

Vedasri Bai Khavala

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Education

Indian Institute of Technology Madras (IITM), Chennai, India

Ph.D. Metallurgical and Materials Engineering, (July 2019 - Present)

- Advisor: Dr. B.S. Murty and Dr. Tiju Thomas, CGPA: 9.75

Indian Institute of Technology Madras (IITM), Chennai, India.

B.Tech. Final Year (via MOU between IITM and VNIT), Metallurgical and Materials Engineering, (July 2018 - May 2019) • Thesis: Studies on measuring the non-configurational entropy of high entropy alloys

- Advisor: Dr. B.S. Murty and Dr. Tiju Thomas, CGPA: 9.65

Visvesvaraya National Institute of Technology (VNIT), Nagpur, India.

B.Tech (1-3 Years), Metallurgy and Materials Engineering, (2015 - 2018), CGPA: 9.45

Technical Skills

- **Experimental Techniques:** Rotating Disc Electrode, Operation and understanding of Thermal Technology Unit (NETZSCH STA 409 PC and STA 449F3) and X-Ray Diffraction (X'pert PRO PANalytical)
- **Software Packages:** FullProf Suite 3.00 (Rietveld Analysis), HighScoreplus Version 3 and 4.1, Thermo-Calc 2021a, Pandat, Large-scale Atomic/Molecular Massively Parallel Simulator (LAMMPS), ImageJ, Quantum Espresso Version 6, MatLab®, OriginPro 9.0 SR1 and MTEX.
- **Programming language:** Python3

Publications

- Harish Kuruva, **Vedasri Bai Khavala**; B.R. Mishra; K Murugan; Tiju Thomas, Optimizing self-cleaning coatings through PVP surfactant and SiO₂ binder effects on C, N, and S mechanically doped TiO₂ and synergistic TiO₂ incorporation, (Submitted to Journal of Colloid and Interface studies)
- Harish Kuruva, **Vedasri Bai Khavala**, Mishra BR, Tiju Thomas, BS Murty, Photocatalytic Degradation of Multi-Organic-Sulfur Industrial Wastewater Using TiO₂ Produced from Modified Sulfate Process, (Submitted to Journal of Water Process Engineering)
- **Vedasri Bai Khavala**, Abhijai Velluva, Adhithyan Kathiravan, Chandan Singh Khavala, Harish Kuruva, B.S. Murty, Tiju Thomas (Submitted to Computational Materials Science)
- Rishab Nigam, **Vedasri Bai Khavala**, Khushbu Dash, Nachiketa Mishra, Image-driven deep-learning-enabled automatic microstructural recognition, Emerging Materials Research 12(1):47–51, DOI: <https://doi.org/10.1680/jemmr.22.00010>
- Namrata Gaikwad, Ruthwik Nakka, **Vedasri Bai Khavala**, Abhishek Bhadani, Hadas Mamane, Rajnish Kumar, Gas Hydrate-Based Process for Desalination of Heavy Metal Ions from an Aqueous Solution: Kinetics and Rate of Recovery, ACS EST Water 2021, 1, 1, 134–144. DOI : <https://doi.org/10.1021/acsestwater.0c00025>
- **Vedasri Bai Khavala**, Gurudev Tadas, Vaibhav Sharma, Suresh Bandi, Ajeet Srivastav, Ti₃+Self-doped TiO₂ for Photocatalytic Applications, Recent Advances in Materials for Sustainable Energy (RAMSE-2018), 3-5, March 2018, Dhanbad, India (Poster presentation)

Scholastic Achievements

- Secured AIR 285 in GATE 2019
- DAAD Fellowship – Oct 2022 - Present
- PMRF Fellowship – May 2021 - Present
- Secured Rank-2 in the Department of Metallurgical and Materials Engineering during undergrad and awarded the Mr. Niles Mahakalkar memorial Rising Star Award for the same
- Selected for IIT Madras summer fellowship program – May 2018
- Secured the First Place in Industry Defined Problem (IDP) at Amalgam, IITM, 2018 for “Tailor crystallographic texture of soft-magnetic material used in liquid rocket engine solenoid valve to increase saturation magnetization”. The Indian Space designed the problem statement Research Organization based on ongoing research.
- Secured the third place in Student’s Symposium 2017 at VNIT Nagpur for outstanding internship work and oral presentation.
- Secured the Second Place in Industry Defined Problem (IDP) at Amalgam, IITM, 2017 for “Material selection for substrate, thermal barrier coating and emissivity coating for rocket combustion chamber”. The Indian Space Research Organization designed the problem statement based on ongoing research.
- Awarded OP Jindal Engineering and Management Scholarships (OPJEMS) in 2016 along with 80 Engineering students across India
- Chemistry School Topper in CBSE 2015 (99/100)

Positions of Responsibility

- Part of the editorial team for the department magazine ETCH 2020 at IIT Madras. ETCH aims to highlight the research advancements and other co-curricular activities in the department.
- UG Class representative (2015-2016) for the U section. Bagged first place in sports intra-murals among all first-year girls.
- Chennai branch head for Bangalore based NGO - Adiuvaa (2014-2015)