

## CURRICULUM VITAE

Dr. Ravi Shankar P N  
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Dept. of Chemistry  
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### EDUCATION QUALIFICATION

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Ph.D. (2015-2021)

Chemistry and Physics of Materials Unit

Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)

Specialization: Materials Science

Supervisor/PI: Prof. A. Sundaresan

Title of Ph.D. thesis:

**High Pressure Synthesis, Structure and Multiferroic Properties of Doubly Ordered Perovskites ( $AA'BB'O_6$ ) and other Polar Oxides**

**MSc in Chemistry** (2012-14)

Department of Chemistry

University of Mysore

Division/Class: Distinction

**BSc with Physics, Chemistry, and Mathematics** (2009-2012)

Yuvaraja's College, Mysore

Division/Class: Distinction

### Professional Experiences

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Assistant Professor, Dept. of Chemistry, B.M.S. College of Engineering, Bengaluru, India (October-2023 to present)

Assistant Professor, Dept. of Chemistry, M S Ramaiah College of Arts, Science and Commerce, Bengaluru, India (July-2023 to October-2023)

Postdoctoral Associate, Duke University, Durham, North Carolina, USA (May-2022 to April-2023)

Research Associate (September-2021 to April-2022)

Chemistry and Physics of Materials Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), India

## OTHER QUALIFICATIONS

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Council for Scientific and Industrial Research (CSIR) NET  
Graduate Aptitude Test in Engineering (GATE)  
Karnataka State Eligibility Test (KSET)

## LANGUAGE

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English: Professional efficiency (fluent in speaking and writing)  
Kannada: Mother tongue (fluent in speaking and writing)  
Hindi: Fluent in speaking

## RESEARCH INTERESTS

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- Synthesis, structural characterization, and property measurements of materials
- Frustrated magnetism, quantum spin liquids, and quantum phase transitions
- Piezoelectricity, pyroelectricity, ferroelectricity, multiferroic properties, and Superconductivity

## RESEARCH EXPERIENCE

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- Preparation of samples by conventional solid state, high pressure synthesis method, seal tube, flux methods
- Characterization techniques, including XRD, NPD, EDX, TGA, and DSC
- Working experience with magnetic properties measurement system (MPMS) and DynaCool physical properties measurement system (PPMS)
- Crystal and magnetic structure analysis using FullProf and JANA 2006 software

## TEACHING EXPERIENCE

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- Mentoring undergraduate and graduate students at JNCASR, Bangalore, India, and Duke University, North Carolina, USA
- Teaching assistant for the course chemistry of materials at JNCASR, Bangalore, India
- Student Mentoring Program at JNCASR, April-May 2019
- Facilitator at the Salters' Chemistry Camp at JNCASR, Bangalore, 05<sup>th</sup> – 07<sup>th</sup>, March-2020
- Teaching experience in Vikram college of nursing, Gokulam, Mysuru, Karnataka, India, January-May 2015

## SOFTWARE SKILLS

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Specialized Codes:

Origin, FullProf, JANA 2006, Vesta software, Microsoft Office, LaTeX

## CONFERENCE AND WORKSHOP

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- Participated in 16<sup>th</sup> Oxford School on Neutron Scattering 2019, St. Anne's College, Oxford
- Poster presentation was given at the International School on Crystallographic Groups and their Representations Workshop on Topological Insulators in 2019, Department of Physics, Shanghai university
- Workshop on Data Analysis of Neutron Scattering and Muon Spectroscopy 2019, JNCASR, Bangalore, India
- Poster presentation was given on topic "Structure and Multiferroic Properties of Doubly Ordered Perovskite NaYCoWO<sub>6</sub>" at International Conference on Magnetic Materials and Applications held at NISER Bhubaneswar, India during 9<sup>th</sup> – 13<sup>th</sup>, December-2018
- Best poster award for the "Structure and Multiferroic Properties of Doubly Ordered Perovskites NaLnNiWO<sub>6</sub> (Ln = La, Sm, Gd, Eu, Ho, Y)" at First Indian Materials Conclave (IndMac) & 30<sup>th</sup> Annual General Meeting of MRSI at Indian Institute of Science, Bangalore during 12<sup>th</sup> – 15<sup>th</sup>, February-2019
- Participated in the International Symposium on Solid State Chemistry of Transition Metal Oxides held at JNCASR during 30<sup>th</sup> November – 01<sup>st</sup> December, 2018
- Participated in the Winter School Frontiers in Material Science-2016, JNCASR, Bangalore, India

## PUBLICATIONS

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1. *A*-Site and *B*-Site Cation Ordering Induces Polar and Multiferroic Behavior in the Perovskite NaLnNiWO<sub>6</sub> (Ln = Y, Dy, Ho, and Yb). **Ravi Shankar P N**, Fabio Orlandi, Pascal Manuel, Weiguo Zhang, P Shiv Halasyamani, Athinarayanan Sundaresan, [Chemistry of Materials](#), 32, 5641 (2020)
2. Polar Magnetic oxides from chemical ordering: A new class of multiferroics. **Ravi Shankar P N**, Swarnamayee Mishra, Sundaresan Athinarayanan, [APL Materials](#), 8, 040906 (2020)
3. On Ferro- and Antiferro-Spin-Density Waves Describing the Incommensurate Magnetic Structure of NaYNiWO<sub>6</sub>. Hyun-Joo Koo, **Ravi Shankar P N**, Fabio Orlandi, Athinarayanan Sundaresan, Myung-Hwan Whangbo, [Inorganic Chemistry](#), 59, 17856 (2020)
4. Structural, Magnetic, and Electrical Properties of Doubly Ordered Perovskites NaLnNiWO<sub>6</sub> (Ln = La, Pr, Nd, Sm, Eu, Gd, and Tb). **Ravi Shankar P N**, Fabio Orlandi, Pascal Manuel, Weiguo Zhang, P Shiv Halasyamani, Athinarayanan Sundaresan, [Journal of Physical Chemistry C](#), 125, 6749 (2021)
5. Switchable and Nonswitchable Polarization in Doubly Ordered Perovskites NaLnCoWO<sub>6</sub> (Ln = Er, Tm, Yb, and Lu). **Ravi Shankar P N**, Debendra Prasad Panda, Athinarayanan Sundaresan, [Journal of Physical Chemistry C](#), 125, 10803 (2021)
6. Synthesis, Characterization and Multiferroic Properties of the Doubly Ordered Polar Perovskite NaLnNiWO<sub>6</sub> (Ln = Er, Tm, and Lu). **Ravi Shankar P N**, A Sundaresan, [Journal of Magnetism and Magnetic Materials](#), 540, 168412 (2021)
7. Factors Governing the Propagation Direction and Spin-Rotation Plane of Noncollinear Magnetic Structures: A Helix vs. a Cycloid in Doubly Ordered Perovskites

NaYMnWO<sub>6</sub> and NaYNiWO<sub>6</sub>. **Ravi Shankar P N**, Fabio Orlandi, Pascal Manuel, Hyun-Joo Koo, Myung-Hwan Whangbo, Athinarayanan Sundaresan, [Inorganic chemistry](#), 60, 15124 (2021)

8. Structural and Magnetic Properties of R<sub>0.5</sub>Sr<sub>0.5</sub>Fe<sub>0.5</sub>Mn<sub>0.5</sub>O<sub>3</sub> (*R* = Gd, Nd, or Pr) Perovskites. Antara Sarkar, Anirban Das, Soumen Ash, **Ravi Shankar P N**, Kaustava Bhattacharyya, Ashok K Ganguli, [Journal of Alloys and Compounds](#), 882, 160747 (2021)
9. Magnetization Plateau and Multiferroicity in the Frustrated Antiferromagnet LiFeV<sub>2</sub>O<sub>7</sub>. **Ravi Shankar P N**, Ivan da Silva, Sinay Simanta Behera and A. Sundaresan ([To be communicated](#))
10. Structural and Magnetodielectric Properties of NaLnFeWO<sub>6</sub> (*Ln* = Y, Ho). **Ravi Shankar P N**, A Sundaresan ([Manuscript under preparation](#))
11. Thermodynamic studies of new triangular lattice Ytterbium selenites. **Ravi Shankar P N**, Rabin Bag, Sara Haravifard ([Manuscript under preparation](#))