

IMA KNIGHT

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EDUCATION

Marian University, Indianapolis, IN

Anticipated May 2017

- B.S. in Chemistry with Bio-Organic concentration; B.S. Biology
- 4.0 GPA

WORK EXPERIENCE

Eli Lilly and Company, Indianapolis, IN

Summer Intern

Summer 2016

- Interned in drug discovery at Eli Lilly and Company for 480 lab hours over 12 weeks
- Solved synthetic challenges and learned purification techniques
- Developed new chemistry on diverse scaffolds
- Synthesized over 35 final target molecules for early library initiative & portfolio project

Heritage Research Group, Indianapolis, IN

Summer Intern

Summer 2015

- Earned over 300 hours of research experience in the environmental chemistry lab
- Designed innovative routes for refining hazardous waste into animal feed products
- Explored novel adaptations of the Strieter Method for fractionating asphalt
- Investigated methods for treatment and stabilization of hazardous waste

Dr. Carl Lecher, Associate Professor of Chemistry at Marian University, Indianapolis, IN

Research Group Member

Summer 2014, Fall 2014, Fall 2015

- Earned 370 hours of lab experience in Marian University's organic chemistry lab
- Researched a greener oxidization of alcohols and aldehydes to carboxylic acids with bleach and a nickel catalyst
- Investigated the use of greener solvents in solid-phase combinatorial chemistry in collaboration with IUPUI's Distributed Drug Discovery program

Marian University, Indianapolis, IN

Peer Tutor

Spring 2014-Fall 2014

- Assisted students in understanding Organic Chemistry

Marian University, Indianapolis, IN

Undergraduate Teaching Assistant

Fall 2014

- Graded organic chemistry lab reports
- Led class review sessions

LABORATORY SKILLS

- General wet chemistry lab procedures and techniques
- Elementary organic synthesis
 - Reactions under inert atmosphere
 - Solid phase chemistry
 - Phase-transfer catalysis
 - Base metal catalysis
 - Grignard reaction under argon atmosphere
 - Phase-transfer Wittig reaction

- Hydrolysis of esters to carboxylic acids
 - Amide coupling reactions (via HATU or acyl fluoride generation *in situ*)
 - Suzuki coupling of aromatic halides with aromatic boronates
 - Transformation of alkyl halide to boronic ester
 - N-boc and phthalidimide de-protections
 - Reduction reactions (amide to amine, ketone to alcohol)
 - Reductive amination
 - Formation of acyl chloride
 - Formation of HCl salts and free nitrogen base organic compounds
- Introductory analytical techniques
 - Preparation, operation, and analysis of IR, NMR, GC and LC mass spectrometry
 - Column chromatography (normal & HPLC reverse phase), thin layer chromatography
 - Strong Cation Exchange (SCX) column chromatography
 - Particle size analysis
 - Sonication and trituration
 - Microwave reactions
 - Green chemistry decision-making
 - Soxhlet extractions for fractionation of asphalt components
 - Iron Co-precipitation for removal of metals from landfill leachate
 - Toxicity characteristic leaching procedure for stabilized hazardous waste
 - Proficiency in basic SPSS statistical analysis
 - Polymerase Chain Reaction (PCR)
 - Gel electrophoresis and gel purification
 - Restriction digest
 - Aseptic technique
 - Bacterial transformation and selecting minipreps
 - Inoculation of bacterial plates for antibiotic testing via disc diffusion

RESEARCH PRESENTATIONS

- Presented “A Greener Oxidation of Alcohols and Aldehydes with Bleach and a Nickel Catalyst,” at the 5th Annual IGSS Community Symposium, July 24, 2014, and at the Marian University School of Mathematics and Sciences Fall Symposium, December 4, 2014. Poster was awarded “The Richard J. Minasz Award for Research Excellence”.
- Presented “Antibiotic Properties of Cranberry Extract” at the Marian University School of Mathematics and Sciences Spring Symposium, May 2, 2015. Poster was awarded “The Michael J. Eoff Award for Research Excellence”.
- Presented internship projects to Heritage Research Group on August 7, 2015
- Presented "Inversion Doubling in Ammonia: *Ab initio* Studies and Quantum Mechanical Modeling of the Intrinsic Reaction Coordinate" at the Marian University School of Mathematics and Sciences Fall Symposium, December 10, 2015. Poster was awarded “The Richard J. Minasz Award for Research Excellence”.
- Presented "Cloning of Bath-38 and Bath-10 in *Caenorhabditis elegans* for the Investigation of Muscular Dystrophy" at the Marian University School of Mathematics and Sciences Spring Symposium, April 28, 2016. Poster was awarded “The Michael J. Eoff Award for Research Excellence”.
- Presented work on projects to Eli Lilly scientists on July 28, 2016

CO-CURRICULAR ACTIVITIES

Marian University Women's Tennis Team

Athlete

Fall 2013-present

- Play in the varsity singles and doubles line-up
- Conference Team Title (Fall 2014)
- Individual All-Crossroads League (Fall 2014, 2015)
- Intercollegiate Tennis Association Scholar-Athlete (Fall 2014)
- Academic All-Crossroads League (2015)
- Daktronics-NAIA Scholar Athlete Award (2016)

Sigma Zeta Science National Honors Society

Member

Fall 2014-present

- Maintain overall and science GPA of at least 3.0
- Attend and volunteer at 4-5 science-related events each semester
- Broaden awareness of science career possibilities
- Represent Marian University's scientific community

Fellowship of Christian Athletes

President, Leader

Fall 2013-present

- Illuminate the Gospel message by leading Bible studies
- Participate in leadership meetings to enhance FCA
- Attempt to live out characteristics valued by Christianity and FCA

Marian University Campus Ministry Council

Fellowship Chair

Fall 2014-Fall 2015

- Fostered fellowship in Marian's faith community
- Organized formation meetings to encourage spiritual growth of students

Marian University Advantage A-Team

Student Consultant

Spring 2016

- Conducted business engagement with the Science Education Foundation of Indiana
- Worked as a group to research industry leaders and best practices
- Identified opportunities for growth of the client
- Developed recommendations for the client
- Presented recommendations in hard copy and oral deliverable on April 29, 2016

Students for Sustainable Stewardship

Head of Waste Management Committee

Fall 2015-Spring 2016

- Raised awareness of sustainability issues on Marian University campus
- Organized and executed projects to solve waste management issues on campus

DISTINCTIONS

- One of ten participants selected for Marian University's Institute for Green and Sustainable Science Summer Program (2014)
- Sister Mary Rose Stockton Excellence in Chemistry Award (2013-2014, 2014-2015, 2015-2016)
- Who's Who Among Students in American Universities & Colleges® (2016)
- St. Francis Academic Scholarship, Marian University, Half-tuition
- Marian University Women's Tennis Athletic Scholarship
- Dean's List (Fall & Spring 2013, 2014, 2015, 2016)