

## Professor Ramesh Chandra

Professor & Head

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## FROM THE DESK OF THE HEAD OF THE DEPARTMENT

The University of Delhi is a legendary place and home of some of the most accomplished scientists and academic leaders. The chemistry teaching in Delhi University was started in 1922 with three constituent colleges - St. Stephens, Hindu and Ramjas. The chemistry teaching was confined to a two year course for B. Sc. degree in the Department, and the teaching up to I.Sc. level was conducted in the constituent colleges of the University. In October 1933, the University Offices and library were shifted to the Viceregal Lodge Estate and the Chemistry Department was made an inconspicuous beginning in the Viceregal Kitchen, which was used for conducting the lectures and practical classes. In 1942, new Laboratories and lecture rooms were constructed and visionary faculty members were invited by special efforts of illustrious Vice Chancellor, Sir Maurice Gwyer and M.Sc. degree course in the Departments was started with intake of 12 students, under the guidance of Prof. Shanti Swarup Bhatnagar, Dr. S. Z. Siddiqui (first Head of NCL), Dr. Jagdish Shankar and Dr. B. D. Jain. In June 1949, Professor T R Seshadri took over as Head of the Department and owing to his untiring effort, the research activities gradually increased, and the Department attained formidable reputation in the International scene as one of the finest Schools of Chemistry. In 1963, the University Grants Commission recognized the Department of Chemistry as a Centre of Advanced Study for the Chemistry of Natural Products. In 1965, the Department of Chemistry was recognized as a Centre of Advanced Study in Chemistry.

The Department of Chemistry is well known for its excellence in teaching and research. The faculty members of the Department are engaged in excellent research and are encouraging/mentoring college teachers in quality research. The Department has around 600 M. Sc. students and 500 Ph.D and Post-Doctoral fellows. The Department has made great strides by revising and updating the B. Sc. and M. Sc. syllabus time and again. A thoroughly updated and revised M. Sc. syllabus has been implemented in the year 2009. In the International Year of Chemistry, the Department incorporated project work in its M. Sc. curriculum and students are now being exposed to writing a project and also developing communication skills. Advanced level optional courses are also offered at the Ph. D. level and these courses are taught semester wise. Collaborative research programmes with many National and International Research Institutes/Universities are also operating with mutual benefit. The Department has distinguished itself as a Centre for Innovative and Pioneering Research in a wide range of areas in Chemistry and Chemistry interfacing with Physical and Biological sciences. It has attained the status of a DST-FIST Sponsored



Department. The Department is recognized as one of the best performing Chemistry Department in the country by DST in the International Year of Chemistry (2011). The Department is also a Center for the activities of the Royal Society of Chemistry, London and American Chemical Society.

Taken as a whole, the faculty has a record of achievement that is virtually unmatched in academia. Throughout the Department's history, the faculties have received prestigious honours including the world's most prestigious Fellowship of Royal Society (FRS) to two of its faculty members, namely, Prof. Shanti Swarup Bhatnagar and Prof. T. R. Seshadri, half a dozen.

Fellows of Royal Society of Chemistry (FRSC), several Fellows of National Academy of Science (FNASc), Indian Academy of Science (FASc) and Indian National Science Academy (FNA), Shanti Swarup Bhatnagar Laureate (Bhatnagar Award), Rajib Goyal Young Scientist, Rhode Fellowship, Life Time Achievement Award of Indian Chemical Society, Fulbright Fellowship, Rockefeller Foundation Award, BOYSCAST fellowship award UGC Career Award, Research Scientist Award, among other prestigious honors. Our faculty members are passionate, curious, and energetic and are working to explore and to unravel the causes of disease. The fundamental questions that inform their research are posed in the service of expanding knowledge, and the results they generate have opened up new fields and overturned long-held dogma. It's this emphasis on inquiry and discovery above all else that sets DU-Chemistry apart from its peers and it has sustained its excellence over more than 93 years. DU-Chemistry faculty asks questions that push the very boundaries of Human Knowledge. Ours is highly flexible master and doctoral degree program designed to educate and inspire tomorrow's scientific leaders. Ours Laboratories are at the centre of the student experience. Our dedicated faculty is made up of the brightest and most creative scientists, including innovators, pioneers and are remarkably productive, and empowered to perform at their best. That's why we have an unparalleled concentration of researchers and trainees recognized with top awards. Our faculty members get to know every student one-on-one, helping each to plan and execute a course of study that's just right for them. In addition to mentorship from faculty advisors, students receive careful and thoughtful guidance. The faculty members listen to student's needs, and help create a strategy to achieve it. Students design and conduct experiments to yield new knowledge, working across disciplines and benefiting from the knowledge and resources of our research laboratories across broad research areas.

DU Chemistry Department education opens the door to opportunities in academia, biotech, pharma, business, policy and beyond. Our Office of "Career and Professional Development" offer students personal assistance in exploring their options and clarifying their goals, offering a springboard to a rewarding career in science. Our student life extends far beyond the lab bench. Our students perform in cultural activities, play sports and volunteer in the community. Scientific and non-scientific speakers fill the University's lecture calendar. Venturing beyond our leafy, serene campus, the students find themselves in the heart of Delhi. Easy access to world-class museums, concerts and theatre provides artistic balance to scientific pursuit. DU Chemistry Department is committed to providing professional and personal support that allows our students to take on learning. We offer a generous stipend to the selected meritorious master's students, and full fellowships to all research degree (Ph.D.) students, health benefits for students, and an annual research budget intended to enrich scientific training. On DU campus, Delhi University Women's Association (DUWA) provides affordable group childcare for the entire community. Our students receive subsidized housing in clean, secure and comfortable University hostels.



Our Science Outreach Program goal is to engage students with hands-on, mentored science and to run workshops to provide teachers with the tools they need to instil a passion for science in their students. Our upcoming LAB Out Loud (LOL) programme will be free science-cafe-style talks for high school (10+2) students and teachers. After the talk there will be an opportunity for the volunteer scientists to communicate their science in a casual setting with high school students over snacks and refreshments. The goal is to give high School students an opportunity to simply chat with actual scientists, allowing them to connect with scientists and science on a more human level. What's even more fascinating is not just the University has been successful, but that it has sustained this success over time.

The act of creating something truly novel occurs so rarely that it is seldom followed by another such act. Our alumni and their achievements makes us proud as their alma-mater seek their support, and we plan to have regular interaction with them. We are committed to mobilizing Delhi University Chemistry Department's intellectual, human and financial resources to fully realize our promised dreams. We invite you to join us across the University, the nation and the world in our campaign to achieve academic excellence and contribute for the benefit of "MAN KIND".

Ramerhelhondro

**Professor Ramesh Chandra** Head, Department of Chemistry



## HISTORY OF THE CHEMISTRY DEPARTMENT







1922: Department was established with two year B.Sc. Course
1924: Miss A.M. Bains was appointed first Head of the Department
1943: B. Sc. (Honours) and M.Sc. was started
1956: B. Sc. Teaching was transferred to the colleges
1970: B.Sc. (Honours) was transferred to the colleges

**1963:** UGC Recognized the Department as "Centre of Advanced Study for the Chemistry of Natural-Products"

**1965:** UGC Recognized the Department as "Centre of Advanced Study for in Chemistry"

**1966:** UGC Provided Special Grant for the construction of fourstoreyed building for the expansion of the Department



## THE GREAT LEGENDS OF THE DEPARTMENT

## Father of Research Laboratories Father of Natural Products In India

(1941-1943)



Prof. S.S. Bhatnagar, rs Prof. T.R. Seshadri, rs

**1936:** Conferred with OBE (Order of British Empire) **1943:** Elected as FRS **1954:** Padma Bhushan **Founder** Director CSIR **First** Director General CSIR **First** Chairman, UGC

(1949-1965)

Chemistry In India



- **1942:** Elected as FNA
- **1960:** Elected as FRS
- **1963:** Padma Bhushan
- **1967:** President INSA



## CURRICULAR ASPECTS/ TEACHING AND RESEARCH

The Department offers M.Sc. and Ph.D. Courses in Chemistry. The Department has at present 36 faculties. 21 Professors, 4 Associate Professors and 10 Assistant Professors. All the faculties of the Department are expert of different field of chemistry and have postdoctoral experience from Universities/Institute of repute.

ADMISSION										
Program	Selection process	Student intake	Student-Teacher ratio							
M.Sc.	50% merit and 50%	600	7.5							
	entrance based									
Ph.D	As per University	As per University	As per University							
	ordinance VI	ordinance VI	ordinance VI							

M.Sc. COURSE STRUCTURE												
Semester	Core courses		Elective courses		Open elective courses		Total credits					
	No. of papers	Credits (L+T/P)	Total credits	No. of papers	Credits (L+T/P)	Total credits	No. of papers	Credits (L+T/P)	Total credits	create		
I	3	12 + 6	18	Nil		0	Nil		0	18		
II	3	12 + 6	18	Nil		0	Nil		0	18		
ш	3	12	12	2	8	8	1	4	4	24		
IV	0		0	4	12 + 8	20	1	4	4	24		
Total credits			48			28			8	84		

## STUDENTS ADMITTED in M.Sc. and Ph.D. COURSES











Faculty research publication with impact factor during (2013-2017)





## M.Sc. COURSE OFFERED

## THEORY

## PRACTICALS AND SPECIAL PAPERS

- PART I SEMESTER-1
- Unit-I (Analytical Techniques For Material Characterization)
- Unit-II (Analytical Techniques For Material Characterization)
- Paper 101 Inorganic Chemistry-I
- Paper 102 Organic Chemistry-I
- Paper 103 Physical Chemistry-I
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## • PART I SEMESTER-2

- Paper No. 201 Inorganic Chemistry-II
- Paper No. 202 Organic Chemistry-II
- Paper No. 203 Physical Chemistry-II
- •
- PART II SEMESTER-3
- Paper No. 301 Inorganic Chemistry-III
- Paper No. 302 Organic Chemistry-III
- Paper No. 303 Physical Chemistry-III
- Paper No. 3101 Inorganic Chemistry (Special-I)
- Paper No. 3201 Organic Chemistry (Special-I)
- Paper No. 3301Physical Chemistry (Special-I)
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- PART II SEMESTER- 4
- Paper No. 4101 Inorganic Chemistry (Special-II)
- Paper No. 4102 Inorganic Chemistry (Special-III)
- Paper No. 4103 Inorganic Chemistry (Special-IV)
- Paper No. 4104 Inorganic Chemistry (Special-V)

- Paper No. 4105 Practical Inorganic Chemistry
- Paper No. 4106 Inorganic Chemistry Project & Evaluation
- Paper No. 4201 Organic Chemistry (Special-II)
- Paper No. 4202 Organic Chemistry (Special-III)
- Paper No. 4203 Organic Chemistry (Special-IV)
- Paper No. 4204 Organic Chemistry (Special-V)
- Paper No. 4205 Practical Organic Chemistry
- Paper No. 4206 Organic Chemistry Project & Evaluation
- Paper No. 4301 Physical Chemistry (Special-II)
- Paper No. 4302 Physical Chemistry (Special-III)
- Paper No. 4303 Physical Chemistry (Special-IV)
- Paper No. 4304 Physical Chemistry (Special–V)
- Paper No. 4305 Physical Chemistry (Special-VI)
- Paper No. 4306 Physical Chemistry (Special-VII)
- Paper No. 4307 Physical Chemistry (Special-VII
- Paper No. 4307 Physical Chemistry (Special-
- Paper No. 4308 Physical Chemistry (Special-IX)
- Paper No. 4309 Physical Chemistry (Special-X)
- Paper No. 4310 Physical Chemistry (Special-XI)
- Paper No. 4311 Physical Chemistry (Special-XII)
- Paper No. 4312 Practical Physical Chemistry
- Paper No. 4313 Physical Chemistry Project & Evaluation



## Ph.D. COURSE OFFERED

- Unit-I (Analytical Techniques For Material Characterization)
- Unit-II (Analytical Techniques For Material Characterization)
- Unit-III (Advanced Chemical Kinetics)
- Unit-IV (Advanced Materials Chemistry)
- Unit-V (Advanced Mathematical and Numerical Techniques for Chemists)
- Unit-VI (Application of Nano Clays/Modified Clays and Zeolites/Zeolitic Materials Introduction)
- (Unit-VII) Applications of Molecular Symmetry and Group Theory
- Unit-VIII (Application of Molecular Orbital Theory in Biochemistry)
- Unit-IX (Applications of Magnetic Resonance Technique to Inorganic Compounds)
- Nuclear Magnetic Resonance Spectroscopy:
- Unit-X (Electronic Paramagnetic Resonance Spectroscopy)
- Unit-XI (Bio Inorganic Chemistry-II)
- Unit-XII (Biomolecules)
- Unit-XIII (Chemistry of Natural Products of Marine Sources)
- Unit-XIV (Chemistry of Polymers)
- Unit-XV (Chemoinformatics)
- Unit-XVI (Chemistry of Corrosion)
- Unit-XVII (Computer Programming for Chemists)
- Unit-XVIII (Contemporary Electrochemistry)
- Unit-XIX (Coumarins and Flavanoids)
- Unit-XX (Electron Spin Resonance Spectroscopy)
- Unit-XXI (Elementary Molecular Orbital Theory and its Application in Chemistry)

- Unit-XXII (Green Chemistry)
- Unit-XXIII (Inorganic Reaction Mechanisms Advanced Level)
- Unit-XXIV (Introductory Quantum Chemistry)
- Unit-XXV (Medicinal Chemistry)
- Unit-XXVI (Metal-Catalyzed Cross-Coupling Reactions)
- Unit-XXVII (Molecular Modelling)
- Unit-XXVIII (Nanochemistry)
- Unit-XXIX (Numerical Methods and Optimization Techniques)
- Unit-XXX (Organometallic Chemistry)
- Unit-XXXI (Organic Name Reactions)
- Unit-XXXII (Organic synthesis-I)
- Unit-XXXIII (Organic Synthesis-II)
- Unit-XXXIV (Peptides and Proteins)
- Unit-XXXV (Physical Organic Chemistry)
- Unit-XXXVI (Single Electron Transfer Chemistry)
- Unit-XXXVII (Spectroscopy: Applications for organic chemists)
- Unit-XXXVIII (Statistical Mechanics of Complex Fluids)
- Unit-XXXIX (Statistical Mechanics of Interacting Systems)
- Unit-XXXX (Structural Chemistry of Silicate Materials and their Application)
- Unit-XXXXI (Synthesis of Zeolites and Zeolitic materials)
- Unit XXXXII (Synthetic Chemical Modeling of Metallo-proteins and Metallo-enzymes)
- Unit-XXXXIII (Synthetic Organic Chemistry-III)
- Unit-XXXXIV (Strained organic molecules and pericyclic reactions)
- Unit-XXXXV (Thermo-Analytical Methods of Analysis)



## CURRICULAR ASPECTS/ TEACHING AND RESEARCH







## **KEY INSTRUMETS OF THE DEPARTMENT**



400 MHz NMR



Powdered XRD



Polarimeter



TGA/DTA



UV-Vis Spectrophotometer



FTIR Spectrometer WithATR



**FTIR Spectrometer** 



TEM (300 KV)









Single Crystal XRD CD Spectro Polarimeter

CHNSO Analyser

**Time Resolved Fluorescence** 

## **RECOGNITION AND REWARD TO THE DEPARTMENT BY SCIENCE AND TECHNOLOGY (DST)**

Department was Recognized by DST, Govt. Of India in 2011, as one of the best performing Chemistry Department in the Country, based on quality of **Research publications, Citations and H-Index.** 

IDRPARTMENT WAS REWARDED BY A SPECIAL GRANT OF RS. 1.5 CF

The GRANT WAS UTILIZED FOR THE PURCHASE OF HIGH RESOLUTION MASS SPECTROMETRY (HRMS)





## TEACHING-LEARNNING/EVALUATIONN



AC Class Rooms of the Department Enabled with LCD Projector



Interaction of Department Faculties with M.Sc. and Ph.D. Students



## TEACHING-LEARNNING/EVALUATIONN



Poster Presentation by M.Sc. and Ph.D. Students During International Conference On Emerging Trends in Drugs Development and Natural-Products January 12th -14th, 2018



Group Photograph of M.Sc. and Ph.D. Students of the Department with Eminent Scientist of our Country During International Conference On "Emerging Trends in Drugs Development and Natural-Products" (ETDDNP) January 12th -14th, 2018



## TEACHING-LEARNNING/EVALUATIONN

## STUDENTS AWARDS/RECONGNITION

Medals, Prizes and Scholarships Given by the Department to M.Sc. Students

- > National Scholarship–Centre of Advanced Study > Lala Bhagwan in Chemistry
- > Smt. Ramti Devi Goel Memorial Scholarship
- Professor KBL Mathur Gold Medal
- > Professor TR Seshadri Prize
- > VB Mahesh Scholarship
- > Prof. GBV Subramanian Memorial Gold Medal

- Das Goel Memorial Scholarship
- > Shailaja Sehgal Memorial Scholarship
- > Professor RP Mitra Gold Medal
- > Professor KN Johri Gold Medal
- > Surendra and Karan Gupta ARC Foundation Scholarship
- > Professor AC Jain Scholarship
- > Jean and Ashit Ganguly Education Foundation Scholarships





MERITORIOUS AWARDS PRESENTED TO M.Sc. STUDENTS OF DEPARTMENT BY EMINENT SCIENTISTS

































## FACULTY ACHIEVEMENTS (SELECTED PRESTEGIOUS AWARDS AND HONOURS)

Fellow of Royal Society (FRS)

Professor Sir Shanti Swarup Bhatnagar (1943)

Professor T. R. Seshadri (1960)

Bhatnagar Laureates

Professor A. C. Jain (1969)

Professor N. K. Ray (1983)

## **INSA** Fellows

- Professor T. R. Seshadri
- Professor R. P. Mitra
- Professor S. Varadarajan
- Professor N. K. Ray

- Professor T. R. Rangaswami
- Professor A. C. Jain
- Professor S. K. Mukerjee
- Profesor A. N. Maitra

## Fellow Indian Academy of Sciences (FASC)

Professor Rama Kant (2015)

Millennium-Plaques-of -honour

Professor Ramesh Chandra (2017-18)

## **BOYSCAST Fellow**

Professor Akhilesh K. Verma (2007)

## **CRSI BRONZE Medal Awardees**

- Professor Rama Kant (2015)
- Professor Rajeev Gupta (2016)

• Dr. P. Venkatesu (2017)



## STUDENTS REPRESENTATION AT INTERNATIONAL FORUM

## FOLLOWING STUDENTS REPRESENTED OUR COUNTRY IN LINDAU NOBEL LAUREATE MEETING, GERMANY



Dr. Trapti Aggarwal (2014) Supervisor: Prof. A. K. Verma



Anjali Devi Das M.Sc. Students (2013-14 Batch)



Dr. Monika Patel (2017) Supervisor: Prof. A. K. Verma

## STUDENTS REPRESENTATION AT NATIONAL FORUM



Dr. Rakesh K. Saunthwal 2017 NOST, Best Thesis Award INDO-US Fellowship:2017 Overseas Fellowship: 2017; Postdoc: Jonathan Clayden; Supervisor: Prof. A. K. Verma



Dr. Chinna Rajesh ISCA Best Research Scholar Award: Silver Medal 2014 ; INDO-US Fellowship:2017; Postdoc: Indiana Univ. USA; Supervisor: Prof. D. S. Rawat



Dr. Trapti Aggarwal NOST, Best Thesis Award (2014) UGC Women Scientist:2017 JSPS Fellowship: 2017 Postdoc: Norio Shibata, Japan Supervisor: Prof. A. K. Verma



## STUDENT SUPPORT AND PROGRESSION CARRIER/PERSONAL COUNSELLING





CARRIER COUNSELLING of RESEARCH SCHOLARS



## STUDENT SUPPORT AND PROGRESSION





INAUGURATIN OF S.S. BHATNAGAR CHEMICA SOCIETY



## STUDENT SUPPORT AND PROGRESSION



STUDENTS REPRESENTATION IN ACADEMIC/ADINISTRATIVE COMMITTEES ALUMNI DEPARTMENT OF CHEMISTRY, UNIV. OF. DELHI



Satyapal Singh M.Phil. Chemistry Dept. of Chemistry, DU Minister of State HRD Member of Parliament Indian Police Services



Prof. V.S. Chauhan Ph.D. in Chemistry

Dept. of Chemistry,DU Padma Shri Awardee Former UGC Chairman Director ICGEB (1998-2014)



Prof. K.N. Ganesh Ph.D. in Chemistry Dept. of Chemistry,DU Director, IISER Tirupati Former Director, IISER Pune





## INSTITUTIONAL VALUES AND BEST PRACTICES

**GREEN PRACTICES** 



Plantation by Students/Faculties and Staff of the Department

# FACULTY PROFILE



## Prof. Ramesh Chandra

(Head of the Department)

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Prof. Ramesh Chandra is a revered teacher, distinguished scientist; outstanding researcher and exceptionally successful administrator who excel in institution building. He is Professor of Chemistry at University of Delhi since 1985 and Founder Director of Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi since 1991, which has acquired Interna

-tional status through its original and creative research output. He has been Vice-Chancellor, Bundelkhand University, Jhansi for six years (1999-2005) as well as the Member, Planning Commission, Government of U.P., India, Secretary -Zaheer Science Foundation, New Delhi and Non-official Director, Rashtriya Ispat Nigam Ltd. (RINC). He is president of International Society for Nanomedical Science, USA. He has started his research career at the University of Delhi, thereafter he went to The New York Hospital-Cornell University Medical Center and The Rockefeller University, New York; State University of New York at Stony brook, New York as Assistant Research Professor. He conducted advanced research at the Harvard University Medical School-Massachusetts General Hospital (MGH), jointly at MIT, Cambridge, USA. Over the last 38 years. Professor Chandra has contributed largely in the field of Chemical/Biomedical Sciences. He has supervised 90 Ph. D. and 10 M. Phil. Students, more than half a dozen patents and over 300 original Scientific Research Papers in International journals. Prof. Chandra is the recipient of several professional national/ international recognitions. These includes Millenium Plague of Honor Award of Indian Science Congress Association, (2017-2018); Award of the Highest Honor of Soka University, Tokyo, Japan (2000); J William Fulbright Scholarship(1993); The Rockefeller Foundation USA-Biotechnology Career Award (1993); UGC Career Award (1993); UGC Research Scientist Award (1988); Rajib Goyal Award for Young Scientists (2002); Lifetime Achievement Award of The Indian Chemical Society (ICS) (2003); Bronze Medal of the Chemical Research Society of India (CRSI) (2004); Prof. Ghanshyam Srivastava Commemoration Award of ICS (2002); Prof. D. P. Chakraborty Commemoration Award of ICS (2001); IMNM-99 Award; Gold Medal in Integrated Medicine for New Millennium (1999); Vidya Ratan Gold Medal (2005) and Dr. BR Ambedkar National Award (2004). He is Fellow of The Royal Society of Chemistry, London; International Academy of Physical Sciences; Institution of Chemists, India and the Indian Chemical Society. He has been a member of the Governing Council, BOG, Executive/ Academic Councils of several Universities/ Institutions globally and also Member -U.P Council of Higher Education; U.P. State, Youth Welfare Council Member and others. He has also been Consultant and Advisor to the various multinational companies like Polaroid Corporation, Diakron Pharmaceuticals, USA, HIKMA Pharmaceuticals-Jordan and Director of BIZ SHAKTI, India etc; Advisor to various academic institutions and also nonofficial Director of PSU's, Govt. of India. Prof. Chandra is a prolific writer and displays extraordinary flair for writing on themes particularly to Higher Education and social issues.

#### Selected Publications.

1. Tomar R.; Rathee G.; Chandra I.; Kumar N.; Tomar V. and Chandra R. ChemistrySelect, 2018, 3, 1645-1649.

2. Kumar N.; Chugh H.; Tomar R.; Tomar V.; Singh V. K. and Chandra R Arti. cells, Nanomed. Biotech. 2018, 46, 658-668.

3. Sharma S.; Singh S.; Tomar V. and Chandra R. Biosensors and Bioelectronics, 2018, 107, 76-93.

4. Bragta P.; Sidhu R. K.; Jyoti K.; Baldi A.; Jain U. K. and Chandra R. Madan J. Colloids Surf B Biointerfaces. 2018, 166: 339.

5. Manchanda G.; Sodhi R.K.; Jain U. K.; Chandra R. and Madan J. J Microencapsul., 2018, 35, 49-61.

6. Tomar R.; Singh N.; Rathee G.; Kumar N.; Vartika T. and Chandra R. Asian J. Org. Chem. 2017, 6, 1728-1732.





## Prof. Gurmeet Singh

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Professor Gurmeet Singh has been in the University for last 39 years. His research interests are in the field of Corrosion Chemistry, Inhibitor Formulations, Surface Characterization and Nano Film Deposition. He has got 48 Ph. D and 14 M. Phil students to his credit. He has published over 140 research papers and has contributed articles in many books. He was given the best research paper award by the Electrochemical Society of India (Indian Institute of Science, Bangalore) in 1991 and again the best research paper award of 1992 by SAEST at Central Electrochemical Research Institute, Karaikudi (India). He is a life member of SAEST, Electrochemical Society of India and member of Royal Society of Chemistry. He visited many countries like Germany, Hungary, Italy, Kenya, Australia, Singapore, Korea and Japan in connection with various academic assignments. He worked as visiting scientist at Central Research Institute of Chemistry, Budapest (Hungary) and at Mechanical Engineering Laboratory, Tsukuba (Japan). In addition, he held many administrative positions including that of the Proctorship of the University of Delhi, post of OSD to carry out the duties of the Principal of Deshbandhu College, University of Delhi for about three years, Chief Election Officer and member of higher bodies like Executive Council etc. His work on surface characterization using X-ray photoelectron spectroscopy to supplement the corrosion study results was one of the first in the field, which gave him the top best paper awards. He has been the governing Council member of the Society for the Advancement of Electrochemical Science and Technology, CECRI, Karaikudi and he is on the editorial board of (i) Trans. of the SAEST and (ii) Journal of Surface Science and Technology. He has been invited to many national and international conferences and has lectured extensively in many Universities here and abroad. He is also currently a member of many key committees in many organizations. He has been recently honored with Meritorious Contribution award for the Year 2007–08 by National Association of Corrosion Engineers (NACE) USA which is the highest in this field and prestigious "IAAM Medal" of the year 2016 by International Association of Advanced Materials, Sweden on 2nd March 16. Recently he was invited to be a Chair Professor at Lunghwa University of Science & Technology in Taiwan, visiting Professor at JAIST, Japan and was also the Special Election observer for state assembly elections in West Bengal appointed by The Election Commission of India.

- 1. Kumar R.; Chopra R. and Singh G. J. Mol. Liq. 2017, 241, 9-19.
- 2. Kumar R.; Yadav O. S. and Singh G. J. Mol. Liq. 2017, 237, 413-427.
- 3. Trivedi, M.; Bhaskaran S.; Gurmeet S.; Kumar A. and Rath N. P. Inorganica Chim. Acta 2017, 449, 1-8.
- 4. Bagga, M. K.; Gadi R.; Yadav O. S.; Kumar, R.; Chopra R. and Singh G. J. Environ. Chem. Eng. 2016, 4, 4699–4707.



## Prof. Rita Kakkar

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Professor Rita Kakkar joined the Department of Chemistry in 1984 after a three year stint at Miranda House. She took her B.Sc. (Hons.), M.Sc., M.Phil. and Ph.D. degrees all from the University of Delhi. Her field of specialization is Physical Chemistry. She has published over 125 research papers and several chapters in books in International journals of repute in the field of Computational Chemistry. Her research interests include the application of computational methods to investigation of mechanistic pathways of reactions at nanosurfaces and on understanding enzyme catalysis. She also undertakes research work on other topics related to nanoscience and the life sciences and small molecule chemistry. She heads a large research group and has supervised thirty-nine doctoral and several M.Phil. thesis. She regularly reviews papers for journals and books published by several renowned publishing houses. She has delivered invited lectures at various International conferences and is an International Advisory Board member of various international conferences of Computational Chemistry. She is strongly motivated to curriculum improvement and is a member of the Advisory Boards of several Indian and foreign universities, and has been instrumental in introducing modern topics in the syllabi of these universities, as well as the CBSC syllabus of UGC.

- 1. Badhani B. and Kakkar R. Struct.Chem. 2017.doi:10.1007/s11224-017-958-3.
- 2. Kakkar R.; Arora R. and Zaidi S. Struct. Chem. 2017, doi: 10.1007/s11224-017-0952-9.
- 3. Issar U.; Kumari T.; Arora, R. and Kakkar R. Comp. Theor. Chem. 2017, 1113, 32-41.
- 4. Kumar R.; Yadav N.; Lavilla R.; Blasi D.; Quintana J.; Brea J. M.; Loza M. I; Mestres J.; Bhandari M.; Arora R.; Kakkar R. and Prasad, A. K. *Mol. Divers.* **2017**. doi:10.1007/s11030-017-9738-7.
- 5. Arora R. and Kakkar R. Comp. Theor. Chem. 2017, 1106, 50-57.
- 6. Arora R.; Issar U. and Kakkar R. Comp. Theor. Chem. 2017, 1105, 18-26.
- 7. Radhika N. P.; Selvin R.; Kakkar R. and Hsu, H-L. J. Nanosci. & Nanotech. 2017, 17, 1329-1337.



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Professor Jitender M. Khurana (born May 1954) completed his B.Sc. (Hons) Chemistry and M.Sc. (Organic) from University of Delhi, Delhi and Ph.D. from Indian Institute of Technology, Kanpur in 1982. Subsequently, he spent three years as a post-doctoral fellow at University of Alberta, Edmonton, Canada; Marquette University, Milwaukee, Wisconsin, USA and Lehigh University, Bethelhem, Pennsylvania, USA during from Oct. 1982- Nov. 1985. He joined as Lecturer in Department of Chemistry, University of Delhi in January 1986. He went to SRI (Stanford Research Institute) International, Menlo Park, California (USA) as aInternational Fellow/Chemist from January 1995 to October 1997. He joined as a Reader after coming back and was appointed as a Professor in May 2003 in the Department of Chemistry. Professor Khurana has published over 170 papers in National and International Journals and has 8 patents, including 5 US Patents, to his credit from SRI International. He has completed projects from DST, CSIR and UGC. He has supervised 31 Ph.D. and 15 M.Phil. students and currently, a number of research students are working under his supervision. His areas of research include development of synthetic methodologies, synthesis of novel heterocyclic compounds by MCRs using environmentally benign methods including ionic liquids and nanoparticles, photophysical studies of novel heterocyclics and their application as sensors. He was bestowed with Prof D P Chakraborty 60th Birthday Anniversary Award and 29th Dr. S. Radhakrishnan Memorial Best teacher Award. He worked as Dean Students Welfare, University of Delhi from March 2011 to December 2016 besides being member of a number of committees, Chairman, Governing Body, Rajdhani College and has been Warden and provost of International Students House for 15 years.

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Dr. M. Kidwai is Professor at the department of chemistry, University of Delhi, Professor Kidwai is among the five members in international advisory board of Green Chemistry from Asia..His research work in Catalysis using green approaches. He has been chosen among the top 20 eastern European International Opinion Leader in HIV-AID Therapy from India. He has supervised the work of 41 students for the award of Ph.D. degree. He has published 266 research papers in journals of national and international repute. He has delivered Lectures in 57 International events. He has convened and successfully organized one national and two IUPAC sponsored International symposium He has been nominated by Government of India to for coordinator training of academic Industry during 21January- 23 February 2008 at Toyohashi university of Technology, Japan under JICA Programed. He is also an Author of Book "New trends in Green chemistry" and a chapter each in a book on Green Catlysis and green separation processes edited by Paul Anastas&Carlos A.M. Afonso respectively. Prof.Kidwai has served as vice chancellor of Jivaji university Gwalior w.e.f 10.09.2009 to 10.09.2013 and IIMT University Meerut, UP w.e.f. 13.01.2017-19.04.2017respectively.He is cuurently been nomited by President of India as member of Executive Council of JamiaMillia (central University) Delhi w.ef 21.3.2018 for three years.

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Prof. R. K. Sharma is the Coordinator of Green Chemistry Network Centre, established under the recommendation of World Leaders of Green Chemistry headed by Professor Paul Anastas. He is a fellow of Royal Society of Chemistry (RSC) and the Honorary Secretary of Royal Society of Chemistry London (North India Section). Apart from this, he is also the member of American Chemical Society (ACS) and the faculty advisor of International Student Chapter of ACS. After obtaining his Ph.D. in 1986 from University of Delhi, Prof. Sharma worked on Metal-Bimolecular interactions on JSPS Post Doctoral Fellowship at University of Tokyo and Kumamoto University. He has successfully supervised the research work of 36 Ph.D. and M.Phil students and published about 150 research papers including journal, review articles, and book chapters. Prof. Sharma has been working very hard for the popularization of Green Chemistry in India and for doing so he has organized more than 30 International and national Workshops/Conferences/symposiums and delivered over 130 keynote addresses/lectures/presentations at various national as well as international platforms. He is the distinguished recipient of several prestigious awards like 2010 INSA-JSPS award to visit Japan, 2010 UGC-TEC award to visit Mauritius, 2002 INSA-JSPS award, 1999 World Green Award, 1998 Research Grant Award by Royal Society of Chemistry London, 1998 Japan Society for The Promotion of Science (JSPS) Post-Doctoral Award, 1995 Indo-German Award and 1995 UGC National Research Scientist award. Prof. Sharma is UGC member of expert committee for evaluation of national and international projects. He is also DST WTI PAC committee member for evaluation of Research Proposals. He is also the member of various committees constituted by Govt. of India, many central Universities, colleges and institutes.

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Prof. A. K. Prasad

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Prof. A.K. Prasad did his PhD from University of Delhi in 1990 in the area of synthesis of Bioactive Polyphenolic Natural Products under the kind supervision of Professor A. C. Jain, Cantab., D.Sc., Bhatnagar Awardee. After spending about a decade as Post-doctoral fellow/ Visiting Scientist at the University of Southern Denmark, University of Copenhagen, Max-Planck-Institute for Molecular Physiology (Germany), La Sapienza University Rome (Italy) and University of Massachusetts Lowell (USA), Professor Prasad joined this Department as Reader in September 2001 and subsequently became Professor in June 2009. Professor Prasad is a member of Several National and International professional societies and has published over 200 research papers in journals of international repute along with 10 patents. He has presented more than 175 research papers at different national and international conferences / symposia and delivered 75 invited lectures in the Universities, Institutes and Industries in India, Australia, USA, Denmark, Germany, Italy, Holland, Switzerland, Japan, China, etc. Presently Professor Prasad has a research group of eight PhD students and five Post-doctoral fellows. His research interest lies in the area of Synthesis of Sugar-PEG based Amphiphiles as novel carrier agents, Modified Nucleoside Monomers for therapeutic oligonucleotide Synthesis, Biotransformations, Natural Products Chemistry and Synthesis of Bioactive Heterocyclic compounds. He is handling various research projects including bilateral projects funded by DRDO, DBT, DST, NMPB and University of Delhi. He has been recipient of visiting professorship at JAIST Japan (2015 – to-date), ACCTI Excellence in Carbohydrate Research Award 2015, ISCB Award for Excellence in Chemical Sciences 2014, e-TCR Best Paper Award 2012, Visiting Associate Professorship at SDU, Denmark (2009-10), CRSI Young Scientist Award 2007, DANIDA (Denmark) Fellow 1992-96, National Scholarship Award, etc. He has been the Editor / Guest editor of Biochemie published by Elsevier (Impact Factor -4); Indian J. Chemistry and Trends in Carbohydrate Research, etc. He has also been involved in the organization of many International and National conferences / symposia in the Department.

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Professor Shrikant Kukreti joined department of Chemistry, University of Delhi, as a lecturer in 1998. Soon after his Ph.D. in the area of Biophysical Chemistry from University of Roorkee (IIT Roorkee), he joined Center for Biotechnology, Jawaharlal Nehru University (JNU) in 1990 as a Teaching and Research Associate. He continued his research working on biophysical aspects of Protein-Nucleic Acid interactions. In 1993, he received "Marie Curie Fellowship" from the Commission of European Community (CEC), awarded by DST, Government of India, and worked on DNA triple helices, with the group of Prof. Claude Helene at Laboratoire de Biophysique, Museum of Natural History, Paris, France. Further, receiving fellowships from "Foundation pour la Researche Medicale" (FRM), CNRS and "Association pour la Researche sur le Cancer" (ARC), he continued his post doctoral research work till Oct., 1997, at the structural biology laboratory at Institute Gustave Roussy, Paris. He has also been a visiting fellow (2004) at Dept. of Molecular Biology, Princeton University. He has presented research papers in International Conferences held at Albany (USA), Princeton (USA), Crete, (Greece), Veldhoven, (The Netherlands) and Sheffield, (U.K) etc. He became reader in 2001, and subsequently Professor in 2009. His research interests are Biomolecular Structure and Interactions, in particular the biophysical aspects of multi-stranded DNA /RNA structures and polymorphism, using biophysical and biochemical methods. He has published research articles in international journals of repute and is reviewer of several highly rated Journals. He has supervised Fifteen Ph.D and five M.Phil students. Currently, seven Ph.D students are working under his guidance. His laboratory has been funded by national agencies and from Delhi University (DU), DU-DST-PURSE, UGC, DST, and DBT.

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## Prof. Rama Kant

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Professor Rama Kant did his B.Sc. (Hons.) and M.Sc. (Physical Chemistry) from University of Delhi. He obtained his Ph.D. degree from the Indian Institute of Science, Bangalore under guidance of late Professor S. K. Rangarajan, FNA, FASc, FTWAS in the Department of Inorganic and Physical Chemistry. He was awarded Dr. Srinivasa Rao Krishnamurty Best Thesis Medal in the area of Electrochemistry and Electrochemical Engineering (for the year 1994–95). His first postdoctoral research training was done under guidance of a Nobel Laureate late Professor P. G. de Gennes at College de France (Paris) and, also another with Professor T. C. B. McLeish, FRS, at University of Leeds, in the area of Polymer Physics. He is recipient of many international fellowships, viz. EPSRC (Britain) fellowship, Ministry of Foreign Affairs (France) fellowship, University of Freiburg (Germany) fellowship etc. Prof. Rama Kant joined Department of Chemistry, University of Delhi in 2003 as Reader/Associate Professor and in 2009 was appointed as Professor. He has guided research work of many PhD students and MPhil students. His research interests include the development of Theories, Simulations and Experiments on Complex Systems in Electrochemistry and Polymers. Prof. Rama Kant has pioneered and extensively developed difficult research area of Theories for the Electrochemistry on Rough, Porous and Heterogeneous Electrodes. His significant contributions are derivation of (more than 50) fundamental and novel equations for electrochemistry of disordered and nano-structured electrodes, which led to the generalization of several classical equations of electrochemistry. His contributions to knowledge lead to the fundamental understanding of electric double layer and electrode kinetics of rough and fractal electrodes, and their transient responses, viz. chronoamperometry, impedance, chronocoulometry, chronoabsorptiometry and pulse voltammetries. Professor Rama Kant is elected as a Fellow of Indian Academy of Sciences (2015), awarded CRSI Bronze Medal (2015) and Acharya J.C. Ghosh Memorial Medal (2016) in recognition of his contributions to Electrochemistry.

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Prof. D. S. Rawat

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Professor Diwan S Rawat joined the Department as a Reader in July 2003, and was promoted to Professor in March 2010. He obtained his master's degree from Kumaun University, Nainital in 1993 and was honoured with the merit certificate for securing first position in the University. He did his Ph.D. in Medicinal Chemistry from Central Drug Research Institute, Lucknow. He worked two years in a Pharmaceutical Industry and did postdoctoral work at Indiana University and Purdue University, USA. He was an Assistant Professor of Medicinal Chemistry at National Institute of Pharmaceutical Education and Research (NIPER), Mohali, before joining University of Delhi in 2003. Prof. Rawat has published over 130 research papers, authored a book, three book chapters, and nine patents to his credit. His work has been cited over 3475 times with h-index of 35. His research interests lies in the areas of development of small organic molecules as anticancer, antimalarial, antimicrobial and anti-Parkinson agents and nano-catalysis. Prof. Rawat is a recipient of CRSI young scientist award (2007); ISCB young scientist award (2010); Prof. D. P. Chakraborty 60th Birth Anniversary Commemoration Award (2007); VC's Pratik ChinhaSamman, Kumaun University Nainital (2011); Gold Badge and Diploma, International Scientific Partnership Foundation, Russia (2015); Professor RC Shah Memorial Lecture Award, Indian Science Congress (2015); Professor SP Hiremath Memorial Award, Indian Council of Chemist (2016); and he is a Visiting Professor, Japan Advanced Institute of Science and Technology (JAIST), Japan. He is Fellow of Royal Society of Chemistry (FRSC) and CChem (London). Prof. Rawat has supervised eighteen PhD students. Prof. Rawat is an Associate Editor of RSC Advances, International Journal of Drug Discovery and also serves on the Editorial Advisory Board of Anti-Cancer Agents in Medicinal Chemistry, and Marine Drugs. He served as a Guest Editor of Anti-Cancer Agents in Medicinal Chemistry.

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Dr. Sunil K. Sharma joined the Department of Chemistry in March 2004 as Reader/Associate Professor and appointed full Professor in March 2010. He obtained BSc (Hons), MSc, and PhD degrees from the University of Delhi. His doctoral work was in the areas of synthetic and natural product chemistry. He has Postdoctoral / Visiting Scientist research experience of more than ten years at eminent institutes in Germany, USA, Denmark, UK, and Spain. He is a recipient of awards from DBT (India), RSC (UK), and fellowships UGC (India), Spanish Ministry of Education and Science (Spain), DANIDA (Denmark), and NIH (USA). Prof. Sharma's current research interests focus on Organic synthesis, Bio-catalysis, Responsive polymer-based functional materials and Nanotechnology. Prof. Sharma has published over 138 peer reviewed journal papers with average impact 3.2, total citation of 2800 and an H-index of 28. He has presented more than 100 research papers at Conferences/Symposia in Denmark, Germany, India, Italy, Spain, The Netherlands, UK & USA. Fifteen PhD and two MPhil degrees have been awarded to students under his supervision. He has been granted research projects funded by CSIR, DBT, SERB-DST, DRDO, Government of India, Indo-German Science & Technology Center (IGSTC), Polytechnic University, New York (USA), and University of Delhi. Professor Sharma is having active research collaborations with various National and International (Germany, Italy, USA) groups. He has been the part of key office bearers of many National and International Conferences organized by the Department.

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Dr. Satish K. Awasthi joined the Department of Chemistry as Reader in 2002 and currently working as a Professor. He received his doctorate degree from University of Allahabad in 1991 under the supervision of Professor Krishna Misra. After completing his doctorate degree, he taught undergraduate classes for a short period. He received DBT Research Associateship in 1993 and moved to Indian Institute of Science (IISc), Bangalore. He worked there with Professor P. Balaram at Molecular Biophysics Unit (MBU). During his stay at IISc, he worked on denovo design of ?-hairpin peptides. While working at MBU, he got an opportunity to work with Professor Peter E Nielsen, The Panum Institute, Copenhagen, Denmark in newly emerging and promising area "Antisense properties of peptide-nucleic acids (PNA)" and published several research articles. In 2001, he moved to USA and joined Department of Pharmacology, Robert Wood Johnson Medical School, Piscataway, New Jersey. Later, he joined University of Massachusetts Medical School, Department of Biochemistry and Molecular Pharmacology, Worcester where he worked on design and synthesis of small molecules targeted to Cyclin dependent kinase-9(CDK-9) and Tat-TAR interaction. Dr Awasthi is recipient of several international research fellowship awards viz. Tokyo Institute of Technology (TIT) - UNICEF Fellowship Award 1997, ICMR International Fellowships for Young Biomedical Scientist 2008 and INSA-Exchange Visiting Scientist Award 2010. He is life members of several scientific organization in India. His current research interest includes design of small molecules which could be used as antibacterial, antimalarial and antifilarial compounds as well as X-rays analysis of small molecules.

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## Prof. Rajeev Gupta

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Prof. Rajeev Gupta obtained his PhD in 2000 from Indian Institute of Technology – Kanpur and did his Postdoctoral work at the University of Kansas (USA). He joined the University of Delhi in 2003 and has been working as a Professor since 2009. Prof. Gupta's research group works on several interdisciplinary fields such as coordination chemistry, bioinorganic chemistry, supramolecular chemistry, designer materials, molecular sensors, energy-transfer, and catalysis. He has published diversified research papers in the leading international journals of high scientific repute and his work has been widely cited. He has delivered several invited and popular talks in various national and international conferences and his research is well-supported by the national funding agencies. He takes immense interest in teaching and mentoring students and so far has supervised 13 PhD and 3 MPhil students. He is the recipient of Bronze Medal (2016) from the Chemical Research Society of India (CRSI); Science Flame Award (2015) from the World Science Congress; ACS Membership Award (2015) from the American Chemical Society; Indo-US Research Fellowship (2009) from the Department of Science & Technology (DST) and Indo-US Science & Technology (DST).

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Prof. N. Thirupathi completed his M.Sc from University of Madras in 1991 and Ph.D. from Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore in 1998. Subsequently, he worked as a Postdoctoral Fellow in University of Ottawa, Canada, Iowa State University, and Case Western Reserve University, USA. He joined in the Department of Chemistry, University of Delhi as a Reader in 2004. He has supervised four M. Phil and nine Ph.D students. He is a life member of CRSI, NMRS, IUCr, and Indian Council of Chemists. Presently, he has been implementing a project funded by DST. His research interests include organometallic and main group chemistry. Organometallic Chemistry To design half-sandwich platinum group metal complexes ligated by nitrogen donorligands and to study their structural aspects and their catalytic utility in homogeneous catalysis. To study platinum group metallacycles ligated by nitrogen donor ligands, and study their solid state structures, solution behaviour and catalytic utility in C-C and C-heteroatom bond forming reactions. Main Group Chemistry To investigate the structural and mechanistic aspects of Lewis base ligated group 12metal carboxylate clusters/coordination polymers in relevance to their role as fundamental building blocks for metal organic frameworks and as designer Lewis acid catalysts for organic transformations.

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Dr. Pannuru Venkatesu was awarded PhD in 1995 at Sri Venkateswara University, Department of Chemistry, Tirupati, Andhra Pradesh, India. In 1995, Research Associateship awarded by Council of Scientific and Industrial Research (CSIR), New Delhi, India. In 2006, he was also awarded Fast Track Young Scientist by DST, New Delhi. He has Post-doctoral research experience of eight years at Warsaw University of Technology (Poland), The University of Texas Medical Branch (UTMB) USA, Academia Sinica (Taipei, Taiwan), National Taiwan University of Science and Technology (Taipei, Taiwan). In 2011, he received Dr. Arvind Kumar Memorial Award by Indian Council of Chemists, India, in 2013, he received Professor Suresh C. Ameta award by Indian Chemical Society, India and Dr. Venkatesu is a recipient of Bronze Medal- 2017 from Chemical research Society of India (CRSI), Bangalore. Very recently, he received Professor S. S. Katiyar Endowment Lecture award (2016-2017) from the Indian Science Congress Association, India. Dr. Venkatesu is Member of the Editorial Board of the Journal of Molecular Liquids, Member of the Advisory Board of the Journal of Chemical Thermodynamics and Member of the Editorial Board of International Journal of Chemistry. His general research focused on thermodynamic and physicochemical properties of novel class of ionic liquids and liquid mixtures, protein folding / unfolding in presence of co-solvents (osmolytes, denaturants and ionic liquids), Effect of polymer chain or IL in coexisting liquid phases. He is handling four major research projects sponsored by DST, CSIR, DBT and DU-DST purse grant. At present six Ph. D students are working with him in the aforesaid research interests. Dr. Venkatesu has published 162 research papers in internationally reputed journals. Among them, two papers have published as a single author. He has delivered lectures at 55 national and international conferences.

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Dr. Dhanraj T. Masram is working in Department of Chemistry, University of Delhi as Assistant Professor. He has served as Lecturer in Department of Chemistry, R. T. M. Nagpur University from 2004 to 2009 and succeeded his Ph.D. degree from the same University. He has also worked as researcher at School of Materials Science, JAIST, Japan. Dr. Masram has received young scientist award from DST-SERB, Government of India and he is presently working on projects from various funding agencies of Government of India like DSTand DBT. He has supervised five Ph.D.,two M.Phil,three M.Tech students and presently four Ph.D. research scholars are working with him. His aim is to develop synthetic methodologies for materials andcharacterization of crystalsfor systematic understanding of nanostructural dynamics of molecules for their applications as catalyst, biosensorsand in bioinorganic chemistry.He has published various research articles, reviews,book chapters in national and international journals and also co-authored a book with Nova international publishers. He has presented his research work at number of national and international seminars and conferences which include invited lectures.

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Dr. B. K. Singh

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Dr. B. K. Singh is working in Department of Chemistry, University of Delhi as Assistant Professor. Before joining Department of Chemistry he has visited Department of Chemistry, University of Leuven, Leuven, Belgium as International Scholar for the period November 2005-March 2007 where he has developed new strategies to carry out microwave reactions under simultaneous cooling. He, for the first time, has shown that microwave assisted reaction can be performed at higher temperature. Along with the development of these new strategies, he has also provided the utility of simultaneous cooling while irradiating reaction with microwave irradiation. During this period he has also worked as Visiting Fellow at University of Ghent, Belgium for three months where in collaboration with Professor Christain Stevens from Department of Organic Chemistry Faculty of Bioscience Engineering, Ghent University, Belgium. He has developed efficient scalability procedure for the industrial production of N- and O-arylated compounds using micro reactor technology via copper (II) catalyzed cross-coupling reactions. Currently, he is running a research group with four doctoral students and one post-doctoral student at Department of Chemistry, University of Delhi. His key interest areas are the study and investigation of bio-catalysis and metal-catalysis, specifically in the design, synthesis and evaluation of bioactive compounds. He has authored numerous technical papers in collaboration with distinguished national and international scholars which have been published in leading international journals. Dr. Singh has published several research papers in international/national journals of high repute. He has also presented a number of research papers at conferences/symposia in Belgium, Germany, Hungry, France, India, Russia and Ukrain. He has been involved in organization of many national and international conferences in the department

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Dr. Surendra Singh joined this department as an Assistant Professor in March, 2010. He obtained his Ph.D. degree from Central Salt and Marine Chemical Research Institute (CSIR-CSMCRI), Bhavnagar, Gujarat in 2006 under the supervision of Dr. (Mrs.) Rukhsana I. Kureshy. Dr. Surendra Singh was Irish Research Council for Science Engineering and Technology (IRCSET) postdoctoral research fellow with Professor Patrick J. Guiry during Sept, 2006– Sept, 2008. He had worked as a postdoctoral researcher up to Jan, 2010 under different funding scheme (PRTLI cycle 4 and Enterprise Ireland) with Prof. Guiry's research group. Dr. Surendra Singh's research interests include: Development of recoverable organocatalysts and metal catalysts for asymmetric catalysis. Development of synthetic methodologies for organic transformations. Synthesis of biological active natural products and its analogues. He has published 43 research papers in international journal and 1 PCT patent. He has presented his research work at 20 national and 10 international conferences. He has also delivered 5 invited lectures. Dr. Singh has completed one industrial collaborative research project with Reliance Industry Limited. He also completed DST-SERB fast track project for young scientist and extra mural research grant from CSIR. Dr. Singh has supervised four Ph.D students.

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## Dr. Ram Kuntal Hazra

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Dr. Ram Kuntal Hazra is working in the Departmentof Chemistry as an Assistant Professor since April 2010. He obtained his Master's degree from IIT Roorkee, Uttranchal. He had been awarded the National Eligibility Test (NET, UGC-CSIR) in December 2000 and in June 2003 and secured a distinct position within top 20% in NET December 2000 and was called for Dr. S P M Fellowship. He has qualified Graduate Aptitude Test of Engineering (IIT Kanpur) of February 2001 with rank 44. He had qualified PhD Admission Test in IIT Bombay for pursuing research in Organic Chemistry at Department of Chemistry. He joined Tata Institute of Fundamental Research, Mumbai in June 2001 as a Junior Research Fellow (JRF) and continued interim PhD in 2001-2002. Later on Dr. Hazra continued as research fellow (2002-2008) at Department of Physical Chemistry in Indian Association for Cultivation of Science (IACS), Kolkata under supervision of Professor S P Bhattacharyya and was awarded PhD by Jadavpur University. He did his research work as a theorist in the realm of optical responses, controlled excitation and impact of impurities on single 2D quantum dots. Dr. Hazra joined the theoretical/computational group of Professor Dr. Michele Parrinello in Swiss Federal Institute of Technology, ETH-Zurich (2008-2009). He was awarded Dr. D. S. Kothari Post-Doctoral Fellowship under the mentor Professor Kamal Bhattacharya in the Department of Chemistry, University of Calcutta. He stood first in the Recruitment for the Post of Assistant Professor, Department of Chemistry, University of Delhi, 2010. Apart from academy Dr. Hazra has achieved Distinction (94%) on Classical Guitar, Grade-II (Diploma), Trinity College London in 2013. Dr. Hazra is currently working in the areas of low temperature superconductive phenomena such as Meissner Effect, Josephson Effect and Fractional Quantum Hall Effect (FQHE). Unusual behavior of tiny particle at low temperature comprises of amalgamation of quantum mechanics, relativistic mechanics and its statistical nature. He has a future plan of exploring mutation mechanism intoxicated by Reactive Oxygen Species/Oxidative Stresses in DNA.

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## Dr. Sasanka Deka

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Dr. Sasanka Deka is an Assistant Professor and joined the Department in June, 2010. He received his M.Sc. in Chemistry from Gauhati University, Guwahati in 2001 and Ph.D. degree from National Chemical Laboratory (NCL-Pune) in 2007 under the supervision of Dr. P. A. Joy. He has been awarded the TMS Foundation 2008 SHRI RAM ARORA AWARD, by the Minerals, Metals & Materials Society (TMS), Warrendale, USA for his contribution and leadership in materials science. He then moved to National Nanotechnology Laboratory (NNL), CNR-INFM, Lecce, Italy and Italian Institute of Technology (IIT), Genova, Italy for postdoctoral research in the nanochemistry research group of Dr. Liberato Manna. Dr. Deka has published more than 50 research papers in different international peer-reviewed journals and meetings, and also wrote 2 books and 1 book chapter published by international publisher. He has been awarded with DAE-BRNS Young scientist research award. He is currently handling 3 externally funded research projects; from DBT, India; CSIR, India and SERB-DST. He has supervised 4 Ph.D. students and 15 M.Tech. NSNT/M.Sc. students for their project and internship and at present supervising 4 Ph.D. students. Dr. Deka is a life member of Materials Research Society of India (MRSI), Chemical Research Society of India (CRSI) and Electron Microscope Society of India (EMSI), and also has been reviewer for many national and international journals. His current research interest deals with synthetic nanochemistry, multifunctional hybrid nanocrystals, novel nanocatalysts for energy research.

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Dr. K. Gopalaiah obtained his Ph.D degree from Indian Institute of Science, Bangalore in 2005 under the guidance of Prof. S. Chandrasekhar. He did his post-doctoral research work with Wolf Laureate Prof. Henri B. Kagan (HonFRSC) at the University of Paris-Sud France (2006-08), where he worked on asymmetric catalysis and total synthesis of biologically potent chiral molecules. He was a visiting scientist in the University of Florida, Gainesville. Dr. Gopalaiah has more than 25 publications in peer reviewed international and national journals. His research interests are on the development of novel approaches for organic synthesis which includes C-H bond activation and functionalization, heterocyclic chemistry, asymmetric catalysis, and total synthesis of biologically potent compounds.

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- 5. Gopalaiah K. Chem. Rev. 2013, 113, 3248.



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Dr. Sandeep Kaur joined the Department of Chemistry, University of Delhi as Assistant Professor in July, 2010. She completed her B. Sc in 2000 and M. Sc in 2002 from Burdwan University, West Bengal. She obtained her Ph.D. degree from Indian Institute of Technology-Bombay in 2007 under the supervision of Professor G. K. Lahiri. Her doctoral work was in the area of "Mixed valency and valence state distributions in polynuclear ruthenium frameworks". Her postdoctoral research (2007-2008) in the Department of Chemistry, Stanford University, USA with Professor James P. Collman involved the "Synthesis of selfassembled monolayers & Models mimicking the Cytochrome c oxidase enzyme". She also did her postdoctoral research with Dr.Sascha Ott (Department of Photochemistry and Molecular Science, Uppsala University, Sweden) (2009-2010). During her stay in Uppsala she received the prestigious Wenner-Gren Fellowship.Dr. S. Kaur also received the prestigious Indo-US Research fellowship from DST, India and Indo-US Science & Technology Forum (IUSSTF) in 2011. She received the DST-Max Planck India visiting fellowship from 2012-2016. She has received several other awards and fellowships in her academic career. Dr. S. Kaur has published over 32 papers in peer-reviewed journals. She has published a book (Nova Science Publishers) in 2017. and has presented her work in several international and national conferences/seminars. She is also a member of the Royal Society of Chemistry (2013), American Chemical Society (2005) and life member of various other societies. Her current research interests include Bioinorganic and Coordination chemistry mainly focusing on the development of new class of metal complexes as possible models for the active site of metalloenzymes and electrocatalysis. She has supervised 4 Ph.D. students and has received funding for her research from University of Delhi, DST and CSIR.

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After receiving the JUB Fellowship he moved to Bremen, Germany to pursue his PhD program under the guidance of Prof. Ulrich Kortz, he graduated in June 2006 from Jacobs University Bremen, Germany. After obtaining his PhD he moved to University of Melbourne, Australia to work as a Post Doctoral Associate. Later, in end of 2007 he moved to University of Zurich, Switzerland to pursue his second Post Doctoral Research Associate from 2007 to 2010 under the SNSF Program. He joined as an Assistant Professor in the Department of Chemistry, University of Delhi in Aug 2010 where he was associated with the DST Funded Nanoscience and Nanotechnology Program. He has supervised several under graduate projects during his PhD and Post Docs. During his Post Doctoral period at University of Zurich, from 2007 – 2010 he was involved in undergraduate teaching together he supervised 2 MS projects solely. He is the recipient of ISJRP – JUAF fellowship as a Swiss partner. He has published more than 80 papers in peer reviewed international journals. His research interest includes Crystal Engineering, Structural Chemistry, Polyoxometalates, Single molecule magnets, Catalysis and Nanomaterials. Dr. Hussain has participated and delivered invited lectures in national and international symposia and conferences. Dr. Hussain has mentored 4 Ph.Ds and 7 M.Tech students.

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## Dr. Ramendra Pratap

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Dr. Ramendra Pratap joined the Department of Chemistry as Assistant Professor in 2010. He obtained his Ph.D. degree from Central Drug Research Institute, Lucknow in 2007 under the supervision of Dr. Vishnu Ji Ram. He worked as post-doctoral researcher for two years (2007-2009) in the City College and City University of New York. Then he received the prestigious Alexander von Humboldt fellowship and worked for one year (2009-2010) in the Universitat des Saarlandes, Saarbrucken, Germany with Prof. Uli Kazmaier. He has published more than 70 research papers in peer reviewed international journals. His current research is focused on the synthesis of various carbocycles and heterocycles, metal catalyzed C-C and C-N bond formation reactions, nucleoside modification reaction and medicinal chemistry. Recently, He visited Department of Chemistry, Kyoto University, and Kyoto, Japan as visiting professor under JSPS invitation fellowship.

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## NON TEACHING STAFF

#### TECHNICAL OFFICER

1. Mr. Ravinder Singh T.O.

#### SENIOR TECHNICAL ASSISTANT

- 2. Mr. Govind Singh Daspa
- 3. Mr. Dal Singar
- 4. Mr. Sundar Singh
- 5. Dr. Seema Upadhaya (Contractual)

#### TECHNICAL ASSISTANT

- 6. Mr. Ranjit Singh Jamwal
- 7. Mr. Gauri Shankar

#### LABORATORY ASSISTANT

- 8. Mr. H. B. Joshi
- 9. Mr. Amar Singh Sehrawat
- 10. Mr. Kundan Singh
- 11. Mr. Rakesh K. Nirman
- 12. Mr. Santosh Kumar
- 13. Mr. Narender Kumar
- 14. Mr. Vijender Kumar
- 15. Mr. Hari Om
- 16. Mr. Nand Kishore
- 17. Mr. Dalip Singh
- 18. Mr. B.K. Mathpal
- 19. Mr. Anil Kumar
- 20. Mr. Jitendra Kr. Maurya
- 21. Mr. Santosh Kumar Gupta (Ad-hoc)

#### LABORATORY ATTENDANT

- 22. Mr. Atul Kumar
- 23. Mr. Ved Prakash Shukla
- 24. Mr. Mangey Ram Sharma (Ad-hoc)
- 25. Rajeev Kumar Sharma (Ad-hoc)
- 26. Mr. Naresh Kumar (contractual)
- 27. Mr. Sonu Ali (contractual)
- 28. Mr. Parmanand (contractual)
- 29. Mr. Rajesh Kumar(contractual)
- 30. Mr. Rajinder Kumar (contractual)
- 31. Mr. Subhash Chander (contractual)
- 32. Mr. Rohit Kumar (contractual)
- 33. Mr. Vivek Kumar (contractual)
- 34. Mr. Jai Prakash K. Singh (contractual)
- 35. Mr. Rohit Rawat (contractual)
- 36. Mr. Mahendra S. Karakoti (contractual)
- 37. Mr. Kapil Manral (contractual)
- 38. Mr. Dharmendra Pawar (contractual)
- 39. Mr. Kamta Prasad Patel (contractual)
- 40. Mr. Deepak Pal (contractual)

#### CARPENTER

41. Mr. Vinod Kumar (Contractual)

#### UN-SKILLED LABOUR

- 42. Mr. Rajinder Kumar
- 43. Mr. Surinder Kumar

#### WORKSHOP HELPER

44. Mr. Kanchi Giri

#### SAFAI KARAMCHARI

45. Mr. Kishan (Contractual)46. Mr. Sanjeev Kumar (Contractual)

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- 3. Mr. Komal Singh (Jr. Assistant)
- 4. Mr. Satish Kumar Kaushik (Library Staff)
- 5. Mr. Anil Kumar (T. A. Computer, Contractual)
- 6. Mr. Saroj Kumar Jr. Assistant (Contractual)
- 7. Mrs. Yukti Khosla Office Assistant (Contractual)
- 8. Mr. Shankar Singh Negi (Caretaker, Contractual)
- 9. Mrs. Shashi Bala (Farash, Contractual)



# FACULTY MEMBERS

