Tia L. Walker PhD
Curriculum Vitae

Indiana University Northwest
Department of Chemistry
Gary, IN 46408
Email: tialwalk@iun.edu

EDUCATION

Doctorate of Philosophy in Chemistry – December 2012
The University of Akron,
Research Advisor: Michael J. Taschner, Ph.D.
Research – **Synthetic Organic Chemistry**:
The purpose of this research was to synthesize mixed thia-aza macrocyclic ligands and cryptands, as analogs to Blue Copper Protein and characterize by x-ray crystallography. Research includes metal coordination studies to determine the geometrical conformations.

Bachelor of Science in Biology, minor in Chemistry
Cleveland State University, December 2005

PROFESSIONAL WORK EXPERIENCE

Indiana University Northwest (Aug 2013-Present)
Assistant Professor of Chemistry
Teach courses in freshman, Organic, and Biochemistry; supervise research projects for undergraduate research students, Biochemistry laboratory development, and advisor for pre-health professionals in chemistry

Indiana University Bloomington (Dec 2013-Dec 2014**)**
Visiting Scholar

The University of Akron (Jan 2013-May 2013)
Visiting College Lecturer
Instructed General, Organic and Biochemistry, Qualitative analysis laboratories, and Organic discussion/laboratory. Primary duties included teaching and providing service to students and the department.

Frantz BioMarkers (Feb 2006-July 2007)
Laboratory R&D Technician.
Researched novel indicators of disease states in biological fluid by ELISA. Co developed a diagnostic test to differentiate disease states in AMD and controls. Responsibilities include: Identification of proteins by MALDI-TOFF, Biomarker validation and commercialization, bio analysis of plasma, regulatory and compliance issues, due diligence and intellectual property, laboratory maintainer for ordering, filing and

monitoring laboratory equipment and supervision and training of temporary lab technicians.

TEACHING EXPERIENCE

Instructor, Biological Chemistry Lecture/Discussion (C483)
Indiana University Northwest, Department of Chemistry, 2014-
Introduction to structure, chemical properties, and interrelationships of biological substances.

Instructor, Chemistry for Life (C110)
Indiana University Northwest, Department of Chemistry, 2014-
Intended for nonscience majors, the qualitative survey of chemistry with applications to biology and health. Emphasis is placed on foundation chemistry and the chemistry of biomolecules and their interactions

Instructor, Organic Chemistry I/II Lecture/Discussion (C341/342)
Indiana University Northwest, Department of Chemistry, 2013-
Chemistry of carbon compounds. Nomenclature; qualitative theory of valence; structure and reactions. Syntheses and reactions of major classes of monofunctional compounds.

Instructor, Organic Chemistry I Laboratory (C343)
Indiana University Northwest, Department of Chemistry, 2014-
Discussion of laboratory experiments including explanation of reaction mechanisms and conditions and to develop techniques in organic chemistry and illustrate principles.

Instructor, **Organic Chemistry 1/II Laboratory/Discussion (265, 266-01/02)**
The University of Akron, Department of Chemistry,
August 2012 – July 2013
Discussion of laboratory experiments including explanation of reaction mechanisms and conditions and to develop techniques in organic chemistry and illustrate principles.
Hands on interaction with each student throughout the entire course.

- Developed course materials: syllabus, lecture notes, quizzes, and exams
- Provided office hours to work with students
- Evaluated student performances
- Instructed in a hands on approach to a class
- Ensured safety requirements were followed

I**nstructor**, **General, Organic and Biochemistry (110)**
The University of Akron, Department of Chemistry,
January 2013 – May 2013
Introduction to principles of chemistry, fundamentals of inorganic, organic and biochemistry. Structure and chemistry of carbohydrates, lipids, proteins; biochemistry of enzymes, metabolism, radiation.

- Developed course materials: syllabus, lecture presentations, exams
- Provided office hours to work with students

Instructor, **Qualitative Analysis Laboratory (154)**
The University of Akron, Department of Chemistry,
January 2013 – May 2013
Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.

- Responsible for 256 students
- Provided office hours to work with students
- Evaluated student performances

Teaching Assistant, Organic Chemistry Laboratory (Chem. 266)
The University of Akron, Department of Chemistry, August 2007 – August 2011

- Taught fundamental lab skills
- Evaluated student performances
- Provided lab quizzes

Teaching Assistant, Qualitative Analysis (Chem. 154)
The University of Akron, Department of Chemistry, January 2008 – May 2008

- Taught fundamental lab skills
- Prepared the lab materials
- Provided pre-lab lectures and lab exams
- Evaluated student performances

Tutor
The University of Akron, Department of Chemistry, August 2007 – August 2012

- Tutored students independently and in groups up to 10 students in organic chemistry
- Developed worksheets, homework and practice tests
- Available to answer questions outside of tutoring hours

Mentoring
Instructed undergraduate honors students on synthetic projects designed to increase their technical skills in the lab as well as develop a solid foundation in writing up projects. Students were present in the lab for up to 2 years working on reaction set-ups techniques, thorough characterization of all compounds synthesized and finally writing up scientific papers for their graduation.

Undergraduate science students at Indiana University Northwest:
Spring 2014
[redacted] Synthesis of nitrogen containing cryptands.
[redacted]: Synthesis of sulfur containing cryptands
[redacted]: Synthesis of 9-membered sulfur/nitrogen containing rings

Undergraduate honors students at the University of Akron:

[redacted]: Drug representative, and currently applying to graduate schools in Biochemistry 2010-2012

[redacted]: currently pursuing his PhD in pharmacology and toxicology at The University of Arizona 2010
[redacted]: currently pursuing his MD at The Ohio State College of Medicine 2010

INTERNSHIPS

The Sherwin-Williams Company Breen Technology Center (Aug 2005 -Dec 2005)
Learned about the chemistry behind paint and how to work in an industrial setting. Provided support to the technical organization in physical characterization and competitive analysis through routine experiments, recording results, and demonstrating basic knowledge of raw materials and using basic equipment/computing tools to capture and record data. Performed thermal analysis (MFFT), mechanical analysis, rheology, particle sizing (Malvern mastersizer 2000), water permeability, oil absorption. Worked with ITM and ASTM methods to perform experiments to analyze specific qualities in competitors paint.

Curragh Chemistries: Bio Enterprise, Inc (July 2004- January 2006)
Worked independently with James Philips Ph.D. synthesizing pharmaceutical compounds for drug research and development. Co-designed and synthesized peptides that are involved in blood clotting disorder against factor V. Synthesized and isolated four imidazoquinolines compounds that are thought to inhibit protein kinase dependent diseases. Utilized ^{1}H NMR spectrometer and SciFinder to perform searches on patents and chemical compounds. Setting up and performing chemical reactions and practiced proper safety procedures and lab equipment utilization

HONORS AND AWARDS

The Flexsys America L.P.Scholars in Chemistry 2007 – 2010
Russell A. Livigni Fellowship 2007-2009
Outstanding department of chemistry graduate teaching assistant award 2008
Outstanding department of chemistry graduate teaching assistant award 2011

CERTIFICATIONS

ISO 13485:2003 Internal Audit Training Certification (2006)

PROFESSIONAL ORGANIZATIONS

American Chemical Society – Aug 2010– Present
PPSC Chemistry Advisor- August 2013-present

CONFERENCE PRESENTATIONS

T. L. Walker, M.J. Taschner, W. Malasi, S. Bhide, T. Parker. "Synthesis and Characterization of 1,8-dithia-4,11-diazacyclotetradecane." ACS National Meeting, Boston, MA: August 22 – 25, 2010. (Poster - 188)

GRANTS

Summer Faculty Fellowship for Research, Indiana University Northwest
May 2014, awarded: $11,000

Grant-in-Aid of Research, Indiana University Northwest
Februrary 2014, awarded: $1,837.00

PUBLICATIONS

Tia L. Walker, Wilhelm Malasi, Swaranjali Bhide, Thomas Parker, Dan Zhang, Abegel Freedman, Jody M. Modarelli, James T. Engle, Christopher J. Ziegler, Paul Custer, Wiley J. Youngs, Michael J. Taschner*, *Synthesis and characterization of 1,8-dithia-4,11-diazacyclotetradecane* Tetrahedron Letters, Volume 53, Issue 48, 28 November 2012, Pages 6548-6551, ISSN 0040-4039, 10.1016/j.tetlet.2012.09.088.

Tia L. Walker, Wilhelm Malasi, Sam Mula, Art Van der Est., James T. Engle, C. Ziegler and M. J. Taschner* *Synthesis and characterization of 1,8-dithia-4,11-diazacyclotetradecane copper (I) and copper (II) complexes,* Journal of Inorganic Chemistry (Submitted Nov 2013)