

CURRICULUM VITAE

Rohitkumar Himmatrao Jadhav

Address for communication:

IISER Hostel 1, Room no - 222
Indian Institute of Science Education and Research , Pune-411008
Maharashtra (INDIA)

Personal Details: -

Nationality	: Indian
Marital Status	: Single
Sex	: Male
Languages Known	: English, Hindi, and Marathi.
Date of Birth	: 20 th August 1996
Contact Details	:
Mob. No.	+918983330195 / +918983630195 (India)
Email:-	rohitkumar.jadhav@students.iiserpune.ac.in rohitjadhav48@gmail.com

Educational Qualifications:

August 2014- Pursuing BS-MS dual Degree 4th year at Indian Institute of Science education and Research Pune, (India)

April 2014 H.S.C. Exam with First class
M. J. College Jalgaon

April 2012 S.S.C. Exam with Distinction
R. R. Vidyalaya, Jalgaon

SCHOLARSHIPS RECEIVED: -

- National Talent Search Examination
- DST-Inspire fellowship

TECHNICAL SKILLS:

1. Experimental Skills: Molecular engineering and synthesis of hybrid perovskites with advanced photovoltaic properties.
2. Analytical Skills: Characterization of hybrid compounds XRD, DRS, photoluminescence, UV-Vis analysis, FTIR, Mass spectroscopy etc.
3. Device Fabrication: Fabrication of solid state perovskite sensitized solar cells with highest efficiency **~15.2 % for MAPbI₃**.
4. Computer Skills: Skill sets for ChemDraw, SciFinder, Origin, Apex, EVA etc..

Research interest: -

- Design and synthesis of hybrid perovskites for Solid State Sensitized Solar Cells.
- Synthesis of 2D hybrid materials for optoelectronic application.
- LED, Solar cell , photo detector device fabrication.
- Application of hybrid perovskites in Lasing.

Research Projects: -

- **1st Semester Project:**
 1. Synthesis of new hybrid perovskites for solar cells and other optoelectronic applications such as LED, Laser etc.
At National Chemical Laboratory, India
(01-08-2016 To 31-12-2016)
- **1st Summer Project:**
 1. Solar Absorptive coatings and their Thermo-voltaic Applications.
At National Chemical Laboratory, India
(16-05-2016 to 18-07-2016)
- **2nd Semester Project:**
 1. Organic cationic substitution for Photostability and Moisture stability of hybrid perovskites and characterization.

**At Indian Institute of Science Education and Research, India
(01-08-2016 to 20-04-2017)**

- **2nd Summer Project:**

1. Synthesis of more stable core-shell Cs-halide quantum dots and characterization. **At Indian Institute of Science Education and Research, India (01-05-2017 to 28-07-2017)**
2. Synthesis of Benzedene based Perovskite single crystals and characterization.

**At Indian Institute of Science Education and Research, India
(30-05-2017 to 20-07-2017)**

- **3rd Semester Project:**

1. Device fabrication of previously synthesized materials.

**At Indian Institute of Science Education and Research, India
(01-05-2017 to 26-11-2017)**

2. Mg/Ca Isotopic analysis of foraminifera for paleoclimatic study at ODP 763A

**At Indian Institute of Science Education and Research, India
(01-12-2017 to 05-01-2018)**

- **4th Semester Project:**

1. Triple cation substitution for Hybrid perovskite solar cells.

**At Indian Institute of Science Education and Research, India
(10-01-2018 to 28-04-2018)**

2. Mg/Ca and Trace elemental analysis of foraminiferal shell for paleoclimatic study of ODP site 1085

**At Indian Institute of Science Education and Research, India
(10-01-2018 to till 22-04-2018)**

- **3rd Summer Project:**

1. Synthesis of molecular ion substituted perovskite.

**At Indian Institute of Science Education and Research, India
(05-05-2018 to 02-08-2018)**

- **5th Semester Project:**

Molecular ion substitution in hybrid perovskite structures to enhance moisture and photostability of perovskite material.

**At Indian Institute of Science Education and Research, India
(27-07-2018 to 02-09-2018)**

Research collaboration: -

1. Collaboration with Cavendish laboratory under APEX program.
2. Collaboration with Cavendish laboratory under UKIERI program.

Research Publications:-

1. Molecular ion substitution in hybrid perovskite structures to enhance moisture and photostability of perovskite material. (**Paper Under review**)
2. Metallic contact stability on addition of Molecular ion substitution in hybrid perovskite structures. (**Manuscript under preparation**)
3. Organic molecular doping in Triple cation hybrid perovskite structure for enhanced photo and moisture stability upto one year. (**Manuscript under preparation**)
4. Tuning of Optical and electronic properties of lead-free Hybrid perovskites by metal alloying. (**Manuscript under preparation**)

Conferences and Workshops:

1. The idea was shortlisted for Nobel Prize series India 2017 / Gandhinagar, Gujrat (India).

Extracurricular Activities:

1. Holds National Record along with ~386 students for making largest Warli Painting within 11 hours (2014)
2. Along with Material Science, I'm also interested in Earth Sciences and have done some projects on Microfossil study, Cosmo chemistry and planetary materials.
3. I have also composed a Music album and own a Music Band.
4. Published a Poetry book in 2013.
5. Recently I'm writing a manuscript of a novel.

Rohitkumar Himmatrao Jadhav