Bloomsburg University of Pennsylvania

Department of Chemistry and Biochemistry

Annual Report 2018

Bloomsburg University of Pennsylvania

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Department of Chemistry and Biochemistry

Chairperson's Remarks

Greg H. Zimmerman

Another year has gone by, and we continue to march forward. While we face challenges, I am also optimistic about the future of our department. I believe you will agree as you read our Annual Report.

Department News

New Tenure-Track Faculty

The most significant happening was that we hired two new tenure-track faculty members. Dr. Erik Larsen (organic chemistry) came to us from Notre Dame University, having received his Ph. D. in 2017. His scholarly interests lie in the design and synthesis of small molecular probes for the investigation of mycobacterial hydrolases. Dr. Daniel McCurry (analytical chemistry) received his Ph. D. in 2016 from the University of Illinois at Urbana-Champaign in 2016. His research is focused on template-free electrochemical fabrication of nanomaterials for high-sensitivity analysis as well as the integration of spectroscopic and electrochemical techniques into affordable microfluidic diagnostic devices. It is a great pleasure to welcome them into the department.

SURe Program is Reinstated

After a hiatus of several years, the department was granted funding to continue offering summer research stipends for the summer of 2018. We adopted the name SURe which stands for **SU**mmer **Re**search Stipends, and if you notice, is made from the elements S, U and Re. The overall purpose of this program is to put students on a SURe path to success in their future after graduation. This program provides the opportunity to earn $5000 for 10 weeks of research. In the Summer of 2018, there were three winners: Eric Hilbert, Ali Martin and Jacob Morris.

Student Achievements

Papers published with student co-authors

It is difficult and takes a fairly long time to publish papers with student authors. The department is pleased to have two publications in this category. Student authors are in **bold**, with the faculty mentors underlined.

Borland, M.G., Kehres, E.M., Lee, C., **Wagner, A.L., Shannon, B.E.**, Albrecht, P.P. Zhu, B., Gonzalez, F.J., and Peters, J.M. Inhibition of tumorigenesis by a peroxisome proliferator-activated receptor (PPAR)-dependent cell cycle blocks in human skin carcinoma. *Toxicology*. (2018). 404-405: 25-32. PMICD: 29729928.

Poe, T. N.; White, F. D.; Proust, V.; Villa, E. M.; Polinski, M. J. "$[Ag_2M(Te_2O_5)_2]SO_4$ (M = Ce^{IV} or Th^{IV}): A New Purely Inorganic *d/f*-Heterometallic Cationic Material" *Inorg. Chem*. **2018**, 57, 4816-4819.

Students Receive ASBMB Certification (American Society for Biochemistry and Molecular Biology)

This year Kimberly Hollister and Alison Martin passed the ASBMB National Accreditation exam, enabling our department to exceed the nation average on this difficult exam. Nearly 1,000 students took this exam nationwide, and only 42 percent achieved certification. This is a difficult exam! Way to go Kim and Ali! Ali is pictured on the left, and Kim on the right.

https://bloomu.meritpages.com/achievements/Bloomsburg-University-Students-Earn-ASBMB-certification/98146

Students at the ACS National Meeting in New Orleans

The department continued its tradition of sending students to present their research to the ACS National meeting which was held in New Orleans on March 18 - 22, 2018. Those attending are shown below: (left to right) Dr. Kristen Lewis, Devin Mulvey, Todd Poe, Daniel Staros and Dr. Matthew Polinski. Of special note here is that Todd Poe gave an oral presentation in the Inorganic symposia which is generally given only wby graduate students, post-doctoral fellows and professors from research tier universities. Way to go Todd!

Students at the ACS National Meeting in Boston

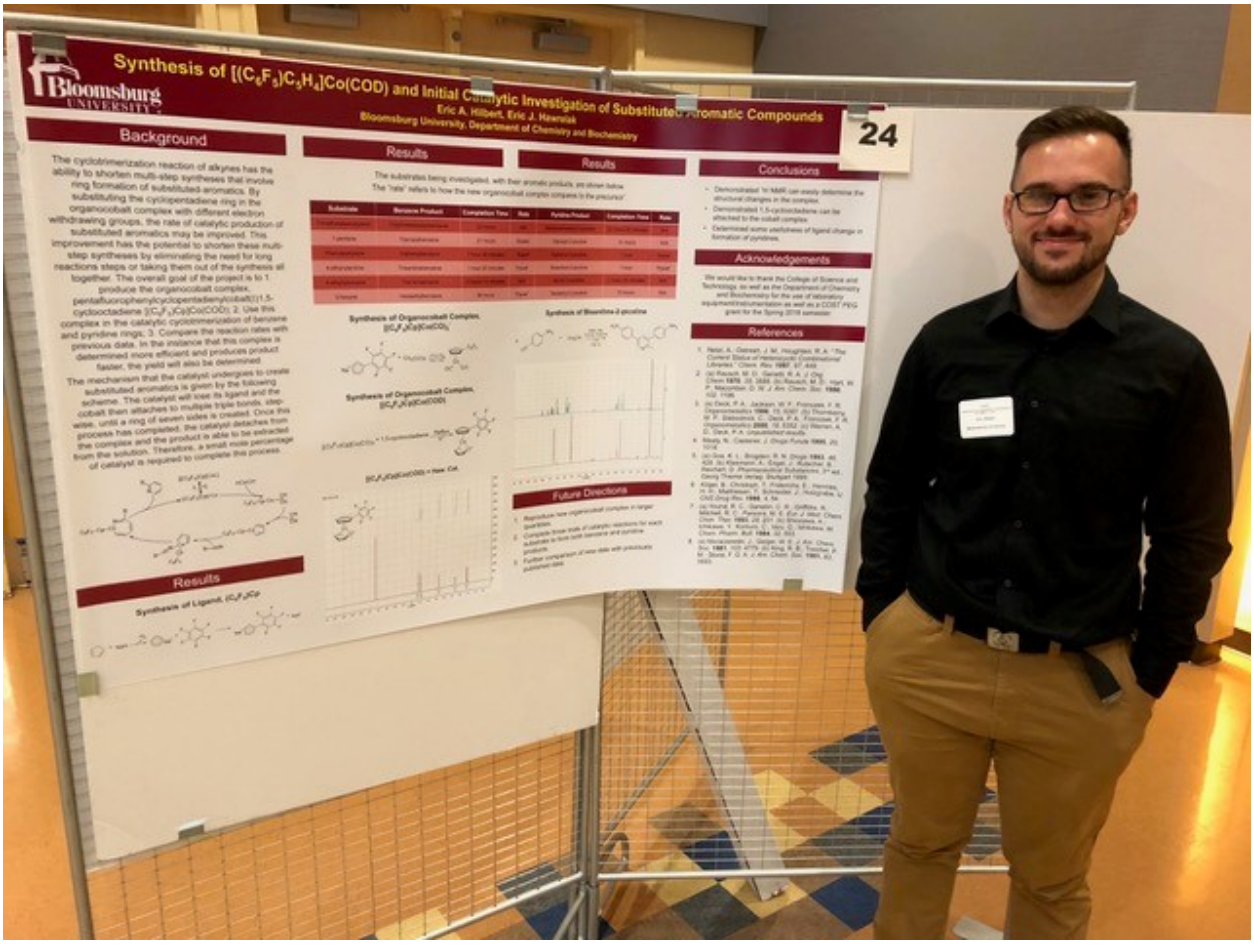
This year, Dr. Bell took students to present their research at the Fall National ACS Meeting in Boston held August 19 – 23, 2018. Picture below left to right are Dr. Toni Trumbo Bell, Alison Martin and Pinkay Oscar.

REU Summer Student Research

In the summer of 2018, Bloomsburg Chemistry and Biochemistry students snagged four REU's (Research Experiences for Undergraduates). The department has seen the competition for these grow in recent years, so the success of the four students was very fulfilling. Pictured from left: Daniel Staros (Oakridge National Lab), Lauren Barrett (Texas A&M), Elizabeth Grego (Iowa State) and Kimberly Hollister (University of Tennessee Knoxville)

PASSHE Undergraduate Research Conference in STEM at Millersville University

For the first time, Bloomsburg Chemistry and Biochemistry majors gave oral and poster presentations at the PASSHE Undergraduate Research Conference, held at Millersville University. Presenting at this conference were Lauren Barrett, Eric Hilbert, Dan Staros and EGGS major Connor Gray (Chemistry minor). Pictured below is Eric Hilbert, who did research with Dr. Hawrelak.



Pathways in Science and Technology

The department hosted a panel discussion during the October 5 Pathways in Science and Technology. The panelists were Kelly Barko ‘16, a chemistry graduate who is currently working in a neuroscience lab at the University of Pittsburgh; Kristi Brittain ’17, a chemistry graduate who is currently working as a Junior Development Chemist at Polymeric Systems Inc.; Dr. Mark Tapsak, a chemistry faculty member; Elizabeth Grego ’19, current chemistry student; Daniel Staros ’20, current chemistry student.

Graduates

Graduates May 2018

- Todd Poe – B.S. Chemistry – He is working on his Ph.D. at Florida State.
- Rachael Dendler – B.A. Chemistry – She is currently working at a quality control job in Hazleton with American Nutrition.
- Vincent Yaeger – B.S. Biochemistry
- Devin Mulvey – B.S. Chemistry – He is working on his Ph.D. at the University of Pittsburgh.
- Francis Dello Buono – B.S. Biochemistry – He is currently working at McCreath Labs.

Graduates December 2018

- Tonianne Bouselli – B.A. Chemistry
- Kimberly Hollister – B.S. Biochemistry – She is currently working as an undergraduate research student at Bloomsburg University. Kim will start graduate school in the fall.
- Alison Martin – B.S. Biochemistry – She is currently working in research and development with Azek Building Products, Scranton, PA.

Honors and Awards

- **Lauren Barrett** (Class of 2019)
  Phi Lambda Upsilon National Chemistry Honor Society inductee 2018
  American Institute of Chemists Foundation, Outstanding Senior Award 2018
  David Murphy Memorial Scholarship 2018

- **Todd Poe** (Class of 2018)
  Phi Lambda Upsilon National Chemistry Honor Society inductee 2018
  ACS Outstanding Senior Award 2018
  ACS Undergraduate Award in Inorganic Chemistry 2018

- **Kim Hollister** (Class of 2018)
  Phi Lambda Upsilon National Chemistry Honor Society inductee 2018
  POLYED Undergraduate Award for Achievement in Organic Chemistry 2017

- **Daniel Staros** (Class of 2019)
  Junior Chemistry Achievement Award 2018

- **Jason Stone** (Class of 2021)
  Freshman Chemistry Award for 2017-2018

Teaching, Research and Service

Teaching, research and service is alive and well in the Department of Chemistry and Biochemistry. I am sure that you will see this as you peruse the rest of this report.

Toni Trumbo Bell, Ph.D.

Professor of Chemistry & Biochemistry

Scholarly Interests

Mild traumatic brain injury (concussion)-In a collaborative project with Dr. Joseph Hazzard of Exercise Science, we are working toward finding biomarkers for concussion in human body fluid samples. Timothy Shuey (class of 2016, now a medical student at Philadelphia College of Osteopathic Medicine) was the first students working on the project. Since then, Diane Cruz (class of 2016, now a Second Lieutenant in the United States Army) and Andrew Denisenko (class of 2017, now a medical student at Geisinger Commonwealth School of Medicine) have furthered the project. Cruz and Denisenko discovered a potential marker. Through meta-analysis, Alison Martin (alumna fall 2018) discovered that women soccer players have statistically significant higher levels of the marker in saliva than men soccer players. We are preparing a manuscript for publication in a neurology journal. Alison Martin and Christopher Holdren (graduate student in Exercise Science, class of 2019) investigated the differences in biomarker levels between women's soccer and men's soccer players. Levels of biomarker are being correlated with scores in a balance assessment. Holdren will write up the work as his master's thesis, as well as a manuscript for publication.

Zero calorie sweeteners-Zero calorie sweeteners (ZCS) are common dietary component for Americans who wish to restrict calorie and/or carbohydrate intake while still enjoying sweet foods and beverage. It is not known how carbohydrate-based ZCS, such as sucralose or extracts of the stevia plant, interact with digestive enzymes. The first enzyme we are targeting is amylase. Amylase is secreted by saliva glands into the mouth when foods containing starch are eaten. Amylase begins the breakdown of starch into glucose. Jessica Popolow (now in the M.S. program here at BU) and Pinkay Oscar (class of 2019) finished working out the method and began data collection for uninhibited amylase in fall 2017 and performed some initial investigation with sucralose as an affector molecule through spring 2018. Jasmine Bailey (class of 2019) and Danielle Bickelman (class of 2019) are continuing the project in 2019.

In a related project, Dr. Ellen Muehl, and I are collaborating in a study of the effect of sucralose on hydrolysis of sucrose by invertase. Dr. Muehl is adapting a method from literature.

Inhibitors of blood clot formation-Inappropriate formation of blood clots results in deep venous thrombosis, heart attack, and stroke. Many former researchers have helped me in my search for orally viable blood clot inhibitors. Most recently, Morgan Lewis (class of 2017) and Hovanes Gulasarian (class of 2017) have finished developing a method for rapid and inexpensive analysis of clot formation in the presence of an inhibitor.

Education
University of Louisville, Louisville, KY, Ph.D., 2002
University of Louisville, Louisville, KY, M.S., 2001
University of Louisville, Louisville, KY, B.A., 1996

2018 Presentations with Students

Enzyme kinetics of amylase in the presence of sucralose by the iodine-starch method
By Popolow, Jessica D.; **Oscar, Pinkay S.**; Trumbo Bell, Toni A.
From Abstracts of Papers, 256th ACS National Meeting & Exposition, Boston, MA, United States, August 19-23, 2018 (2018), CHED-195.

Comparison of balance error scoring system scores and salivary glial fibrillary acidic protein concentration in adult soccer players as markers for mTBI
By **Martin, Alison**; Holdren, Christopher; Trumbo Bell, Toni A.
From Abstracts of Papers, 256th ACS National Meeting & Exposition, Boston, MA, United States, August 19-23, 2018 (2018), CHED-196.

2018 Teaching
Spring: CHEM230 Fundamentals of Organic Chemistry lecture and lab
¼ Release time for recruitment of high school students and transfer students

Fall: CHEM341 Biochemistry 1 lecture and lab
CHEM100 Chemistry and the Citizen lecture

Selected 2018 Service Activities

fall 2004-present	Pre-Professional Advisory Committee
fall 2004-present	Coordinator-BU Science Iditarod
spring 2004-present	ACS High School Chemistry Exam Proctor
fall 2017-present	Transfers Strategic Enrollment Planning Work Group
Jan 2018-present	Elected representative on the Bloomsburg Town Council

Michael Gregory Borland, Ph.D.

Associate Professor of Chemistry & Biochemistry

Scholarly Interests
Skin cancer preventatives and chemotherapeutics, molecular toxicology of nuclear hormone receptors, chromatin and DNA modifications in transcriptional regulation, in vitro models of molecular toxicology and carcinogenesis, development of novel undergraduate laboratory experiences, introduction of educational technologies to chemistry/biochemistry courses.

Education
Penn State University, University Park, PA, Ph.D., Biochemistry, Microbiology & Molecular Biology, 2010
National Science Foundation Graduate Research Fellow (2006 – 2009)

Penn State University, University Park, B.S., Biochemistry & Molecular Biology, 2005
Cum Laude & Schreyer Honors Scholar

2016 – 2018 Awards
Distinguished Faculty Award (Scholarly Activity), BU College of Science & Technology (COST)

2016 – 2018 Publications (Undergraduates Underlined):
Borland, M.G., Kehres, E.M., Lee, C., Wagner, A.L., Shannon, B.E., Albrecht, P.P. Zhu, B., Gonzalez, F.J., and Peters, J.M. Inhibition of tumorigenesis by a peroxisome proliferator-activated receptor (PPAR)-dependent cell cycle blocks in human skin carcinoma. *Toxicology*. (2018). 404-405: 25-32. PMICD: 29729928.

Borland, M.G., Yao, P., Kehres, E.M., Lee, C., Pritzlaff, A.M., Ola, E., Wagner, A.L., Shannon, B.E., Albrecht, P.P, Zhu, B., Kang, B., Robertson, G.P., Gonzalez, F.G., and Peters, J.M. PPARβ/δ and PPARγ inhibit melanoma tumorigenicity by modulating inflammation and apoptosis. *Toxicological Sciences*. (2017). 159(2): 436-448. PMICD: 28962521.
This was an Editor's Highlight Article for the October 2017 Issue.

2016 – 2018 Presentations (Undergraduates Underlined):
King, M.E., La Valley, A.G., and **Borland, M.G.** Cognitive and Physiological Stress Outcomes of Partner Influence in Newly Dating Relationships: An Experimental Test. Paper submission to the 2018 National Communications Association (NCA) 104th Annual Convention.

Ralph, D., Zhu, B., **Borland, M.G.**, Patterson, A.D., Smith, P.B., Krausz, K.W., Foreman, J.E., Chiaro C.R., Idle, J.R., Gonzalez, F.J., Perdew, G.H., and Peters, J.M. Identification and functional characterization of natural PPARβ/δ ligands. Poster at the 2017 Penn State Cancer Institute Retreat (Hershey, PA). August 1, 2017.

Burke, M., Shannon, B.E., Peters, J.M., **Borland, M.G.**, and Kehres, E.M. PPARs modulate vitamin-D-dependent signaling and proliferation in human malignant melanoma. *The Toxicologist*. 156(1): Pg. 106, Abstract 1068. Poster at the 2017 SOT Conference (Baltimore).

Drumm, M.R., Wagner, A.L., Peters, J.M., Kehres, E. M., and **Borland, M.G.** PPARs modulate glucocorticoid-dependent signaling and proliferation in human malignant melanoma. *The Toxicologist*. 156(1): Pg. 107, Abstract 1079. Poster at the 2017 SOT Conference (Baltimore).

2016 – 2018 Mentored Student Presentations

Runkle, T.R., **Borland, M.G.**, and Kehres, E.M. "Comparative efficacy of a selenium-analog PPARβ/δ agonist in human malignant melanoma transcriptional regulation and tumorigenesis", Fall 2018 BU Chemistry Research Day, December 7, 2018. Research Talk.

Wagner, S.W. and **Borland, M.G.** PPARs Modulate Estrogen-dependent Signaling and Proliferation in Human Malignant Melanoma. Spring 2017 BU Chemistry Research Day. May 5, 2017. Research Talk.

Behrent, T.D. and **Borland, M.G.** Characterizing peroxisome proliferator-activated receptor (PPAR)-dependent epigenetic gene regulation mechanisms in human malignant melanoma. Spring 2017 BU Chemistry Research Day. May 5, 2017. Research Talk.

Wagner, S.W., Kehres, E.M., and **Borland, M.G.** PPARs Modulate Estrogen-dependent Signaling and Proliferation in Human Malignant Melanoma. Spring 2017 BU COST Research Day. April 7, 2017. Poster Presentation.NOTE: Shana Wagner was awarded Second Prize for Best Poster.

Behrent, T.D., Kehres, E.M., and **Borland, M.G.** Characterizing peroxisome proliferator-activated receptor (PPAR)-dependent epigenetic gene regulation mechanisms in human malignant melanoma. Spring 2017 BU COST Research Day. April 7, 2017. Poster Presentation.

Drumm, M.R., Wagner, A.L., Peters, J.M., Kehres, E. M., and **Borland, M.G.** PPARs modulate glucocorticoid-dependent signaling and proliferation in human malignant melanoma. *The Toxicologist*. 156(1): Pg. 107, Abstract 1079. Poster at the 2017 BU COST Research Day. Note: Mark Drumm was awarded Honorable Mention for Best Poster.

2016 – 2018 Faculty Research Funding

BU Margin of Excellence Grant, "Defining Epigenetic Modifications as PPARβ/δ-dependent Gene Regulatory Mechanisms in Human Skin. $9,800. Co-Investigator with Dr. Ellen Kehres

Society of Toxicology (SOT) Undergraduate Grant-in-Aid Program. $500

2016 – 2018 Faculty Mentored Student Funding

Taylor R. Runkle, Comparative efficacy of a selenium-analog PPARβ/δ agonist in human malignant melanoma transcriptional regulation and tumorigenesis. COST Professional Experience Grant (PEG), $6000.00 Co-mentored with Dr. Ellen Kehres

2018 Teaching

Spring 2018:

Chemistry 341 – Biochemistry 1 Lecture Course #: 1598, Lab Course #: 1599
Chemistry 442 – Biochemistry 2 Lecture Course #: 1604, Lab Course #: 1605

Fall 2018:

Chemistry 101 – Introductory Chemistry Course #: 1587
Chemistry 115 – Chemistry for the Sciences 1 Lecture Course #: 1594, Lab Course #: 1595
Chemistry 341 – Biochemistry 1 Lab Course #: 2359

2018 Service Activities

National:

Appointment, SOT Undergraduate Education Subcommittee (2018 – 2021)
Accreditation Exam Scorer, American Society for Biochemistry & Molecular Biology (ASBMB)
Editor & Reviewer, Journal of Toxicological Education

Bloomsburg University:

Member, Faculty Professional Development Committee (FPDC)
Member, Health Sciences Symposium Committee
Member, URSCA Awards Committee
Member, Pre-Professional Advisory Committee (PPAC)

Association of Pennsylvania State College & University Faculties (APSCUF)

Member & Chairperson, APSCUF Membership Committee
Appointee, University Faculty Search & Screen Policy Working Group
Member, APSCUF Mobilization Committee

College of Science & Technology (COST)

Research Coordinator, cDNA Resource Center
Chair, COST Recognition Committee

Chemistry & Biochemistry Department

Coordinator, ASBMB Accreditation Program (B.S. Chemistry – Biochemistry Option)
Chair, Department Search & Screen Committee
Chair, Department Tenure Committee
Member, Department Curriculum Committee
Library Liaison

2018 Professional Memberships

American Society for Biochemistry & Molecular Biology
Society of Toxicology
American Chemical Society
Association for Pennsylvania State College & University Faculties

Christopher P. Hallen, Ph.D.

Professor of Chemistry and Biochemistry

Education

University of New Hampshire, Durham, NH, Ph.D., Chemistry, 1986
Assumption College, Worcester, MA, A.B., Chemistry, 1980

2016-2018 Presentations

Eric Thompson*, Christopher P. Hallen, Cynthia Venn, "(Paper 29-6) Determination of Water Quality of Natural Water Sources in State Parks Around the Susquehanna River Valley", 50th North Central Section, Geological Society of American, Indianapolis, IN, April 18-19, 2016.

Laura M. Sitler*, Christopher P. Hallen, "Whose Electrolytes Were These: A Water Quality Survey of the Towanda Creek Watershed, Bradford County, PA", Susquehanna Valley Research Symposium, Danville, PA July 27, 2016.

Daniel J. Steinhauser*, Eric Franz*, Cynthia Venn, and Christopher P. Hallen, "(Paper 47-6) Are There Effects of Hydraulic Fracturing on Crystal Lake in Lycoming County, PA", Joint 52nd Northeast Annual Section/51st North-Central Annual Section, Geological Society of America, Pittsburgh, PA, March 19-21, 2017.

RJ Sullivan*, Lucas J. Wessner*, Cynthia Venn, Christopher P. Hallen, "(Paper 62-2) A Geochemical Analysis of Residential Water Wells in Columbia County, PA", Joint 52nd Northeast Annual Section/51st North-Central Annual Section, Geological Society of America, Pittsburgh, PA, March 19-21, 2017.

Matthew A. Brauckmann*, Dereck T. Ciecierski*, Cynthia Venn, Christopher P. Hallen, "(Paper 62-4 Geochemical Analysis of Fishing Creek in Columbia County, PA), Joint 52nd Northeast Annual Section/51st North-Central Annual Section, Geological Society of America, Pittsburgh, PA, March 19-21, 2017.

James M. Adams*, Nathan S. Shapiro*, Cynthia Venn, Christopher P. Hallen, "(Paper 62-17) An Ongoing Assessment of Scarlift 15 Abandoned Mine Drainage Remediation System, Ranshaw (Northumberland County) PA", Joint 52nd Northeast Annual Section/51st North-Central Annual Section, Geological Society of America, Pittsburgh, PA, March 19-21, 2017.

Mitchell R. Lenker*, David Hooker*, Cynthia Venn, Christopher P. Hallen, "(paper 62-8) Inorganic Geochemical Analysis of the Water Quality of Catfish Bog at Crystal Lake Camps, Lycoming County, PA", Joint 52nd Northeast Annual Section/51st North-Central Annual Section, Geological Society of America, Pittsburgh, PA, March 19-21, 2017.

Lauren J Barrett*, Christopher P. Hallen, "Assessment of Passive AMD Treatment Systems in Schuylkill County, Pennsylvania", 11th Susquehanna River Symposium, Bucknell University, Lewisburg, PA, November 11-12, 2017.

2016-8 Funding

Degenstein Foundation via Susquehanna River Heartland Coalition for Environmental Studies, co-PI, awarded April 2016, $25,000

Degenstein Foundation via Susquehanna River Heartland Coalition for Environmental Studies, co-PI, awarded April 2017, $25,000

2018 Teaching

Spring: Physiological Chemistry Laboratory, Course # 1556
Chemistry for the Sciences 1 Laboratory, Courses # 1563 and 1566
Chemistry for the Sciences 2 Laboratory, Courses # 1580 and 1581
Advanced Topics, Course # 1606
Independent Study Chemistry, Course # 3085
Summer: Chemistry for the Sciences 1 Laboratory, Courses # 1134 & 1135
Fall: Chemistry for the Sciences 1 Laboratory, Course 1591
Chemistry for the Sciences 2 Lecture Course # 1606, Laboratory #1607 and 1608
Aqueous Geochemistry Laboratory, Course # 2144

2018 Service Activities

APSCUF State Negotiations team
APSCUF State Mobilization Committee
Treasurer, APSCUF
APSCUF State Budget Committee
APSCUF State Investment Committee
APSCUF State CAP Committee
BU APSCUF Executive Committee
BU APSCUF CAP Committee - Chair
Delegate to APSCUF Legislative Assembly
COST PEG Reviewer

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Eric J. Hawrelak, Ph.D.

Associate Professor of Chemistry and Biochemistry

Education
Virginia Polytechnic Institute & State University, Blacksburg, VA, Ph.D., Chemistry, 2002
University of Kentucky, Lexington, KY, M.S., Chemistry, 1998
Hamilton College, Clinton, NY, B.A., Chemistry, 1995

2018 Presentations

Hilbert, E. and Hawrelak E.J. Comparative Investigation of Catalytic Cyclotrimerization Reaction: $[(C_6F_5)(C_5H_4)]CoCOD$ vs. $[(C_6F_5)(C_5H_4)]Co(CO)_2$ COST Chemistry Research Presentations, December 2018

Bickelman, D. and Hawrelak E.J. Synthesis of $[(C_6F_4CF_3)C_5H_4Co(CO)_2$ and initial catalytic investigation of substituted aromatic compounds, COST Chemistry Research Presentations, December 2018

Hilbert, E. and Hawrelak E.J. Synthesis of $[(C_6F_5)C_5H_4Co(COD)$ and initial catalytic investigation of substituted aromatic compounds, COST Chemistry Research Presentations, May 2018

2018 Teaching
Spring: Chemistry for the Sciences 1, Lecture course #: 1561 Lab course #: 1562 & 1568
Inorganic Chemistry, Lecture course #: 1594
Chemical Research 2, Course #: 3006
Independent Study, course #: 3168
Fall: Chemistry for the Sciences 1, Lecture course #: 2352
Advanced Inorganic, Lecture course #: 2362 Lab course #: 2363
Chemistry Seminar, Lecture course #: 2365
Chemical Research 1, course #: 2995
Advanced Chemical Research, course #: 2997

2018 Service Activities

APSCUF Vice President
APSCUF State Audit Committee
APSCUF State Budget Committee
Delegate to Legislative Assembly
Columbia Montour Boy Scout Chemistry Merit Badge Counselor
Chemistry Demonstration Show Memorial Elementary School, Bloomsburg
Chemistry Demonstration/Student Experiment Classroom Visit, Central Columbia Elementary, Bloomsburg
BU Chemistry Club Faculty Advisor
Chemistry & Biochemistry Evaluation Committee, Chairperson
Chemistry & Biochemistry Search and Screen Committee

Ellen M. Kehres, Ph.D.

Assistant Professor of Chemistry & Biochemistry

College Faculty Fellow - Communications

Scholarly Interests
Investigating the biochemical functions of the peroxisome proliferator-activated receptors (PPARs) in skin cancers by examining the possibility and mechanism in which PPAR expression and/or modulators (agonists/antagonists) can be can be combined with other known melanoma therapeutics as part of future chemotherapeutics.

Education
Penn State University, State College, PA, Ph.D., Chemistry, 2004
Mansfield University of Pennsylvania, Mansfield, PA, B.S., Chemistry, Minor in Mathematics 2000
Summa Cum Laude

Publications
Borland, M.G., Kehres, E.M., Lee, C., Wagner, A.L., Shannon, B.E., Albrecht, P.P., Zhu, B., Lahoti, T.S., Gonzalez, F.J., and Peters, J.M. Inhibition of tumorigenesis by peroxisome proliferator-activated receptor (PPAR)-dependent cell cycle blocks in human skin carcinoma cells. *Toxicology*. 2018. 404-405: 25-32.

Borland, M.G., Yao, L., Kehres, E.M., Lee, C., Pritzlaff, A.M., Ola, E., Wagner, A.L., B.E. Shannon, Albrecht, P.P., Zhu, B., Kang, B.,Robertson, G., Gonzalez, F.J., and Peters, J.M. PPARβ/δ and PPARγ Inhibit Melanoma Tumorigenicity by Modulating Inflammation and Apoptosis. *Toxicological Sciences.* 2017. 159(2): 436-448.
This was an Editor's Highlight Article.

M. Drumm, A.Wagner, J. Peters, E. Kehres, M. Borland. PPARs modulate glucocorticoid-dependent signaling and proliferation in human malignant melanoma. In: *The Toxicologist*: Supplement to *Toxicological Sciences*, 156 (1), Society of Toxicology, 2017. Abstract no. 1079.

M. Burke, B. Shannon, J. Peters, M. Borland, E. Kehres. PPARs modulate vitamin-D-dependent signaling and proliferation in human malignant melanoma. . In: *The Toxicologist:* Supplement to *Toxicological Sciences*, 156 (1), Society of Toxicology, 2017. Abstract no. 1068.

Presentations with Students
Wagner, S.W., Kehres, E.M., and Borland, M.G. PPARs Modulate Estrogen-dependent Signaling and Proliferation in Human Malignant Melanoma. Spring 2017 BU College of Science & Technology (COST) Research Day. April 7, 2017. Poster Presentation.
NOTE: Shana Wagner was awarded Second Prize for Best Poster.

Behrent, T.D., Kehres, E.M., and Borland, M.G. Characterizing peroxisome proliferator-activated receptor (PPAR)-dependent epigenetic gene regulation mechanisms in human malignant melanoma. Spring 2017 BU COST Research Day. April 7, 2017. Poster Presentation.

Drumm, M.R., Wagner, A.L., Peters, J.M., Kehres, E. M., and Borland, M.G. PPARs modulate glucocorticoid-dependent signaling and proliferation in human malignant melanoma. *The Toxicologist*. 156(1): Pg. 107, Abstract 1079. Poster at the 2017 Society of Toxicology (SOT) Conference (Baltimore) and the 2017 BU COST Research Day.
Note: Mark Drumm was awarded Honorable Mention for Best Poster at BU COST Research Day.

Burke, M.E., Shannon, B.E., Peters, J.M., Borland, M.G., and Kehres, E.M. PPARs modulate vitamin-D-dependent signaling and proliferation in human malignant melanoma. *The Toxicologist*. 156(1): Pg. 106, Abstract 1068. Poster at the 2017 SOT Conference (Baltimore).

2018 Teaching
Spring: Chemistry 108 – Physiological Chemistry Lecture (2 sections)
Chemistry 115 – Chemistry for the Sciences I
Chemistry 341 – Biochemistry I Laboratory
Fall: Chemistry 115 – Chemistry for the Sciences I Lecture
Chemistry 115 – Chemistry for the Sciences I Laboratory (2 sections)
Chemistry 492 – Chemical Research I
Reassign time for College Faculty Fellow -Communications

2018 Service Activities
Research Coordinator, cDNA Resource Center
COST (College of Science and Technology) Communication Director
Search and Screen Committee – Department of Chemistry
Curriculum Committee – Department of Chemistry
Sabbatical Committee – Department of Chemistry
Space Renovation Committee – Department of Chemistry
Placement Exam Committee – Department of Chemistry
Physiological Chemistry (Chem 108) laboratory coordinator

2018 Professional Memberships
American Chemical Society
Association for Pennsylvania State College & University Faculties

Erik M. Larsen, Ph.D.

Assistant Professor of Chemistry and Biochemistry

Scholarly Interests
The design and synthesis of small molecular probes for the investigation of mycobacterial hydrolases.

Education
University of Notre Dame, Notre Dame, IN, Ph.D. Chemistry, 2017
Alma College, B.S. Chemistry, 2008

Publications (* = undergraduate author)
Larsen, E. M.; Johnson, R. J. "Microbial esterases and ester prodrugs: An unlikely marriage for combatting antibiotic resistance." *Drug Dev. Res.* **2018**, 1-15.

Larsen, E. M.; Chang, C.; Sakata-Kato, T.; Arico, J.; Lombardo, V.; Wirth, D.; Taylor, R. E. "Conformation-Guided Analogue Design Identifies Potential Antimalarial Compounds through Inhibition of Mitochondrial Respiration." *Org. Biomol. Chem*. **2018**, *16*, 5403-5406.

White, A*; Koelper, A.*; Russell, A.; **Larsen, E. M.**; Kim, C.; Lavis, L. D.; Hoops, G. C.; Johnson, R. J. "Fluorogenic structure activity library pinpoints molecular variations in substrate specificity of structurally homologous esterases." *J. Biol Chem.* **2018**.

Bassett, B.*; Waibel, B.*; White, A*; Hansen, H.*; Stephens, D. C.*; Koelper, A.*; **Larsen, E. M.**; Kim, C.; Glanzer, A.; Lavis, L. D.; Hoops, G. C.; Johnson, R. J. "Measuring the global substrate specificity of mycobacterial serine hydrolases using a library of fluorogenic ester substrates." *ACS Infect. Dis.* **2018**, *4*, 904-911.

Larsen, E. M.; Stephens, D. C.*; Clarke, N. H.*; Johnson, R. J. "Ester-prodrugs of ethambutol control its antibacterial activity and provide rapid screening for mycobacterial hydrolase activity." *Bioorg. Med. Chem. Lett.* **2017**, *27*, 4544-4547.

Dube, S.*; Dube, H.*; Green, N. B.*; **Larsen, E. M.**; White, A.*; Johnson, R. J.; Kowalski, J. R. "In Vivo Delivery and Activation of Masked Fluorogenic Hydrolase Substrates by Endogenous Hydrolases in *C. elegans*." *ChemBioChem*. **2017**, *18*, 1807-1813.

Presentations (* = undergraduate author)
Larsen, E.M.; Johnson, R. J. "Development of 4-hydroxy-N-propyl-1,8-napthalimide acyloxymethyl ethers for characterization of esterase activity" *255th ACS National Meeting & Exposition,* New Orleans, LA, March 20, 2018. (Poster)

Larsen, E.M.; Stephens, D.*; Johnson, R. J. "Development of Ester-Protected Ethambutol Derivatives for Characterization of Mycobacterial Hydrolase Activity" *ASBMB National Meeting*, Chicago, IL, April 23, 2017. (Poster)

2018 Funding
Faculty Research and Scholarship Mini-Grant: Synthesis and Design of Novel Enzyme Probes for Mycobacterial Hydrolases (PI, Funded for $3,500)

2018 Teaching
Fall: Chemistry 231 – Organic Chemistry 1 Lecture and Lab

2018 Service Activities
Department Seminar Committee

2018 Professional Memberships
American Chemical Society
Association for Pennsylvania State College & University Faculties

Daniel Arthur McCurry, Ph.D.

Assistant Professor of Chemistry and Biochemistry

Scholarly Interests
Template-free electrochemical fabrication of nanomaterials for high-sensitivity analysis. Integration of spectroscopic and electrochemical techniques into affordable microfluidic, point-of-care diagnostic devices.

Education
University of Illinois at Urbana-Champaign, Urbana, IL, Ph.D. Chemistry, 2016
State University of New York at Binghamton, Binghamton, NY, B.S. Chemistry, 2011

Publications
McCurry, D. A.; Bailey, R. C. Electrolyte Gradient-Based Modulation of Molecular Transport through Nanoporous Gold Membranes. *Langmuir* **2017**, 33, 1552-1562.

McCurry, D. A.; Bailey, R. C. Nanoporous Gold Membranes as Robust Constructs for Selectively Tunable Chemical Transport. *The Journal of Physical Chemistry C* **2016**, 120, 20929-20935.

Presentations
McCurry, D.A.; Lee, S.; Fahrenkrug, E.; Kolakowski, M.; Panda, D.; Maldonado, S. Full Fabrication of Pb-Perovskite Solar Cells in a General Chemistry Laboratory. Presented at the American Chemical Society National Meeting and Exposition, Boston, MA, August 21, 2018; Paper CHED 370.

McCurry, D.A.; Qian, T.; Bartlett, B.M.; Maldonado, S. Fabrication of Perovskite Solar Cells Under Ambient Conditions. Presented at the Electrochemical Society of Detroit Graduate Student/Post-Doctoral Poster Session, Ypsilanti, MI, May 18, 2017.

McCurry, D.A.; Orlet, J.D.; Bailey, R.C. Biomolecular Separations through Tunable Nanoporous Gold Membranes. Presented at The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, GA, March 9, 2016; Paper 1780-12.

2018 Funding
National Science Foundation Major Research Instrumentation: Acquisition of a Powder X-Ray Diffractometer for Research and Research Training at Bloomsburg University of Pennsylvania (Co-PI, Funded for $129,192), Award Number: 1828514)

Faculty Research and Scholarship Mini-Grant: Template-Free Nanofabrication of High Surface Area Electrodes (PI, Funded for $3,500)

2018 Teaching
Fall: Chemistry 115 – Chemistry for the Sciences 1 Lab
Chemistry 321 – Analytical Chemistry 1 Lecture and Lab

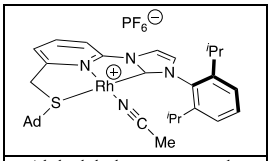
2018 Service Activities
Department Seminar Committee

2018 Professional Memberships
American Chemical Society
Association for Pennsylvania State College & University Faculties

Philip L. Osburn, Ph.D.

Associate Professor of Chemistry & Biochemistry

Scholarly Interests



A hybrid rhodium pincer complex that effectively catalyzes transfer hydrogenation.

A major focus of our research program is the development of new organometallic catalysts designed to exhibit a phenomenon called *metal-ligand cooperativity* (MLC). Specifically, my group has recently completed the synthesis of a new class of organic molecules, *pincer ligands*, which display unique MLC effects upon binding to several catalytically important transition metals: palladium (Pd), nickel (Ni), and rhodium (Rh, shown at left). These novel complexes are active catalysts in several key reactions used in fine chemical, pharmaceutical, and agrochemical production. Our current work in this area is directed at: (1) expanding the scope of catalytic applications using our complexes; (2) expanding the current ligand family by synthesizing derivatives with different metal-binding properties; and (3) investigation of the binding of the pincer ligands to other metals, specifically those metals which are cheaper and more readily available alternative catalysts (manganese, iron, and cobalt).

Recent student presentations:

Efforts Toward the Synthesis of New Pincer Catalysts for the ADC Reaction Elizabeth A. Grego, Kim K. Hollister; BU DCB Research Day, December **2018**

Relative Reactivity of a Series of SNC-Rh(I) and Ir(I) Pincer Complexes in Catalytic Transfer Hydrogenation and Arene Borylation Philip L. Osburn, Kelly N. Barko*; 253rd National Meeting of the American Chemical Society, San Francisco, CA, April **2017**

Rhodium(I) Complexes of a Pincer Ligand Bearing Thioether and N-Heterocyclic Carbene Donors: Catalytic Activity in Transfer Hydrogenation Philip L. Osburn, Teresa A. Grimes*; 249th National Meeting of the American Chemical Society, Denver, CO, March **2015**

Education

Alexander von Humboldt Postdoctoral Fellow, FAU Erlangen-Nürnberg, Erlangen, Germany (2001-2002)
NSF Graduate Research Fellow, Texas A&M University, College Station, TX (Ph.D., 2001)
University of Tennessee at Martin, Martin, TN (B.S., 1996)

2018 Teaching

Spring: Chemistry 232 – Organic Chemistry 2 Lecture & Lab Courses
Chemistry 281 – Intro to the Chemical Literature
Fall: Chemistry 230 – Fundamentals of Organic Chemistry Lecture & Lab Courses
Chemistry 493 – Chemical Research 2
Chemistry 494 – Advanced Chemical Research

2018 Service Activities

Responsible for review and revision of the Organic Chemistry lecture and laboratory curriculum
Department of Chemistry & Biochemistry Search and Screen Committee
COST PEG Committee
Grant reviewer for American Chemical Society Petroleum Research Fund (ACS-PRF)

Matthew J. Polinski, Ph.D.

Assistant Professor of Chemistry & Biochemistry

Scholarly Interests

My research is in the area of synthetic solid state inorganic chemistry, which bridges between physical, inorganic, engineering, and materials science. Our primary focus is to expand upon the fundamental chemistry of the *f*-elements (particularly the Lanthanides). We are interested in designing new synthetic techniques to produce functional materials for a wide array of uses as well as to produce complexes in which the metal is in an unusual oxidation state. We strive to produce these complexes so that they are both air and water stable as this adds to their potential usefulness as functional materials.

Education

University of Notre Dame, Notre Dame, IN, Ph.D., 2013
Washington and Jefferson College, Washington, PA, B.A., 2010

Publications

Dovgan, J. T.; **Polinski, M. J.**; Mercado, B. Q. M.; Villa, E. M. "pH Driven Hydrothermal Syntheses of Neodymium Sulfites and Mixed Sulfate-Sulfites." *Cryst. Growth Des.* **2018**, 18, 5332-5341.

Poe, T. N.; White, F. D.; Proust, V.; Villa, E. M.; **Polinski, M. J.** "$[Ag_2M(Te_2O_5)_2]SO_4$ ($M = Ce^{IV}$ or Th^{IV}): A New Purely Inorganic *d/f*-Heterometallic Cationic Material" *Inorg. Chem*. **2018**, 57, 4816-4819.

Parker, G. T.; Albrecht-Schmitt, T. E.; **Polinski, M. J**.; Wang, S.; Diwu, J. "Plutonium Halides" *The Plutonium Handbook*, 2nd Ed. **2018**, American Nuclear Society, Accepted.

Brown, C.; Lita, A.; Tao, Y.; Peek, N.; Crosswhite, M.; Mileham, M.; Krzystek, J.; Achey, R.; Fu, R.; Bindra, J.; **Polinski, M. J**.; Wang, Y.; van de Burgt, L.; Jeffcoat, D.; Profeta, S.; Stiegman, A.; Scott, S. "Mechanism of Initiation in the Phillips Ethylene Polymerization Catalyst: Ethylene Activation by Cr(II) and the Structure of the Resulting Active Site" *ACS Catal.*, **2017**, 7, 7442-7455.

Cary, S. K.; Galley, S. S.; Marsh, M. L.; Hobart, D. L.; Baumbach, R. E.; Cross, J. N.; Stritzinger, J. T.; **Polinski, M. J**.; Maron, L.; Albrecht-Schmitt, T. E. "Incipient Class II Mixed Valency in a Plutonium Solid-State Compound" *Nature Chem*, **2017**, 9, 856-861.

Silver, M. A.; Cary, S. K.; Johnson, J. A.; Baumbach, R. E.; Arico, A. A.; Luckey, M.; Urban, M.; Wang, J. C.; **Polinski, M. J.**; Chemey, A.; Liu, G.; Chen, K-W.; Van Cleve, S. M.; Marsh, M. L.; Eaton, T. M.; van de Burgt, L.; Grey, A. L.; Hobart, D. E.; Hanson, K.; Maron, L.; Gendron, F.; Autschbach, J.; Speldrich, M.; Kogerler, P.; Yang, P.; Braley, J.; Albrecht-Schmitt, T. E. "Characterization of Berkelium(III) Dipicolinate and Borate Compounds in Solution and the Solid State" *Science*. **2016**, 353, 888.

Presentations

Brenner, N.; **Polinski, M. J.** "Synthesis and Characterization of a New Family of Lanthanide Squarate

Complexes", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Fall 2018. (Student Presentation)

Dello Buono, F. A.; **Polinski, M. J.** "Synthetic Investigations of Metal Bromates and Low Valent Lanthanide-Based Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Spring 2018. (Student Presentation)

Poe, T. N.; **Polinski, M. J.** "Hydrothermal Synthesis of *d/f*-Heterobimetallic Cationic Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Spring 2018. (Student Presentation)

Poe, T. N.; **Polinski, M. J.** "New Family of d/f-Heterometallic Cationic Materials with Anion Exchange Capabilities" *255th ACS National Meeting & Exposition,* New Orleans, LA, March 20, 2018. (Poster)

Dello Buono, F. A.; **Polinski, M. J.** "Synthetic Investigations of Metal Bromate Complexes", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Fall 2017. (Student Presentation)

Poe, T. N.; **Polinski, M. J.** "Synthesis and Analysis of Ion Exchange Capabilities in *d/f*-Heterobimetallic Cationic Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Fall 2017. (Student Presentation)

Brittain, K. L.; **Polinski, M. J.** "Synthesis and Characterization of a Trivalent Eurpoium Squarate Complex *via* an *in situ* Hydrothermal Synthesis", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Spring 2017. (Student Presentation)

Kerstetter, L.; **Polinski, M. J.** "Synthetic Investigations of Low Valent Lanthanide and Transition Metal Based Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Fall 2016. (Student Presentation)

Poe, T. N.; **Polinski, M. J.** "Hydrothermal Synthesis of Lanthanide and Tellurite Based Cationic Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Fall 2016. (Student Presentation)

Brittain, K. L.; **Polinski, M. J.** "Synthesis and Characterization of Cationic Inorganic Materials", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Spring 2016. (Student Presentation)

Kolb, D. R.; **Polinski, M. J.** "Synthesis and Characterization of Nickel Containing Lanthanide Tellurites", College of Science and Technology Research Day, Bloomsburg University, Bloomsburg, PA, Spring 2016. (Student Presentation)

Polinski, M. J. "Synthesis and Characterization of Novel Trivalent *f*-Element Borates" Student Affiliation of the American Chemical Society 2nd Annual Winter Conference, Washington and Jefferson College, Washington, PA, February 7, 2016. (Invited Talk).

Funding

M. J. Polinski (PI), "Exploration of Low Valent Metals Synthesized Under Hydrothermal Conditions", Bloomsburg University of Pennsylvania Research and Scholarship Mini Grant, $4,000, 2/18 – 2/19

M. J. Polinski (PI), "Rational Design of Cationic Materials for Trapping of Anionic Pollutants", NSF RUI-DMR, $146,685, 6/18 – 6/21, Not Funded

M. J. Polinski (PI), "Synthetic Investigations of Low Valent Lanthanide-Based Materials Derived from *in situ* Hydrothermal Reduction", Bloomsburg University of Pennsylvania Research and Scholarship Grant, $15,000, 5/6/16

2018 Teaching

Spring: Chemistry 116 – Chemistry for the Sciences 2 Lecture and Lab
Chemistry 482 – Advanced Topics in Chemistry Lecture
Chemistry 493 – Chemical Research 2
Chemistry 494 – Advanced Chemical Research

Fall: Chemistry 115 – Chemistry for the Sciences I Lecture and Lab
Chemistry 492 – Chemical Research 1

2018 Service Activities

Faculty Professional Development Committee (Co-Chair)
Dept. of Chemistry Search and Screen Committee
General Chemistry Laboratory Coordinator
Dept. of Chemistry Curriculum Committee
Reviewer for Radiochimica Acta (Journal)
Reviewer for Inorganic Chemistry (Journal)
Reviewer for Crystal Growth and Design (Journal)
Grant Reviewer for National Science Foundation

Michael Eugene Pugh, Ph.D.

Professor of Chemistry and Biochemistry

Scholarly Interests
Population genetics studies of *Thunnus* sp. tuna mtDNA, microsatellite sequence determination of bay scallops, X-Ray fluorescence of gunshot residues

Education
Arizona State University, Tempe, AZ, Ph.D. Chemistry, 1983
University of California Davis, Davis, CA, B.S. Biochemistry, 1976

Bloomsburg University Scholarship/Research Activities

2018: Analysis of sabbatical results dealing with the introgression of albacore mtDNA into Pacific and Atlantic bluefin tuna species

2017: FY18 Bluefin Tuna Research Program, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce grant entitled: "Investigation of the Introgression of Albacore (*Thunnus alalunga*) and Pacific Bluefin Tuna (*Thunnus orientalis*) Mitochondrial DNA into Atlantic Bluefin Tuna (*Thunnus thynnus*) as a Method to Improve Fisheries Management of Atlantic Bluefin Tuna" $44,848; submitted 1 September 2017- not funded.

2016/2107: Sabbatical at Virginia Institute of Marine Science, College of William and Mary

2016: Bloomsburg University - 2016 Henry Carver Margin of Excellence Grant entitled: "Complete Mitochondrial DNA Sequencing and Analysis of Four Species of Tuna (genus *Thunnus)* ($10K funded to support 2016-2017 sabbatical at the Virginia Institute of Marine Science, College of William and Mary).

Bloomsburg University - 2016 Research and Scholarship Grant (Category B) entitled: "Complete Mitochondrial DNA Sequencing and Analysis of Four Species of Tuna (genus *Thunnus)"* ($10K funded to support 2016-2017 sabbatical at the Virginia Institute of Marine Science, College of William and Mary).

2017/2018 Publications
Sabbatical research manuscripts in preparation

2018 Course Development
Develop an agarose gel electrophoresis to analyze CODIS (Combined DNA Information System) markers for CHEM 105

2018 Teaching
Spring: CHEM 101, CHEM 108 Fall: CHEM 101, CHEM 105

Gregory H. Zimmerman, Ph.D.

Professor of Chemistry & Biochemistry

Department Chair

Former Fulbright Research Chair

Scholarly Interests
Measurement and modelling of the physical properties of aqueous electrolytes at high temperatures and pressures, with a specialty on electrical conductivity measurements using flow techniques.

Education
University of Delaware, Newark, DE, Ph.D., 1994
Millersville University, Millersville, PA, B.S.Ed., 1986

Publications
Ferguson, J.; Arcis, H.; Zimmerman G. H.; Tremaine, P. R., "Ion-Pair Formation Constants of Lithium Borate and Lithium Hydroxide under Pressurized Water Nuclear Reactor Coolant Conditions" *Ind. Eng. Chem. Res.*, **2017**, 56, 8121 - 8132.

Arcis, H.; Ferguson, J. P.; Applegarth, L. M.; Zimmerman G. H.; Tremaine, P. R., "Ionization of Boric Acid in Water from 298 K to 623 K by AC Conductivity and Raman Spectroscopy" *J. Chem. Thermodynamics*, **2017**, 106, 187-198.

Presentations in Collaboration with Students
"Equations for Calculating Limiting Conductivities and Ion-Pair Association Constants for Aqueous KCl under Hydrothermal Conditions", G. H. Zimmerman, D. J. Staros, H. Arcis, and P. R. Tremaine, 255th National Meeting of the American Chemical Society, New Orleans, LA, March 18 – 22, **2018**.

"*Equations for Calculating Limiting Conductivities and Ion-Pair Association Constants for Aqueous KCl Under Hydrothermal Conditions*", Greg H. Zimmerman, D. J. Staros, Kate McCallum, and Hugues Arcis, The 73rd Calorimetry Conference – CALCON 2018, August 5-10, **2018**, Lake Tahoe, California, USA.

Funding Awarded to Students
Daniel Staros - **P**ersonal **E**xperience **G**rant**,** Spring 2018
Blake Durante - **U**ndergraduate **R**esearch, **S**cholarship, and **C**reative **A**ctivity, Summer 2017
Daniel Staros - **U**ndergraduate **R**esearch, **S**cholarship, and **C**reative **A**ctivity, Summer 2017
Blake Durante - **P**ersonal **E**xperience **G**rant**,** Fall 2017
Daniel Staros - **P**ersonal **E**xperience **G**rant**,** Fall 2017

2018 Teaching
Spring: Chemistry 362 – Physical Chemistry 2 Lab and Lecture
Chemistry 493 – Chemical Research 2
Fall: Chemistry 361 – Physical Chemistry I Lab and Lecture

2018 Service
University Wide Promotion Committee

As the department chair, I get into all sorts of things! Keeps the days exciting!

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