AJINKYA SHINGOTE

Phone: (+1) 574-314-2838
Email address: ashingot@nd.edu
Alternate email address: ajinkya.shingote@students.iiserpune.ac.in
Ajinkya Shingote | LinkedIn

About me

I am a first-year doctoral student specializing in Physical Chemistry, currently conducting research under the guidance of Professor Gregory Hartland. My work focuses on strong exciton–plasmon coupling in metal–semiconductor hybrid structures. Broadly, I am interested in materials chemistry, with a particular passion for designing materials for energy-related applications

Education

University of Notre Dame, USA

GPA: 3.89

Indian Institute of Science Education and Research (IISER), Pune, Maharashtra, India

Bachelor of Science - Master of Science (BS-MS)
August 2019 – May 2024
CGPA: 8.6 (on a scale of 10)

Jai Hind Junior College, Pimpri-Chinchwad, Maharashtra, India

Higher Secondary Education (HSE)
2017 - 2018
Percentage: 88.62%

Shri Shiv Chatrapati Shivaji Raje Secondary School, Pimpri-Chinchwad, Maharashtra, India

Secondary School Education (SSE)
2015 - 2016
Percentage: 96.60%

Research experience

Master's student

Location: Department of Chemistry, IISER Pune, India
Duration: July 2023- March 2024

Advisor: Prof. Angshuman Nag (Professor)
Topic: Synthesis and Photophysics of Novel Layered Halide Perovskite Heterostructures

Responsibilities:

- Conducted literature review to gather current advancement and previous studies
- Performed designed and proposed experiment under the guidance of Dr. Angshuman Nag
- Analyzed and interpreted data using OriginPro, APEX4, etc.

Skills acquired:

- Chemical synthesis · Powder x-ray diffraction · Rietveld refinement · Single crystal x-ray diffraction · UV/Vis absorption spectroscopy · Low-temperature photoluminescence spectroscopy · Photoluminescence lifetime

analysis · Structure-property relationships · Glove box usage and maintenance · Spin coating · Literature reviews · Proposal writing · Report writing

Research project student

Location: Department of Chemistry, IISER Pune, India
Duration: Aug 2022 - Nov 2022
Advisor: Prof. Angshuman Nag (Professor)
Topic: Co-doping Te and Er in $Cs_2NaInCl_6$ Double Perovskite for Short Wave Infrared Emission
Responsibilities:

- Carried out the literature search for various dopants, hosts, and co-doping strategy
- Assisted a graduate student, performing data collection and analysis
- Presented the results in front of the research committee consisting of a couple of evaluators
- Contributed to the research paper titled "Short-Wave Infrared Emissions from Te^{4+}–Ln^{3+} (Ln: Er, Yb)-Codoped $Cs_2NaInCl_6$ Double Perovskites"

Skills acquired:

- Hydrothermal synthesis· Powder x-ray diffraction· UV/Vis spectroscopy · ICP-MS · Energy dispersive x-ray analysis · FESEM · Presentation skills · Report writing

Research project student

Location: Department of Chemistry, IISER Pune, India
Duration: June 2022- July 2022
Advisor: Prof. Pramod Pillai (Associate Professor)
Topic: Study of various photophysical processes in Quantum dots system
Responsibilities:

- Conducted a comprehensive literature review on photophysical properties of Quantum dots
- Learned various instrumentation needed to study photophysical properties.
- Presented summaries of literature reviews to colleagues, contributing to a discussion

Skills acquired:

- UV/ Vis absorption spectroscopy· FRET study· PET study· Ligand synthesis· Literature review· Lab discussion

Detailed research skills

- **Expertise** with UV-visible spectrophotometer, low-temperature photoluminescence spectrophotometer, Time-Correlated Single Photon Counting (TCSPC) instrument and PXRD instrument
- **Experience** in analytical techniques such as SCXRD, XRD, UV/Vis Spectroscopy, FESEM, EDS, TGA, and DSC
- **Expert** in glovebox usage and maintenance, low and high-temperature reactions, spin coating, high-temperature furnace operation
- **Familiar** with software such as VESTA, Mercury, APEX4, Origin, Chemdraw, HighScore, and FullProf
- Ability to work independently on multiple projects

Publications

1. Habibul Arfin, Radha Rathod, **Ajinkya Sundarnath Shingote**, K. R. Priolkar, Pralay K. Santra, and Angshuman Nag, Short-Wave Infrared Emissions from Te^{4+}–Ln^{3+} (Ln: Er, Yb)-Codoped $Cs_2NaInCl_6$ Double Perovskites, ***Chem. Mater.* 2023, 35, 17, 7133–7143**
2. **Ajinkya Sundarnath Shingote**, Taniya Dutta, Parikshit Kumar Rajput, and Angshuman Nag, Thermal Evolution of the Structure and Luminescence of the Hybrid-Cation-Stabilized $[(4AMTP)PbBr_2]_2PbBr_4$ Layered Perovskite, ***Chem. Mater.* 2024, 36, 10, 0897-4756**

3. Parikshit Kumar Rajput, Parashurama Salunkhe, Manmayuri Sarma, Meghasree Basu, Animesh Gopal, Aprajita Joshi, **Ajinkya Sundarnath Shingote**, Surajit Saha, Atikur Rahman, and Angshuman Nag, Entropy-Driven Reversible Melting and Recrystallization of Layered Hybrid Perovskites, ***Small* 2024, 2406735**

Conferences

- Emerging Materials 2023, a conference on the latest research findings on the classes of materials, including low-dimensional materials, energy materials, sustainable materials, optoelectronic materials, and soft materials (volunteer and participant)
- Low Dimensional Materials 2022, a conference on recent advancements in low-dimensional materials with talks from international researchers (participant)
- SPSI Macro 2022, International Conference on Polymer Science and Technology (participant)

Academic achievements

- Ranked in the top 30 in Pune district in the Maharashtra State Scholarship Program
- Passed with distinction in 10^{th} and 12^{th} standard
- Qualified in numerous state-level examinations like MTSE, NTSE, and JEE

Hobbies and interests

- Juggling
- Reading books (psychology and personal development)
- Watching documentaries