Raheed Bolia

Passionate researcher in Chemistry

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Diepenbeek, Belgium

WORK EXPERIENCE

Research Chemist | UHasselt

Aug 2020 – Sep 2024

Currently researching *"Solution-based Synthesis of Lithium Thiophosphate Electrolytes for Solid-State Batteries"* at the DESINe group in collaboration with Umicore. Research funded via *Baekeland* mandate by Umicore and Flanders Innovation & Entrepreneurship (VLAIO).

Analytical Chemist | Duracell Batteries

Jul 2019 – Aug 2019

Chemical analysis of intermediates using ICP-OES, TGA, Buoyancy, Pycnometry, Rheometry, Viscometry, and Titration.

Quality control of final product samples using potentiometry and destructive testing.

Research Intern "Innovative Battery Materials" | EnergyVille

Feb 2019 – Jun 2019

Developed novel ways to coat phase-pure TiO_2 coatings on cathode materials for Li-ion batteries as part of the XL-Lion research collaboration.

Biosafety Training Course Developer | imec

Aug 2018 – Sep 2018

Ground-up development of a new online Biosafety training based on written Corporate EHS procedures and feedback from lab managers.

EDUCATION

PhD in Chemistry | UHasselt

Aug 2020 – Sep 2024

Master of Science in Chemistry | KU Leuven

Sep 2018 – Jul 2020

Graduated magna cum laude.

Thesis on *"Synthesis of Polyaramids in Organic Electrolyte Solutions"* - SOLVOMET group.

Bachelor of Science in Chemistry | UHasselt

Sep 2015 – Jul 2018

Graduated cum laude.

Thesis on *"Photonic Decomposition of Molecular Metal Inks"* - DESINe group.

SKILLS

Languages

Native speaker of Dutch, English, and Kutchi with full trilingual proficiency.

Able to communicate in French and German at high-school level (understanding and speaking clearly pronounced sentences, reading and writing most common phrases).

Work-related skills

Capable of working independently in sensitive chemical environments in strict accordance with safety protocols as demonstrated by my extensive experience working under inert atmosphere in gloveboxes, using Schlenk line techniques, and in a Dry Room.

Strong capacity for problem-solving and sense for initiative, actively contributing to increased time efficiency and improved result reproducibility.

Communication skills

Can communicate effectively with any colleague thanks to experience working in corporate, educational, and research environments.

Not shy about mailing or calling people when needed, and always enthusiastic about presenting work performed at any given moment.

Digital skills

Well-versed in the Microsoft Office software package including advanced formatting and calculating functions. Capable of processing data in more advanced software such as Origin. Experienced in the use of specific laboratory software for controlling ICP-OES, FTIR, TGA, and several other tools. Capable of video editing in Adobe Premiere Pro.

ADDITIONAL INFORMATION

Honours and Awards

Received Bachelor Award recognising extra-curricular efforts leading to improvement of the Undergraduate Chemistry program and to a more positive image of the program as a whole. The award represents a recommendation given by the Exam Commission.

Memberships, Certifications and Extracurricular Activities

Volunteer with the Royal Flemish Chemical Society KVCV, helped organise ChemCYS 2020 and was responsible for managing sponsorships for CRF-ChemCYS 2022.

Certified First Aid Helper, completed Fire Extinguishing and Evacuation trainings, and completed the Global Chemists' Code of Ethics Training.

Student representative from 2015-2018 and student member of the university's Education Management Board from 2016-2018 involved in BSc programme restructuring.

Publications

Co-authored book chapter *"Conventional and Less Conventional Solution-based Synthesis of Battery Materials: Cathodes, Anodes, and Electrolytes"* in *Comprehensive Inorganic Chemistry III* (ISBN 9780128231449).

Co-authored paper *"Synthesis of polyaramids in γ–valerolactone-based organic electrolyte solutions"* by J. Winters et al, Green Chemistry 2021.

Contributed to the practical work used in the paper *"Effectiveness of Ligand Denticity-Dependent Oxidation Protection in Copper MOD Inks"* by W. Marchal et al, Langmuir 2019.

Presented several posters on synthesis of thiophosphate-based solid electrolytes.