

**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](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=5313>
  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](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>
18. **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>
19. 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>
20. **Rajeev Sharma**, Nitika and Sanjeev Kumar (2015) Spectral studies on bis (3-nitroformazan) Nickel (II) Chelates *Current Trends in Biotechnology and Chemical Research*
21. 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>
22. 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)**
23. 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>

24. **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.
25. **Rajeev Sharma** and Sanjeev Kumar (2015) Human rights and Sikhism: *Research Icon*,1(3),71 ISSN:2395-6585
26. 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>
27. 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
28. Sanjeev Kumar and **Rajeev Sharma** (2017) Phytochemical and antimicrobial activity of different citrus fruit peels.: *European Journal of Biomedical and Pharmaceutical Sciences*,4(8)
29. 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>
30. Sanjeev Kumar and **Rajeev Sharma** (2017) Synthesis of 3-substituted-1,5-diarylformazans for their use as naked eye chemical sensor for detection of  $\text{Cu}^{2+}$  and  $\text{Hg}^{2+}$ . *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.
5. Appointed Co-supervisor of such Sehaj D/o Sh. Harminder singh for his PhD Degree in Computer Science board of studies of post graduation studies and Research in faculty of Engineering and Technology, Punjabi university Patiala on 26<sup>th</sup> march 2019

### **Award of Honours**

1. Honoured on Republic day for blood donation, free medical camp and environmental awareness by Sardar Nirmal Singh Kahlon, honourable speaker Punjab Vidhan Sabha.
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 RGNIYD Sriperumbudarf 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.
5. **National workshop on youth for community** development (online) organized by national service scheme unit R.D and S.H.National College and S.W.A science College Bandra (W), Mumbai Hyderabad Pune (SIND) Held on 27 March to 11 April, 2020.
6. **2. Five days Faculty development program on IPRs for professional innovators**, Organized by Institutions council –AVIT & Vinayaka Mission research foundation (VMRF) held from 16<sup>th</sup> June to 20<sup>th</sup> June 2020.

7. **3. Science Academies Science Leadership workshop** Organized by the central university of Punjab Bathinda India from June 22 to June 28, 2020.
8. **4. One week inline faculty development program on Latex** organized by the department of information technology Mizoram University in association with spoken tutorial project IIT Bombay under Pandit Madan Mohan Malaviya National Mission on teacher and teaching (PMMMNTT) MHRD, Govt. of India from 29<sup>th</sup> June to 3<sup>rd</sup> July, 2020.
9. **5. Online Teaching-Practices: Challenges & Solutions** jointly organised by Department of Mathematics and Department of Computer Science, Sri Guru Teg Bahadur Khalsa College, Anadpur Sahib (Punjab), from July 7- 13, 2020.
10. **6. One Week Faculty Development Programme (Online) Recent Advances In characterization and Application of Nanomaterials** organised by Department of Basic Science And Humanities, GMR Institute of Technology, Rajam during July 13 -17, 2020.

### **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.
4. Webinar on **Opportunities & Challenges in Financial sector After lock-down** held on 23<sup>rd</sup> 2020 at 4:30pm through YouTube live organized by south Gujrat Pradhayagak Puahtak Prakshan Sahkri Mandli Ltd Surat Gujarat.
5. Webinar on **Why is English so Difficult?** Conducted by Dr Elarne Higgleton Organized by Collins learning International publisher on 28<sup>th</sup> May 2020.
6. 9<sup>th</sup> National webinar on "**Bringing Happiness to life**" organized by J.Z shah Arts & H.P Desai commerce college, Amroli in collaboration with IQAC on 28<sup>th</sup> may 2020 at 3:45pm to 5:30pm.
7. 10<sup>th</sup> National webinar on "**This is my Aim**" by J.Z shah Arts & H.P Desai commerce college, Amroli in collaboration with IQAC on 30<sup>th</sup> may 2020 at 3:00pm to 5:15pm.
8. Webinar on **Covid-19 Pandemic and its cure in Ayurveda**, organized by Maharana Partap National college Mullana, Ambala (Haryana) on 27<sup>th</sup> may 2020. At 11:00 to 12:30pm
9. Webinar on **Managing stress amid Covid -19** Organized by edu. Routes in collaboration with Chitkara University Rajpura on 25<sup>th</sup> may, 2020.

10. Webinar on **Post Covid Challengws Before Indian education system** organized by council for teacher education foundation (Punjab & Chandigarh chapter )& Mulatani Mal Modi college Patiala. On 29<sup>th</sup> May 2020 at 1:30pm to 3:30pm.

### **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 26<sup>th</sup> April, 2013.
8. One day workshop on voluntary blood donation (2017) organized by department of immunohematology and blood transfusion on 18<sup>th</sup> February 2017.
9. Training on **Infection Prevention and Control** Organized by Department of personnel and training, Govt. of India, on Diksha app on 5<sup>th</sup> May, 2020.
10. Training on **Basic of Covid-19** Organized by Department of personnel and training, Govt. of India, on Diksha app on 26<sup>th</sup> April, 2020.
11. Training on **Psychological care of Patient with Covid-19** Organized by Department of personnel and training, Govt. of India, on Diksha app on, 29<sup>th</sup> April, 2020.
12. Training on **Personal Protective Equipment** Organized by Department of personnel and training, Govt. of India, on Diksha app on 5<sup>th</sup> May, 2020.
13. Health Emergency program Training on **Standard Precaution Hand Hygiene**, organized by world health Organization (WHO), on 19<sup>th</sup> May 2020.
14. Short Term National Online Certificate Course "Fundamentals of Indian Economy" Organized by IQAC and department of govt. Girls' P.G.College Ujjain during 9<sup>th</sup> August-16 August 2020.
15. **Short term national online certificate course on Health Awareness** organized by IQAC and department of chemistry and pharmaceutical chemistry ,Govt. girl PG college ,Ujjain from 1-8 september, 2020.



## **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 engineering, science, humanities and management (ICRIESHM-17) at Devsamaj college for women, Ferozpur, Punjab 2017.