NANOTUBES**” on 14-16th April, 2022.
2. International conference on “*Eliminating pesticide quinalphos from surface waters using synthesized GO-ZnO nanoflowers: characterization, degradation pathways and kinetic study*” organized by Department of Chemical Engineering, National Institute of Technology Tiruchirappalli, March 12-13, 2021.
3. International conference on ‘*Application of ZnO based nanocomposites for removal of hazardous pollutants from aquatic systems*’ Deenbandhu Chhotu Ram University of Science & Technology, Murthal 22- 23 March 2021
4. International conference on : “*Hydrothermally synthesized titania nanotubes for UV assisted degradation of Imidacloprid* “ International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE– 2021) DR B R Ambedkar National Institute of Technology Jalandhar, June 25-27, 2021
5. National Conference on Sustainable Research in Energy and Environment” present paper entitled “Degradation of bisphenol A from Aqueous systems using synthesized hybrid nanocomposite” on 15th-16th Jan, 2021 at Dr B R Ambedkar NIT, Jalandhar.
6. National Seminar on Intellectual property rights & patenting” held on 02nd July 2020, Guru Nanak

College, Budhlada.

7. International conference on Sustainable Research Technology and Development (IOCSEER -2020) Paper entitled "*Synthesis and Characterization of graphitic carbon nitride nanosheets for degradation of azo dye*" from 24th-25th Sept, 2020.
 8. National Seminar: UGC approved on "*Advances in nuclear and Solid state Physics*" in RSD College, Ferozepur city on 28/3/2018.
 9. National Conference "*Frontiers in Material Research and Applications*" (FMRA-2017) at Shaheed Bhagat Singh State Technical Campus, Ferozepur on 21/12/2017
 10. National Seminar AICET sponsored at Shaheed Bhagat Singh State Technical Campus, Ferozepur on 07/11/2017 "*Clean Energy Technologies*"
 11. National conference: *Interdisciplinary conference on Frontiers in Material Research & Applications (FMRA -2016)* SBS STC Ferozepur on 27th -28th Oct. 2016
 12. International conference "*Multitrack conference on Sciences, Engineering and Technical Innovations*" At CT Institute of Engg. and Management & Tech. Jalandhar. On 23-23 May 2015
 13. International conference "*Frontiers in Materials Research & Applications*" (FMRA 2014) at Shaheed Bhagat Singh State Technical Campus, Ferozepur on Oct. 30-31, 2014
 14. International conference "*Chemistry for Sustainable Development and Innovations*" at NIT Jalandhar (Punjab) – INDIA on 10 – 12 September 2012.
 15. National conference "*Science and Technology for sustainable Growth*" "organized by Punjab Science Congress on 14 – 16th Feb 2014 at Punjab Technical University, Jalandhar .
 16. National Conference on "*Emerging Trends in Basic & Applied Sciences*" at DAV college Jalandhar on 6-7th March, 2014
 17. National conference "*Science for Health*" at Baba Farid University of Health Sciences on 7-9th Feb. 2013 by Punjab Science Congress.
 18. National Conference "*Frontiers in material research & applications*" (FMRA-2015) at Shaheed Bhagat Singh State Technical Campus, Ferozepur on 24 December, 2015.
 19. National Conference organized by *Punjab Science Congress*, on 07-09, Feb, 2016 at SUS group of institutions, Tangori.
 20. National Seminar "*Scope of Pharmacy in Health Care System*" at Baba Farid University of Health Sciences, Faridkot on 27th April 2013.
- International Conference outside INDIA:**
21. International Conference on Chemical Process, Ecology & Environmental Engineering (ICCPEE'16) Attended on **28-29 April, 2016, for Oral presentation at Pattaya, Thailand.**

Session Chair:

Chaired a Technical Session in National conference on Sustainable Research in Energy and Environment (SREE-2021) organized jointly by Deptt of Biotechnology, Deptt of Chemical Engineering and centre for Energy & Environment under TEQIP –III, Ministry of Education , Govt. of INDIA.

AWARD (s):

Got Best Teacher's Award by CT University, Chandigarh on recommendation of Head of the institution. **2016**

REVIEWER FOR JOURNAL: 2

Appointed as a

- Peer Reviewer for "Colloid and Surface Sciences " by PG Science Publishing group, USA
- Reviewer of Oriental Journal of Chemistry

EDITORIAL MEMBER: 4

Working as a

- Editorial Board Member of Science Journal of Chemistry(SJC)
- Editorial Board Member of Indo American Journal of Pharmaceutical Research
- Editorial Board Member of SCIREA Journal of Chemistry
- Editorial Board Member of European Journal of Pharmaceutical and Medical Research

PAPERS REVIEWED:

1. *"Synthesis of uniform and stable molecularly imprinted polymer particles by precipitation polymerization"* for **Oriental Journal of Chemistry**
2. *"Influence of Nature of Spacer and Hydrocarbon Chain Length on Micellar Encapsulation of Polynuclear Aromatic Hydrocarbons by Carbohydrate Derived Non-Ionic Gemini Surfactants in aqueous ethanol medium"* for **Journal of Surfactants and Detergents**
3. *"Synthesis and application of novel glucose derived nonionic gemini surfactant"* for **Coloration Technology**

INVITED LECTURES/OTHER ACTIVITIES:

- As a resource person at Govt. in-service training centre, Ferozepur, on "polymers and synthetic fibres" on 24/10/2017.
- As a incharge in Science Fest "NEST-2016" at Punjab Degree College, Faridkot on 27/09/2017
- As a incharge in 2nd Science Fair at Akal University, Talwandi Sabo, Bathinda on 04/03/2017
- As an subject expert in 'State level workshop on professional development of young college teachers' at Punjab Degree College, Faridkot on 07/01/2017

FDPs / STCs / Workshops ATTENDED: 14

1. National seminar on "Managing references using Mendeley" at Govt. PG college, Pithoragarh on 27th April, 2022
2. Faculty Development Programme on "**Multimedia tools for teaching and Learning**" by Ramanujan College, University of Delhi on 22nd -28th July, 2021.
3. Faculty Development Programme on "**Research Methodology**" by Devi Ahilya Vishwavidyalaya, Indore (HRDC) from 21st – 26th June 2021.
4. Five days Workshop on "**Laboratory practices and Ethics**" Organized by Deptt of Life Sciences, Shool

of Basic Sciences and Research, Sharda University, Greater Noida from 8th – 12th Feb 2021.

5. Short Term course : under TEQIP-III on “***Material Characterization Techniques***” on 24th -28th Aug, 2020 by Dr B R Ambedkar National Institute of Technology, Jalandhar.
6. One week Short term course: on “***Advanced Energy Materials***” from 12th – 16th Oct, 2020 Organized by Dr B R Ambedkar National Institute of Technology, Jalandhar.
7. Faculty Development program cum workshop on “***Waste to Bioenergy***” from 28th Jun – 4th July 2020 organized by Deptt of Agricultural Engineering, Maharashtra institute of Technology, Aurangabad, UP.
8. Fine days Short Term Course on “***Analytical Techniques in the realm of Molecules and Materials***” by Deptt. Of Chemistry, Sant Longowal Institute of Engineering & Technology Longowal, Sangrur from 26th -30th June 2020.
9. Short Term course on “ ***Latest Development in Communication and microwave Technologies***” from 2nd – 6th Sept, 2020 organized by Dr B R Ambedkar National Institute of Technology, Jalandhar.
10. Faculty Development program cum Training Workshop on “***Environment, Water and Disaster Risk Reduction***” held from 13th -17th July, 2020 by National Institute of Disaster Management, Ministry of Home affairs, Govt. of India. New Delhi.
11. Faculty Development Program on “***Material Technology and Characterization Techniques***” at Shaheed Bhagat Singh State Technical Campus, Ferozepur from 21-25th Dec. 2015.
12. Faculty Development Program (1 week) on “***Recent Trends in polymers, composite and their Engineering Applications***” at Shaheed Bhagat Singh State Technical Campus, Ferozepur from 16-20th Sept. 2013.
13. Faculty Development Program (2 weeks) on “***Analytical Techniques for Detection of Environmental Pollutants***” from 16th – 27th Dec. 2013 at Shaheed Bhagat Singh State Technical Campus, Ferozepur
14. Short term course (1 week) on “***Material Engineering***” at Shaheed Bhagat Singh State Technical Campus, Ferozepur from 17-21st Dec. 2012.

MEMBERSHIPS: 03

- Life member of **PUNJAB ACADEMY OF SCIENCES, PATIALA**,
Membership no. L-1401
- Life member of **INDIAN SCIENCE CONGRESS ASSOCIATION, KOLKATA**
Membership no. L-28918
- Life member of **RESEARCHER SOCIETY OF CHEMICAL SCIENCES, INDIA:**
Membership no. RSCS/198/2018

Address for corresponding:

Dr. Nirmal Singh s/o Late.S.Gurbax Singh
#13/703, , street # 5/2 R New Cantt. Road
Faridkot: 151203 (Pb.) - INDIA
Contact: Mob: +9195015-62900
nirmalsinghsekhon2012@gmail.com