

Ivan Fabe Dempsey Hyatt, Ph.D.

Adelphi University, 1 South Ave. ■ Garden City, NY 11530-0701 ■ 516-877-4151 ■ ihyatt@adelphi.edu

Education

Postdoctoral Researcher, University of North Carolina at Greensboro, Greensboro, NC
Spring 2011-Fall 2015, Advisor: Dr. Mitchell P. Croatt

Ph.D. in Chemistry, University of Florida, Gainesville, FL
Fall 2005 - Fall 2010, GPA: 3.67, Advisor: Dr. Michael J. Scott

B.S. in Chemistry and **B.A.** in Mathematics, East Carolina University, Greenville, NC
Fall 2001-Spring 2005, GPA: 3.32, Advisor: Dr. Andrew L. Sargent

Professional Experience

FULL-TIME

Adelphi University

Assistant Professor, 2015- present

- Teaching Organic and Inorganic Chemistry
- Mentoring undergraduate researcher
- Researching the reactivity of hypervalent iodine
- Writing publications and grants

University of North Carolina at Greensboro

Postdoctoral Researcher, 2011-2015

- Studied the formation of cyanocarbenes using hypervalent iodonium alkynyl triflates (HIAT)
- Handled air sensitive, toxic and explosive compounds (organotin, azides, and hypervalent iodine)
- Maintained the glovebox and solvent system
- Operated and trained researchers in the use of the ReactIR and ReactIR software
- Writing and editing of publications and grants
- Maintained capillary NMR and associated autosampler hardware

University of Florida

Ph.D., 2005-2010

- Performed multi-step synthesis of nonadentate organic ligands used to complex lanthanides
- Certified to handle radioactive material
- Extensively used Molecular Mechanics, Semi-Empirical, *ab initio* and DFT computational programs
- Used analytical techniques such as IR, MS, 2D NMR
- Experienced in using UV-Vis in equilibrium and kinetic studies
- Trained on cutting and mounting crystals on a goniometer, and basic crystallography
- Teaching Assistantship (Physical, Organic, Inorganic Chemistry)

East Carolina University

B.S. Chemistry, **B.A.** Mathematics, 2001-2005

- Used supercritical water with an analytical project to decompose polyaromatic hydrocarbons
- Studied rhodium-catalyzed hydroacylation with a computational project
- Teaching Assistantship for General Chemistry Lab

PART-TIME

Forsyth Technical Community College

Adjunct Professor: Taught Introduction to Chemistry in Summer 2014, Wrote online organic chemistry book chapters for a TAACCT grant

University of North Carolina at Greensboro

Adjunct Professor: Taught General Chemistry 2 in Spring 2014, Taught Organic Chemistry 1 in Summer 2013

Guilford Technical Community College

Adjunct Professor: Taught Introduction to Chemistry in Spring 2014

Internship at DSM Pharmaceuticals, Greenville, NC, 2002-2003

Publications

I. F. Dempsey Hyatt, Daniel J. Nasrallah, Michael A. Maxwell, A. Christina F. Hairston, Manahil M. Abdalhameed, and Mitchell P. Croatt, *Chemical Communications* **2015**, 51, 5287-5289. *Formation and in situ Reactions of Hypervalent Iodonium Alkynyl Triflates to Form Cyanocarbenes*

I. F. Dempsey Hyatt, Daniel J. Nasrallah, Mitchell P. Croatt, *Journal of Visualized Experiments* **2013**, 79, e50886. *Synthesis of Hypervalent Iodonium Alkynyl Triflates for the Application of Generating Cyanocarbenes*

Emma E. Nagy, I. F. Dempsey Hyatt, Kristen E. Gettys, Shawn T. Yeazell, Stephen K. Frempong Jr., and Mitchell P. Croatt, *Organic Letters* **2013**, 15, 586-589. *Sequential Pd(0)-, Rh(I)-, and Ru(II)-catalyzed Reactions in a Nine-step Synthesis of Clinprost*

Gary L. Guillet, I. F. Dempsey Hyatt, Patrick C. Hillesheim, Khalil A. Abboud, Michael J. Scott, *New Journal of Chemistry* **2013**, 1, 119-131. *1,2,4-Triazine-picolinamide functionalized, nonadentate chelates for the segregation of lanthanides(III) and actinides(III) in biphasic systems*

I. F. Dempsey Hyatt, Maria Elena Meza-Aviña, Mitchell P. Croatt, *Synlett* **2012**, 23, 2869-2874. *Alkynes and Azides: Not Just for Click Reactions*

I. F. Dempsey Hyatt, Mitchell P. Croatt, *Angewandte Chemie International Edition* **2012**, 51, 7511-7514. *Reactions of hypervalent iodonium alkynyl triflates with azides: Generation of cyanocarbenes*

Seth Dumbris, Dan Denomme, I. F. Dempsey Hyatt, Khalil Abboud, Lisa McElwee-White, *Organometallics* **2010**, 29, 5252-5256. *Synthesis and Electronic Structure of Tetra- η^3 -phenylpropargylzirconium*

I. F. Dempsey Hyatt, Heather K. Anderson, Andrew T. Morehead Jr., Andrew L. Sargent, *Organometallics* **2008**, 27, 135-147. *Mechanism of Rhodium-Catalyzed Intramolecular Hydroacylation: A Computational Study*

Presentations

Tian Li, Cyrus Mowdawalla, I. F. Dempsey Hyatt, 252nd American Chemical Society National Meeting, **2016**, *Reactions of Hypervalent Iodonium Alkynyl Triflate and Trimethylenemethane: Generation of Substituted Diquinanes*, Philadelphia, PA. (Poster)

Navindra David, I. F. Dempsey Hyatt, 252nd American Chemical Society National Meeting, **2016**, *Synthesis of Asymmetrically Substituted Cycloheptatrienyliidene Fluorophores*, Philadelphia, PA. (Poster)

Kirandeep Kaur, Marly Medard, I. F. Dempsey Hyatt, Adelphi University Research Conference, **2016**, *Synthesis of Asymmetric Cycloheptatrienyliidene*, Garden City, NY.

Tian Li, I. F. Dempsey Hyatt, Adelphi University Research Conference, **2016**, *Reactions of Hypervalent Iodonium Alkynyl Triflate and Trimethylenemethane: Generation of Substituted Diquinanes*, Garden City, NY.

Navindra David, Noor Meer, I. F. Dempsey Hyatt, Adelphi University Research Conference, **2016**, *Synthesis of Light-Emitting Fluorophores*, Garden City, NY.

I. F. Dempsey Hyatt, Andrew L. Sargent, Andrew T. Morehead, Mitchell P. Croatt, 250th American Chemical Society National Meeting, **2015**, *Inter- and intramolecular Decarboxylation of Bis-allylic Esters Lacking Anion-Stabilizing Groups*, Boston, MA. (Talk)

I. F. Dempsey Hyatt, Andrew Sargent, Andrew Morehead, Mitchell P. Croatt, 44th National Organic Symposium, June 29th, **2015**, *Inter- and intramolecular Decarboxylation of Bis-allylic Esters Lacking Anion-Stabilizing Groups*, University of Maryland, College Park, MD. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 66th Southeast Regional Meeting of the American Chemical Society, **2014**, *The one-pot reaction of hypervalent iodonium alkynyl triflates, azide, and Cu(OAc)₂(dppe) to produce cyanocarbenes*, Nashville, TN. (Talk)

I. F. Dempsey Hyatt, East Carolina University Seminar Series, September 12th, **2014**, *Synthesis from a Diverse Perspective: From Lanthanides and Actinides to Hypervalent Iodine and Cyanocarbenes*, Greenville, NC. (Talk)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 248th American Chemical Society National Meeting, **2014**, *In-situ method for the generation and trapping of cyanocarbenes formed from alkynes and azides*, San Francisco, CA. (Talk)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 248th American Chemical Society National Meeting, **2014**, *In-situ method for the generation and trapping of cyanocarbenes formed from alkynes and azides*, San Francisco, CA. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 65th Southeast Regional Meeting of the American Chemical Society, **2013**, *One-pot Procedure for the Generation of Cyanocarbenes*, Atlanta, GA. (Talk)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 245th American Chemical Society National Meeting, **2013**, *Reactions of Cyanocarbenes via Hypervalent Iodonium Alkynyl Triflate Precursors*, New Orleans, LA. (Talk)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 64th Southeast Regional Meeting of the American Chemical Society, **2012**, *Reactions of Hypervalent Iodonium Alkynyl Triflates with Azides: Generation of Cyanocarbenes*, Raleigh, NC. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 243rd American Chemical Society National Meeting, **2012**, *Utilization of hypervalent iodonium alkynyl triflate for the generation of cyanocarbenes*, San Diego, CA. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, American Chemical Society Central North Carolina Section 12th Annual Poster and Vendor Night, **2012**, *Utilization of hypervalent iodonium alkynyl triflate for the generation of cyanocarbenes*, Syngenta, Greensboro, NC. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 4th Bi-Annual Chemical Science Symposium, **2011**, *Utilization of Hypervalent Iodonium Alkynyl Triflates for the Generation of Cyanocarbenes*, North Carolina A&T State University, NC. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, 63rd Southeast Regional Meeting of the American Chemical Society, **2011**, *Utilization of Hypervalent Iodonium Alkynyl Triflate for the Generation of Cyanocarbenes*, Richmond, VA. (Poster)

I. F. Dempsey Hyatt, Mitchell P. Croatt, North Carolina American Chemical Society 125th Sectional Conference, **2011**, *Utilization of Hypervalent Iodonium Alkynyl Triflates for the Generation of Cyanocarbenes*, Raleigh, NC. (Poster)

I. F. Dempsey Hyatt, Christopher A. Rienas, Michael J. Scott, 240th American Chemical Society National Meeting, **2010**, *Computational and synthetic development of ligands for the selective binding of lanthanides and actinides*, Boston, MA. (Poster)

I. F. Dempsey Hyatt, Andrew L. Sargent, Poster at the East Carolina University Undergraduate Symposium, **2005**, *Rhodium-Catalyzed Hydroacylation: A Computational Study*, Greenville, NC. (Poster)

I. F. Dempsey Hyatt, Andrew L. Sargent, 56th Southeast Regional Meeting of the American Chemical Society, **2004**, *Rhodium-Catalyzed Hydroacylation: A Computational Study*, Raleigh, NC. (Talk)

Grants

I. F. Dempsey Hyatt, Spring 2016, Metal Initiated Aggregation Induced Emission of Asymmetric Cycloheptatrienylidene Substituted Fluorophores, Adelphi Faculty Development Grant

I. F. Dempsey Hyatt, Spring 2016, Vinylidene Carbene Initiated Trimethylenemethane Reactions, Bettelheim Award

Science Public Outreach

| | |
|-------------|--|
| Fall 2016 | Participated in the Chemistry Day at the NY Hall of Science |
| Spring 2016 | Science Fair Judge for the Long Island Science and Engineering Fair |
| Spring 2013 | Science Fair Judge at Greensboro Academy and Cornerstone Charter Academy |
| Fall 2012 | Chemical demonstrations for the nationally funded program Upward Bound |
| Fall 2012 | Chemical demonstrations at East Chapel Hill High School in Chapel Hill, NC |
| Fall 2012 | Appeared on the news, WGHP, to explain explosiveness of trinitrophenol |

Spring 2011 Chemical demonstrations at Eastern Randolph High School in Ramseur, NC
Spring 2009, 2010 Chemical demonstrations at Mebane Middle School in Alachua, FL

Awards

- Bettelheim Award, Adelphi University, 2016
 - Faculty Development Grant, Adelphi University, 2015
 - Selected to attend the **Postdoc to Faculty Workshop** paid for by the American Chemical Society, Fall Meeting 2014
 - **American Institute of Chemists Award for Postdoctoral Fellow**, UNCG, 2013
 - **American Chemical Society Division of Inorganic Chemistry Travel Grant**, University of Florida, 2010
 - **Grinter Fellowship**, University of Florida, 2005-2008.
-

Academic and Professional Societies

2002-Present Member of the American Chemical Society

Service

2016-Present Organizer for the Dakin and March Lectureships
2016-Present Advisor of Chemistry Club

Teaching

Fall 2016 Adelphi University
0106-251-003 Organic Chemistry I
0106-411-001 Inorganic Chemistry
0106-497-001 Special Topics: Advanced Organic Applied to Drug Design

Spring 2016 Adelphi University
0106-252-002 Organic Chemistry II
0106-254-011 Organic Chemistry II Lab
0106-294,394,494-001 Research Seminars in Chemistry
0106-499-005 Undergraduate Research in Chemistry I

Fall 2015 Adelphi University
0106-251-003 Organic Chemistry I
0106-411-001 Inorganic Chemistry

Research Interests

My projects follow a common theme of using hypervalent iodine in research fields that include the synthesis of biologically active molecules, fundamental physical organic chemistry, carbon-carbon coupling methods, and development of fluorescent sensing materials. Project 1 is a methodology endeavor that demonstrates how hypervalent iodine can be used to create new disconnection approaches in synthesis from a trimethylenemethane intermediate. Project 2 involves the novel synthesis of compounds that can be used to study aggregation-induced emission. Hypervalent iodonium alkynyl

triflates can be used to quickly synthesize various asymmetric fluorophores. Once the fluorophores are synthesized, experiments can be performed to cause the molecules to form aggregates thus “turning-on” fluorescence. Electronic structure calculations and luminescence measurements can then be performed on the materials to assess their potential for various biological and nanotechnology applications. Project 3 involves using creating sp^3 carbon to sp^3 carbon bonds from a completely novel approach that avoids β -hydride elimination.
