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EDUCATION

The University of Texas at Austin, Austin, TX — May 2014
Bachelor of Science in Chemistry

- Degree Option II: Applied Math & Computation in Chemistry
- Certification of Completion from the Elements of Computing Program
  - Awarded by the Department of Computer Science in recognition of significant knowledge & proficiency in computing
- Major GPA: 3.10
- University Honors: Fall 2007, Spring 2008

WORK EXPERIENCE

Freshman Research Initiative (FRI), *Peer Mentor*, Austin, TX — Fall 2008 – Spring 2010

- Laboratory duties involving: monitoring student safety & behavior; providing technical instruction; preparation of materials & supplies; maintenance of instrumentation & equipment.
- Other duties included: student representative of the FRI in University-related events; student representative of the FRI in local high schools; & drafting informal grant proposals.

Texas Classroom Teachers Association, *Intern*, Austin, TX — Summer 2008, 2009, & 2013

- Daily activities including: filing & data entry; packaging & shipping; inventory; & maintenance.

RESEARCH EXPERIENCE

Research Assistant — Fall 2009 – Spring 2011
University of Texas at Austin,
Department of Chemistry and Biochemistry, Magnus Research Group — Austin, TX

- Cultivated understanding of organic synthesis & mechanisms.
- Learned techniques relevant to total synthesis of natural products.
- Developed proper techniques for reagent & product purification.
- Carried out multiple step syntheses on milligram to multiple gram quantities.
- Independently explored novel Lewis acid catalyzed Robinson Annulation on 2-methylcyclohexanone.
- Participated in weekly group meetings.

Research Fellow (Freshman Research Initiative fellowship recipient) — Summer 2008
Research Assistant — Summer 2008 – Spring 2010
University of Texas at Austin,
Department of Chemistry and Biochemistry, Freshman Research Initiative — Austin, TX

- Refined dendrimer encapsulated nanoparticle (DEN) synthesis on PAMAM dendrimers
- Collected kinetic data for DEN catalyzed reactions
- Collected Transmission Electron Microscopy & Electron Dispersive Spectroscopy data on DENs
- Authored an informal grant proposal to Dendritech, Inc. that was awarded.
- Peer mentored & aided in the development of laboratory lessons for freshman science majors
- Prepared & presented weekly presentations on research progress
- Presented work at the Fall 2009 American Chemical Society National Meeting & Exposition, The Council on Undergraduate (CUR) Research's 2010 Posters on the Hill, as well as University of Texas at Austin sponsored symposiums.
  - Makis, John M; Johnson, Justin A; Stevenson, Keith J; Marvin, Katherine *Abstracts of Papers, 238th ACS National Meeting, Washington DC, United States, August 16-20, 2009*, **2009**, CHED-239.
- Work published by The Journal of Physical Chemistry C.

PUBLICATIONS

Johnson, J. A.; Makis, J. J.; Marvin, K. A.; Rodenbusch, S. E.; Stevenson, K. J.; Size-Dependent Hydrogenation of *p*-Nitrophenol with Pd Nanoparticles Synthesized with Poly(amido)amine Dendrimer Templates. *J. Phys. Chem. C* [Online] **2013**, 117, 22644-22651. DOI: 10.1021/jp4041474.

SKILLS

Instrumentation: Proficient in IR Spectroscopy, UV-Vis-NIR Spectroscopy, ^{1}H-NMR, ETAAS, TEM, & Potentiometry. Familiar with ^{13}C-NMR, EPR, HPLC, GC/TCD, GC/FID, GC/MS, STEM, XEDS, FAAS, CE, CV, & Fluorimetry.

Techniques: Proficient in Preparative Thin Layer Chromatography, Column Chromatography, Distillation, Recrystallization, Melting Point Determination, Schlenk Line Technique (inert atmosphere & rigorous exclusion of moisture), Multistep Synthesis, Microscale Technique, Colorimetric Titration, Potentiometric Titration, Spectrophotometric Titration, Technical Record Keeping, & Scientific Writing.

Computer: Proficient in Windows, OS X, UNIX, Microsoft Office, SciFinder, Reaxys, ChemDraw, Mathematica, iNMR, LaTeX, & BibTeX. Familiar with VNMR, MATLAB, XHTML, XML, PHP, Java, JavaScript, Ruby On Rails, Relational Databases (Oracle 11g, MySQL), SQL, PL-SQL.

COURSES

Principles of Chemistry I & II, Organic Chemistry I & II, Inorganic Chemistry, Physical Chemistry, Quantum Chemistry & Spectroscopy, Fundamentals of Biochemistry, Applied Math & Computation in Chemistry, Analytical Chemistry, Advanced Analytical Chemistry, Introduction to Chemical Practices, Organic Chemistry Laboratory, Laboratory Techniques in Organic Chemistry, Research Methods, Techniques in Research, Differential & Integral Calculus, Sequences, Series & Multivariable Calculus, Matrices & Matrix Calculations, Mechanics, Electricity & Magnetism, Statistical & Scientific Computing, Elements of Computers & Computer Programming, Elements of Software Design, Elements of Databases, Elements of Web Design, Elements of Graphics & Visualization, & Elements of Navigating Cyberspace.

Other

American Chemical Society, *Member* — Fall 2008 – Fall 2012

Tau Kappa Epsilon, *Member* — Fall 2008 – Fall 2012

Gamma Beta Phi, *Member* (achievement based) — Spring 2008

- Invited (Freshman); GPA > 3.5