



Contact Information

Current Affiliation:

Assistant Professor
Department of Chemistry,
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Personal Details

Father's Name: S. Shingara Singh
Mother's Name: Smt. Amarjit Kaur
Spouse's Name: S. Parminder Jeet Singh
Nationality: Indian

Research Interests/ Specialization

Organic synthesis: Synthesis of organic and nanomaterials
Application of molecules/materials: Photochemical and photodegradation
Kinetic Studies, Treatment of industrial effluent

Academic Qualification

M.Sc. (Physical Chemistry) from Punjabi University, Patiala, India, in April 2003.

Ph.D. (Physical Chemistry) 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

Teaching Experience

- Working as a Regular Assistant Professor (Chemistry) in the Department of Chemistry, Punjabi University, Patiala, from 1st April 2022 to till date.
- Working as a Regular Assistant Professor (Chemistry) in the Department of Basic and Applied Sciences, Punjabi University, Patiala, from 2nd August 2012-31st March 2022.
- 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.

Awards and Honour

- 1) Member of Scientific Committee of International Conference on Advances in Applied Sciences held at Maharishi Markandeshwar (Deemed University) during 23-24 March 2022.
- 2) 1st prize for Research paper presented in "National seminar on Recent Trends in Chemistry" held on 21-22 Jan, 2009 at Punjabi University, Patiala.

Invited Talk

Chaired a session and delivered an invited talk in Online mode "International Conference on Advances in Applied Sciences" organized by department of Chemistry held at Maharishi Markandeshwar (Deemed University) during 23-24 March 2022.

Workshop organized

As a Convener, organized a short Term Course on "Smart Materials and Nanotechnology" organised in Department of Basic and Applied Sciences, Punjabi University, Patiala from 02nd -06th December, 2019.

Book/ chapter Publication

1) Chapter 5 - Health impacts due to fluoride contamination in water: current scenario

Amandeep Kaur, **Ritu Bala**, Surinder Singh Bhinder, Sushil Kumar Kansal, **Contamination of Water**, Health Risk Assessment and Treatment Strategies, 2021, Pages 65-84

<https://doi.org/10.1016/B978-0-12-824058-8.00026-8>

Available online 13 August 2021

2) 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 (ISBN 978-620-2-31875-4).

List of Research Paper Published

1. Surface, micellar and aggregation behaviour of noncytotoxic imidazolium gemini surfactants Arifa Shaheen, Ab Waheed Mir, Rabia Arif, **Ritu Bala** *Journal of Surfactants and Detergents* (IF-1.902), Pub Date : 08 Dec, 2020, <https://doi.org/10.1002/jsde.12472>
Online ISSN:1558-9293
2. Viscosity effect on the photophysics and photoreactivity of 3-Hydroxyflavone derivative: A combined spectroscopic and kinetic study. **Ritu Bala** *Journal of Engineering and Technology Education V-13, No. 2, July-Dec 2019*
UGC Approved Journal List Sr. No. 6094; Journal No. 45339
ISSN 2229-631X
3. 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 Approved Journal List Sr. No. 4031
DOI: 10.9790/5736-1202021118
ISSN No. -2278-5736(Online)
4. 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 Approved Journal List Sr. No. 63144
5. 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, July2012*
6. 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*
7. 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*
8. 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*
9. 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*

Paper presented in International/National Conferences/ Seminar/Symposium

30

Workshops Attended

14

1. Short term Course on "Students evaluation (Theory and practical)" Conducted by Education and Educational Management Department from 25th to 29th October 2021.
2. Short term Course on "Communication Skills, Modes and Knowledge Dissemination" Conducted by Education and Educational Management Department from 22nd to 26th March 2021.
3. National webinar "Recent Advances in Biomass Valorisation" on 16th November, 2020 organized by Punjab Engineering College (Deemed to be University), Chandigarh.
4. National workshop "Basic of Rheology and Dynamic Light Scattering" on 6th March 2020 organised by Khalsa Collage, Patiala.

5. Short term Course on “**Smart Materials and Nanotechnology**” Organized by Department of Basic and Applied Sciences in collaboration with NITTTR Chandigarh from 2nd December- 6th December 2019
6. National Workshop on “**LaTeX and Technical Writing**” Organized by Department of Basic and Applied Sciences from 23rd November- 25th November 2018, Punjabi University, Patiala.
7. Short term Course on “**Nanomaterials: Characterization & Applications**” Conducted by NITTTR Chandigarh from 29th October - 2nd November 2018.
8. 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.
9. Workshop “**New Age Teaching: Teachers Need to Unlearn**” Organised by Internal Quality Assurance Cell on 22nd February 2018 at Punjabi University, Patiala.
10. 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.
11. International Summer Term Course-2016 “**Nanotechnology: Synthesis, Characterization, Fabrication and Application**” from 6th June -11th June 2016conducted by Department of Chemistry, Dr. B R Ambedkar NIT, Jalandhar.
12. Workshop on “**Practical Aspects on the Importance of Patents in Research**” held on 12th February 2013 conducted by Department of Chemistry, Punjabi University, Patiala.
13. **Faculty Initiation Programme** from 30th September–1st October 2011 held at Bahra Group of Institutes, Patiala.
14. 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

Paper

Class

Statistical Thermodynamics	MSc-Chemistry 3 rd Semester (From August 2022-January 2023)
Quantum Chemistry	MSc-Chemistry 1 st Semester
Fundamental of spectroscopy (331)	MSc-Chemistry 3 rd Semester (From August 2021-January 2022)
Chemistry II (Generic Chemistry)	MSc-Chemistry
Physical Chemistry-IV (CC-601)	BSC Honours Chemistry (From Jan 2023-June 2023)
Chemistry-I (PCSI1101T)	FYI- Physical and Chemical Sciences, 1 st semester (From August 2021-January 2022)
Chemistry-II (PCSI1201T)	FYI- Physical and Chemical Sciences, 2 nd semester (From Feb 2022- July 2022)
Basics of Electrochemistry (CHE12102T)	FYI- Physical and Chemical Sciences, 3 rd semester
Applied Chemistry	B. Tech 1 st Year