Manali Banerjee

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EDUCATION

Georgia Institute of Technology (GATECH), Atlanta, GA — August 2016 – Present
Ph.D. in Materials Science and Engineering with a minor in Paper Science and Engineering

Carnegie Mellon University (CMU), Pittsburgh, PA — August 2012 - May 2016
Bachelor of Science in Materials Science and Engineering

- Honors: University Honors with GPA: 3.52/4.00

Bachelor of Science in Chemistry

- Honors: University, College, and Department Honors with GPA: 3.70/4.00

RESEARCH EXPERIENCE

Carnegie Mellon University - Kowalewski Lab Group — 2014 - 2016
Research Assistant – Department of Chemistry

- Work on processing and characterizing copolymer nanocarbons for electrochemistry
- Perform cyclic voltammetry reaction to electrochemically reduce oxygen, carbon dioxide, and hydrogen from solution using a metal-free system
- Work on atom transfer radical polymerization synthesis of thiophene semiconductors.

Carnegie Mellon University – Materials Science Capstone Project — 2015 - 2016
Researcher – Department of Materials Science and Engineering

- Perform ASTM standard-based tests to determine performance of carbon bricks
- Perform characterization experiments to determine microstructural properties of bricks
- Work under *Ameri-Source* to conduct experiments based on customer specifications and find correlation between performance and properties of bricks

TEACHING EXPERIENCE

Georgia Institute of Technology – Department of Materials Science and Engineering
Teaching Assistant – Senior Design II — *Jan – May 2017*

- Provide guidance to students with group projects
- Provide support to students by training them on necessary equipment

HONORS AND AWARDS

Renewable Bioproducts Institute Fellowship – *GATECH* — 2016 - 2020
College of Engineering Dean's List – *CMU* — Fall 2015, Spring 2016
Undergraduate Presentation Award – *CMU* — 2016
Undergraduate Environmental Award – *CMU* — 2015
Undergraduate Presentation Award – *CMU* — 2014
MatSciTech Poster Competition Award – *Materials Science and Technology* — 2014
Summer Undergraduate Research Fellowship – *CMU* — 2014

PUBLICATIONS AND PRESENTATIONS

Publications

Kopeć M., Gottlieb E., **Banerjee M.**, Mohin J., Matyjaszewski K., Kowalewski T. (2016)
In-situ Platinum Deposition on Nitrogen-doped Carbon Films as a Source of Catalytic Activity in Hydrogen Evolution Reaction. ACS Applied Materials & Interfaces.

Presentations and Posters

Cottiero G., **Banerjee M.**, Gottlieb E., Kowalewski T. *Analysis of Pyrolysis Byproducts of Polyacrylonitrile*. Poster presented at the Undergraduate Research Symposium, "Meeting of the Minds" at Carnegie Mellon University – May 2016

Banerjee M., Gottlieb E., Kowalewski T. *Hydrogen Evolution by Molecular Platinum Immobilized using Nitrogen-Enriched Nanostructured Carbon*. Poster at the National Collegiate Research Conference 2016, hosted by HCURA – Harvard University.

Banerjee M., Gottlieb E., Mohin J., Kowalewski T. *Electrochemical Carbon Dioxide Reduction Using Nanocarbons*. Poster presented at the Undergraduate Research Symposium, "Meeting of the Minds" at Carnegie Mellon University – May 2015

Banerjee M., Gottlieb E., Kowalewski T. *Electrochemical Reduction of CO_2 with Copolymer Templated Nanocarbons*. Poster presented at Materials Science and Technology – October 2014

WORK EXPERIENCE

Carnegie Mellon University - Pittsburgh, PA 2013 - 2016
Undergraduate Office Assistant – Department of Mechanical Engineering

- Provide support to the department administrative staff with daily office tasks
- Work on filing and management tasks, especially with cataloguing and compiling data

Reckitt Benckiser - Gurgaon, India Summers of 2010 and 2013
Intern – Research and Development Division

- Worked on design and testing for household products based on customer specifications
- Worked on "Vanish Liquid *Project RAMBO"* to optimize formulation. The product was launched into market in January 2014

Carnegie Mellon University - Pittsburgh, PA 2012 - 2013
Mentor – Department of Physics

- Worked with students from *COLFAX* in preparing physics projects for the PJAS science fair
- Helped students with understanding physics concepts through demonstrations

Hindustan Times – New Delhi, India 2011
Intern – Arts and Entertainment Section

- Worked on interviewing and writing articles about the entertainment industry
- Worked on copy-editing to design and format pages of the newspaper

SKILLS

Applications:	Adobe CS, MS Office, Matlab, Mathematica, HTML, Python, Gantt Charts
Instruments:	Crystallography: X-Ray Diffraction. Mechanical Testing: Tensile, Hardness, Compression. Microscopy: Scanning Electron, Atomic Force, Optical, Transmission Electron. Thermal Analysis: DSC, TGA. Liquid and Gas Chromatography (HPLC, GC, HPIC), Gel Permeation. Spectrometry – UV/Vis, Atomic Absorption, FTIR, Nuclear Magnetic Resonance, BET, X-Ray Fluorescence
Laboratory:	Materials and Polymer Characterization, Powder and Polymer Processing, Electrochemistry, Cyclic Voltammetry, Polymer Synthesis including ATRP and RAFT, Gravimetric Analysis, Organic Chemistry Experimentation and Analysis
Languages:	English, Bengali, Hindi, French (fluent); Mandarin (conversant)
Miscellaneous:	Lab safety trained, competent in project management and mechanical work

LEADERSHIP AND ACTIVITIES

Project Ignite – *Leader* CMU: 2015 – 2016
Materials Advantage – *Member* CMU: 2013 – Present

MSE Student Advisory Council – *Member* CMU: 2013 – 2016
Engineers without Borders – *Member* CMU: 2012 – 2016
Emerging Leaders – *Group Leader* CMU: 2013