

Subrata Das

M. Tech | IIT Kanpur
Materials Science and Engineering

+91-8250173478
subratadinabandhu@gmail.com

EDUCATIONAL QUALIFICATION				
YEAR	DEGREE	UNIVERSITY/BOARD	INSTITUTE	CPI/%
2022-2024	M. Tech (Materials Science and Eng.)	IIT Kanpur	IIT Kanpur	8.88/10
2020-2022	M. Sc. (Applied Chemistry)	University of Calcutta	Ramkrishna Mission Vidyamandira	9.69/10
2017-2020	B. Sc. (Chemistry)	University of Calcutta	Dinabandhu Andrews College	77%
2015-2017	Class XII	WBCHSE	Mohar B.M. High School	84.4%
2015	Class X	WBBSE	Mohar B.M. High School	86.71%
Publications				
<div><div>❖ Das S*, Mandal S, Mondal K. Valorisation of Leather Buffing Dust as corrosion inhibitor for mild steel in H₂SO₄ acid. (Accepted at Bioresource Technology Reports).</div><div>❖ Mandal S, Das S, Gupta RK, Mondal K. Excellent corrosion inhibition efficiency of Catharanthus roseus (Nayantara or Sadabahar) leaf aqueous extract on mild steel in chloride-contaminated solutions at different pH. (Accepted at Sustainable Materials and Technologies).</div></div>				
KEY PROJECTS				
M. Tech Thesis IIT Kanpur Supervisor: Dr. Kallol Mondal [Jun’23-May’24]		Valorization of leather buffing dust as an excellent green corrosion inhibitor for steel in H₂SO₄ and HCl Synthesis of Collagen (biopolymer) from Industrial waste (LBD) and characterization of the polymer by Mass spectroscopy, FTIR, and UV-vis. Studies the inhibitor (Collagen) efficiency in H ₂ SO ₄ & HCl medium & performs the corrosion experiments like Open Circuit Potential, Polarization, Electrochemically Impedance Spectroscopy (EIS), Tafel. Post corrosion characterization using Scanning Electron Microscopy (SEM), Raman, FTIR, Optical profilometry techniques.		
M. Sc Project Dept of Polymer Sc. & Tech. GCELT Supervisor: Dr. Nayan Ranjan Singha [Mar’22 – Jun’22]		Reusable Fe₃O₄ – Collagen Hybrid Magnetic Nanocomposite: Strategic Recovery of Collagen, Fabrication, and Cationic Dye Degradation Recovered collagen from leather buffing dust, fabricated MNP@Collagen hybrid nanomaterials, and utilized absorption techniques to remove organic dyes from wastewater using MNP@Collagen materials. Conducted time-dependent adsorption and degradation studies of Methylene Blue (MB) using UV-vis spectroscopy.		
Course Projects MSE643A Instructor: Dr. Krishanu Biswas IIT Kanpur [Jan’23-May’23]		Machine Learning Assisted Design of High Entropy Alloy with Desired Hardness Designed 6-element HEAs (Al-Co-Cr-Cu-Fe-Ni) with desired hardness using Machine Learning, achieving an R ² value of 0.843 with linear regression. Employed PCC matrix, pair plots, SVM, multiple linear regression, ridge regression, lasso regression, confusion matrix, and F1 score for model development and accuracy assessment		
CERTIFICATIONS				
<div><div>Polymeric Materials: Properties and Applications in Mechanical Engineering (Udemy):<div><div>➤ Covered polymer basics, polymerization processes, and classification</div><div>➤ Studied mechanical properties like tensile strength, modulus, and impact resistance</div><div>➤ Learned polymer testing methods (DSC, TGA, DMA, FTIR) and the importance of mechanical testing for applications</div></div></div><div>Fundamentals of Plastics and Polymers (udemy):<div><div>➤ Explored the basics of plastics and polymer science, including polymer structures and properties</div><div>➤ Studied polymer types, processing methods, and material applications</div><div>➤ Covered key concepts in polymer behaviour, durability, and industrial uses</div></div></div></div>				
RELEVANT COURSE				
Polymer Science and Technology Physical Chemistry Organic Chemistry Analytical Chemistry Thin film and Device fabrication Structure and Characterization of Materials Mathematics and Computation methods Artificial intelligence and Machine learning in Materials Science and Engineering Thermodynamics of Materials Heat treatment and surface hardening Transport Phenomena Electrochemistry and its application.				
SCHOLASTIC ACHIEVEMENTS				
<div><div>• Received best poster presentation award in the category of corrosion in NSRS-2024 organized by the department of MSE at IIT Kanpur</div><div>• Qualified GATE 2022 in Engineering Science (XE) with specialization Materials Science and Polymer Science</div><div>• Qualified GATE 2021 in Chemistry (CY).</div></div>				
TRAINING				
<div><div>Instrumentation Training Ramkrishna Mission Vidyamandira, Belur Math.<div><div>• Hands on training and analysis on various instruments like XRD, UV-VIS, FTIR, PL Spectrofluorometer.</div></div></div><div>Energy Materials – Fundamentals to Device Fabrication CSIR-Central Electrochemical Research Institute, Karaikudi.</div></div> <div><div>[Dec’21-Feb’22]</div><div>[Jun’21-Jun’21]</div></div>				
TECHNICAL SKILLS				
Programming Language: Python, SQL			Software skills: Origin, Excel	
Machine Learning: Linear Regression, Polynomial Regression.			Tools: Pandas, Matplotlib, Power BI, NumPy.	
PROFESSIONAL EXPERIENCE				
Materials Engineer	HFCL Ltd		Jun 2024 To Present	
Domain	New Product Development			
Roles & Responsibilities	Analyzed and optimized acrylate coating properties for enhanced performance of optical fiber. Experienced in UV and laser curing of acrylate resins to ensure efficient and fast curing. Performed various coating and mechanical tests to ensure fiber and coating quality.			
POSITION OF RESPONSIBILITY				
<div><div>MANAGER, Academic Wing PG Academic and Career Council-PG Anc, IIT Kanpur.<div><div>• Arranging Institute Research Symposium (IRS) events, conducting interviews for departmental student DPGC, Secretary of PG academic.</div></div></div><div>Orientation Team Member (OTM) Institute Counselling Service (ICS), IIT Kanpur.<div><div>• Assisted in ID card making of new students, coordinated with the PG Core Team, and performed invigilation duty in EDT examination.</div></div></div><div>Teaching Assistant for MSE628: Electronic Device and Characterization, IIT Kanpur.<div><div>• Managed, Supervised, and coordinated the class along with the smooth conduction of examinations and grading of course assignments.</div></div></div></div> <div><div>[May’23-Jul’24]</div><div>[Jul’23]</div><div>[Aug’23-Present]</div></div>				