

Whitney Webre

Professional Preparation

Spring Hill College, Mobile, AL

Bachelor of Science, Graduated December 2013

Major: Biochemistry

TECHNICAL SKILLS: Social Media Sites, Research Databases, Microsoft Office (Word, Excel, PowerPoint, etc.), Instrumental Signal Enhancement

LABORATORY SKILLS:

Titration, Fractional Distillation, Extractions, Recrystallization, ELISA, Gel Electrophoresis

Instrumentation: UV-vis, X-ray Diffraction, Atomic Absorption, NMR and Spectrofluorimetry, FTIR, SEM, BET, Gas Chromatography, HPLC, Size Exclusion Chromatography, Ion Exchange Chromatography, Centrifugation

Data Interpretation: Spectroscopic techniques (IR, ¹H NMR, NMR, and ¹³C NMR)

OTHER LANGUAGES: Basic Conversational French and Japanese

University of North Texas, Denton, TX

Graduate PhD Student August 2014-

Concentration: Analytical Chemistry **GPA: 3.92/4.00**

Advisor: Dr. Francis D'Souza

TECHNICAL SKILLS: Origin, Research Databases, ChemDraw, Gaussian

LABORATORY SKILLS: Electrochemistry (cyclic voltammetry, chronoamperometry, chronocoulometry, impedance, differential pulse voltammetry), Spectroelectroanalysis, Steady-State (UV-Vis, Emission, Excitation), Time Domain (lifetime), Raman Spectroscopy, Solar Cell Assembly and analysis (Incident Photon to Current Efficiency, Current and Voltage Switching)

Publications

- 1) Gary N Lim, **Whitney A. Webre**, and Francis D'Souza. "Charge separation in supramolecular ferrocene(s)-zinc-porphyrin-fullerene triads: A femtosecond transient absorption study." *Journal of Porphyrins and Phthalocyanines*. 19, 270 (2015).
- 2) Patrick J. Commins, Jonathan P. Hill, Yoshitaka Matsushita, **Whitney A. Webre**, Francis D'Souza, Jan Labuta, and Katsuhiko Ariga. "Selective Octabromination of Tetraphenylporphyrins based on *Meso*-Substituent Identity: Structural and Electrochemical Studies". *Journal of Porphyrins and Phthalocyanines*, 20, 213 (2016).
- 3) Thien H. Ngo, David Zieba, **Whitney A. Webre**, Gary N. Lim, Paul A. Karr, Scheghajegh Kord, Shangbin Jin, Katsuhiko Ariga, Marzia Galli, Steve Goldup, Jonathan P. Hill, and Francis D'Souza. "Engaging Copper(III) Corrole as an Electron Acceptor: Photoinduced Charge Separation in Zinc Porphyrin-Copper Corrole Donor-Acceptor Conjugates". *Chem. Eur. J.* 2016, 22, 1301.
- 4) **Whitney A. Webre**, Jonathan P. Hill, Yoshitaka Matsushita, Paul A. Karr, Katsuhiko Ariga, and Francis D'Souza. "Anion Binding, Electrochemistry and Solvatochromism of β -Brominated Oxoporphyrinogens." *Dalton Trans.*, 2016, 45, 4006-4016.
- 5) Shivaraj Yellappa, **Whitney A. Webre**, Habtom B. Gobeze, Anna Middleton, Chandra B. KC, and Francis D'Souza. "Phenothiazine sensitized solar cells: Effect of number of cyanocinnamic acid anchoring groups on DSSC performance." *ChemPlusChem.*, 2017, 82, 896-903.
- 6) T. H. Ngo, J. Labuta, G. N. Lim, **W.A. Webre**, F. D'Souza, P. A. Karr, J. E. M. Lewis, J.P Hill, K. Ariga, and S. M. Goldup. "Porphyrinoid rotaxanes: building a mechanical picket fence." *Chem. Sci.*, 2017, 8, 6679
- 7) **Whitney A. Webre**, Habtom B. Gobeze, Shuai Shao, Paul A. Karr, Katsuhiko Ariga, Jonathan P. Hill, and Francis D'Souza. "Fluoride-ion-binding promoted photoinduced charge separation in a self-assembled C₆₀ alkyl cation bound bis-crown ether-oxoporphyrinogen supramolecule." *Chem. Commun.*, 2018, 54, 1351.

- 8) Pavel Svec, **Whitney A. Webre**, Gary J. Richards, David Miklik, Jan Labuta, Paul A. Karr, Katshujiko Ariga, Francis D'Souza, and Jonathan P. Hill. "Phenanthroline-fused Pyrazinacenes: One-pot Synthesis, Tautomerization and a Ru(II)(2,2'-bipy) Derivative". Accepted by *European Journal of Inorganic Chemistry*.

Poster Exhibitions

- 1) Presented "Anion Sensing Brominated Oxoporphyrinogens: Physico-Chemical and Anion Binding Studies" at Graduate Research Exhibition for University of North Texas. March 2015.
- 2) Presented "Carbon Supported Iron Nanoparticles for the Environmental Remediation of Groundwater Contaminants" at Student Research Exhibition at Spring Hill College. May 2012.

Synergistic Activities

- **Teaching Assistant** *Spring Hill College, Mobile, Al. January 2011-December 2012 and University of North Texas, Denton, TX. August 2014-*
*Teach labs several times per week and assist students in learning scientific techniques
- **NSF EAPSI Fellowship** *National Institute for Materials Science, Tsukuba, Japan.*
June-August 2016
*Worked under Dr. Jonathan Hill and Dr. Katshuhiko Ariga
*Analysis of porphyrin dimers using UV/Vis and Circular Dichroism(CD) Spectrophotometry
- **Lab Analyst** *Dow Chemical, STO Operations, FDA Ethoxylates Park Laboratory, Hahnville, La.*
February-August 2014.
*Products Tested: Surfactants and Polyethylene Glycols
*Instrumentation: pH, Percent Water Titration, HPLC, HPLC Assay, Gas Chromatography, Headspace UV-vis, FTIR, Molecular Weight Titration, Viscosity, Specific Gravity, Particle Size Analysis, Colorimeter, Cloud Point, Acidity
*Laboratory and Technical Skills: LIMS, Daily Calibrations, Titrations, Master Task List
*Analyzed products created by Ethoxylates Park plant for passing results
*Special project analysis for flush validation, stability study, in-process, and post-production samples
- **Research Assistant** *Tulane University Environmental Engineering and Chemistry Department, New Orleans, La. May-Aug. 2011*
*Laboratory Skills: X-ray Diffraction, SEM, BET, Gas Chromatography, Aerosol, High Pressure Oven, Centrifugation, FTIR
*Assisted in analyzing aerosol techniques using a variety of instrumental methods
*Analyzed remediation methods of chlorinated hydrocarbons using aerosol and high pressure
- **Partners in Science Outreach Program Volunteer** *Spring Hill College Chemistry and Physics Department, Mobile, Al. Aug. 2011-May 2013*
*Conducted Chemistry and Physics experiments monthly with an 8th grade class at inner city public schools and evaluated the needs and strengths of individual 8th grade students to improve teaching approaches between monthly visits
- **Volunteer Program Tutor** *Spring Hill College Foley Center, Mobile, Al. Aug. 2009-May 2013*
James T. Strickland Youth Center, Carmel Health Institute, Taylor Park After School Care Facility
*Tutored under-privileged youth in various school subjects

Collaborators

Prof. K. Ariga, NIMS, Tsukuba, Japan
Prof. J. P. Hill, NIMS Tsukuba, Japan
Prof. P. Karr, Wayne State College

Graduate Advisors

Graduate Advisor: Professor Francis D'Souza, University of North Texas, Denton, TX