



## Faculty Details proforma for DU Web-site

Title	Prof.	First Name	Shive M. S.	Last Name	Chauhan	Photograph
Designation		<b>Professor</b>				
Address (Campus)		<b>Department of Chemistry, University of Delhi, Delhi-110007.</b>				
(Residence)		<b>CC-94B, Shalimarbagh, New Delhi-110088.</b>				
Phone No Office		<b>91-11-27666845</b>				
Residence		<b>91-11-27492024</b>				
Mobile		<b>9871969266</b>				
Email		<a href="mailto:smschauhan@chemistry.du.ac.in">smschauhan@chemistry.du.ac.in</a>				
Web-Page		<a href="http://shivemschauhan@webs.com">shivemschauhan@webs.com</a>				
<b>Educational Qualifications</b>						
Degree		Institution			Year	
Ph.D.		<b>Banaras Hindu University</b>			<b>1977</b>	
PG		<b>Banaras Hindu University</b>			<b>1972</b>	
UG		<b>Banaras Hindu University</b>			<b>1970</b>	
<b>Career Profile</b>						
Organisation / Institution		Designation		Duration		Role
IIT/Kanpur		Post-doctoral Fellow		Aug 1976-Dec 1977		Research
IIT/Kanpur		Research Associate		Jan 1978-Apr 1978		Research
IIT/Kanpur		Senior Post-doctoral Fellow		May 1978-Apr 1979		Research
University of Alberta		Post-doctoral Fellow		May 1979- Sep 1980		Research
University of Alberta		Post-doctoral Fellow		Oct 1980- Sep 1982		Research
IIT/Bombay		Lecturer (VFM)		Sep 1982-Sep 1984		Teaching and research
University of Delhi		Lecturer		Sep 1984-July 1986		Teaching and research
University of Delhi		Reader		July 1986-July 1996		Teaching and research
University of Delhi		Professor		July 1996-todate		Teaching and research

## Administrative Assignments

1. Acting Head of Department: time to time during 2007-2011
2. Head of Department (Aug 2011-Aug 2014)
3. Member of academic council from Aug 2014 - Aug2016 under professor's category

## Areas of Interest / Specialization

Bioorganic chemistry, synthetic organic chemistry, Catalysis, natural products and non-covalent interactions in chemistry & biological fields and supramolecular chemistry.

## Subjects Taught

1982-1984: Medicinal Chemistry and Bioorganic Chemistry

1984-present: Organic chemistry including stereochemistry, reaction mechanism, photochemistry, natural products, bio-molecules, medicinal chemistry, synthetic organic chemistry, chemistry of life processes, organic spectroscopy and supramolecular chemistry.

## Research Guidance

1. Supervision of awarded Doctoral Thesis: 40
2. Supervision of Doctoral Thesis, under progress: 4
3. Supervision of awarded M.Phil dissertations: 32
4. Supervision of M.Phil dissertations, under progress: Nil
5. Supervision of M. Tech Students: 8

## Publications Profile

### **Books/Monographs (Authored/Edited)**

Year of Publication	Title	Publisher	Co-Author
2004	Self-assembly of selected 5,10,15,20-Tetraarylporphyrins	RBSA, Jaipur	-
2005	Bioactive compounds from Himalayan medicinal Plants in Herbal Drug Research	Jaypee Brothers Medicinal Publishers(P) Ltd. New Delhi	Ambika, T. Bisht and P.P Singh
2015	Hexa-peri-hexabenzocoronene-porphyrinoids as models for functional graphenes in the development of newer materials	Tech Connect briefs (ISBN: 978-1-4-987-4727-1)	Ritika Nagpal, Smriti Arora, Wara Khan, Prashant Chauhan
2015	New trends in heterocyclic chemistry (Non-covalent synthesis of multiporphyrins)	RBSA Publishers, Jaipur (ISBN: 9788176115896)	-

### **Research papers published in Refereed/Peer Reviewed Journals**

Year of Publication	Title	Journal	Co-Author
2011	Meso-functional calix[4]pyrrole: A solution phase study of anion directed self assembly	J. Incl. Phenom. B. Garg and T. Bisht Macrocycl. Chem.; Vol. 70, pp. 249-255	

2011	Isolation , synthesis and biomimetic reactions of metalloporphyrinoids in ionic liquids	Curr. Org. Synth. Vol. 8 pp. 393-437	P. Kumari, N. Sinha and P. Chauhan
2011	Use of graphite oxide and graphene oxide as catalysts in the synthesis of dipyrromethane and calix[4]pyrrole	Molecules Vol. 16 pp. 7256-7266	S. Mishra
2011	Formation of hydridocobalt(III) phthalocyanine by reaction of cobalt(II) phthalocyanine with sodium borohydride and its reaction with antioxidant isoflavones	New J. Chem. Vol. 35 pp. 2639-2646	Poonam, P. Kumari and R. Nagpal
2011	Reductive dechlorination of atrazine using sodium borohydride catalyzed by cobalt(II) phthalocyanine	Tet. Lett. Vol. 52 pp. 7083-7086	Poonam, P. Kumari and S. Ahmad
2012	Chemoselective epoxidation of electron rich and electron deficient olefins catalyzed by meso-tetraarylporphyrin iron(III) chlorides in imidazolium ionic Liquids	New J. Chem. Vol. 36 pp. 650-655	P. P. Singh and Ambika
2012	2,2'-Diaminoazo-benzene- a potential scaffold for the synthesis of bisureas and thioureas: Solution phase anion sensing and binding studies	Sensors and Actuators B Vol. 168 pp. 318-328	B. Garg and T. Bisht
2012	Biomimetic oxidation of guggulsterone with hydrogen peroxide catalyzed by iron(III)porphyrins in ionic liquid	Catal. Comm. Vol. 25, pp. 28-31	A. Singhal
2012	Efficient oxidation of polycyclic aromatic hydrocarbons with H <sub>2</sub> O <sub>2</sub> catalyzed by 5,10,15-triarylcorrolatoiron (IV) chloride in ionic liquids	Catal Commun. Vol. 29, pp. 15-20	P. Kumari, R. Nagpal
2012	Role of hydroxyl functionalized ionic liquids in oxygenation and oxidation of phenols with H <sub>2</sub> O <sub>2</sub> catalyzed by iron (III) Porphyrins	Curr. Org. Chem. Vol. 16, pp. 2989-3001	S. Ahmad, K.K. Yadav
2013	Potassium carbonate catalyzed one pot four –component synthesis of rhodanine derivatives	Tet let. Vol. 54, pp. 2484-2488	S.J. Singh
2013	Activity guided isolation of antioxidants from the roots of Rheum Emodi	Natural product research, Vol. 27, pp. 946-949	P.P. Singh, Ambika
2014	Synthesis of 5,10,15,20-meso-unsubstituted and 5,10,15,20-meso-substituted-21,23-ditellura/diselena core-modified porphyrinogens: oxidation and detection of mercury(II)	RSC Advances Vol. 4, pp. 3171-3180	S. Ahmad, K.K. Yadav, S.J. Singh
2014	Hydrogen Bonded non-covalent synthesis by reaction of porphyrin appended calix[4]arene with 5,5-diethylbarbituric acid in solution	J Incl Phenom Macrocycl Chem. Vol. 78, pp. 103-111	T. Bisht, B. Garg

2014	Activity-guided isolation of antioxidants from the leaves of Terminalia arjuna	Natural Product Research, Vol. 28, pp. 760-763	Ambika, P.P. Singh
2014	1-Butyl-3-methyl imidazolium acetate catalyzed synthesis of N-substituted-5-arylidene-rhodanines	J. Heterocyclic Chem. (DOI 10.1002/jhet.1904)	S.J. Singh, S. Ahmad
2014	Convenient and efficient method for the synthesis of phthalocyanines and metallophthalocyanines in task specific 2-hydroxyethyl ionic liquids	Synth. Commun. 2014, 44, 2797-2807	K.K. Yadav, Poonam
2014	Sulfonated graphene catalyzed synthesis of expanded porphyrins and their supramolecular interaction with pristine graphene	J. Chem. Sciences. 2014, 126, 1729-1736	S. Mishra, S. Arora, R. Nagpal
2014	Surfactant assisted self assembly of zinc 5,10-bis (4-pyridyl)-15,20-bis (4-octadecyloxyphenyl) porphyrin into supramolecular nanoarchitectures	J. Material. Chem C 2014, 43, 447-457	R. Gautam
2014	Highly efficient synthesis of 21-thia-5,10,15,20-tetraarylporphyrins and 21,23-dithia-5,10,15,20-tetraarylporphyrins in presence of acidic ionic liquid catalyst	Tet. Lett., 2014, 55, 4537-4540	A.K. Rawat, S. Bhattacharya
2014	Efficient ZnCl <sub>2</sub> assisted synthesis of calix[4]pyrroles catalysed by Brønsted acidic ionic liquids	Tet. Lett., 2014, 55, 6969-6971	A.K. Rawat
2014	Elucidating the role of cobalt phthalocyanine in the dehydration of carbohydrates in ionic liquids	J. Mol. Catal. A: Chem., 2014, 394, 170-176	K.K. Yadav, S. Ahmad
2015	Efficient iron(III) porphyrins-catalyzed oxidation of guanidoximes to cyanamides in ionic liquids	J. Chem. Sci., 2015, 127, 13-18	P. Kumari, R. Nagpal, P. Chauhan, V. Yatindranath
2015	Synthesis of 21,23-Selenium and Tellurium substituted 5-Porphomethenes, 5,10-Porphodimethenes, 5,15-Porphodimethenes, and Porphotrimethenes and their interactions with mercury	J. Org. Chem., 2015, 80, 3880-3890	S. Ahmad, K.K. Yadav, S. Bhattacharya, P. Chauhan
2016	Synthesis of 3,4-dihydro pyrimidin-2(1H) one derivative of acid sensitive Aldehyde catalysed by lanthanum Nitrate in ionic liquids	J. Mat. NanoSci., 2016, 3,14-16.	P.P.Singh, Ambika,
2016	Synthesis, Properties and singlet Oxygen generation of thiazolidinone Double bond linked porphyrin at Meso and β-positions	RSC Advances, 2016, 6 36090-36095.	S Ahmad, KK Yadav, U . Narang, S. Bhattacharya, SJ Singh,

### ***Conference presentations:***

- Chauhan, S. M. S., Non covalent synthesis from functional porphyrins, calix[4]pyrroles and related macrocycles. National seminar on confluence of supramolecular chemistry and nanosciences. Jan 22-23, 2010.
- Chauhan, S. M. S., Supramolecular capsules from functional porphyrins & related macrocycles. 14<sup>th</sup> International conference Jan 15-18, 2010.
- Chauhan, S. M. S., Chemical synthesis of metalloporphyrins and related macrocycles and their biomimetic reactions in ionic liquids, National conference of green and sustainable chemistry, BITS Pilani, Feb, 19-21, 2010.
- Kumari, P.; Poonam and Chauhan, S. M. S., Efficient reduction of flavanoids with sodium borohydride catalyzed by cobalt phthalocyanines, National conference of green and sustainable chemistry, BITS Pilani, Feb, 19-21, 2010.
- Poonam, Kumari, P., Chauzar, M. Chauhan, S. M. S. The reduction of biologically active isoflavanones with sodium borohydride catalyzed by cobalt phthalocyanines, Trends in Drug Discovery and Development, University of Delhi, Jan, 5-8, 2010.
- Sinha, N., Gautam, R., Chauhan, P. S., Chauhan, S. M. S. Formation of hetero-hydrogen bonded capsules with functional aryl extended calyx[4]pyrroles, Trends in Drug Discovery and Development, University of Delhi, Jan, 5-8, 2010.
- Jaina, S. and Chauhan, S. M. S. Self-assembly of dimeric tetraurea calyx[4]pyrrole capsules, Trends in Drug Discovery and Development, University of Delhi, Jan, 5-8, 2010.
- Ahmad, S., Singhal, A. and Chauhan, S. M. S. Iron(III)porphyrin catalyzed polymerization of various aniline derivatives in ionic liquids. Trends in Drug Discovery and Development, University of Delhi, Jan, 5-8, 2010.
- Sinha, N., Tanwar, P. and Chauhan, S. M. S. Anion template in the synthesis of calix[4]pyrroles, 4<sup>th</sup> Indo-Italian seminar on green chemistry and natural products, University of Delhi, Nov, 17, 2010.
- Singh, S. J. and Chauhan, S. M. S. An efficient synthesis of 2,3,4-trisubstituted pyrroles. 4<sup>th</sup> Indo-Italian seminar on green chemistry and natural products, University of Delhi, Nov, 17, 2010.
- Ahmad, S., Singhal, A. and Chauhan, S. M. S. Polymerization of guaiacol in ionic liquid using lipid soluble metalloporphyrins. 4<sup>th</sup> Indo-Italian seminar on green chemistry and natural products, University of Delhi, Nov, 17, 2010.
- Nagpal, R., Poonam, Yadav, K. K. and Chauhan, S. M. S. Green synthesis of potential photonic and optoelectronic porphyrazines and its interaction with transition metal ions. 4<sup>th</sup> Indo-Italian seminar on green chemistry and natural products, University of Delhi, Nov, 17, 2010.
- Mishra, S., Rawat, A. K., Sharma, V., Debsmita and Chauhan, S. M. S. Covalent conjugates of porphyrin-carbon nanostructures. 4<sup>th</sup> Indo-Italian seminar on green chemistry and natural products, University of Delhi, Nov, 17, 2010.
- Mishra, S., Rawat, A. K. and Chauhan, S. M. S. Supramolecular interactions of porphyrin-carbon nanostructures. Recent advances in pure and applied chemistry, ACBR, University of Delhi, 28<sup>th</sup> - 29<sup>th</sup> Dec, 2010.

- Mishra, S. and Chauhan, S. M. S. Conjugates of porphyrinoids-carbon nanostructures, 13th CRSI-5th RSC National Symposium, NISER, Bhubaneswar, 6-8 Feb, 2011.
- Chauhan, S.M.S. 2011 invited lecture on “Organocatalysis with porphyrinoids in ionic liquids” in International Conference on Green Chemistry, Jaipur, Dec 7-9
- Singhal, A. and Chauhan, S.M.S. 2011 oral presentation on “metalloporphyrin catalyzed copolymerization of selected monomers with monooxygen donors in ionic liquids” in International Conference on Green Chemistry, Jaipur, Dec 7-9.
- Rawat, A. K., Bhattacharya, S. and Chauhan, S.M.S. 2011 “Interaction of toxic metals with calix[2]thieno[2]pyrroles and related macrocycles” in 3<sup>rd</sup> International Conference on Heterocyclic Chemistry, Jaipur, Dec 10-13.
- Sinha, N. and Chauhan S. M. S. 2011 “Synthesis of calix[4]pyrroles and its higher analogues in task specific ionic liquids” in 3<sup>rd</sup> International Conference on Heterocyclic Chemistry, Jaipur, Dec 10-13.
- Kumari, P., Nagpal, R. and Chauhan, S.M.S. 2011 “Efficient oxidation of polycyclic aromatic hydrocarbons with hydrogen peroxide catalyzed by 5,10,15-triarylcorroloatoiron(IV) chloride in ionic liquids” in 3<sup>rd</sup> International Conference on Heterocyclic Chemistry, Jaipur, Dec 10-13.
- Gautam, R., Singhal, A. and Chauhan, S.M.S. 2011 “Amberlyst-15 catalyzed synthesis of calix[4]pyrrolines and related compounds Using dipyrromethanes as precursors and their noncovalent interactions” in 3<sup>rd</sup> International Conference on Heterocyclic Chemistry, Jaipur, Dec 10-13.
- Mishra, S.; Chauhan, S. M. S.; “Synthesis of Porphyrins and expanded porphyrins catalyzed by sulfonated graphene oxide” in National conference on Carbon materials 2012 (CCM12), Indian Carbon Society, Mumbai, Nov 1st -3rd, 2012.
- Rawat, A. K.; Bhattacharya, S.; Chauhan, S. M. S.; “Synthesis of 21-thia-5,10,15,20-tetraarylporphyrins from 5-aryldipyrromethanes and 2,5-bis-(arylhydroxymethyl)thiophene in acidic ionic liquids” in Indo-German workshop on new perspectives for nano-carriers in biomedical applications, University of Delhi, Jan 14, 2013.
- Gautam, R.; Chauhan, S. M. S.; “Surfactant assisted self assembly of unsymmetrical porphyrin containing long chain into nanocube and nanorod” in Indo-German workshop on new perspectives for nano-carriers in biomedical applications, University of Delhi, Jan 14, 2013.
- Yadav, K. K.; Ahmad, S.; Chauhan, P.; Chauhan, S. M. S.; “Highly efficient cobalt (II)phthalocyanine-catalyzed conversion of hexoses to 5-hydroxymethyl furfural in ionic liquids” in Indo-German workshop on new perspectives for nano-carriers in biomedical applications, University of Delhi, Jan 14, 2013.
- Rawat, A. K.; Bhattacharya, S.; Chauhan, S. M. S.; “Synthesis of oxoporphyrinogen, N-alkylated oxoporphyrinogens and their anionic interactions” in Lecture workshop/conference on Emerging trends in development of drugs and devices, Jan 21st -23rd 2013.
- Poonam; Nagpal, R.; Chauhan, S. M. S.; “Efficient synthesis of substituted metalloporphyrines, as photodynamic agents and its interaction with transition metal ions” in Lecture workshop/conference

on Emerging trends in development of drugs and devices, Jan 21st -23rd 2013.

- Nagpal, R.; Chauhan, S. M. S.; “Synthesis of selected functional hexabenzocoronenes” in Lecture workshop/conference on Emerging trends in development of drugs and devices, Jan 21st -23rd 2013.
- Mishra, S.; Arora, S.; Chauhan, S. M. S.; “Selected organic transformations by chemically modified graphenes” in 7th RSC-15th CRSI National Symposium in Chemistry, BHU, Varanasi, Feb 1-3, 2013.
- Gautam, R.; Chauhan, S. M. S.; “Surfactant assisted preparation and structural control of metal coordination-assisted supramolecular architectures of porphyrins” in National seminar in chemistry in interdisciplinary applications, H. R. College, University of Delhi, March 19, 2013.
- Bhattacharya, S.; Rawat, A. K.; Chauhan, S. M. S.; “Acidic ionic liquids catalyzed synthesis of 21-thia-5,10,15,20-tetraarylporphyrins from dipyrromethanes and 2,5-bis-(arylhydroxymethyl)thiophene” in National seminar in chemistry in interdisciplinary applications, H. R. College, University of Delhi, March 19, 2013.
- Yadav, K. K.; Ahmad, S.; Chauhan, P.; Chauhan, S. M. S.; “Highly efficient cobalt (II)phthalocyanine-catalyzed conversion of hexoses to 5-hydroxymethyl furfural in ionic liquids” in National seminar in chemistry in interdisciplinary applications, H. R. College, University of Delhi, March 19, 2013.
- Ahmad, S.; Yadav, K.K. and Chauhan, S.M.S.; *Cationic manganese(III)porphyrin-ionic liquid complex catalysed synthesis of aryl-14H-dibenzo[a,j]xanthenes*; *Int. Rev. Appl. Eng. Res.* 2013, 3, 35-38.
- Yadav, K.K.; Ahmad, S. and Chauhan, S.M.S.; *Zinc tetranitrophthalocyanine: synthesis in guanidinium ionic liquids and structural isomers separation*; *Int. Rev. Appl. Eng. Res.* 2013, 3, 39-42.
- Nagpal, R.; Khan, W. and Chauhan, S.M.S.; Hexa-peri-hexabenzocoronene–porphyrin as a model for graphene-porphyrin conjugate; 20<sup>th</sup> ISCB International Conference (ISCBC-2014) on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, Department of Chemistry, University of Delhi, Delhi, India March 1 - 4, 2014.
- Gautam, R. and Chauhan, S.M.S.; Synthesis and characterization of Porphyrins coordinated to ruthenium(II) polypyridyl complexes, 20<sup>th</sup> ISCB International Conference (ISCBC-2014) on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, Department of Chemistry, University of Delhi, Delhi, India March 1 - 4, 2014.
- Arora, S.; Garg, K. and Chauhan, S.M.S.; Synthesis of ruthenium complex of 1-[5-(4-aminophenyl)10,15,20-tri-(4-methylphenyl)porphyrinatozinc]-4-(2-pyridyl)-1,2,3-triazoles as sensitizers for photodynamic therapy (PDT), 20<sup>th</sup> ISCB International Conference (ISCBC-2014) on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, Department of Chemistry, University of Delhi, Delhi, India March 1 - 4, 2014.
- Narang, U.; Jain, S.D. and Chauhan, S.M.S.; Synthesis and non-covalent interactions of double decker porphyrins of cerium, 20<sup>th</sup> ISCB International Conference (ISCBC-2014) on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, Department of Chemistry, University of

Delhi, Delhi, India March 1 - 4, 2014.

- Yadav, K.K.; Ahmad, S.; Bhattacharya, S. and Chauhan, S.M.S.; New organosoluble xanthenedione substituted non-aggregating Phthalocyanine: Photodynamic agents. National symposium on Transcending Frontiers in Organic Chemistry, CSIR-NIIST, Thiruvananthapuram, Kerala, India, Oct 9-11, 2014.
- Bhattacharya, S.; Ahmad, S. and Chauhan, S.M.S.; Synthesis of Hg(II) sensitive thia hybrid-calixphyrins from thiophenic tripyrranes and substituted thiophenic diols; National symposium on Transcending Frontiers in Organic Chemistry, CSIR-NIIST, Thiruvananthapuram, Kerala, India, Oct 9-11, 2014.
- Narang, U. and Chauhan, S.M.S.; Generation of singlet oxygen via new conformationally flexible porphyrin tweezers; National symposium on Transcending Frontiers in Organic Chemistry, CSIR-NIIST, Thiruvananthapuram, Kerala, India, Oct 9-11, 2014.
- Gautam, R. and Chauhan, S.M.S.; Synthesis of Porphyrins coordinated to ruthenium(II) polypyridyl complexes and their application in photodynamic therapy, Int. Symposium on Bioorganic Chemistry, IISER Pune, 11-15 Jan. 2015.
- Nagpal, R. and Chauhan, S.M.S. Synthesis of novel hexabenzocoronene linked calixphyrin, Int. Symposium on Bioorganic Chemistry, IISER Pune, 11-15 Jan. 2015.
- Arora, S. and Chauhan, S.M.S. Synthesis, characterization and photophysical properties of 1,2,3-triazolyl-pyridine porphyrin-ruthenium(II) bipyridyl dyad, IISER Pune, 11-15 Jan. 2015.
- Chauhan, SMS; Hexa-peri-hexabenzocoronene-porphyrinoids as models for functional graphenes in the development of newer materials, Tech connect world innovation, Washington DC, June 14-17, 2015.
- Arora, S.; Chauhan, S.M.S.; Improved Synthesis of *meso*-Aryl-Substituted [26]Hexaphyrins, ISCBC-2015, Uka Tarsadia University, Surat.
- Narang, U; Bhattacharya, S.; Yadav, K. K.; Chauhan, SMS; Synthesis and applications of porphyrins-pyrene conjugates by click reaction, ISCBC-2015, Uka Tarsadia University, Surat.
- Bhattacharya, S.; Ahmad, S.; Chauhan, SMS; Synthesis of novel core modified expanded calixphyrins and its application in detection of mercury, National Conference on recent advancements in chemical sciences, RAICS-2015, MNIT Jaipur, Rajasthan.
- Jain, S. D.; Narang, Uma; Chauhan, SMS; Synthesis of selected cerium(IV) double decker porphyrin and their non-covalent interactions, RAICS-2015, MNIT Jaipur, Rajasthan.
- Bhattacharya, S.; Narang, U.; Yadav, K. K.; Chauhan, S.M.S.; Synthesis of selected core-modified expanded porphyrinoids and their implications on photodynamic therapy and aromaticity, DU-JAIST, University of Delhi.
- Arora, S.; Nagpal, R.; Chauhan, S.M.S; Sulfonated graphene – an efficient catalyst for dye removal in aqueous solution, ICMTECH-2016, University of Delhi, Delhi..
- Narang, U.; Bhattacharya, S.; Yadav, K. K. and Chauhan, SMS; Synthesis of conformationally flexible porphyrin tweezers and their applications in generation of singlet oxygen, ICMTECH-2016, University of Delhi, Delhi..



### Research Projects (Major Grants/Research Collaboration)

- Principal Investigator, University of Delhi project Titled “Chemical studies of fullerene-porphyrin, fullerene-phthalocyanines and related compounds”, 2010.
- Principal Investigator, DST project Titled “Biomimetic studies of porphyrinogen and their non-covalent interaction in the biosynthesis of heme and related life pigments”, 2009-todate.
- Principal Investigator, DST project Titled “Synthesis of functional calix[4]pyrrole and related compounds and other applications in anion binding, self-assembly and catalysis”, 2005-2008.
- Principal Investigator, CSIR project Titled “Synthesis of covalently linked multiporphyrinic arrays as models for light harvesting systems and development of other newer materials”, 2005-2008.
- Principal Investigator, UGC One time Grant Titled “Synthesis of selected expanded porphyrionids and their implications on photodynamic and aromaticity”, 2016-2017.

### Awards and Distinctions

- Basudev Banarjee Memorial Award for 1993 by Indian Chemical Society.
- Prof. R.C.Shah Memorial Award for 1996-97 by Indian Science Congress Association.
- Bronze Medal for 2003-2004 by Chemical Research Society of India.
- Dr. W U Malik Memorail Award for 2010 by Indian Council of Chemists.
- Shiksha Ratan Puraskar by India International Friendship Society in 2011.

### Association With Professional Bodies

**Editing:** Nil

**Reviewing:** Research articles from different chemical journals  
Research proposals of different funding agencies such as CSIR, DST and DBT

**Advisory Committee:** Various universities and CSIR.

**Committees and Boards:** Executive member of Editorial Committee of The Wealth of India, National Institute of Science Communication and Information Resources, CSIR

**Life memberships of the following Professional Academic Societies:**

- Indian Science Association (LM 1339)
- Indian Society of Radiation and Photochemical Sciences (LM 05)
- Indian Association for Cancer Research Indian Council of Chemists
- Society for Plant Biochemistry and Biotechnology (L 98)
- Indian Society of Analytical Scientists (LM 609)
- Society of Biological Chemists
- Indian Society of Chemists and Biologist (FN 66)
- Indian Society of Bioorganic Chemists
- Indian Chemical Society (LM 3296)

***Office Bearer: Nil***

**Other Activities**

- **Delivered invited lectures at different Universities, Research Institutes, Symposia and Seminars.**
- **Executive member of Indian Society of Chemists and Biologists.**

