

Dr. Sonia Rani

Assistant Professor
Dayanand Girls P. G. College, Kanpur,
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University Studies and Education

- 2013– 2019** **Ph.D. Scholar (Thesis Submitted)**
Indian Institute of Technology Roorkee, Roorkee
- Title of Thesis- Synthesis and Studies of New Titanates, Niobates and Tungstates with Layered Structure
- 2012–2013** **B. Ed.**
H. N. B. Garhwal University
Subjects studied: Teacher in Emerging Indian Society, Development of Learner & Teaching Learning Process, Development of Education System in India, Essential of Educational Technology and Management, Teaching in Science and Teaching in Mathematics.
- 2012** Qualified National Eligibility Test (**NET**) through **CSIR-UGC** for Junior Research Fellowship (**JRF**) and eligibility for lectureship in higher education in Chemical Science **2012**.
- 2010-2012** **M. Sc.**
H. N. B. Garhwal University
Subjects studied: Chemistry
- 2007 – 2010** **B. Sc.**
H. N. B. Garhwal University
Subjects studied: Physics, Chemistry, Mathematics
- 2004 – 2007** **Intermediate School (10+2)**
Subjects studied: Physics, Chemistry, Mathematics, English, Hindi
- 2002 – 2004** **High School (10th)**
Subjects studied: Maths, English, Science, Hindi, Drawing, Social science
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Academic Work/Teaching Experience

Teaching Experience:

UG and PG: - 4 Years (2 Dec. 2019 to till today)

Refresher: Attended Refresher programme conducted by Teaching Learning Centre, Ramanujan College University of Delhi in collaboration with IQAC, Miranda House University of Delhi in "Chemical Science"

Orientation: Attended Orientation programme conducted by Teaching Learning Centre, Ramanujan College University of Delhi

MEMBER OF ORGANISING COMMITTEE on National Seminar in Recent Advanced Techniques in Analytical Chemistry Organized by Department of Chemistry Dayanand Girls' P.G. College on 16th to 17th January, (2020).

MEMBER OF ORGANISING COMMITTEE on Webinar in Chemistry of Covid 19 and its control Organized by Department of Chemistry Dayanand Girls' P.G. College on 06th June, (2020).

MEMBER OF ORGANISING COMMITTEE on Webinar in our Lives, Our Rights Organized by Department of Chemistry Dayanand Girls' P.G. College on 14th to 15th July, (2020)

2015 – 2016 (Autumn Session) Teaching Assistanceship (TA)
Dept. of Chemistry
Indian Institute of Technology Roorkee, Roorkee

2015 – 2016 (Spring Session) Teaching Assistanceship (TA)
Dept. of Chemistry
Indian Institute of Technology Roorkee, Roorkee

- ✚ Participation in **Ishan Vikas program**, a National Initiative program for children of North Eastern State of India by MHRD govt. of India, June 11-19, 2015

Publications

- Hari Raj, **Sonia Rani** and Anjan Sil, Two-Phase Composition (LiFePO₄/FePO₄) and Phase Transformation Dependence on Charging Current: In Situ and Ex Situ Studies. *Energy & Fuels* **2020**, 11, 14874–14881
- Siddharth Singh, Soumitra Maiti, **Sonia Rani**, Hari Raj, Ravindra Singh Bisht, Soraj Kumar Panigrahi & Inderjeet Tyagi "Ti doped BaMnO₃ perovskite structure as photocatalytic agent for the degradation of noxious air and water pollutants" *SN. Appl. Sci.* **2020**, 2, 310.
- Kumari Naveen, Nikhil Kumar, **Sonia Rani**, Tapas Kumar Mandal, Anurag Gaur, P D Babu, Vasudeva Siruguri, Pradip K Maji, Sudipta Kanungo & Avijit Kumar Paul Investigation of multiferroic behaviour at room temperature in Bi-induced orthoferrite: combined experimental and first principles studies. *Bull. Mater. Sci.* **2020**, 43, 196-210.

- **Sonia Rani**, Gollapally Naresh and Tapas Kumar Mandal “Coupled-substituted double-layer Aurivillius niobates: Structures, magnetism and solar photocatalysis” *Dalton Trans.* **2020**, 49, 1433-1445.
- Ravikumar K.V.G., Hemamalathi Kubendiran, Kavitha Ramesh, Sonia **Rani**, Tapas Kumar Mandal, Mrudula Pulimi, Chandrasekaran Natarajan, Amitava Mukherjee “Batch and column study on tetracycline removal using green synthesized NiFe nanoparticles immobilized alginate beads” *Environ. Technol. Innov.* **2020**, 17, 100520- 100532.
- Hari Raj, **Sonia Rani** and Anjan Sil, Antisite Defects in Sol-Gel-Synthesized LiFePO₄ at Higher Temperature: Effect on Lithium-Ion Diffusion, *ChemElectroChem* **2018**, 5, 3525–3532.

Conferences

- National Seminar on Role of National Education Policy-2020 to make India a Global Knowledge Superpower, 15 October 2022, V.S. S. D. College, Kanpur.
- National seminar on Waste Management: Role of Chemistry Organized by D. A. V. College, Kanpur, 22-23 January 2020.
- National seminar on Recent Advanced Techniques in Analytical Chemistry, 16-17 January 2020, Dayanand girls P. G. College, Kanpur.
- 2nd National symposium on Shaping the Energy Future: Challenges Opportunities, 11-12 May, 2018, Indian Institute of Petroleum, Dehradun, India.
- ACS On Campus, Feb. 7, 2018, Indian Institute of Technology Roorkee, Roorkee.
- International Conference on Advanced Materials and Processes: Challenges and Opportunities (AMPCO-2017), Nov. 30 – Dec. 02, 2017 at IIT Roorkee.
- 10th National Conference on Solid State Chemistry and Allied Areas (ISCAS 2017), Organized by Department of Applied Physics, Delhi Technological University, 1-3rd July 2017, Delhi.

Workshop

- Workshop on “Thin Film Solar Cells” organized by Indian Institute of Technology Roorkee on April 16-17, 2018.
- Workshop on “Novel Thermoelectric Materials” Organized by Indian Institute of Technology Roorkee on March 05, 2016 under QIP.