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Dr. Priti Bansal
Associate Professor

Yadavindra Department of Sciences

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[Google Scholar Link](#)

Professional Experience

2019 onwards	Associate Professor, Punjabi University Patiala, Guru Kashi Campus Talwandi Sabo (Bathinda).
2005-2019	Assistant Professor, Punjabi University Patiala, Guru Kashi Campus Talwandi Sabo (Bathinda).
2002-2005	Lecturer, GGS College of Engineering & Technology Talwandi Sabo.
1999-2000	Lecturer, Haryana Engineering College Jagadhri.
1996-1999	Lecturer, Mukand Lal National College Yamunanagar

Teaching Experience: 24 Years

Educational Background

1994	BSc. (medical) from Kurukshetra University, Kurukshetra with first division
1996	MSc. (chemistry) from Kurukshetra University, Kurukshetra with first division
2012	Ph.D. from SLIET Longowal.

NET qualified conducted by UGC/CSIR

PhD Thesis

Title	Studies on Degradation and Mineralization of Synthetic Dyes Present in Industrial Effluents by Heterogeneous Photocatalysis
Supervisor	Dr. Dhiraj Sud
Co-Supervisor	Dr. Damanjeet Singh

Research Interests

	Research Experience: 15 Years
<i>Environmental chemistry</i>	Advanced Oxidation process Nanotechnology Chromatography Photocatalysis Nanomaterials
<i>Coordination Chemistry</i>	Sensors Supramolecular chemistry

Research Supervision

Thesis Submitted

- Gurpreet Kaur (2017) Synthesis, Characterization and Applications of Bismuth based Nanostructured Materials using Photocatalysis

In Progress

- Jitesh Kumar (2018) Persistence, Degradation and Mineralization Studies of Insecticides from Soil and Water.
- Pooja Gupta (2018) Synthesis Characterization and Crystal Structural Studies of Novel Copper (II) Complexes.

Publications and Conferences

○ <i>Research Papers</i>	23
○ <i>Book /Book Chapters</i>	10
○ <i>Awards</i>	04
○ <i>Conferences attended/papers presented</i>	55
○ <i>Conference/workshop organized</i>	09
○ <i>Workshops / STC/Seminar attended</i>	36

Membership

- Life Member of **Indian Society of Analytical Scientists (ISAS), Delhi Chapter** headquarter at BARC Mumbai. [LMT-2008/59](#)
- Member of Indian Council of Chemists 2010-11
- Life Member of Punjab Academy of Sciences, Union Building, Punjabi University, Patiala. [LM-1066 \(from 1/4/11\)](#)
- Life Member of Society of Environmental Chemistry and Allied Sciences (SECAS) C/o School of Environmental Sciences, Mahatma Gandhi University, Kottayam, Kerala- 686560. [Reg. No. K 272/11. LM- \(from 6/10/12\)](#)
- Life Member of Association of Separation Scientists and Technologists (ASSET) c/o Radiochemistry Division Bhabha Atomic Research Centre Trombay, Mumbai - 400 085 [LM-0237 \(from Feb 2014\)](#)
- Member of The Indian Science Congress Association with membership no: [A179 \(2007\)](#)

Membership of Punjabi University Academic Bodies

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- Member, Board of Studies, Basic and Applied Sciences, Punjabi University Patiala (2014-2016).
- Member, Faculty of Physical Sciences, Punjabi University Patiala (2017-2019).
- Member, Faculty of Physical Sciences, Punjabi University Patiala (2023-2025).
- Member of Academic Council, Punjabi University Patiala (2023-24).

Administrative experience

- Incharge Academic Affairs, Punjabi University Guru Kashi Campus Talwandi Sabo. August 2021 onwards,
- Member, Academic Council of Department, YDoS, Talwandi Sabo (2022-2024).
- Liaison officer, Departmental website (2022 onwards).
- Coordinator, Admission Committee YDoS, Talwandi Sabo (2022-23).
- In-charge, Section of Applied Sciences YCoE, Talwandi Sabo (2019-2020).

- Administrative officer, YCoE, Talwandi Sabo (2018-2021).
- Convener, Student counseling cell, YCoE, Talwandi Sabo (2016-2019).
- Convener, Admission committee (10+1) Session 2016-2017.
- Incharge examination YCoE, Talwandi Sabo (2012-2016).
- Member, Academic Council of Department, YCoE, Talwandi Sabo (2011-2012).
- In-charge, Section of Applied Sciences YCoE, Talwandi Sabo (2006-2007).
- Formerly Head of Applied Sciences Department in GGSCET, Talwandi Sabo (2002-2005).

Extra Curriculum activities during job

- President, Cultural Club YCoE, Talwandi Sabo (2013-2021).
- Youth Coordinator, Cultural Club YCoE, Talwandi Sabo (2014-2019).
- Member of National Lok Adalat (2017).
- Judged participants in State-level Science Fair (Vidhya Bharti) 2016.
- Management member of three prestigious schools, Mansa (2015 onwards).
- Co-ordinator Tadka Josh Campus Da (2015 and 2016)
- Subject expert in the selection committee of Vidya Bharti School, Mansa (2015)
- Subject expert in the selection committee of D.A.V School, Mansa. (2014)
- Part-time academic counselor for the program run by IGNOU w.e.f. 9.7.2013
- Invited for judgments at National voter day competition conducted by GKC Talwandi Sabo (2012).
- Member of core committee Savigya 2011 and Aaveg 2013.
- Active Member of Organizing Committee of National Symposium on Emerging Trends in Chemical Analysis & Synthesis, organized by Department of Chemistry, SLIET, Longowal, 12-13 March, (ETCAS) 2009.
- Two times Judged participants in State level Science Fair of Vidhya Bharti Schools held at Mansa (2005 and 2007).
- Coordinator of Quiz Contest organized by Punjab Science Congress Patiala Chapter at YCoE Talwandi Sabo (2006).
- Event Coordinator of “SAPTRANG” at GGSCET Talwandi Sabo (2004).
- Actively participated in administrative activities i.e. designing & implementing Time Table in HEC & GGS Engg. College (1999-2002).

Paper Published in Journals

- **Priti Bansal**, Damanjit Singh and Dhiraj Sud, “Comparative Evaluation of UV/Solar Light Induced Photodegradation of Azo Dye in Aqueous Solutions”, Asian Journal of Chemistry, Vol. 21, No. 10 (2009), pp. S287-29. (**Scopus indexed, UGC approved, Sr. No.: 8774, impact factor: 0.535**) published by Asian Publication Corporation. ISSN:0970-7077. <https://www.researchgate.net/publication/237767525>
- **Priti Bansal**, Navneet Bhullar, Dhiraj Sud, “Studies on Photodegradation of Malachite Green using TiO₂/ZnO Photocatalyst”, Desalination and Water Treatment, Vol. 12, (2009) 108-113 (**Sci impact factor: 1.234**) published by Taylor and Francis. ISSN:1944-3986. <https://doi.org/10.5004/dwt.2009.944>
- **Priti Bansal**, Damanjit Singh and Dhiraj Sud, “Photocatalytic degradation of azo dye in aqueous TiO₂ suspension: Reaction pathway and identification of intermediates

products by LC/MS” Separation and Purification Technology 72 (2010) 357–365. (**Sci impact factor: 7.312**) published by Elsevier. ISSN:1383-5866. <https://doi.org/10.1016/j.seppur.2010.03.005>

- **Priti Bansal**, Damanjit Singh and Dhiraj Sud, “Comparative studies on photocatalytic efficiency of ZnO and TiO₂ for decolourization and mineralization of Orange II” Pollution Research 29 Vol. 4, (2010) 613-619. (**Scopus indexed, impact factor: 0.52**) published by EM International. ISSN:0257-8050 <https://www.researchgate.net/publication/286701650>
- **Priti Bansal** and Dhiraj Sud, “Photodegradation of commercial dye-Procion blue HERD from real textile wastewater using nanocatalysts” Desalination 267 (2011) 244-249. (**Sci impact factor: 9.55**) published by Elsevier. ISSN:0011- 9164. <https://doi.org/10.1016/j.desal.2010.09.034>
- **Priti Bansal**, Amit Dhir, N. Tejo Parkash, and Dhiraj Sud, “Environmental remediation of wastewater containing azo dyes with a heterostructured nanophotocatalyst” Indian Journal of Chemistry, Vol. 50A, July 2011, pp.991-995. (**Sci impact factor: 0.851**) published by CSIR-NISCAIR. ISSN:0376-4710. <https://nopr.niscair.res.in/handle/123456789/12173>
- **Priti Bansal** and Dhiraj Sud, “Photodegradation of CI Reactive Blue 160 using ZnO nanopowder: Degradation Pathway and Identification of Intermediates by GC/MS” Separation and Purification Technology 85 (2012) 112-119. (**Sci impact factor: 7.312**) published by Elsevier. ISSN:1383-5866. <https://doi.org/10.1016/j.seppur.2011.09.055>
- **Priti Bansal** and Dhiraj Sud, “Photocatalytic Degradation of Commercial Dye, CI Reactive Red 35 in Aqueous Suspension: Degradation Pathway and Identification of Intermediates by LC/MS” Journal of Molecular Catalysis A: Chemical Volumes 374–375, August 2013, pg 66–72. (**Sci impact factor:6.7**) published by Elsevier. ISSN:1381-1169. <https://doi.org/10.1016/j.molcata.2013.03.018>
- Paramjeet Kaur, **Priti Bansal** and Dhiraj Sud, “Heterostructured Nanophotocatalysts for Degradation of Organophosphate Pesticides from Aqueous Streams” Journal of the Korean Chemical Society 2013, Vol. 57, No. 3 page 382-388. (**Sci impact factor: 1.369**) published by Korean Chemical Society. ISSN:1017-2548. <http://dx.doi.org/10.5012/jkcs.2013.57.3.382>
- **Priti Bansal**, Paramjeet Kaur and Dhiraj Sud “Heterostructured TiO₂/ZnO– Excellent Nanophotocatalysts for Degradation of Organic Contaminants in Aqueous Solution” Desalination and Water Treatment, Vol. 52, issue 37-39 (2014) 7004-7014. (**Sci impact factor: 1.234**) published by Taylor and Francis. ISSN:1944-3986. <https://doi.org/10.1080/19443994.2013.822330>
- Gurpreet Kaur, **Priti Bansal** and Seema Sharma “Unique layered structured bismuth oxyhalides photocatalysts: A review on photocatalytic performance” International Journal of Advance Research in Science and Engineering, Vol. 6, Special issue No. 1, (2017) 1059-1070. (**UGC List, Sr. No.: 47721**) Online ISSN:2319-8354. <http://data.conferenceworld.in/GKU/224.pdf>
- **Priti Bansal** “UV/Solar Photocatalytic Degradation of Jakazol Red 5B: Comparison of Photocatalytic Efficiency of ZnO and TiO₂” International Journal for Research in

Engineering Application & Management, Vol. 04, Issue 10, Jan. (2019) 90-95. (**UGC List, Sr. No.: 64077**). Online ISSN:2454-9150.

<http://ijream.org/papers/IJREAMV0411046032.pdf>

- Paramjeet Kaur, **Priti Bansal***, Dhiraj Sud “Photocatalytic degradation of monocrotophos using TiO₂ photocatalyst: identification of intermediates by chromatographic techniques and reaction pathway” Desalination and Water Treatment 148, April (2019) 329-337. (**Sci impact factor: 1.234**) published by desalination publication. ISSN:1944-3986. [doi: 10.5004/dwt.2019.23830](https://doi.org/10.5004/dwt.2019.23830)
- Gurpreet Kaur, Seema Sharma, Kirandeep Kaur, **Priti Bansal*** "Synthesis, Characterization, and Visible-Light-Induced Photocatalytic Activity of Powdered Semiconductor Oxides of Bismuth and Zinc toward Degradation of Alizarin Red S" Water Environment Research, 92 (9), March (2020), 1376-1387. (**Sci impact factor: 1.946**) published by Wiley Publishers. ISSN:1554-7531. DOI: [10.5004/dwt.2020.26062](https://doi.org/10.5004/dwt.2020.26062)
- Dhiraj Sud, Jitesh Kumar, Paramjeet Kaur, **Priti Bansal*** "Toxicity, Natural and Induced Degradation of Chlorpyrifos" Journal of Chilean Chemical Society, 65 (2), June (2020), 4807-4816. (**Sci impact factor: 0.580**) published by Sociedad Chilena DE Quimica ISSN: 07179324, 07179707 DOI: <http://dx.doi.org/10.4067/S0717-97072020000204807>
- Gurpreet Kaur, Seema Sharma, **Priti Bansal*** "Visible Light Responsive Heterostructured α -Bi₂O₃/ZnO Doped β -Bi₂O₃ Photocatalyst for Remediation of Organic Pollutants" Desalination and Water Treatment, 201, October (2020), 349-355. (**Sci impact factor: 1.234**) published by Desalination publications ISSN Print: 1944-3994, ISSN Online: 1944-3986 DOI: [10.1002/wer.1333](https://doi.org/10.1002/wer.1333)
- Paramjeet Kaur, **Priti Bansal*** and Dhiraj Sud "Adsorption Behaviour of Quinalphos and Its Leaching Potential in Different Agricultural Soils" Soil and Sediment Contamination: An International Journal, 30 (6) March (2021), 730–742. (**Sci impact factor: 2.061**) published by Taylor and Francis. ISSN:15320383, 154978. DOI: <https://doi.org/10.1080/15320383.2021.1890691>
- A. Saini, P. Gupta, **P. Bansal***, R.P. Sharma, B. Krishan, P. Kaur, V. Ferretti <https://doi.org/10.1016/j.matpr.2022.11.502> of Ternary Copper(II) Complexes: [Cu(2-phenoxyacetate/4-chlorobenzoate)₂(temed)]” Journal of structural chemistry, 62 (9) May (2021), 1495–1507. (**Sci impact factor: 1.071**) published by Springer Publishing. ISSN:00224766, 15738779. DOI: <https://doi.org/10.1134/S0022476621090080>
- **Priti Bansal** and Anju Saini, “Solar Light Induced Degradation of Triarylmethane Dye using Semiconductor Mediated Photocatalysis” Bull. Env. Pharmacol. Life Sci., Vol 10 [10] Sept (2021)198-203. (**Sci indexed**) published by Academy for Environment and Life Sciences. ISSN: 2277–1808. DOI: http://www.bepls.com/sept_2021.html https://bepls.com/sept_2021/21.pdf
- Anju Saini, Raj Pal Sharma, Parmjeet Kaur, **Priti Bansal***, Bal Krishan, Paramjeet Kaur, Valeria Ferretti & Pankaj Kandwal “Synthesis, characterization, X-ray structural analysis, DFT and BSA binding study of a Zn(II) complex, [Zn(II)Cl₂(nia)₂].2nia” Journal of Coordination Chemistry, 74 (16) Sept (2021) 2741–

2763. (**Sci impact factor: 1.751**) published by Taylor and Francis. ISSN:0095-8972. DOI: <https://doi.org/10.1080/00958972.2021.1973668>

- Anju Saini and **Priti Bansal*** “Quenching Studies as important toolkit For exploring binding propensity of metal Complexes with serum albumin and DNA (a review)” *Pharmaceutical Chemistry Journal*, Vol. 56, No. 4, July, 2022 (Russian Original Vol. 56, No. 4, April, 2022) 545-558. (**Sci impact factor: 1.063**) published by Springer. ISSN:1573-9031. DOI <https://doi.org/10.1007/s11094-022-02676-1>
- Jitesh Kumar, Paramjeet Kaur, Dhiraj Sud, Anju Saini and **Priti Bansal*** “Persistence, sorption, and forced degradation of imidacloprid in environmental matrix” *Materials Today: Proceedings*, Vol. 78 (2023) 849–857. (**Sci impact factor: 2.59**) published by Elsevier. ISSN: 2214-7853. DOI: <https://doi.org/10.1016/j.matpr.2022.11.502>

Books/Book Chapters

- Author of "**A Concise Handbook of Engineering Chemistry**" by Lakshami Publication, New Delhi. First edition: 2019. ISBN: 978-93-5274-510-4
<https://www.amazon.in/Concise-Handbook-Engineering-Chemistry/dp/9352745108>
- Co-Author with Dr. Dhiraj Sud in a book entitled "**Comprehensive Engineering Chemistry**" published by S.K. Kataria & Sons. Fourth edition: 2008. ISBN:81-85749-47-7
- Co-Author with Dr. S.K. Bhasin in a book entitled "**Polytechnic Applied Chemistry II**" by Ajay Publications. First edition: 2005.
- Co-Author with Dr. S.K. Bhasin in a book entitled "**Applied Chemistry for Engineering Students**" of PTU by Ajay Publications. First edition: 2004.

Chapters Published in Books:

- "Photocatalytic Degradation of Triazine Ring Containing Diazo Dye under Solar Irradiation" *Emerging Scenario in Basic and Applied Sciences for Sustainable Development* by Gracious Books, Patiala, ISBN: 978-93-87276-93-2, 175-183.
- "Enhancement of Photocatalytic Efficacy for Degradation of Pesticide Residue" *Emerging Scenario in Basic and Applied Sciences for Sustainable Development* By Gracious Books, Patiala. ISBN: 978-93-87276-93-2, 184-191.

Book chapters Published by International Publisher

- **Priti Bansal***, Paramjeet Kaur (2022) "Carbonaceous TiO₂-Nanocomposites for Treatment of Dye Laden Wastewater of Textile Industries" In: Editor(s): MK Gupta, AK Singla and D Sud, Book entitled *Nanomaterials in Manufacturing processes* **CRC press, Taylor and Francis Group** (Submitted on September 2021, Accepted on 05 April 2022)
<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003154884-7/carbonaceous-tio2-nanocomposites-treatment-dye-laden-wastewater-textile-industries-priti-bansal-paramjeet-kaur>
- Dhiraj Sud, Paramjeet Kaur, **Priti Bansal**, (2020) "Chapter 8 - High-performance liquid chromatographic techniques for determination of organophosphate pesticides in complex matrices" Editor(s): Inamuddin, Rajender Boddula, Abdullah M. Asiri,

Book entitled *Green Sustainable Process for Chemical and Environmental Engineering and Science*, Elsevier, Pages 175-196, ISBN 9780128218839. (Submitted on 22 February 2020, Accepted on 10 July 2020. published on 17 November 2020) <https://doi.org/10.1016/B978-0-12-821883-9.00006-0>

- **Bansal P.**, Sud D. (2020) "Polymeric TiO₂ Nanocomposites for Development of Fouling-Resistant Membranes for Wastewater Treatment." In: Kharissova O.V., Martínez L.M.T., Kharisov B.I. (eds) Handbook of Nanomaterials and Nanocomposites for Energy and Environmental Applications. **Springer**, Cham. https://doi.org/10.1007/978-3-030-11155-7_140-1. Online ISBN 978-3-030-11155-7. pp 549-578 (Submitted on 18 June 2020, Accepted on 20 June 2020, first Online on 5 October 2020) https://doi.org/10.1007/978-3-030-11155-7_140-1
- **Priti Bansal**, Paramjeet Kaur, and Dhiraj Sud (2020) "Chapter 1 - Heterogeneous photocatalytic Treatment of Synthetic Dyes Emanating in Aqueous System from Textile Effluents" Editor(s): Abdelkader Anouzla, SalahSouabi, Review Book entitled '*Treatment of Industrial Discharges Loaded with Dyes and Surfactant' Section-Textile wastewater: characterization, environmental impact and treatment* published by **Scholars-Press**, , pages 1-46, ISBN-13: 978-613-8-93809. (Submitted on 29 December 2019, Accepted on 23 Jan 2020. Published on 17 August 2020) <https://my.scholars-press.com/catalog/details//store/gb/book/978-613-8-93809-5>

Papers Presented in Conferences/ Seminars at National and International Level

1. '**Environmentally Harmonious, Clean Chemical Technology for Green Chemistry: Photocatalysis**'. National Symposium on Green Chemistry-Application in Science & Engineering, SLIET, Longowal, 29-30 March, 2007.
2. '**Studies on Photodegradation of Malachite Green using TiO₂/ZnO Photocatalyst**' Proc. of DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology , DU, Delhi, India, 12-14 March 2008, 375-376.
3. '**Comparative studies on photocatalytic efficiency of ZnO and TiO₂ for degradation and mineralization of Acid Orange 7**' Proc. of 61st Annual session of IChE on Green Technology & Sustainable Development, Panjab University, Chandigarh, 27-30 December 2008.
4. '**Novel TiO₂/ZnO photocatalysts for environment remediation: Synthesis, characterization and their photocatalytic reactivity**' Proc. of 2nd National Symposium on Analytical Sciences (NSAS), organized by Indian Society of Analytical Scientists-Delhi Chapter and IHBT-CSIR, Palampur (HP), 23-25 November 2008. **Best Poster Award.**
5. '**UV light-induced photocatalytic degradation of azo dye: comparison of performance of different photocatalysts**' Proc. of 2nd National Symposium on Analytical Sciences (NSAS), organized by Indian Society of Analytical Scientists-Delhi Chapter and IHBT-CSIR, Palampur (HP), 23-25 November 2008.
6. '**Comparative Evaluation of UV/Solar Light Induced Photodegradation of Azo Dye in Aqueous Solutions**' Proc. of National Conference on Advanced Materials and Radiation Physics, organized by Department of Physics, SLIET, Longowal, 9-10 March, 2009.

7. **“Photodegradation of Model Textile Dye by ZnO Catalyst and Solar or Ultraviolet Radiation”** Proc. of National Symposium on Emerging Trends in Chemical Analysis & Synthesis, organized by Department of Chemistry, SLIET, Longowal, 12-13 March, 2009.
8. **“Photocatalytic degradation of azo dye and identification of reaction intermediates”** Proc. of National Seminar on Recent Trends in Chemistry, organized by Department of Chemistry, Punjabi University Patiala, 21-22 January, 2009.
9. **“Photocatalytic degradation of acid orange 7: Determination of reaction pathway and identification of intermediate products.”** Proc. of the [international conference](#) on Materials For the Millenium (Matcon 2010), organized by Department of Applied Chemistry, Cochin university of Science and Technology, Kochi, Kerala, 11-13 January, 2010.
10. **“Comparative Studies on UV/Solar light induced Photocatalytic Degradation of Malachite Green.”** Proc. of the [international conference](#) on Materials For the Millenium (Matcon 2010), organized by Department of Applied Chemistry, Cochin university of Science and Technology, Kochi, Kerala, 11-13 January, 2010.
11. **“Assessing the potential of semiconductor photocatalysis for degradation of azo dyes”** Proc. of National Symposium on Emerging Trends in Chemistry, organized by Department of Chemistry, Punjabi University Patiala, 15-16 February, 2010.
12. **“Tracking Free-radical Induced Degradation of Synthetic Dyes Using Analytical Techniques.”** National Symposium on Recent Advances in Analytical Sciences organized by the Indian Society of Analytical Scientists (ISAS)-Delhi Chapter and Department of Chemistry, HP University, Shimla, 12-14 April, 2010.
13. **“Preparation and photocatalytic properties of a nanometer ZnO-TiO₂ coupled oxide”** 29th Annual conference 2010 organised by Indian Council of Chemists and department of chemistry, Panjab University, Chandigarh, 19-21 December, 2010.
14. **“Removal of Reactive Dye from Textile Industrial Wastewater by Heterogeneous Photocatalysis”** 14th Punjab Science Congress organized by Punjab Academy of Sciences, Patiala and SLIET, Longowal, 7-9 February, 2011.
15. **“Tracking Free-radical Induced Degradation of Commercial Reactive Blue Dye Using Analytical Techniques”** Professor Ram Chand Paul [International Conference](#) on Emerging Trends in Chemistry, Panjab University, Chandigarh, 11-12 February, 2011.
16. **“Chromatographic Techniques for Characterisation and Monitoring of Persistent Toxic Organics in Wastewater after Advance Oxidation Process”** [International conference](#) on Global Challenges, The Role of Chemistry in giving their Solutions organized by Indian Council of Chemist, Bangkok, 11-15 June 2011.
17. **“Optimization of Process Variables by the Application of Response Surface Methodology for Reactive Dye Removal using Photocatalyst”** APTI-16th Annual National convention 2011, ISF college of pharmacy, Moga, 7-9 October, 2011.
18. **“Solar Photocatalytic Degradation of Triphenylmethane Dye: Comparison of Photocatalytic Efficiency of ZnO and TiO₂”** Proc. of 2nd National Conference on

- Advanced Materials and Radiation Physics, organized by Department of Physics, SLIET, Longowal, 4-5 November, 2011.
19. **“Application of Novel Synthesized Photocatalyst for Degradation of Reactive Dye”** 15th Punjab Science Congress organized by Punjab Academy of Sciences, Patiala and GNDU, Amritsar, 7-9 February, 2012.
 20. **“Evaluating the Efficiency of Synthesized Photocatalysts for Degradation of Organophosphate Pesticides”** 4th National Seminar on Chemistry: An Inter Disciplinary Science (NSCIDS-2012) organized by Department of Chemistry, Punjabi University Patiala, February 15-16, 2012.
 21. **“Identification of Photooxidation Degradation Products of CI Reactive Red 35 by Liquid Chromatography–Mass Spectrometry”** [International Conference](#) on Advanced Oxidation Processes (AOP-2012), Society of environmental chemistry and allied sciences (secas), In association with School of environmental science (ses) Mahatma gandhi university, Kottayam, Kerala, 5-8 October, 2012.
 22. **“Monitoring of Monoazo Reactive Dye in Wastewater after Advanced Oxidation Process by GC-MS”** 16th Punjab Science Congress organized by Punjab Academy of Sciences, Patiala and Baba Farid University of Health Sciences, Faridkot, 7-9 February, 2013.
 23. **“Identification of Photooxidation Degradation Products of CI Reactive Blue 160 by Liquid Chromatography–Mass Spectrometry”** First national Conference on Advanced Oxidation Processes (AOP-2013), Organised by Department of chemical Engineering and School of Energy & Environment, Thapar University, Patiala in collaboration with Society of environmental chemistry and allied sciences (SECAS), 21-23 November, 2013.
 24. **“Tracking Free-radical Induced Degradation of Commercial Monoazo Dye Using Analytical Techniques”** 50th Annual convention of Chemists, Golden jubilee celebrations of Indian Chemical Society, Hosted by Department of chemistry & Centre of Advanced Studies in Chemistry, Punjab university, Chandigarh, 4-7 December 2013.
 25. **“Monitoring of Photocatalytic Degradation Products of Reactive Red 35 in Simulated Textile Wastewater using Gas Chromatography-Mass Spectrometry and Reaction Pathway”** Proc. of DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology, BARC, Mumbai, India, 25-28 February 2014, 188.
 26. **“Characterization of Manganese and Nitrogen Codoped TiO₂ Nanoparticles Synthesized by Modified Sol gel Method”** 3rd [International Conference](#) on Chemistry for sustainable development: Indian perspective, organized by Indian Council of Chemist, Dubai and Abu Dhabi, 10-14 June 2014.
 27. **“Comparative Studies of Solar/UV Irradiation on Degradation of Reactive Blue using Nanophotocatalyst”** [International Conference](#) on Advancements and Futuristic Trends in Mechanical and Materials Engineering, organized by PTU Jalandhar, October 16-18 2014.
 28. **“Photocatalytic Degradation of Organic Pollutants by Sol-Gel Synthesized TiO₂ Nanocomposites”** [International Conference](#) on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME'16), held

- at Baba Farid College of Engineering & Technology, Bathinda under the aegis of Society of Materials and Mechanical Engineers (SOMME) February 25-27, 2016.
29. **“Sol-Gel Synthesized TiO₂ Nanocomposites: A Review”** SERB-DST sponsored National Conference on Recent Advancement in Science, Commerce & Technology 2016 Organised by Mata sahib kaur girls college, Talwandi Sabo, April 5-6, 2016.
 30. **“Removal of Pesticide Residue from Environment by using Visible Light Responsive Doped-TiO₂ Nanophotocatalyst”** 7th DAE-BRNS Biennial Symposium On Emerging Trends In Separation Science and Technology, SESTEC 2016, Organized by BARC Mumbai and Indian Institute of Technology, Guwahati, MAY 17-20, 2016.
 31. **“Visible Light Responsive Modified TiO₂ Photocatalyst: A Mechanistic Review”** National Conference on Nascent Innovations in Chemical Sciences NICS-2016, Organised by Department of Chemistry, SLIET, Longowal, October 21-22, 2016.
 32. **“Review on the Degradation of an Organophosphorous Pesticide – Chlorpyrifos”** International Conference on recent innovations in Engineering, Science, Humanities and Management (ICRIESHM-17) organized by Dev Samaj College for Women, Ferozpur City, 18-19 March 2017.
 33. **“The Path of Teaching and Learning to Enter a Field of Study and Practice”** One day National Seminar on Higher Education for Development & Role of Teachers, organized by Bhartiye Shiksha Mandal (Regd.) in collaboration with General Shivdev Singh Diwan Gurbachan Singh Khalsa College, Patiala, 16 July 2017.
 34. **“Role of Teachers and Educational Institutes in Value Based Higher Education”** One day National Seminar on Higher Education for Development & Role of Teachers, organized by Bhartiye Shiksha Mandal (Regd.) in collaboration with General Shivdev Singh Diwan Gurbachan Singh Khalsa College, Patiala, 16 July 2017.
 35. **“Copper II NSAIDS Complexes as Potential Therapeutic Agents”** [International Conference](#) on Recent Innovations in Science, Agriculture, Engineering and Management organized by University college of computer applications, Guru Kashi University, Talwandi Sabo, Bathinda, Punjab, 20 November 2017.
 36. **“Review: Toxic impacts, degradation and fate of Chlorpyrifos”** [International Conference](#) on Recent Innovations in Science, Agriculture, Engineering and Management organized by University college of computer applications, Guru Kashi University, Talwandi Sabo, Bathinda, Punjab, 20 November 2017.
 37. **“Interaction of Copper(II) Complexes with Non Steroidal Anti-Inflammatory Drugs”** UGC Sponsored 9th National Conference on Recent Advances in Chemical, Biological and Environmental Science Organised by Multani Mal Modi College Patiala, February 9-10, 2018.
 38. **“Analysis of Persistent Toxic Products after Photocatalytic Degradation of Mono Azo Dye by GC-MS”** 10th Chemical and Environment Sciences: Innovation and Advances-2018 CES: IA-2018, (DST, New Delhi Sponsored) Organized by Department of Chemistry, Punjabi University, Patiala, February 15-16, 2018.

39. **"Synthesis, Characterization and Photocatalytic Performance of Powdered Semiconductor Oxides of Zinc and Bismuth"** National Conference on Emerging Scenario in Basic and Applied Science for Sustainable Development Organized by Faculty of Sciences , DAV College, Bathinda, April 05, 2018.
40. **"Comparative Evaluation of UV/Solar induced ZnO and TiO₂ based Photodegradation of Jakazol Red 5B"** 11th National Conference on Recent Trends in Chemical and Environment Sciences: 2019 Organised by Department of Chemistry, Punjabi University, Patiala, February 07-08, 2019.
41. **"Adsorption studies of Neonicotinoid Insecticide in different Soils of Punjab region"** UGC Sponsored 10th National Conference on Recent Advances in Chemical and Environmental Sciences Organized by Multani Mal Modi College, Patiala, April 11-12, 2019.
42. **"Optimization of Process Variables for Photocatalytic Degradation of Reactive Blue 160 by the Application of Response Surface Methodology"** An [International Conference](#) on Science & Technology for Sustainable Development and Innovations Organized by Department of chemistry (DST-FIST Sponsored Department), Dr. B. R. Ambedkar NIT, Jalandhar, October 12-13, 2019.
43. **"Development of Visible Light Responsive Photocatalyst for Degradation of Anthraquinone Dye"** An [International Conference](#) on Science & Technology for Sustainable Development and Innovations Organized by Department of chemistry (DST-FIST Sponsored Department), Dr. B. R. Ambedkar NIT, Jalandhar, October 12-13, 2019.
44. **"Application of Response Surface Methodology for Optimization of Reactive Diazo Dye Degradation Process by Photocatalysis"** 2nd National Conference on Wireless Communication and Mathematics (NCWCM'19) Organized by Punjabi University Guru Kashi College Damdama Sahib, Talwandi Sabo, December 01, 2019.
45. **"Treatment of Textile Effluents with Modified Titania"** 12th National Conference on Chemical and Environment Sciences: Advanced Innovations 2020 Organized by Department of Chemistry, Punjabi University, Patiala, February 19-20, 2020.
46. **"Synthesis, Characterization and role of Non-covalent interaction of Copper(II) p-Chlorobenzoate/Phenoxyacetate Complexes"** 2nd National Seminar on Responsible Research and Innovations in Science & Technology Organized by Department of Chemistry, Guru Nanak College Budladha, February 29, 2020.
47. **"Photocatalytic Degradation of Alizarin Red S with L-lysine modified BiOI photocatalyst under visible light irradiation"** [International Conference](#) on Advances in Material Science and Chemistry ICAMSC-2020 Organized by Department of Chemistry, Amrita Vishwa Vidyapeetham (Deemed University), Amritapuri, Kerala, August 10-12, 2020.
48. **"Role of Information Technology in Science"** Online National on Wireless Communication and Informatics (NCWCCI'21) Organized by Mata Sundri University Girls College, Mansa, April 20, 2021.
49. **"Solar Light Induced Photodegradation of Malachite Green on TiO₂/ZnO Nanoparticles"** National Conference (Virtual mode) on Current Advances in Material Sciences Research (CAMSR-2021) Organized by P.G. Department of Chemistry, JCDAV College, Dasuya, July 27, 2021

50. **"Biomolecule-assisted Synthesis of BioI and its Performance as Photocatalyst under Visible Light International"** e-[International conference](#) on Polymeric Biomaterials & Bioengineering Organized by Asian Polymer Association (APA), August 27-28, 2021.
 51. **"A Mechanistic Review on Modified TiO₂ Photocatalyst Responsive under Visible Light"** [International Virtual Conference](#) on "Chemical Research for Sustainable Development (ICCRSD-2021)" organized by the Department of Chemistry, SRM Institute of Science and Technology, Ramapuram Campus, Chennai-89 during 24-25 September, 2021.
 52. **"Persistence and Sorption Behaviour of Imidacloprid in Environmental Matrix"** National Conference on Recent Advances in Science and Technology for Sustainable Development Organized DAV College Bathinda, March 05, 2022.
- Article entitled Wind Energy as a Renewal Source of Energy published in The Financial Express newspaper.
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Conferences, Seminars, Orientation, Refresher Courses and Workshops attended/ participated

Workshop attended (WA)

1. One day Workshop on "Patent Awareness" organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo in association with Patent information centre, Punjab state council for science and technology, Chandigarh, December 11, 2009.
2. One Week Teacher's Workshop on the theme "Learn the Learner" organized by Punjabi University Guru Kashi College Talwandi Sabo, July 9-14, 2012.
3. One day workshop on Financial Education for Young Investors organized by Aryabhatta College of Management and Technology in collaboration with Securities and Exchange Board of India, October 21, 2012.
4. Workshop on Innovation in Science (IIS-2014) organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo, November 12-14, 2014.
5. [One Week](#) National Workshop on Research Methodology (Applied Financial Econometrics), organized by BIMTECH, Bhubaneshwar, 27 April-1 May, 2015.
6. [One Week](#) Short term course on Engineering Today organized by YCoE, Punjabi university Guru Kashi campus, Talwandi Sabo, 26 September-1 October, 2015.
7. Two days National Workshop on Innovation in Science (IIS-2015) organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo, October 7-8, 2015.
8. 2nd National Workshop on Innovation in Science (IIS-2016) organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo, September 15-16, 2016.
9. One Day Workshop on Intellectual Property Rights, organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo on 18.11.2016.
10. [One Week](#) Short Term Course on "Engineering Today 2016", conducted by Yadavindra College of Engineering, Punjabi University Guru Kashi Campus Talwandi Sabo from November 21-25, 2016.
11. 3rd National Workshop on Innovation in Science (IIS-2017) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, November 6-7, 2017.

12. One Day Workshop on Robotics, organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo on 7.2.2018.
13. **One Week** Short Term Course on “Engineering Today 2018”, conducted by Yadavindra College of Engineering, Punjabi University Guru Kashi Campus Talwandi Sabo from May 7-11, 2018.
14. **One Week** International Summer Term Course-2016 on “**Nano Technology: Synthesis, Characterization, Fabrication and Applications**” Conducted by Department of Chemistry, Dr. B.R. National Institute of Technology (NIT), Jalandhar in association with MHRD under Global Initiative of Academic Networks (**GIAN**), from June 6-11, 2016
15. 3rd National Workshop on Innovation in Science (IIS-2017) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, November 6-7, 2017.
16. 4th National Workshop on Innovation in Science (IIS-2018) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, October 16-17, 2018.
17. 5th National Workshop on Innovation in Science (IIS-2019) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, November 14-15, 2019.
18. Two days Online Capacity Building Programme on Basic Tools and Techniques for Online Teaching Organized by Centre for E-Learning and Teaching Excellence, Punjabi University Patiala, July 25-26, 2020.

Conference attended (CA)

1. NAAC conference on Imparting Quality Education in 21st century, organized by N.M. College, Mansa, March 23-24, 2009.
2. Chemical Constellation Cheminar-2012 organised by Department of Chemistry, Dr BR Ambedkar National Institutional of Technology, Jalandhar, September 10-12, 2012.
3. National workshop on Computer Science and Technology (CST’ 2015) held at Punjabi University Guru Kashi College, Damdama Sahib, 21 October, 2015.
4. 9th National Seminar on New Paradigm in chemical Sciences: Synthetic and Analytical Perspectives NPICS: SAP-2017, Organized by Department of Chemistry, Punjabi University, Patiala, February 9-10, 2017.

Seminar Attended (SA)

1. One day seminar on challenges in making india a global economic power, organized by Department of Economics, N.M. college, Mansa, November 7, 2008.
2. Attended Seminar on “**Shabad Guru, Sri Guru Granth Sahib**” organized by Department of Sri Guru Guru Granth Sahib Studies Research Department Punjabi University Patiala held on at Punjabi University Neighborhood Campus Ralla, Mansa, 19 December 2008.
3. Seminar on “**Advancement in Ion Chromatography Instrument and Its Application**” Organized by Metrohm India Limited in association with Metrohm International Head Quarters, on Monday, 9th November, 2009, Hotel KC Cross Road, Panchkula, Haryana.
4. UGC sponsored Seminar on **Punjab Economy: Economic Distress and Development Process**, organized by Punjabi University Guru Kashi College Talwandi Sabo, December 23-24, 2011.

5. One day seminar on **promotion & popularization of science** (PPS-2014) organized by YCoE, Punjabi university Guru Kashi Campus, Talwandi Sabo, September 18, 2014.
6. One day webinar on **Teaching and Learning Modes Post Covid-19** conducted by Department of Electronics and Communication Engineering, Punjabi university Patiala, April 29, 2020.
7. One day National Webinar on **Intellectual Property Rights and Patenting** organized by IPR club YCoE, Punjabi university Guru Kashi Campus, Talwandi Sabo, May 23, 2020.
8. One day webinar on **Nanotechnology for Environmental Remediation** Organized by P.G. Department of Chemistry, D.A.V. College, Abohar, June 2, 2020.

FDP/Refresher course/Orientation course attended

1. Orientation Course Organized by Academic Staff College, Panjab University Chandigarh from 1-3-2007 to 28-3-2007 (Four Weeks)
2. Refresher Course Organized by Academic Staff College, Panjab University Chandigarh 30 November-20 December, 2011 (Three Weeks)
3. Refresher Course in chemistry (RC-267) organized by Academic staff college, Himachal Pradesh University, Shimla from 15.7.2015 to 3.08.2013 (Three Weeks)
4. Two Weeks Faculty Development Program conducted by North India Technical Consultancy Organization Ltd. (NITCON), Sponsored by DST, Govt. of India and in association with Entrepreneurship Development Institute of India (EDI-I), Ahmedabad, January 28, 2014.
5. One Week International Summer Term Course-2016 on **“Nano Technology: Synthesis, Characterization, Fabrication and Applications”** Conducted by Department of Chemistry, Dr. B.R. National Institute of Technology (NIT), Jalandhar in association with MHRD under Global Initiative of Academic Networks (GIAN), from June 6-11, 2016
6. Short Term Course on **“Research Methodology”** Conducted by UGC-Human Resource Development Centre, Punjabi university, Patiala from 24.11.2017 to 30.11.2017.
7. One Week STTP on **"Material Characterization & Analytical Techniques for Research Applications (MCATRA-2019)"** Organized jointly by Department of Physics, Chemistry and Mechanical Engineering, SLIET Longowal and NIT Uttarakhand, held at SLIET Longowal, July 01-05, 2019.
8. One Week online FDP on **"Recent Trends in Material Science and Engineering"** Organized by Department of Physics, School of Basic Science & Research, Sharda University, Greater Noida, May 25-31, 2020.
9. Five Days online STC on **"Analytical Techniques in the realm of Molecules & Materials (ATRMM-2020)"** Organized by Department of Chemistry, SLIET Longowal, June 26-30, 2020.
10. One Week online STC on **"Analytical Techniques in the realm of Molecules & Materials (ATRMM-2021)"** Organized by Department of Chemistry, SLIET Longowal, July 26-31, 2021.

Workshop/seminar Organized (WO/SO)

- Workshop on Innovation in Science (IIS-2014) organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo, November 12-14, 2014.
- One day seminar on promotion & popularization of science (PPS-2014) organized by YCoE, Punjabi university Guru Kashi Campus, Talwandi Sabo, September 18, 2014.
- Two days National Workshop on Innovation in Science (IIS-2015) organized by YCoE Punjabi university Guru Kashi Campus, Talwandi Sabo, October 7-8, 2015.
- 2nd National Workshop on Innovation in Science (IIS-2016) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, September 15-16, 2016.
- 3rd National Workshop on Innovation in Science (IIS-2017) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, November 6-7, 2017.
- 4th National Workshop on Innovation in Science (IIS-2018) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, October 16-17, 2018.
- 5th National Workshop on Innovation in Science (IIS-2019) organized by YCoE Punjabi University Guru Kashi Campus, Talwandi Sabo, November 14-15, 2019.

Invited Talk/Resource Person/Session Chair

- Resource person for “**Career Counseling of Meritorious Students**” of Distt Mansa held by District Administration 2015.
- Expert lecture on the Topic “**How to Plan Your Career: A Road Map for Science Students**” during one week workshop for career counseling of students held at Govt. Sr. Sec. School, Wander (Moga) on 25.10.2016.
- Expert Lecture on the topic “**Some Basic Concepts of Chemistry**” Acted as a Resource Person in Online Subject Enrichment Workshop Organized by Saravhitkari Educational Society (Regd), July 18, 2020.
- Expert Lecture on the topic “**Waste Management: Individual and Societal Role**” Acted as a Resource Person in International Webvkw@ entitled Unmasking the Silence: Environment, Women and Mental Health Organized by Gopichand Arya Mahila College Abohar, August 24, 2020.
- Invited as Judge to evaluate Invited lectures by faculties under category 3 presented in “**International Conference on Recent Advances on Green and Sustainable Development (ICRAGSD-2023)**” Organized by Green Chemistry Network Centre Chapter, Akal University, Talwandi Sabo, in collaboration with Green Chemistry Network Centre (DU) Indian Chemical Society (Kolkata) Eternal University (Baru Sahib), Synthetic communications (Taylor and Francis) De Gruyter (Germany) DRDO (New Delhi), September 6-8, 2023.

Awards

- **Best Poster Award** in 2nd National Symposium on Analytical Sciences (NSAS), organized by Indian Society of Analytical Scientists-Delhi Chapter and IHBT-CSIR, Palampur (HP), 23-25 November 2008.
- **Best Paper Award** in International Conference on recent innovations in Engineering, Science, Humanities and Management (ICRIESHM-17) organized by Dev Samaj College for Women, Ferozpur City, 18-19 March 2017.
- Our Research Paper entitled “**Synthesis, Characterization and Photocatalytic Performance of Powdered Semiconductor Oxides of Zinc and Bismuth**” presented by

research student Gurpreet Kaur was adjudged as **Best Research Paper (Poster)** in National Conference on Emerging Scenario in Basic and Applied Science for Sustainable Development Organized by Faculty of Sciences, DAV College, Bathinda, April 05, 2018.

- Our Research Paper entitled “Copper(II) Carboxylate Complexes of Polydentate Ligand with Oxygen and Nitrogen Donor Atoms” presented by research student Pooja Gupta was adjudged as **Best Research Paper (Oral)** in the National Conference on Emerging Scenario in Basic and Applied Science for Sustainable Development Organized by Faculty of Sciences, DAV College, Bathinda, April 05, 2018.
- Our Research Paper entitled “Persistence and Adsorption Studies of Neonicotinoid Insecticide in Environment Matrix” presented by research student Jitesh Kumar was adjudged as **Best Research Paper (Poster-Second Prize)** in 11th National Conference on Recent Trends in Chemical and Environmental Science-2019 (RTCES-2019) Organised by Department of Chemistry, Punjabi University Patiala, 7-8 February 2019.

(Priti Bansal)