Cheuk Fai “Gordon” CHIU, Ph.D.

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CAREER GOAL

A scientist with 10+ years of experience in designing and executing research, interpreting data and communicating results. Enjoy research and problem-solving. Seeking to leverage my professional expertise and experience in a managerial role as a team leader.

EXPERIENCE

Postdoctoral Researcher 2019 - Present

National Energy Technology Laboratory, Department of Energy

- Conducting research on the extraction of rare earth elements (REE) from coal and coal by-products. Improved the product purity from 2 wt.% to 30 wt.%. Increased the reaction scale by 15-fold.
- Initiate the use of an x-ray fluorescence analyzer for rapid product screening. Greatly reducing the characterization time and cost.

Chemistry Consultant 2018 - 2018

Apex Life Sciences

- Provided expert witness services, including researching and gathering information independently, and providing a written report.

Graduate Research Assistant 2011 - 2017

The University of Pittsburgh. Advisor: Dr. Alexander Star

- Conducted a new study into the reaction between carbon nanotubes (CNTs) and polyunsaturated fatty acids. Planned, organized and executed the experiments to establish the reaction mechanism and identify the products.
- Extended ongoing research on the biodegradation of CNTs by delivering an in-depth analysis using fluorescence and Raman spectroscopy to study the effect of CNTs' diameters and geometries. Resulted in two publications, one of them was selected as cover art on the *Journal of the American Chemical Society* (Sept 11, 2013).
- Communicated with a sales representative and was responsible for the purchase of a $100k instrument. Established a standard operating procedure and supported other researchers to achieve their goals.

Undergraduate Research Assistant 2008 - 2010

Temple University. Advisor: Dr. Eric Borguet

- Member of the “Carbon” team, which focused on the quantification of functional groups on nanotube surfaces using fluorescence labeling. Supported in the nanofiber project in collaboration with Villanova University. Conducted research into the photophysical property of fluorophores on CNT surfaces.

EDUCATION

2010-2017 **Ph.D., (Analytical Chemistry), University of Pittsburgh, USA**

Dissertation Title: *“Nano Emitters: Fluorimetric Analysis of Single-Walled Carbon Nanotubes in Bio-Oxidation”*

Advisor: Professor Alexander Star

2007-2010 **B.S., (Chemistry), Temple University, USA**

Connect on LinkedIn: https://www.linkedin.com/in/gordoncfchiu/

PUBLICATIONS

1. **Cheuk Fai Chiu**, Haider Hussain Dar, Alexandr A. Kapralov, Renã A. S. Robinson, Valerian E. Kagan, and Alexander Star, *Nano Emitters and Innate Immunity: The Role of Surfactants and Bio-Coronas in Myeloperoxidase-catalyzed Oxidation of Pristine Single-Walled Carbon Nanotubes. Nanoscale.* **2017**, 9, 5948–5956.
2. **Cheuk Fai Chiu**, Wissam A. Saidi, Valerian E. Kagan, and Alexander Star, *Defect-Induced Near-Infrared Photoluminescence of Single-Walled Carbon Nanotubes Treated with Polyunsaturated Fatty Acids*. *J. Am. Chem. Soc.* **2017**, 139 (13), 4859–4865.
3. **Cheuk Fai Chiu**, Brian A Barth, Gregg P Kotchey, Yong Zhao, Kristy A Gogick, Wissam A Saidi, Stéphane Petoud and Alexander Star**,** *Enzyme-Catalyzed Oxidation Facilitates the Return of Fluorescence for Single-Walled Carbon Nanotubes. J. Am. Chem. Soc.*, **2013**, 135 (36), 13356–13364
4. **Cheuk Fai Chiu**, Nikolay Dementev and Eric Borguet, *Fluorescence Quenching of Dyes Covalently Attached to Single-Walled Carbon Nanotubes. J. Phys. Chem. A*, **2011**, 115 (34), 9579–9584