Jessica M. Fautch

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EDUCATION

Purdue University — West Lafayette, IN
Graduate Assistant — *2002-2008*
PhD in Chemistry, Granted December, 2008
Thesis title "Oxovandium Compounds and Reactions With Alkylating Agent Toxins"

Viterbo University — La Crosse, WI
BS in Chemistry, ACS certified, *Magna cum laude* — *1998-2002*

RESEARCH EXPERIENCE

University of Wisconsin — Madison, WI
Laboratory of Michael N. Gould — *2009-*
Combine global genetic information (breast cancer GWAS) with environmental exposure and phenotypic data from reduction mammoplasty HMEC to form a network model to begin to describe the etiology of breast cancer.

Purdue University — West Lafayette, IN
Laboratory of Jonathan J. Wilker — *2002-2008*
Synthesized and characterized vanadium-oxo ligand compounds. Reacted compounds with alkylating toxins, studied kinetics, and characterized reaction products. Utilized DNA gels for damage assessment after reacting vanadium compounds with alkylating agents and DNA.

University of Wisconsin — Madison, WI
Laboratories of Professors Arthur Ellis and Wendy Crone — *Summer 2001*
Investigated the effects of added stress and strain to shape-memory alloys of NiTi. Analyzed a variety of synthetic approaches to form nano-scale NiTi shape memory alloys and determined reaction products using X-ray diffraction.

HONORS AND AFFILIATIONS

Genomic Sciences Training Program Postdoctoral Traineeship *2009*
Purdue Graduate Student Government (PGSG) Travel Award, Gordon Conference
Purdue University *2008*
Elected Secretary of Iota Sigma Pi, National Honor Society for Women Chemists
Purdue University *2007*
American Chemical Society (ACS) Travel Grant, Inorganic Division, ACS National Meeting, Chicago, IL
Purdue University *2007*
Elected Outreach Coordinator of Iota Sigma Pi
Purdue University *2006*
-- Organized National Chemistry Week 2006 and planned experiments
-- Obtained grant from ISP National council for an outreach project with local Girl Scouts
American Chemical Society, member *2005-Present*
Elected Chair of the Purdue University Chemistry Department Graduate Student Advisory Board
Purdue University *2005*

-- Initiated a career workshop at Purdue with great interest from the graduate students
-- Planned and executed social activities within the department
-- Resolved a variety of graduate student issues

Iota Sigma Pi, elected to the National Honor Society for Women in Chemistry
Purdue University *2004*

Graduate Student Advisory Board, Purdue University Chemistry Department, elected Inorganic Representative
Purdue University *2004*

Elected Vice President of Phi Lambda Upsilon, Honorary Chemistry Fraternity
Purdue University *2004*
-- Recruited seminar speaker with PLU affiliation and organized visit
-- Executed the bi-annual fund raiser for PLU

Elected Councilor of Phi Lambda Upsilon, Honorary Chemistry Fraternity
Purdue University *2003*

Award for Outstanding Senior Chemistry Major of the Year
Viterbo University *2002*

PUBLICATIONS

"Chemical and Biochemical Insights on Preventing Cancer with Vanadium and Selenium". Elizabeth E. Hamilton, Jessica M. Fautch, Sarah M. Gentry, and Jonathan J. Wilker. In *Vanadium: The Versatile* Metal; Kenneth Kustin, Joao Costa-Pessoa and Debbie C. Crans, Eds.; ACS Symposium Series 974; American Chemical Society: Washington, DC, 2007; pp 296-312. Review Article.

"Oxidovanadium Complexes for the Consumption of Alkylating Toxins". Jessica M. Fautch, Phillip E. Fanwick, and Jonathan J. Wilker. *Eur. J. Inorg. Chem.* **2009**, 33–37.

ORAL PRESENTATIONS

"Reactions of Vanadium Compounds with Alkylating Toxins and the Implications for Cancer Prevention"
Jessica M. Fautch and Jonathan J. Wilker
Invited Seminar, University of Wisconsin, Madison, WI, June 2008.

"Reactions of Vanadium Compounds with Alkylating Toxins and the Implications for Cancer Prevention"
Jessica M. Fautch, Elizabeth E. Hamilton, and Jonathan J. Wilker
Inorganic Departmental Seminar, Purdue University, West Lafayette, IN, April 2008.

"Metal-Oxo Compounds React With Alkylating Agents: Toxin Interception and Implications for Cancer Prevention"
Jessica M. Fautch, Sarah M. Gentry, Elizabeth E. Hamilton, and Jonathan J. Wilker
Gordon Graduate Research Seminar in Bioinorganic Chemistry, Ventura, CA, January 2008.

POSTER PRESENTATIONS

"Metal-Oxo Compounds with Alkylating Agents: Carcinogen Interception and Implications for Cancer Prevention"
Jessica M. Fautch, Sarah M. Gentry, Elizabeth E. Hamilton, and Jonathan J. Wilker
Cancer Prevention and Control Spring Retreat, Purdue University, West Lafayette, IN, April 2008.

"Reactions of Metal Oxo Compounds with Alkylating Agents: Carcinogen Interception and Implications for Cancer Prevention"
Jessica M. Fautch, Sarah M. Gentry, Elizabeth E. Hamilton, and Jonathan J. Wilker

The 233rd American Chemical Society (ACS) National Meeting, Chicago, IL, March 2007.

"Toxin Interception with Selenium and Vanadium: A possible Mechanism of Cancer Prevention"
Jessica M. Fautch, Sarah M. Gentry, Elizabeth E. Hamilton, and Jonathan J. Wilker
Progress and Problems in Cancer Prevention and Control Symposium, West Lafayette, IN, January 2006.

"Metal Oxo Reactions with Alkylating Agents: Implications for Cancer Prevention"
Jessica M. Fautch, Elizabeth E. Hamilton, Sarah M. Gentry, and Jonathan J. Wilker
PINDU: Purdue, Indiana, and Notre Dame Universities: An Indiana Inorganic Conference, Bloomington, IN, December 2005.

"Metal Oxo Reactions with Alkylating Agents: Implications for Cancer Prevention"
Jessica M. Fautch, Elizabeth E. Hamilton, Sarah M. Gentry, and Jonathan J. Wilker

12th International Conference on Biological Inorganic Chemistry (ICBIC), Ann Arbor, MI, August 2005.
"Carcinogen Interception: Detoxification and Cancer Prevention from Inorganic Compounds in the Diet"
Elizabeth E. Hamilton, Jessica M. Fautch, and Jonathan J. Wilker
PINDU: Purdue, Indiana, and Notre Dame Universities: An Indiana Inorganic Conference, South Bend, IN, November 2004.

TEACHING EXPERIENCE

Bioinorganic Chemistry (CHM 648)
Teaching Assistant — *Fall 2007*
Prepared most exam and homework questions

General Chemistry II for engineers (CHM 116), with additional research project
Teaching Assistant — *Spring 2007*

General Chemistry for engineers (CHM 115)
Assistant Course Supervisor — *Fall 2006, 2008*

Advanced Inorganic Chemistry (CHM 342)
Teaching Assistant — *Spring 2006, 2005, 2004*
Gave several lectures over 3 semesters

Honors General Chemistry for engineers, two semesters in one (CHM 136)
Teaching Assistant — *Fall 2005*
Gave 2 lectures

Honors General Chemistry for engineers (CHM 123)
Teaching Assistant — *Fall 2004*

General Chemistry for non-physical science majors (CHM 111)
Teaching Assistant — *Fall 2003*

General Chemistry for engineers (CHM 115)
Teaching Assistant — *Fall 2002*