Ms. Madhavi Kreeti

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PROFESSIONAL EXPERIENCE

	Position	Institution	Duration
1.	Junior Project Assistant-Research	Materials Science Centre, **Indian Institute of Technology, Kharagpur**	Jan 2023 – Present

Project Name: "Materials Development for High Temperature Radome Application", sponsored by ADVANCED SYSTEMS LABORATORY (Dr APJ Abdul Kalam Missile Complex, DRDO, Ministry of Defence, Govt. of India.

Project Head: Dr. Shibayan Roy (Assistant Professor, Materials Science Centre, IIT Kharagpur.

	Position	Institution	Duration
2.	Assistant Project Manager	Department of Sustainable Energy Engineering, **Indian Institute of Technology, Kanpur**	April 2022 – Dec 2022

Project Name: DST- IIT Kanpur Integrated Clean Energy Materials Acceleration Platform (IC MAP) on Materials

Project Head: Dr. Kanwar Nalwa (Associate Professor, SEE Department, IIT Kanpur, and Center Head, DST-IIT Kanpur Center).

Overview: The project primarily focuses on developing Perovskite Solar Cells, Thermo-Regulating Tiles, Smart Windows, and Solar Thermal for energy harnessing, energy storage, and energy efficiency and is recently sponsored by the Department of Science & Technology, Govt. of India.

RESEARCH INTERESTS

- **Research Area: Inorganic Chemistry/ Material Science**
  - Research Interest: Nano Science & Nanotechnology
    - Synthesis, Characterization, and Application of nanoparticles
    - Photocatalysis
    - Spectroscopy
  - Electrochemistry and Electrochemical devices for energy applications
  - Ceramics

ACADEMIC QUALIFICATIONS

Degree	Department	Institute Name	Marks	Duration
M.Sc.	Chemistry	Indian Institute of Engineering science & Technology (IIEST), Shibpur, Howrah, India	CGPA- 8.21	2019- 2021
B.Sc.	Chemistry (Honors)	Lalit Narayan Mithila University, Darbhanga, India	70%	2014-2017
CBSE (12th)	Physics, Chemistry, Math	Jawahar Vidya Mandir, Shyamali, Ranchi, India	68%	2011-2013
CBSE (10th)	Science	PC High school, Samastipur, Bihar, India	CGPA- 10/10	2010-2011

PUBLICATIONS

- Periyasamy, M., **Kreeti, M.**, and Kar, A. "Adapting the properties of Fe_3O_4 nanostructures: Core/shell formation consequences on structural, optical, photocatalytic and magnetic properties." ***Journal of Materials Chemistry C,*** (2022). (communicated) (***Impact factor-7.059***)

MASTER'S RESEARCH PROJECTS

- **Project 1: Synthesis, Characterization, and applications of Fe_3O_4 Core/shell nanoparticles** July'20-Dec'20
  - Supervisor: Dr. Arik Kar, Assistant Professor, IIEST, Shibpur, Howrah, India
  - Overview: Since Magnetite (Fe_3O_4) is one of the iron oxides present in the Earth's crust has an extraordinary magnetic character; that's why these properties can be used in wastewater treatment, drug delivery, gas sensing, and sustainability. The literature of research papers on Fe_3O_4 Core/shell nanoparticles is reviewed.

- **Project 2: Morphology dependent properties of Fe_3O_4 Core/shell nanoparticles** Jan'21-Apr'21
  - Supervisor: Dr. Arik Kar, Assistant Professor, IIEST, Shibpur, Howrah, India
  - Overview: Various properties of Fe_3O_4 Core/shell nanoparticles has been investigated with different morphologies.

❖ **Project 3: Visible light induces Photo-Fenton degradation of reactive red dye using Sn doped CuO NPs** May'21-Aug'21

- Supervisor: Dr. Arik Kar, Assistant Professor, IIEST, Shibpur, Howrah, India
- Overview: The literature on catalytic activity on degradation of reactive red dye is reviewed.

RESEARCH INTERNSHIP

❖ **Title: Electrolytes for NextGen Electrochemical Devices** June'20-Aug'20

- Supervisor: Dr. Pratyay Basak, Principal Scientist, Nanomaterials Laboratory, Dept. of Polymers and Functional Materials, CSIR-Indian Institute of Chemical Technology, Hyderabad, India
- Overview: Research articles reviewed on sustainable energy conversion using gel electrolytes.

SKILLS

❖ **Technical Skills:** C, MS-Office, web-designing
❖ **Software:** Origin, Chem.Draw
❖ **Instrumental Techniques:** UV-Vis spectrophotometer, Optical microscope, Solar devices
❖ **Languages:** English (fluent), Hindi(fluent)

ACHIEVEMENTS & AWARDS

❖ Secured All India Rank: 3737 in **IIT-JAM 2019** (India)
❖ **Senate Member** (2019- 2020) of IIEST, Shibpur, India (Student representative)
❖ **District Topper** in High School (10th) with 10 CGPA marks