Blaise J. Thompson

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EDUCATION

University of Wisconsin-Madison 2011 - Present
PhD, Analytical Chemistry Madison WI

- Researcher in John C. Wright group.
- Focus on ultrafast materials spectroscopy.
- Relevant coursework: Instrumental Analysis, Quantum Chemistry, Experimental Spectroscopy, Applied Optics, Electrochemistry, Instrumental Design and Control.

Bates College 2007 - 2011
BS, Chemistry; Minor, Philosophy Lewiston ME

- Senior thesis completed in lab of Matthew J. Cote: *Investigations of Plasmon Polaritions with Total Internal Reflection & Atomic Force Microscopy*.
- Concentration in Applying Mathematical Methods.
- Relevant coursework: Advanced Inorganic Chemistry, Quantum Chemistry, Macromolecules, Materials Chemistry, Separation Science, Organic Chemistry I and II, Descriptive Inorganic Chemistry, Statistical Thermodynamics, Classical Physics, Modern Physics, Electricity Magnetism & Waves, Synthesis and Reactivity, Biological Chemistry I and II.

City High School 2002 - 2007
High School Diploma Iowa City IA

- Including two courses at University of Iowa.

RESEARCH EXPERIENCE

John C. Wright Group - ultrafast materials spectroscopy 2011 - Present
Graduate Assistant Madison WI

- Designed and constructed software tools to collect and process multidimensional spectra.
- Developed novel tools to streamline OPA tuning procedures.
- Worked in collaboration with Physical and Materials chemists to address challenges in solar energy generation.

Matthew J. Cote Group - microscopy and plasmonics 2009 - 2011
Undergraduate Researcher Lewiston ME

- Contiguous work for two academic years and intervening summer.
- Designed and constructed a combined total internal reflection / atomic force microscope.
- Worked independently and in groups leading other students.
- Coordinated work with my advisor and other staff and faculty.
- Wrote a comprehensive thesis on my work.
- Won a competitive Bates research grant.

Michael Dailey Group - neuroscience 2008
Undergraduate Researcher Iowa City IA

- Dissected and prepared mouse brain samples for in-vivo microglial imaging studies.
- Trained to utilize confocal microscopy setup.

Peter L. Nagy Group - epigenetics 2007
High School Researcher Iowa City IA

- Designed and created plasmid, teaching myself from reference materials.
- Inserted plasmid into yeast.

PUBLICATIONS

1. Czech, K. J.; **Thompson, B. J.**; Kain, S.; Ding, Q.; Shearer, M. J.; Hamers, R. J.; Jin, S.; Wright, J. C. Measurement of Ultrafast Excitonic Dynamics of Few-Layer MoS2 Using State-Selective Coherent Multidimensional Spectroscopy. *ACS Nano*, **2015,** *9 (12)*, 12146–12157
2. Fu, Y.; Meng, F.; Rowley, M. B.; **Thompson, B. J.**; Shearer, M. J.; Ma, D.; Hamers, R. J.; Wright, J. C.; Jin, S. Solution Growth of Single Crystal Methylammonium Lead Halide Perovskite Nanostructures for Optoelectronic and Photovoltaic Applications. *J. Am. Chem. Soc.* **2015,** *137,* 5810–5818
3. Cabán-Acevedo, M.; Kaiser, N. S.; English, C, R.; Liang, D.; **Thompson, B. J.**; Chen, H.-E.; Czech, K. C.; Wright, J. C.; Hamers, R. J.; Jin, S. Ionization of High-Density Deep Donor Defect States Explains the Low Photovoltage of Iron Pyrite Single Crystals. *J. Am. Chem. Soc.* **2014,** *136,* 17163–17179

PRESENTATIONS

1. Poster, Coherent Multidimensional Spectroscopy: 'A Robust, Fully Automated Algorithm to Collect High Quality OPA Tuning Curves' 2016. Groningen, the Netherlands
2. Poster, Midwest Universities Analytical Chemistry Conference: 'Utilizing Coherent Multidimensional Spectroscopy to Investigate Nanomaterials for Solar Energy Generation.' 2012. Madison, WI USA
3. Poster, Mount David Summit: 'Spectroscopic Investigation of Plasmonic Nanoparticles.' 2011. Bates College; Lewiston, ME USA

TEACHING EXPERIENCE

Chemical Instrumentation: Design & Control (Electronics) 2017
Teaching Assistant

- Led laboratory section of course.
- Assisted students during extended independent instrument design and construction.

Instrumental Analysis 2012, 2015
Teaching Assistant, 2 semesters

- Led laboratory section of course.
- Prepared homeworks and led homework review sessions.
- Lectured in professors absence.
- Received competitive departmental Teaching Assistant award.

Undergraduate Mentorship 2012 - 2013

- Designed appropriate experiments that were complementary to my own research.

General Chemistry II 2011, 2012
Teaching Assistant, 2 semesters

- Coordinated two sections—total of ≈ 50 students in each semester.
- Led labs.
- Designed and led discussion sections.

General Chemistry 2010, 2011
Peer Science Leader, 2 semesters Bates College

- Designed and led class-wide review sessions for General Chemistry.
- Assisted in first trials of new peer leadership program at Bates College.
- Attended regular meetings to share teaching strategies with other peer leaders.

SKILLS & SPECIALTIES - INSTRUMENTATION AND SPECTROSCOPY

Analytical Techniques

- Spectroscopy: Raman / IR / UV-VIS / NMR
- Ultrafast Spectroscopy: Pump Probe / CMDS

SKILLS & SPECIALTIES - SCIENTIFIC SOFTWARE DEVELOPMENT

Computer Programs & Programming Languages

- Python (SciPy, PyQT4)
- LabView
- See my work on GitHub: github.com/untzag

AWARDS & HONORS

Roger Carlson Award 2017

- Awarded by the University of Wisconsin Chemistry department for excellence in research.

Taylor Teaching Award 2015

- Selected by University of Wisconsin Chemistry students and Faculty as one of the most outstanding Teaching Assistants of the 2015-2016 School Year.

Rodney F. Johonnot Graduate Award 2011

- Selected by Bates Faculty as most deserving of aid in furthering his or her studies in professional or postgraduate work.

Bates College Key 2011

- Awarded by Bates Faculty and staff to 20 students in each graduating class based on academic standing, character, campus and community service, leadership, and future promise.

SERVICE ACTIVITES & COMMUNITY INVOLVMENT

Volunteer—PEOPLE 2017

- PEOPLE: Pre-college Enrichment Opportunity Program for Learning Excellence
- Taught disadvantaged high school students about electronics, science and what it is like to be an analytical chemist

Scientific Judge—Wisconsin Middle School Science Bowl 2017

- Judged middle school students in statewide science-knowledge competition.
- Winning team proceeded to national competition.

McElvain Committee Member 2013 - 2014

- Graduate student committee to choose seminar speakers.

Freewill Folk Society 2008 - 2011
Bates College Lewiston ME

- President of student club.
- Reorganized club structure, recruited other students to new club positions.
- Organized monthly folk dances, bringing in bands and callers.