



Name: Dr. Rajeev Sharma

Designation: Associate Professor

Dean Faculty of Physical Sciences

Specialization: Inorganic Chemistry

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Education

M.Sc. Chemistry (1987, Punjabi University, Patiala)

M. Phil. (Inorganic Chemistry) – (Punjabi University, Patiala)

Title of M. Phil. Thesis: Studies on some metal Complexes of 3-Nitroformazans

Ph.D. (Punjabi University, Patiala)

Title of Ph. D Thesis: Studies on metal Complexes of some 3-Substituted Formazans
and some Azo compounds

Professional Experience:

Research Associate: Department of Chemistry, Punjabi University Patiala. (Dec.1994-26 Aug.1997)

Department of Chemistry, M.M. Modi College, Patiala, India (27 Aug, 1997 to till date)

Teaching Interests:

- Inorganic Chemistry
- Environmental Chemistry
- Organic Chemistry
- Physical Chemistry

Research Interest:

- Analytical Chemistry
- Coordination Chemistry
- Synthetic Organic Chemistry
- Bio-removal of metal ions.

Publications

1. H.S. Sohal, A Goyal, R Khare, K Singh, **R Sharma**, (2014) Catalyst free, one-pot, facile synthesis of novel pyrazolo-1,4-dihydropyridine derivative form pyranopyrazoles, *European Journal of Chemistry*, 5(2), 227-232.
<http://www.eurjchem.com/index.php/eurjchem/article/view/967>
2. H.S. Sohal, A Goyal, R Khare, **R Sharma** (2014) One-pot, multicomponent synthesis of symmetrical Hantzsch 1, 4-dihydropyridine derivatives using glycerol as clean and green solvent *European Journal of Chemistry* **2014**, 5(1), 171-175
<http://www.eurjchem.com/index.php/eurjchem/article/view/943>
3. H.S. Sohal, A Goyal, Sanjay Kumar, **R Sharma** (2013) Facile and Efficient One-Pot Synthesis of Polyhydroquinoline Derivatives via Unsymmetrical Hantzsch Condensation under Solvent-Free Conditions *Current Trends in Biotechnology and Chemical Research* **3(1)** 12-16
https://www.researchgate.net/publication/263698626_Facile_and_Efficient_One-Pot_Synthesis_of_Polyhydroquinoline_Derivatives_via_Unsymmetrical_Hantzsch_Condensation_under_Solvent-Free_Conditions
4. HS Sohal, A Goyal, **R Sharma**, R Khare, S Kumar (2013) Glycerol mediated, one pot, multicomponent synthesis of dihydropyrano [2, 3-c] pyrazoles *European Journal of Chemistry* **4 (4)**, 450-453
<http://www.eurjchem.com/index.php/eurjchem/article/view/769>
5. KC Kalia, A Kumar, **R Sharma** (1993) Simultaneous spectrophotometric estimation of cobalt (II) and nickel (II) with phenylazobenzaldoxime *Asian Journal of Chemistry* 5 (3), 559
http://www.asianjournalofchemistry.co.in/User/ViewFreeArticle.aspx?ArticleID=5_3_13
6. SK, Nitika, **R Sharma** (2014) Synthesis and characterization of cobalt (III) chelates of symmetrical 3-nitro-1, 5-diarylformazans *Chemical Science Transactions* **3 (2)**, 670-675 <http://www.e-journals.in/abstract.asp?Totarticle=793>
7. J Kapoor, **R Sharma**, ALJ Rao (1996) Spectrophotometric determination of ferbam using 4-(2'-pyridylazo) resorcinol *NISCAIR-CSIR, India* **35(A)** 1011-1013
(<http://nopr.niscair.res.in/bitstream/123456789/41483/1/IJCA%2035A%2811%29%201011-1013.pdf>)

8. J Shah, R **Sharma**, I Sharma(2015) Study and Evaluation of Groundwater Quality of Malwa Region, Punjab (North India) *Journal of Chemistry, Environmental Sciences and its Applications* **2 (1)**, 41-58
<https://jce.chitkara.edu.in/index.php/jce/article/download/49/30/>
9. **R Sharma**, M Devgan, KC Kalia Oxidation of Formazans (1998) *ChemInform* 29 (19), <http://scholar.google.com/citations?user=d4cJaHYAAAAJ&hl=en>
10. **R Sharma**, M Singla, KC Kalia (1996) Synthesis and characterization of some tris (2-arylazophenolato) rhodium (III) chelates *Indian journal of chemistry. Sect. A: Inorganic, physical, theoretical* ...
<http://scholar.google.com/citations?user=d4cJaHYAAAAJ&hl=en>
11. **R Sharma**, K Kaur (2015) Exogenous Sulphur Dioxide Induced Changes in Superoxide Dismutase, Peroxidation and Non-Protein SH Content in Mung Bean (Vigna Radiata) Seedling *Journal of Chemistry, Environmental Sciences and its Applications* **2 (1)**, 91-96
http://dspace.chitkara.edu.in/xmlui/bitstream/handle/1/554/12009_JCE_Rajeev.pdf?sequence=2&isAllowed=y
12. **R Sharma**, KC Kalia (1997) Dithizones and Their Metal Complexes *ChemInform* 28 (9). <http://scholar.google.com/citations?user=d4cJaHYAAAAJ&hl=en>
13. **R Sharma**, M Singla, KC Kalia (1996) Synthesis and characterization of some tris (2-arylazophenolato) rhodium (III) chelates *NISCAIR-CSIR, India*
<http://scholar.google.com/citations?user=d4cJaHYAAAAJ&hl=en>
14. **R Sharma**, KC Kalia (1997) Synthesis and characterization of tris (3-nitroformazanato) rhodium (III) chelates *NISCAIR-CSIR, India* **35A(1)** 63-65
<http://nopr.niscair.res.in/handle/123456789/41225>
15. **R Sharma**, KC Kalia (1995) Spectral studies on some newly synthesised bis (3-nitro-1, 5-diarylformazan) palladium (II) chelates *NISCAIR-CSIR, India*
16. J Shah, I Sharma, O Silakari, **R Sharma** (2015) Removal of As (III) ion using Syzygium cumini seeds (SCS) biomass from ground water and waste water *International Journal of Engineering and Applied Sciences* **4 (9)** 30-34
<https://pdfs.semanticscholar.org/6c94/ed012e2bd6db350d28cf2c14a1268bcf44b7.pdf>
17. **Rajeev Sharma**, Sanjay Kumar and Nitika (2014) Solvatochromic Behaviour of Formazans and contribution of Kamlet-Taft Coefficients towards Spectral shift of

Formazans in different organic solvents. *Chemical Science Transactions* **3(3)**, 919-928. DOI:10.7598/cst2014.836

<http://www.e-journals.in/abstract.asp?Totarticle=836>

18. Sanjeev Kumar, **Rajeev Sharma**, (2014) Sanjay Kumar, Nitika Evaluation of Thermodynamic and kinetic parameters of Formazans as Corrosion inhibitors for copper dissolution in 2N HCl solution *Current Trends in Biotechnology and Chemical Research* **1(4)**,54-62
<https://shodhganga.inflibnet.ac.in/jspui/bitstream/10603/262551/1/110-182-1-sm%20-%20copy.pdf>
19. **Rajeev Sharma**, Nitika and Sanjeev Kumar (2015) Spectral studies on bis (3-nitroformazan) Nickel (II) Chelates *Current Trends in Biotechnology and Chemical Research*
20. Leena Chhabra, Gurnam Singh, Sanjeev Kumar and **Rajeev Sharma** 2016 Study of Antibacterial activity of *Leaf Extracts of Dalbergia Sisso (Roxb.)* *Journal of Chemistry, Environmental Sciences and applications* **3(1)**
<https://jce.chitkara.edu.in/index.php/jce/article/view/28>
21. Chitrangana Ahuja, Sanjeev Kumar, Kashish Ahuja and **Rajeev Sharma** 2017 Antibacterial activity of seeds of *Nigella Sativa* by Agar Well Difusion Method. *International Journal of Advanced Technology in Engineering and Science*. **5(1)**
22. Kaur Manavjot Kumar Sanjeev **Sharma Rajeev** (2016) Decolorization of Symmetrical and unsymmetrical 3-nitroformazans using *Coriolus Versicolor*. *Journal of Chemistry, Environmental Sciences and applications*. **2(2)** 145-156
<https://jce.chitkara.edu.in/index.php/jce/article/view/39>
23. **Rajeev Sharma**, Jyoti Shah Sanjeev Kumar (2016) Indoor Pollutants: A threat to human health. *A book Souvenir on Industrial Globalization and environmental awareness: Proceedings of the National seminar held by Department of Chemistry Govt. PG College Ambala Cantt. Haryana* ISBN -13:978-1533168078.
24. **Rajeev Sharma** and Sanjeev Kumar (2015) Human rights and Sikhism: *Research Icon*.,1(3),71 ISSN:2395-6585
25. Jyoti Shah, Sanjeev Kumar, Sudha Sharma, **Rajeev Sharma** and Rupinder Sharma (2016) Removal of Nickel from aqueous solution by using low cost adsorbents: A Review : *International Journal of Scientific, Engineering and applied science*, **2(7)** 48
ISSN:2395-3470 <http://ijseas.com/volume2/v2i7/ijseas20160707.pdf>

26. Sanjeev Kumar, Chitrangana Ahuja, Mahesh Kumar, Shubham Bansal and **Rajeev Sharma** (2017) Study of anti-bacterial activity of *Syzygium aromaticum*, *International Journal of Advance Research in Science and engineering*,6(1),162
27. Sanjeev Kumar and **Rajeev Sharma** (2017) Phytochemical and antimicrobial activity of different citrus fruit peels.: *European Journal of Biomedical and Pharmaceutical Sciences*,4(8)
28. Sanjeev Kumar and **Rajeev Sharma** (2017) Synthesis , Characterization and Solvatochromism of some 3-nitro-1,5-diarylformazans: *International Journal of recent scientific Research* **8(7)** 18827-18235
<http://recentscientific.com/sites/default/files/7994-A-2017.pdf>
29. Sanjeev Kumar and **Rajeev Sharma** (2017) Synthesis of 3-substituted-1,5-diarylformazans for their use as naked eye chemical sensor for detection of Cu²⁺ and Hg²⁺. *International Journal of recent scientific Research* **8(7)** 18172-18178
<http://dx.doi.org/10.24327/ijrsr.2017.0807.0463>

Review Articles

1. Sanjeev Kumar and **Rajeev Sharma** (2017) Frontiers of Formazan Chemistry: A Review: *World Journal of Pharmaceutical Research* **6(8)** 800-841
<https://wjpr.net/download/article/1501486057.pdf>

Book/Book chapter

1. **Dr. Rajeev Sharma**, Dr. Yogita Bansal and Dr. Sanjeev Kumar (2017) Drug Abuse: Problem, Management and Prevention Problem of Drug Abuse, Semester-I (G.N.D.U) R.D. Publications, Jalandhar.
2. **Dr. Rajeev Sharma** Dr. Sanjay Gupta and Dr. Rajinder Kashyap (2019) Practical Chemistry Solutions, Phase Equilibrium Conductance Electrochemistry and Organic Chemistry for B.Sc.-Second Year, (H.P.U) R.D. Publications, Jalandhar. *ISBN 93-84594-66-0*
3. **Dr. Rajeev Sharma** Dr. Sanjay Gupta and Dr. Rajinder Kashyap (2019) Practical Chemistry Chemistry for Main Group Elements Chemical Energetics and equilibria for B.Sc.-Second Year, (H.P.U) R.D. Publications, Jalandhar. *ISBN 93-84594-86-5*

4. **Dr. Rajeev Sharma** Dr. Sanjay Gupta and Dr. Rajinder Kashyap (2019) Practical Chemistry Atomic Structure Bonding General Organic Chemistry for B.Sc.-Second Year, (H.P.U) R.D. Publications, Jalandhar. *ISBN 93-84594-66-0*

M.Sc. Dissertations:

20 completed till academic session 2019-2020

Ph.D Students

1. **Harwinder Sohal** (completed 2015) Synthesis of fused dihydropyridine derivatives and evaluation of their biological activities.(MMU, Mullana)
2. **Sanjeev Kumar** (completed May-2017) Physico-chemical investigations of 3-substituted formazans (Punjabi University)
3. **Manavjot Kaur** (completed 2017) Synthesis and characterization of Symmetrical and unsymmetrical Formazans and their use as Biological and Analytical Reagents.
4. **Jyoti Shah** (completed 2018) Synthesis and characterization of Symmetrical and unsymmetrical Formazans and their use as Biological and Analytical Reagents.

Award of Honours

1. Honoured on Republic day for blood donation, free medical camp and environmental awareness by SardarNirmal Singh Kahlon, honourable speaker Punjab VidhanSabha.
2. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2009-2010.
3. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2010-2011.
4. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2011-2012.
5. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2012-2013.
6. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2014-2015.
7. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2015-2016.

8. Best Programme officer for NSS activities by Department of National service scheme Punjabi university Patiala for the year 2016-2017.
9. Award of Honour by Department of transfusion medicine, Govt. Medical College, Patiala on Voluntary blood donation day for organising voluntary blood donation camps, 2014.
10. Award of Honour by Department of transfusion medicine, Govt. Medical College, Patiala on world blood donor day, 2015.

Courses/faculty Development (FDP) Attended

1. Certificate course in Participatory management, (2012) organised by Mahatma Gandhi Institute of Public Administration, Chandigarh held at Regional centre, Patiala from Dec 18-31, 2012.
2. Certificate course in master facilitators development workshop, (2017) organised by British council UK/IN held at RGNID Sriperumbudur from July 15-19, 2017.
3. Certificate course in UGC sponsored seven day faculty development programme, (2017) organised by Multani Mal Modi college Patiala held at Multani Mal Modi College, Patiala from January 9-16, 2017.
4. Certificate course in Contemporary issues in Higher Education (2018) organised by Internal quality Assurance cell (IQAC) Multani Mal Modi college, Patiala held at Multani Mal Modi college, Patiala from July 20-26, 2018.

Invited talks delivered/Resource person at State/National Conferences and seminars

1. Talk on environmental issues in the Panjab University sponsored state level seminar (2015) on excessive use of toxic chemicals-its impact on human health and environment organised by A.S College. Khanna on 28 January.
2. Talk on Environment Protection- Need of the hour (2020) organised by Department of chemistry, Guru Nanak College, Budhlada on 29 February.
3. Resource person at the workshop sponsored by UGC (2011) "The carrier gateway: unlock your potential" held on 13- 15 Sept, 2011.

Training workshops attended

1. Patent awareness workshop (1997) organized by Punjab state council for science and technology, held at Chandigarh on 08-02-97.
2. Computer laboratory training in physics (2004) sponsored by Punjabi university Patiala held at department of physics Punjabi university Patiala on 24-06-2004 to 28-06-2004.
3. Indo-Japan workshops on crystal; growth and applications of advanced materials for optoelectronic (2004) held at crystal growth centre, Anna University, Chennai, from December 7-10, 2004.
4. Sixth Training Program on Writing a Scientific Paper (1996) held at The National Institute Of Science Communication During 18-2 November 1996.
5. Workshop On Industrial Application of NMR Spectroscopy (1997) held At Indian Institute Of Science Delhi on February 7-9, 1997
6. Training Programme on Social Harmony and Human Rights (2010) organized By National Service Scheme (NSS), Punjabi University Patiala on 13-15 December, 2010.
7. National Workshop on Natural Vinegar and Naturally Carbonated Beverage Production (2013) organized by department of science and technology, government of India 26th April, 2013.
8. One day workshop on voluntary blood donation (2017) organized by department of immunohematology and blood transfusion on 18th February 2017.

Sessions Chaired at International and National conferences

1. Sessions chaired at National institute of technical teachers training and research, Chandigarh, India, 2017.
2. Sessions chaired at international conference on recent innovations in engeneering, science, humanities and management (ICRIESHM-17) at Devsamaj College for women, Ferozepur, Punjab 2017.