

CURRICULUM VITAE

Dr. RAM SINGH

DOB: Apr. 2, 1976

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I Experience:

Duration	Position	Organization	Nature of work
July 2010 – till date	Assistant Professor	Department of Applied Chemistry, Delhi Technological University, Delhi – 42, India	Teaching & Research
August 2008 – July 2010	Departmental Research Associate, Faculty	Department of Chemistry, University of Delhi, Delhi – 110 007, India	Teaching & Research
Apr. 2005 – March 2008	Scientist [(SERC Fast Track Young Scientists Scheme; DST)]	Department of Chemistry, University of Delhi, Delhi – 110 007, India	Teaching & Research
Aug. 2002 – March 2005	Research Associate (DBT Project)	Centre for Environmental Management of Degraded Ecosystem (CEMDE); University of Delhi; India	Research
Oct. 2000 – Aug. 2002	Senior Research Fellow [CSIR-UGC(NET) fellowship]	Department of Chemistry, University of Delhi, Delhi – 110 007, India	PhD work
Oct. 1998 – Sept. 2000	Junior Research Fellow [CSIR-UGC(NET) fellowship]	Department of Chemistry, University of Delhi, Delhi – 110 007, India	PhD work

II Courses Taught/Teaching:

B.Tech.

First Year: (i) Engineering Chemistry (AC-104) (ii) Chemistry Practical (AC-108)

Second Year: (i) Polymer Chemistry (PCT-201)

M.Sc. (Chemistry)

Previous: (i) Paper 202 (Course B): *Methods in Organic Synthesis* (twice)

(ii) Organic Practical

Final: (i) Paper VIII (Course B): *Chemistry of Life Processes* (once)

(ii) Paper VIII (Course A): *Photochemistry & Pericyclic Reactions* (once)

(iii) Organic Practical

M.Tech. (Chemical Synthesis and Process Technologies)

Paper 202 (Course B): Role of Catalysis in Chemical Synthesis (once)

III Educational Qualifications:

Ph. D. February 2003; University of Delhi, India.
Topic of the Thesis: Chemical and Phytochemical Studies of Selected Heterocycles and Colouring Matters

M.Sc. 1998, 1st Division; University of Delhi, India.

B.Sc. (Hons) 1996, 1st Division; University of Delhi, India.

AISSCE 1993, 1st Division (Sainik School Tilaiya); CBSE, India.

AISSE 1991, 1st Division (Sainik School Tilaiya); CBSE, India.

IV Member of Societies/Editorial Board:

- The Indian Science Congress Association, Kolkata, India – **Life Member** (L12816)
- Indian Academy of Neurosciences - **Life Member** (LS-182)
- International Brain Research Organization – **Life Member**
- Indian Society of Analytical Scientists – **Life Member**
- World Association of Young Scientist – **Member**
- Scientists Without Borders - **Member**
- Asian Journal of Chemistry: **Member, Editorial Board**
- Brilliant Uniflow of Talents and Intelligence (BUTAI): **Honorary President**

V Research Projects: Completed/In progress – (02)

Sponsored: Completed – 01

S.No.	Title of the Project	Funding Agency/ Duration	Amount (in Rs)
1.	Study on inter- and intra-molecular interaction and Molecular Recognition in Heterocyclic Compounds and their applications in Biomimetic Reactions	Department of Science of Technology (DST), India/ April 2005 to March 2008	11,64000/-

Consultancy: Completed - 01

S.No.	Title of the Project	Funding Agency/ Duration	Amount (in Rs)
1.	Preparation of comprehensive	National Medicinal	1,00,000/-

	monographs of selected Indian medicinal plants with 'The Energy and Resources Institute (TERI)	Plant Board, India/ March 2009-April 2010	
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VI Student Supervised

Supervision of Under Graduate Students

- Tanuj Chhibber (2K7/PS/586) & Sudesh Kumar (2K7/PS/584); *Title of project work*: Study of few explosive detectors to detect chemicals used in explosives; June 2011.

VII Professional Recognition, Awards, Fellowships Received:

- **Reviewer** of various journals of national/international repute.
- Biographical profile included in "Marquis Who's Who in World and Asia.
- 'Young Scientist' award by Department of Science & Technology, Government of India under 'SERC Fast Track Young Scientists Scheme' in 2004.
- **CSIR-UGC JRF/SRF** 1998.
- Qualified Graduate Aptitude Test in Engineering (GATE) in 1998.

VIII Publications:

Peer-Reviewed Journals (26)

Citation: >250; h-index – 7 (Source Scopus)

S.
No.

Publications Detail

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1. S.M.S. Chauhan, Geetanjali and **Ram Singh**; A mild and efficient synthesis of 10-substituted isoalloxazines in the presence of solid acids, *Ind. J. Heterocycl. Chem.*, *10*, 157-158, **2000**.
 2. S.M.S. Chauhan, **Ram Singh** and A. Gulati; Clay catalyzed synthesis of 5,10,15,20-tetrakis(2,6-dichlorophenyl)porphyrin and related porphyrins; *Ind. J. Heterocycl. Chem.*, *9*, 231-232, **2000**.
 3. Geetanjali, **Ram Singh** and S.M.S. Chauhan; Use of 1,8-diazabicyclo[5.4.0]undec-7-ene as a base in the N-3 alkylation of 10-substituted isoalloxazines, *Synth. Commun.*, *33* (4), 613-620, **2003**.

4. S.M.S. Chauhan, **Ram Singh** and Geetanjali; An improved synthesis of N-substituted-2-aminonitroanilines, *Synth. Commun.*, 33 (16), 2899-2906, **2003**.
5. S.M.S. Chauhan, **Ram Singh** and Geetanjali; Microwave assisted synthesis of 10-substituted isoalloxazines in the presence of solid acids, *Synth. Commun.* 33 (7), 1179-1184, **2003**.
6. S.M.S. Chauhan, **Ram Singh**, Geetanjali and B. Ganguly; Phytochemical investigation of *arnebina nobilis*; *Asian J. Chem.*, 15 (3&4), 1791-1794, **2003**.
7. **Ram Singh**, Geetanjali and S.M.S. Chauhan; Anthraquinones and other bioactive phytochemicals from Genus *Rubia*; *Chemistry & Biodiversity*, 1 (9), 1241-1264 **2004**.
8. **Ram Singh**, Geetanjali and S.M.S. Chauhan; Electron transfer in Natural and Unnatural Flavoporphyrins; *Bioorganic Chemistry*, 32 (3), 140-169, **2004**.
9. **Ram Singh**, Geetanjali, and C.R. Babu; Exploring the mechanisms of molecular recognition by flavins; *Chemistry & Biodiversity*, 2(4), 429-446, **2005**.
10. **Ram Singh** and Geetanjali; Novel Synthetic Methodology for Metalloporphyrins In Ionic Liquid, *J. Braz. Chem. Soc.*, 16 (3), 666-668, **2005**.
11. **Ram Singh**, and Geetanjali; Isolation and Synthesis of Anthraquinones and related Compounds of *Rubia cordifolia*; *J. Serb. Chem. Soc.*, 70 (7), 937-942, **2005**.
12. R.S. Sharma, V. Mishra, **Ram Singh**, N. Seth and C.R. Babu; Survey and Evaluation of Natural Colour Yielding Potential of Himalayan Plant Species; *Asian J. Chem.*, 17 (1), 149-154, **2005**.
13. **Ram Singh** and Geetanjali; Microwave-Assisted Synthesis of Metalloporphyrins, *Asian J. Chem.*, 17 (1), 612-614, **2005**.
14. Geetanjali, **Ram Singh** and S.M.S. Chauhan; Molecular Recognition studies of Selected Synthetic 10-substituted Isoalloxazines with 2,6-diamidopyridine derivatives; *J. Chem. Res.*, 719-723, **2005**.
15. **Ram Singh**, Geetanjali and S.M.S. Chauhan; Synthesis of Selected Novel Covalently linked Flavoquinolones; *Synthesis* 2315-2320, **2005**.
16. Geetanjali, and **Ram Singh**; Synthesis of Selected Novel 7-Methoxycarbonyl-10-substituted Isoalloxazines, *J. Serb. Chem. Soc.* 71 (6) 575-579, **2006**.
17. **Ram Singh**, R. Sharma, N. Tewary, Geetanjali, and D.S. Rawat, Biocatalytic Transformations by Nitrilase, *Chemistry & Biodiversity*, 3, 1279-1287, **2006**.

18. Geetanjali, **Ram Singh**, and S.M.S. Chauhan; Solid-phase synthesis of isoalloxazines using Merrifield resin; *J. Braz. Chem. Soc.* 17, 421-425, **2006**.
 19. **Ram Singh**, and Geetanjali; Solventfree Regioselective Synthesis of 6- and 7-Substituted Pteridines Under Microwaves, *Russ. J. Org. Chem.*, 42, 136-138, **2006**.
 20. **Ram Singh**, M. Sharma, P. Joshi and D.S Rawat; Clinical status of anti-cancer agents derived from marine sources; *Anti-Cancer Agents in Medicinal Chemistry* 8 (6), 603-617, **2008**.
 21. **Ram Singh**, M. Sharma, R. Mamgain and D.S. Rawat; Ionic Liquids: A Medium for Palladium-Catalyzed Reactions, *J. Braz. Chem. Soc.* 19(3), 357-379, **2008**.
 22. R.S. Sharma, V. Mishra, **Ram Singh**, S.S. Gharbayal, N. Seth and C.R. Babu Anti-fungal activity of some Himalayan medicinal plants and cultivated ornamental species; *Fitoterapia* 79, 589-591, **2008**.
 23. R. Mamgain, **Ram Singh** and D.S. Rawat; DBU-Catalyzed Three-Component One Pot Synthesis of Highly Functionalized Pyridines in Aqueous Ethanol; *J. Heterocycl. Chem.* 46, 69-73, **2009**.
 24. **Ram Singh**, Geetanjali and V. Singh; Exploring Alkaloids as Inhibitors of Selected Enzyme; *Asian J Chem.* 23, 483-490, **2011**.
 25. V. Singh, N.K. Kaushik and **Ram Singh**; Metallosulpha Drugs: Synthesis and Bioactivity; *Asian J. Research Chem.* 4(3), 339-347, **2011**.
 26. N. Kumar, **Ram Singh** and D. S Rawat; Tetraoxanes: Synthetic and medicinal chemistry perspective; *Med. Res. Rev.* (**Accepted**).
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Books

1. Geetanjali and **Ram Singh**, Chemistry for Class XII, *RGN Publication*, Delhi, India, ISBN: 81-904221-0-3. 1st Edition **2006**; 2nd Edition **2007**.
2. S. Chauhan, **Ram Singh**, Y. Gokhale, G. Lhouvum and A.R. Basu, Medicinal Plant Wealth of India, A comprehensive review of selected species, published by 'The Energy and Resources Institute (TERI), prepared for National Medicinal Plants Board, Ministry of Health & Family Welfare, Government of India **2011**.
3. **Ram Singh** and Geetanjali, Textbook of General Heterocyclic Chemistry, *RGN Publication*, Delhi, India, (Under Publication) *RGN Publication*, Delhi, India, ISBN: 81-904221-1-1.

Chapters in Book:

1. **Ram Singh**, Geetanjali, M.K. Mishra and S.M.S. Chauhan; Synthesis of Selected Optically Active Isoalloxazines and their Applications in the Biomimetic Oxidation of Sulphur Compounds; *Heterocyclic Chemistry* by D.C. Gautam, Chapter 21, pp. 256-266, RBSA publication, Jaipur (Rajasthan), India, **2004**. ISBN: 81-7611-211-9.
2. D.S. Rawat, **Ram Singh**, N. Kumar, M. Sharma and M.S.M. Rawat; Synthetic and clinical status of marine derived anticancer peptides; *Comprehensive Bioactive Natural Products Vol 7: Structural Modifications & Drug Development*, Volume 7, Chapter 1, published by M/S. Studium Press LLC, USA, **2010**. ISBN: 1933699574.
3. **Ram Singh**, Geetanjali, V. Katiyar and S. Bhanumati; Selected gold nanoparticle-based biosensors; E-book entitled *Smart Nanomaterials for Sensor Application*, by Bentham Science Publisher (USA), **Accepted**.

Symposia/Seminars/Conferences/workshops

(a) Poster Presentations

1. **Ram Singh**, P.P. Mohapatra and S.M.S. Chauhan; Oxygenation of Nalidixic acid and related compounds with monooxygen donors catalyzed by 5,10,15,20-tetraarylporphyrinatoiron(III) chlorides in organic solvents; *International Symposium on Trends in Medicinal Chemistry and Biocatalysis*, 26-29 January, **2000**, Department of Chemistry, University of Delhi, India.
2. Geetanjali, **Ram Singh**, Abha Awasthi and S.M.S. Chauhan; Solid phase synthesis of some novel 7-carboxy-10-substituted isoalloxazines; *International Symposium on Trends in Medicinal Chemistry and Biocatalysis*, 26-29 January, **2000**, Department of Chemistry, University of Delhi, India.
3. Geetanjali, **Ram Singh** and S.M.S. Chauhan; Synthesis and characterization of some novel flavoporphyrins; *International Symposium on Green Chemistry*, January **2001**, Department of Chemistry, University of Delhi, India.
4. S.M.S. Chauhan, **Ram Singh**, Geetanjali and M.K. Mishra; Synthesis of some novel chiral 10-substituted isoalloxazines and their application in the biomimetic oxidation of thioanisole; *International Conference on Heterocyclic Chemistry*, 15-

18 December, **2001**, Department of Chemistry, University of Rajasthan, Jaipur, India.

5. B. Ganguly, **Ram Singh** and S.M.S. Chauhan; Incorporation of alkannin, shikonin and related 5,8-dihydroxynaphthoquinones isolated from selected boraginaceae in organized media; *IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications*, January **2004**, Department of Chemistry, University of Delhi, India.
6. **Ram Singh**, R.S. Sharma, V. Mishra, N. Seth and C.R. Babu; Chemical prospecting for medicinal compounds from a hemi-parasitic plant (*dendrophthoe trigona*) inhabiting Western Ghats of India; *IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications*, January **2004**, Department of Chemistry, University of Delhi, India.
7. Geetanjali, **Ram Singh** and S.M.S. Chauhan; Molecular recognition study of isoalloxazines with diamidopyridine derivatives; *IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications*, January **2004**, Department of Chemistry, University of Delhi, India.
8. **Ram Singh**, H. Atheaya and D.S. Rawat; Biomimetic reactions of selected human MAO substrates with isoalloxazines (Flavins); *International Symposium on Advances in Neuroscience & Silver Jubilee Conference of Indian Academy of Neurosciences*, 22-25 November, **2007**, Banaras Hindu University, Varanasi, India. *Annals of Neuroscience*, 14 (suppl.), 139, **2007**.
9. **Ram Singh** and Geetanjali; Application of Analytical Techniques in Natural Product Chemistry; *National Symposium on Recent Advances in Analytical Sciences*, April 12-14, **2010**, Himachal Pradesh University, Shimla.

(b) Oral Presentations

1. **Ram Singh**; Isoalloxazine-metal interaction; *National Conference in Recent Developments in Metallo-Organic Chemistry*, Feb. 28 – Mar. 1, **2009**; Department of Chemistry, LR Post-Graduate College, Ghaziabad, UP, India.

(c) Invited Lecture

1. **Ram Singh**, Solid-waste management solution; Seminar-cum-workshop on Solid-waste management, organized by CAPF sponsored by Ministry of Environment and Forest, January 11, **2009**.

2. **Ram Singh**, Switch to natural and renewable sources of energy; Workshop on energy conservation, organized by CAPF sponsored by Ministry of Environment and Forest, February 21, **2010**.
3. **Ram Singh**, Paper Waste Technology; Workshop on Paper Recycling, organized by CAPF, Delhi, May 15, **2010**.
4. **Ram Singh**, Solar Energy – Dream to Reality, Workshop on *Solar power-paradigm of environmental protection* organized by CAPF sponsored by Ministry of Environment and Forest, Delhi at Mahatma Gandhi Institute for Combating Climate Change (Govt. of NCT Delhi), Palla Road, Alipur, Delhi- 110036, March 26, **2011**.

(d) Participation

1. *National Seminar on Chemistry Education and Research in 21st century*, February 7-8, **2008**, Department of Chemistry, Dayal Singh College, University of Delhi, India.
2. *13th ISCB International Conference on Interplay of Chemical and Biological Sciences: Impact on Health and Environment*, Feb. 26 – Mar. 1, **2009**; Department of Chemistry, University of Delhi, India.
3. *Indo-French Seminar on Biomolecular Chemistry*, March 4, **2009**; Department of Chemistry, University of Delhi, India.
4. *6th Indo-Italian Workshop on Chemistry and Biology of Antioxidants*, organized by Department of Chemistry, University of Delhi, Delhi – 7, India; December 10-11, **2009**.
5. *3rd Indo-Italian Seminar on Green Chemistry*, organized by Department of Chemistry, University of Delhi, Delhi – 7, India; December 9, **2009**.
6. *International Symposium on Trends in Drug Discovery and Development*, organized by Department of Chemistry, University of Delhi, Delhi – 7, India; January 5-8, **2010**.
7. *National workshop on Role of Analytical Techniques in Industry*, organized by Department of Chemistry, Kirori Mal College, University of Delhi, Delhi – 7, India; January 21-22, **2010**.
8. Seminar on ‘*Analytical solutions from Bruker Axs*’, organized by Indian Society of Analytical Scientist (Delhi Chapter) and Bruker Axs at Delhi on October 1, **2010**.

8. National Symposium on Biotechnology, organized by Department of Biotechnology, Delhi Technological University, Delhi – 42, October 29-30, **2010**.
9. National Seminar on ‘*Role of Analytical Techniques in Biological & Environmental Sciences*’ organized by Indian Society of Analytical Scientist (Delhi Chapter) and Department of Chemistry, Kirori Mal College, University of Delhi, Delhi – 7, India, January 27-29, **2011**.

IX Other Qualifications:

- * ‘*Industry Diploma in Drug Design and Patenting*’ from ‘Bioinformatics Institute of India’, Noida, India in 2005 through distance learning.
- * ‘*General Course on Intellectual Property*’ from World Intellectual Property Organization Worldwide Academy in 2006 through distance learning.

X Other Administrative/Academic Activities

1. Resource Person for “*Natural Product Chemistry*” section of ‘Workshop on Biosystematics and Conservation of Plant Diversity’; organized by Centre for Environmental Management of Degraded Ecosystems, University of Delhi, Delhi – 110 007 for **2003-2005**.
2. Member Organizing Committee of “*Indo-Italian Seminar on Green Chemistry and Natural Products*” organized by Department of Chemistry, University of Delhi, Delhi – 7, India; December 5-6, **2008**.
3. Member Organizing Committee of “*5th Indo-Italian Workshop on Chemistry and Biology of Antioxidants*” organized by Department of Chemistry, University of Delhi, Delhi – 7, India; December 7, **2008**.
4. Judge for the Exposition Round of Quest 2011 - an Delhi University Inter College Science Aptitude Contest, held at the Academic Research Centre (Opp. Khalsa College) auditorium, University of Delhi on the 16th march, **2011**.
