



Dr. Ritu Bala

*Assistant Professor in Chemistry
Basic and Applied Sciences, Punjabi University, Patiala*

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Personal Details

Father's Name: S. Shingara Singh (Late)

Mother's Name: Smt. Amarjit Kaur

Marital Status: Married

Spouse's Name: Parminderjeet Singh

Date of Birth: 11th December, 1979

Area of Specialization

Organic Synthesis, Photochemistry and Photodegradation Studies

Education

- **Ph.D.** degree under the supervision of Dr. W.R. Bansal, Department of Chemistry, Punjabi University, Patiala with Title “**Direct and Dye Sensitized Photoreactions of 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran**”, in January 2010.
- **M.Sc.** (Physical Chemistry) from Department of Chemistry, Punjabi University, Patiala, India, in April 2003.

Membership of Professional Bodies/Organisations

- i) **Life member**, Indian society for Technical Education **LM-65420**
- ii) **Life member**, Punjab Academy of Sciences **LM-1361**

Honour Received

1st prize for Research paper presented in “National seminar on Recent Trends in Chemistry” held on 21-22 Jan, 2009 at Punjabi University, Patiala.

Teaching Experience:

- Working as a Regular Assistant Professor (Chemistry) in the Department of Basic and Applied Sciences, Punjabi University, Patiala, from 2nd August 2012-till date.
- Worked as a Regular Assistant Professor (Chemistry) in the SGGSW University, Fatehgarh Sahib, from Dec 2011-2nd Aug 2012.
- Worked as a Regular Assistant Professor (Chemistry) in Rayat & Bahra group of Institutes, Ropar, from 13th July 2009-12th Dec 2011.
- Worked as a Guest Faculty (Chemistry) in Department of Basic and Applied Sciences, Punjabi University, Patiala for teaching Applied Chemistry to B.Tech students from Aug 2008- Dec. 2008.
- Worked as a Guest Faculty (Chemistry) in Department of Chemistry, Punjabi University, Patiala for teaching Chemistry to M.Sc. students from Aug 2006-Aug 2008.

References for Recommendations

- **Prof. Jaspreet Kaur**
Department of Chemistry,
National Institute of Technology, Jalandhar, India
rajputj@nitj.ac.in Contact Number +91-9464620971
- **Prof. (Ex) Dr. W. R.Bansal**
Department of Chemistry, Punjabi University, Patiala, India
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- **Dr. Tejwant Singh Kang**
Department of Chemistry,
Guru Nanak Dev University, Amritsar, India
tejwant.chem@gndu.ac.in Contact Number +91- 7508500017
- **Mrs. Amandeep Kaur Sandhu**
Department of Education and Educational Management
National Institute of Technical Teachers Training and Research, Chandigarh, India
amandeep@nittr.ac.in Contact Number +91- 9888735434

Book Publication A book entitled **Direct and Dye Sensitized Photoreactions of 3-Hydroxy Benzopyran-4-one** by Ritu Bala has been published by Scholar's Press, International Book Market Service Limited, Mauritius on April, 2019 with ISBN 978-620-2-31875-4.

Referred Journal Publications

1. **Kinetic and Mechanistic Features of 6-Chloro-3-Hydroxyflavone in Dye Sensitized Reaction: Photorearrangement or Photooxidation.** Ritu Bala *IOSR Journal of Applied Chemistry V-12, I- 2 Series 2, Feb 2019, 11-18*
UGC Journal List Sr. No. 4031
2. **Viscosity effect in 3-Hydroxy flavone studied by fluorescence spectroscopy.** Ritu Bala *International Journal in Applied studies and Production Managements V-2, I-2, 2016, 12-25*
UGC Journal List Sr. No. 63144
3. **Excited- State Intramolecular Proton Transfer Studies on the 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran in Different Solvents.**
Ritu Bala, Manisha Bansal and W.R. Bansal, *Indian Journal of Chemical Society, vol 89. No 7, July 2012*
4. **Rose Bengal Sensitized Photorearrangement of 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran**
Ritu Bala, Manisha Bansal and W.R. Bansal, *Canadian Journal on Chemical Engineering and Technology, Vol 1, No. 3, Sept 2010, 21-32*
5. **Effect of Viscosity of the Medium on Excited-State Intramolecular Proton Transfer of 3-Hydroxy Flavone**
Ritu Bala, Manisha Bansal and W.R. Bansal, *Journal Punjab Academy of Sciences, 4 (1&2) 2009, 28-32*
6. **Photocyclisations of some 3-alkoxychromones: substituted control on Photoreactivity**
Mohamad Yusuf, R. Kumar, R. Bala and W.R. Bansal, *Ind. J. Chem., 46B (2007) 1860-1867*
7. **Photochemistry of 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran**
Ritu Bala, Rupesh Kumar, Mohamad Yusuf and W.R. Bansal, *Ind. J. Chem., 46A (2007) 1440- 1444*

Conferences/ Seminar/Symposium Attended

Paper presented in International/National Conferences/ Seminar/Symposium

1. **Solvent Effects on the Photophysics and Photoreactivity of 6-Chloro-3-Hydroxyflavone: Spectroscopic and Kinetic Study**
10th National Conference on Recent Advances in Chemical & Environmental Sciences” from 11th -12th April, 2019 Organized by Multani Mal Modi College, Patiala.
2. **Photorearrangement in Flavone derivative- Direct and Sensitized Study**
Ritu Bala “*11th National Conference on Recent Trends in Chemical & Environmental Sciences-2019*” from 7th -8th February, 2019 Organized by Department of Chemistry, Punjabi University, Patiala.

3. Impact of Education on Women's Life

Ritu Bala "10th International Conference on Transforming lives of the 'unreached' women through Collective Activism" from 16th-17th November, 2018 Organized by Women's Studies centre, Punjabi University, Patiala.

4. Role of sensitizers in Photodegradation

Ritu Bala "*National Conference on Sustainability of New and Renewable Energy-A Present Scenario*" from 15th-16th March, 2018 Organized by Department of Chemistry, Chandigarh University, Mohali.

5. Exciplex formation in photosensitized degradation of 3-Hydroxy Flavone

Ritu Bala "*National Seminar on Science and Technology for Sustainable Future*" on 27th February, 2018 Organized by University School of Sciences, Rayat-Bahra University, Mohali.

6. **Ritu Bala** "*9th National Conference on Recent Advances in Chemical, Biological & Environmental Sciences*" from 9th -10th February, 2018 Organized by Multani Mal Modi College, Patiala.

7. **Ritu Bala** "*10th National Conference on Chemical & Environmental Sciences: Innovations & Advances- 2018*" from 15th -16th February, 2018 Organized by Department of Chemistry, Punjabi University, Patiala.

8. **Ritu Bala** "*9th National Seminar on New Paradigm in Chemical Sciences: Synthetic and Analytical Perspectives-2017*" from 9th -10th February, 2017 Organized by Department of Chemistry, Punjabi University, Patiala.

9. **Ritu Bala** "*Innovative Research in Science and Technology for Sustainable Development*" Organised by Punjab Science Congress from 7th -9th February, 2017 at IET Baddal Technical Campus, Ropar.

10. Equality Rights of Women

Ritu Bala "8th International Conference *He For She: A Solidarity Movement For Gender Equality*" from 16th-17th November, 2016 Organized by Women's Studies centre, Punjabi University, Patiala.

11. Kinetic and Mechanism of Flavonoid Derivatives

Ritu Bala "*Emerging Areas of Mathematic for Science and Technology*" from 30th Jan-1st Feb, 2015 Organized by Department of Mathematics, Punjabi University, Patiala.

12. Flavonoids as Antioxidants

Ritu Bala "*Recent Advances in Emerging Technology- 2016*" from 23rd- 24th February 2016 Organized by Sri Guru Granth Sahib World University, Fatehgarh Sahib.

13. **Ritu Bala** "*New Paradigm in Chemical Sciences: Synthetic and Analytical Perspectives- 2016*" from 4th -5th February 2016 Organized by Department of Chemistry, Punjabi University, Patiala.

14. Methylene Blue Sensitization of 3-Hydroxy Flavonoid Derivatives

Ritu Bala "*Professor Ram Chand Paul National Symposium on Innovations in Chemical Sciences*, from 20th- 21st March 2015 Organised by Department of Chemistry & Centre of Advanced Studies in Chemistry, Panjab University, Chandigarh.

15. **Ritu Bala** "*7th National Seminar on Synergistic Aspects of Chemical and Other Sciences- 2015*" from 19th-20th Feb, 2015 Organized by Department of Chemistry, Punjabi University, Patiala.

16. **Ritu Bala and W R Bansal** "*5th National Seminar on New Frontiers in Chemistry*" from 15th-16th Feb, 2013 Organized by Department of Chemistry, Punjabi University, Patiala.

17. Phtotosensitized Rearrangements of Photolysed 3-Hydroxyflavone

Ritu Bala and W R Bansal "*Chemical Constellation Cheminar-2012*" from 10th-12th Sept, 2012 Organised by Department of Chemistry, Dr. B R Ambedkar NIT, Jalandhar.

18. **Ritu Bala and W R Bansal** “4th National Seminar on Chemistry: An Inter Disciplinary Science-2012” from 15th-16th Feb 2012 Organized by Department of Chemistry, Punjabi University, Patiala.
19. **Solvation Effect on the Fluorescence Spectra of 3-Hydroxy Flavone Derivatives**
Ritu Bala “3rd National Conference on Recent Advances in Chemical and Environmental Sciences” from 28th Feb-1st March 2011 Organized by Multani Mal Modi College, Patiala.
20. **Green Chemistry for Sustainable Technology**
Ritu Bala and Amandeep Kaur “3rd National Conference on Recent Advances in Chemical and Environmental Sciences” from 28th Feb-1st March 2011 Organized by Multani Mal Modi College, Patiala.
21. **Excited State Intramolecular Proton Transfer (ESIPT) Studies on 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran**
Ritu Bala, Manisha Bansal and W.R. Bansal “2nd Annual National Conference on Recent Advances in Chemical Environmental Sciences” from 22nd-23rd Jan 2010 Organized by Multani Mal Modi College, Patiala.
22. **Excited State Intramolecular Proton Transfer (ESIPT) Studies on 6-Chloro-3-hydroxy Flavone**
Ritu Bala, Manisha Bansal and W.R. Bansal “National Seminar on Recent Trends in Chemistry” from 21- 22 Jan, 2009 Organized by Department of Chemistry, Punjabi University, Patiala.
23. **Novel Photorearrangement of 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran through Photosensitized Reactions**
Ritu Bala, Mohammad Yusuf and W.R. Bansal “National Seminar on Recent Trends in Chemistry” from 21- 22 Jan, 2009 Organized by Department of Chemistry, Punjabi University, Patiala.
24. **Photochemistry of 6-Chloro-3-hydroxy-2-(2'-thienyl)-4-oxo-4H-1-benzopyran**
Ritu Bala, Rupesh Kumar, Mohamad Yusuf and W.R. Bansal “National Symposium on Green Chemistry Applications in Science & Engineering” from 29-30 Mar, 2007 Organized by Sant Longowal Institute of Engg. & Tech. Longowal.
25. **Benzophenone catalysed dye sensitized oxidation**
Ritu Bala and W.R. Bansal “National Seminar on Chemistry at Interfaces Trends & Perspectives” from 19-20 Dec, 2003 Organized by Sant Longowal Institute of Engg. & Tech. Longowal.

Workshops Attended

1. Three days National Workshop on “*LaTeX and Technical Writing*” Organized by Department of Basic and Applied Sciences from 23rd November- 25th November 2018, Punjabi University, Patiala.
2. One-week Short term Course on “*Nanomaterials: Characterization & Applications*” Conducted by NITTTR Chandigarh from 29th October - 2nd November 2018.
3. 7-Days National Workshop “*Financial, Legal & Social Awareness Among Teachers*” Organised by Women’s Studies Centre from 9th January - 15th January 2018 at Punjabi University, Patiala.
4. One Day Workshop “*New Age Teaching: Teachers Need to Unlearn*” Organised by Internal Quality Assurance Cell on 22nd February 2018 at Punjabi University, Patiala.
5. One-week short term course “*Repair and Maintenance of Electronic Measuring Instruments*” organised by NITTTR Chandigarh from 9th January - 13th January 2017 conducted by Department of Electronics and Communication, Punjabi University, Patiala.

6. International Summer Term Course-2016 “*Nanotechnology: Synthesis, Characterization, Fabrication and Application*” from 6th June -11th June 2016 conducted by Department of Chemistry, Dr. B R Ambedkar NIT, Jalandhar.
7. One-day Workshop on “*Practical Aspects on the Importance of Patents in Research*” held on 12th February 2013 conducted by Department of Chemistry, Punjabi University, Patiala.
8. *Faculty Initiation Programme* from 30th September–1st October 2011 held at Bahra Group of Institutes, Patiala.
9. Faculty Development Programme on “*Curriculum Development through Quality Function Development*” from 18th July -22nd July 2011 organised by Department of Mechanical Engineering RIMIT, Ropar.

List of Papers/Courses taught at P.G. and U.G. Level

S. No.	Paper	Class
1.	Applied Chemistry	UG
2.	Chemistry I	5-Year Integrated M.Sc. Program in Physics

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