UNIVERSITY of WASHINGTON

CHEMLETTER

AUTUMN 2018 / VOLUME XXXVI NO.2

LETTER FROM THE CHAIR

Dear Friend of Chemistry,

Our students are tremendous! We are very proud of the 375 students who graduated this year with bachelor's degrees in chemistry or biochemistry. Students Daniel Brock and Ethan Hills have received the 2018-19 Levinson Emerging Scholar Award. Three of our students, Jack Jiang, Dane Johnson, and Heather Klug, have been awarded Washington Research Foundation Fellowships. I am particularly pleased to announce that Hyeon-Jin Kim was selected as the 2018 Dean's Medalist in the Natural Sciences.

Graduate student awards include NSF Graduate Research Fellowships to Rob Weakly and Zachary Cohen. Marcus Woodworth won an NIH Predoctoral National Research Service Award (F31). Samuel Berry won an NSF Global Research Opportunities Worldwide (GROW) fellowship.

Our graduate students, particularly those in the first year, make crucial contributions to the education of our many undergraduate students. The incoming cohort of graduate students for the 2018-19 academic year consists of 43 students: 20 women and 23 men from top universities in the U.S. (36) and abroad (7). Students are attracted to our program by the caliber of the faculty with whom they will study, the UW's tradition of excellence, and the quality of life in the Seattle area.

We are continuing to use a rotation system for our first-year graduate students to get acquainted with the work and culture of research groups they may be interested in joining. The rotation is meant to facilitate students' finding a good fit with their Ph.D. advisor, for which the selection process will take place at the end of the current quarter, with students beginning their research work in the new year.

One important change to our graduate program is that we have reorganized the job of associate chair for graduate education to be done by two people. Professor Xiaosong Li will take charge of recruiting and admissions activities. He will oversee the new students until they join a research group. Student progress through various examinations and other milestones will continue to be overseen by Professor Rob Synovec. We also have a new staff person, I. Christine Gormley, who will administer the graduate program and advise students.

While we did not make any new appointments of tenure-track faculty in the past year, we did hire a new lecturer. Dr. Samantha Robinson joined us in September and is contributing to our entry-level and organic teaching program. (See page 4 for more on Samantha.)

Our research program continues to prosper. Our faculty have been very successful in winning highly competitive grants to support their work from a variety of sources. The directions of research pursued in the Department continue to evolve. Newer areas of research are emerging in materials chemistry, particularly in applications to energy generation and storage.

Continued on back page

IN THIS ISSUE

NIELS ANDERSEN Retires

Story by Paul Hopkins

On June 1, 2018, Niels Andersen joined the ranks of our emeritus faculty following his retirement from the University of Washington. The dawning of an autumn quarter without Professor Andersen has not been experienced by any current UW Chemistry faculty member, as the 1967-68 academic year was the last to commence without him as an active member of our faculty.

Fifty years of service unquestionably qualifies as above and beyond the call of duty. In his long and outstanding career, a conservative estimate is that tens of thousands of students had the pleasure of taking his introductory organic chemistry courses. Forty-four graduate students earned the Ph.D. with Professor Andersen as their thesis advisor. His work with undergraduate and graduate students, postdoctoral research associates, and others resulted in more than 230 peer-reviewed publications and 14 patents.

Niels Andersen earned a B.A. in chemistry and mathematics from the University of Minnesota. He completed his Ph.D. in chemistry at Northwestern University in three short years, where he studied the synthesis and structure identification of terpenoid natural products with Professor James Marshall. From there, young Dr. Andersen accepted a prestigious postdoctoral position with Professor E. J. Corey at Harvard University, where he participated in an internationally known research program directed at the synthesis of the newly discovered family of biologically important molecules called prostaglandins.

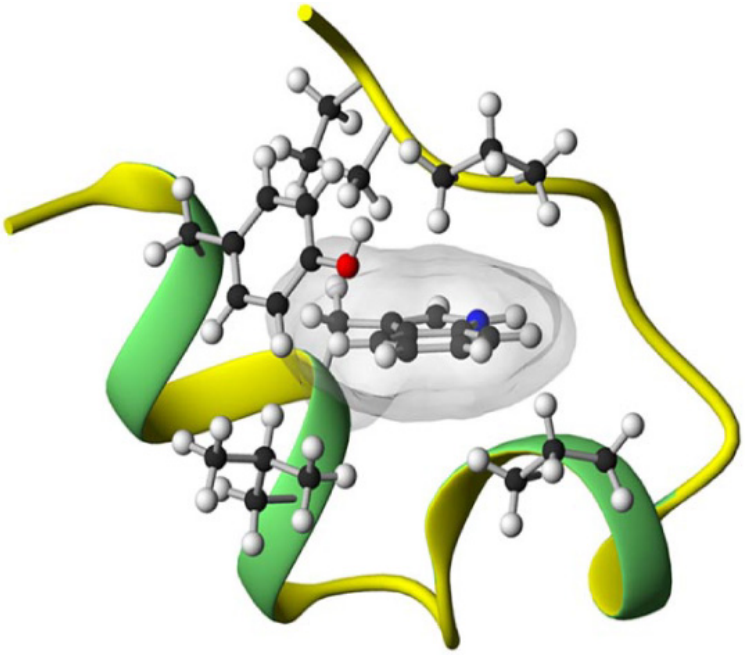
Professor Andersen joined the UW Department of Chemistry as assistant professor in 1968, at the age of 24. Today, a newly hired assistant professor is typically about 30 or even 35 years of age. Although a somewhat less extensive period of pre-faculty training was more typical in the 1960s, starting at the age of 24 was extraordinary even then.

The Andersen research group pursued a vigorous agenda that continued to advance our understanding of terpenoid structures, biosynthesis, and chemical syntheses. Yet as early as the mid-1970s, there were indications in Professor Andersen's work reflecting his interest in the use of spectroscopic techniques, particularly nuclear magnetic resonance (NMR) spectroscopy, to explore issues of solution conformation of biologically important molecules.

Over the next several decades, Professor Andersen's research program fully transitioned to one focused on the use of spectroscopy to explore fundamental thermodynamics and structural features associated with biorecognition phenomena, particularly pertaining to proteins and protein analogs. In this more recent phase of his career, his research group is best known for the creation of a very small protein—the TrpCage miniprotein, just 20-amino-acid residues in size—that exists in aqueous solution in a folded state containing secondary and tertiary structural elements. The system has proven valuable for those interested in computer simulation of protein folding.

It is a sign of the vibrancy of the sciences that, across decades, new fields emerge, mature, and eventually fade. But that vibrancy comes at a cost to individual investigators, who can see their chosen field fall from the popularity that is critical to attracting co-workers, publishing work, and competing favorably for the external funding needed to pay the bills. The field of natural product identification and synthesis—pursued by a great many organic chemists in the early and even mid-years of Professor Andersen's career—fell somewhat from favor in more recent decades. Professor Andersen's ability to weather that crisis, and to transition his research program to the newer, exciting and, yes, popular field of protein structure and dynamics is a sign of his great intellectual ability and flexibility.

Since 1968, Professor Andersen has been an outstanding contributor in all of the areas expected of a professor at a major research university: research, teaching, and service. In addition to thousands of UW students, he has mentored a great many faculty colleagues, in science as well as in living a full life with varied passions. For all of these things we are thankful. We wish Niels and his spouse Susan well in their next life stage.



TRPCAGE MINIPROTEIN. THE ANDERSEN RESEARCH GROUP IS BEST KNOWN FOR CREATING THE TRPCAGE MINIPROTEIN. THIS VERY SMALL PROTEIN, 20-AMINO-ACID RESIDUES IN SIZE, EXISTS IN AQUEOUS SOLUTION IN A FOLDED STATE CONTAINING SECONDARY AND TERTIARY STRUCTURAL ELEMENTS, A SYSTEM THAT HAS PROVEN VALUABLE FOR THOSE INTERESTED IN COMPUTER SIMULATION OF PROTEIN FOLDING.

THE ANDERSEN RESEARCH GROUP.

TOP LEFT: NIELS, WITH HIS SPOUSE SUSAN, AND HIS VISION FOR THIS NEXT LIFE STAGE.

PHOTOS COURTESY OF NIELS ANDERSEN

FACULTY INTRODUCTION

Samantha Robinson, Lecturer

Ph.D. Chemistry, 2014
UNIVERSITY OF WASHINGTON

Dissertation: *Preparation & Reactivity of Sigma-Complexes*

Advisor: D. Michael Heinekey

B.S. Chemistry with honors, 2009
UNIVERSITY OF IOWA

Honors Thesis: *Aqueous preparation of crystalline lanthanide cluster compounds*

Advisor: Louis Messerle

Dr. Samantha Robinson was born in southern Illinois and raised in Grinnell, Iowa. She received a B.S. in chemistry from the University of Iowa in 2009. While there, she was first introduced to research in the group of Professor Lou Messerle where she worked on lanthanide cluster synthesis and characterization.

She received her Ph.D. from the University of Washington in 2014. Her graduate research with Professor D. Michael Heinekey in the area of inorganic chemistry—focused on generating electrophilic inorganic molecules capable of binding molecular dihydrogen—resulted in some of the first reported nickel and palladium dihydrogen complexes.

After completing her degree, she began a postdoctoral appointment at Pacific Northwest National Laboratory in Richland, Washington working in the Catalysis Science group with Drs. Aaron Appel and John Linehan. Her research focused on using high-pressure NMR spectroscopy to study the thermodynamics of catalytic conversion of CO_2 and hydrogen to formate in various solvents.

Dr. Robinson began her independent career at Seattle Pacific University in Autumn 2015 and was thrilled to develop her teaching skills there. She is happy to be back at the UW, and Mike Heinekey is delighted to have her join our faculty as, "her varied experiences in teaching makes her a strong addition to our outstanding group of lecturers."

Professor Forrest Michael, chair of the committee that hired Dr. Robinson, says, "In addition to her extensive experience in curriculum development, we were impressed by Samantha's interactions with students across a wide range of class sizes and environments. Her thoughtfulness on how to best engage with and encourage learning in a diverse student population is well-suited to the broad but constantly-evolving scope of our instructional program."

When not spending time preparing for class or meeting with students, Dr. Robinson enjoys exploring the Pacific Northwest with her husband, Patrick, and their one-year-old son.

For more information about Dr. Robinson and her teaching, please contact her directly at sjconnel@uw.edu.

FACULTY

Brandi Cossairt

National Fresenius Award, Phi Lambda Upsilon

Colleen Craig

Inaugural Academic and Student Affairs Teaching Fellow, UW Center for Teaching & Learning

David Ginger

Elected Member, Washington State Academy of Sciences

Karen Goldberg

Elected Member, National Academy of Sciences

Munira Khalil

Fellow, American Physical Society

Alshakim Nelson

CAREER Award, National Science Foundation

3M Faculty Award

Ashleigh Theberge

Beckman Young Investigator Award, Arnold and Mabel Beckman Foundation

Maximizing Investigators' Research Award, National Institutes of Health

František Tureček

Honorary Member, Czech Society for Mass Spectrometry

Usha Varanasi

Fellow, American Association for the Advancement of Science

Sotiris Xantheas

Elected Member, Washington State Academy of Sciences

Specially Appointed Professor, World Research Hub Initiative, Tokyo Institute of Technology

POSTDOCTORAL RESEARCH ASSOCIATES

Connor Bischak

Washington Research Foundation Postdoctoral Fellowship

Matthew Crane

Washington Research Foundation Postdoctoral Fellowship

Max Friedfeld

Washington Research Foundation Postdoctoral Fellowship

Mistletoe Foundation Unfettered Research Grant

Daniel Kroupa

Forbes' 30 Under 30: Energy

Mistletoe Foundation Unfettered Research Grant

Arun Babu Kumar

US Young Investigator Travel Grant, The Association for Mass Spectrometry

Jian Wang

Mistletoe Foundation Unfettered Research Grant

GRADUATE STUDENTS

Todd Anderson

Lloyd E. and Florence M. West Fellowship in Chemistry

Amrita Basu

Lewis R. and Joan M. Honnen Endowed Fellowship in Chemistry

Ryan Beck

Clean Energy Institute Graduate Fellowship

Kelsey Berrier

Lloyd E. and Florence M. West Fellowship in Chemistry

Samuel Berry

National Science Foundation Global Research Opportunities Worldwide Fellowship

Maike Blakely

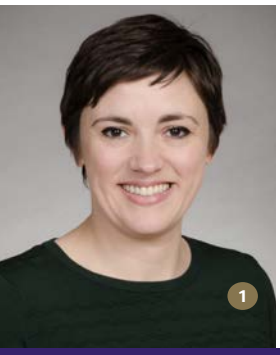
Joseph Bouknight Endowed Fellowship for Chemistry

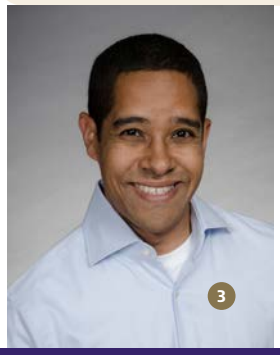
Jacob Busche

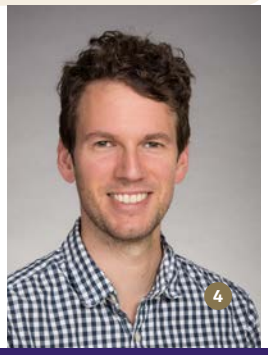
Lyle H. Jensen Graduate Fellowship

Emma Cave

Clean Energy Institute Graduate Fellowship







1 COLLEEN CRAIG **2** MUNIRA KHALIL **3** ALSHAKIM NELSON **4** MATTHEW CRANE **5** ARUN BABU KUMAR **6** JIAN WANG

Christine Chang

Clean Energy Institute Graduate Fellowship

Zachary Cohen

NSF Graduate Research Fellowship

Caitlin Cornell

Basil G. and Gretchen F. Anex Endowed Fellowship

Kathryn Corp

Lloyd E. and Florence M. West Fellowship in Chemistry

Andy Dang

Irving and Mildred Shain Endowed Fellowship in Chemistry

Florence Dou

Mickey and Karen Schurr Endowed Graduate Support Fellowship

Rae Eaton

Lloyd E. and Florence M. West Fellowship in Chemistry

Yunshan Fan

Lloyd E. and Florence M. West Fellowship in Chemistry

Benjamin Figueroa

Lloyd E. and Florence M. West Fellowship in Chemistry

Andrew Francis

Christopher and Karen Pohl Endowed Fellowship in Chemistry

Shaun Gallagher

David M. Ritter Endowed Scholarship

Theresa Gozzo

Tomas Hirschfeld Endowed Fellowship

Marco Howard

S. P. Pavlou and D. E. Strayer Endowed Fellowship in Chemistry

Laura Jacoby

Natt-Lingafelter Endowed Fellowship in Chemistry

Mary Cecilia Johnson

Clean Energy Institute Graduate Fellowship

Lauren Kang

Husky 100

Victoria Kensy

Charles Dean Wolbach Endowed Fellowship in Chemistry

Yang Liu

Norman and Lillian Gregory Endowed Fellowship in Chemistry

Lixin Lu

Benton Seymour Rabinovitch Endowed Fellowship

Pengtao Lu

American Chemical Society Excellence in Graduate Polymer Research Symposium

Shutian Lu

Rowland Endowed Fellowship in Chemistry

Siyami (Cem) Millik

Arthur G. Anderson Endowed Fellowship

Alexis Mills

Paul H. and Karen S. Gudiksen Endowed Fellowship

Benjamin Mitchell

Schomaker Endowed Fellowship in Chemistry

Marja (Beth) Mundy

Clean Energy Institute Graduate Fellowship

Ian Murphy

Clean Energy Institute Graduate Fellowship

Laura Pascual

Raymond and Sally Paxton Endowed Fellowship in Chemistry

Samantha Phan

Clean Energy Institute Graduate Fellowship

Ben Poulter

Kwiram/CCR Fellowship

Sarah Prebihalo

Raymond and Sally Paxton Endowed Fellowship in Chemistry

Emily Pruitt

Gary and Sue Christian Graduate Student Support Fellowship in Chemistry

Joo Yeon Diana Roh

Clean Energy Institute Graduate Fellowship

Sonia Schoneich

Basil G. and Gretchen F. Anex Endowed Fellowship

Ryan Shafranek

Lloyd E. and Florence M. West Fellowship in Chemistry

Patrick Shelton

Lloyd E. and Florence M. West Fellowship in Chemistry

Jessica Simon

ARCS Foundation Fellowship

1 FLORENCE DOU **2** SHAUN GALLAGHER **3** THERESA GOZZO **4** LAURA JACOBY **5** LIXIN LU **6** SIYAMI (CEM) MILLIK

Ethan Stoddard

Amy Scott and Stephen C. Alley Endowed Fellowship in Chemistry

Milomir Suvira

Howard J. Ringold Endowed Fellowship

Wei Pin Teh

Lloyd E. and Florence M. West Fellowship in Chemistry

Kelly Walsh

Lloyd E. and Florence M. West Fellowship in Chemistry

Robert Weakly

NSF Graduate Research Fellowship

Claudia Willis

Regan Shea Family Endowed Fellowship in Chemistry

Marcus Woodworth

NIH Predoctoral National Research Service Award

2017-18 ALMA MATER TRAVEL AWARDS

Recipients of these travel awards receive funds to present a seminar on their Ph.D. research at their undergraduate alma mater.

Tyler Chozinski

University of Arizona (Tucson, AZ)

Andy Dang

San Jose State University (San Jose, CA)

James Gaynor

University of Portland (Portland, OR)

Kimberly Hartstein

Washington University in St. Louis (St. Louis, MO)

Hongbin Liu

Fudan University (Shanghai, China)

Marja (Beth) Mundy

Davidson College (Davidson, NC)

Johanna Schwartz

Bard College at Simon's Rock (Great Barrington, MA)

Patrick Shelton

Western Washington University (Bellingham, WA)

UNDERGRADUATE STUDENTS

Kimberly Anderson

Distinguished Research in Chemistry

Daniel Brock

Levinson Emerging Scholar

Catherine Chang

Distinguished Research in Chemistry

Donald J. Hanahan Endowed Scholarship in Chemistry or Biochemistry

Ryan Chu

Distinguished Research in Chemistry

Kyle Curtis

Levinson Emerging Scholar

Rebecca Danford

Usha and S. Rao Varanasi Endowed Diversity Scholarship in Chemistry

Sabrina Estes

P. C. Cross Award

Sedona Ewbank

Husky 100

Rex J. and Ruth C. Robinson Scholarship

Washington Research Foundation Fellowship

Jacob Fillman

Ed F. and Clara M. Degering Tuition Scholarship

Ryan Flores

P. C. Cross Award

Ethan Hills

Levinson Emerging Scholar

Jack Jiang

Washington Research Foundation Fellowship

Dane Johnson

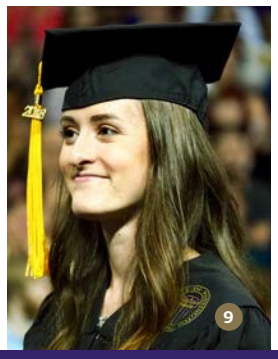
Ed F. and Clara M. Degering Tuition Scholarship

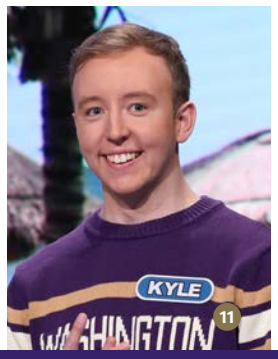
Washington Research Foundation Fellowship

Julia Joo

Washington Research Foundation Fellowship

Zalia Jencks Rowe Undergraduate Tuition Scholarship





7 JESSICA SIMON **8** ETHAN STODDARD **9** KIMBERLY ANDERSON **10** CATHERINE CHANG AND EARL DAVIE **11** KYLE CURTIS **12** SEDONA EWBANK AND MICHAEL HEINEKEY

Mitchell Kaiser

Distinguished Research in Chemistry

Hyeon-Jin Kim

Boeing Scholarship

Dean's Medal in the Natural Sciences

Distinguished Research in Chemistry

Levinson Emerging Scholar

Hyung Chan Brian Kim

Distinguished Research in Biochemistry

Heather Klug

Washington Research Foundation Fellowship

Briana Lee

Washington Research Foundation Fellowship

Felix Leeb

Distinguished Research in Chemistry

Isaiah Lemmon

Honors General Chemistry Achievement Award

Andrew McAlister

Distinguished Research in Biochemistry

Cecilia Nguyen

Distinguished Research in Biochemistry

Donovan Phua

Distinguished Research in Biochemistry

Avery Pong

Earl W. Davie Endowed Scholarship in Chemistry or Biochemistry

Skylar Sherman

H. K. Benson Undergraduate Tuition Scholarship

Natali Shumlak

Distinguished Research in Biochemistry

Irika Sinha

Honors General Chemistry Achievement Award

Alder Strange

Junior Medalist (2016-17)

Grace Wang

Freshman Medalist (2016-17)

Gerald and Sheila Berkelhammer Book Award

Hyp Dauben Award

Timothy Welsh

Churchill Scholarship

Rex J. and Ruth C. Robinson Scholarship

Jason Wien

Honors General Chemistry Achievement Award

Penghan Yang

Distinguished Research in Biochemistry

Jie Yin

Husky 100

Levinson Emerging Scholar

DOCTORAL DEGREES AWARDED

Daniel Bahaghighat, Ph.D. Chemistry

Development of Ultra-Fast Modulation for Application to Multi-Dimensional Gas Chromatography

(Professor Robert Synovec)

Madhumitha Balasubramanian, Ph.D. Chemistry

Studying Ultrafast Vibrational Dynamics of Intramolecular Hydrogen Bonds using Broadband Infrared Pump-Probe Spectroscopy

(Professor Munira Khalil)

Erika L. Buckle, Ph.D. Chemistry

Characterization of the Structures of Small Peptides and their Interactions with Inorganic Minerals

(Professor Gary Drobny)

Spencer J. Carey, Ph.D. Chemistry and Nanotechnology & Molecular Engineering

Energetics of Catalytic Intermediates on Nickel(111) by Calorimetry: Empirical Trends and Benchmarks for Quantum Theory

(Professor Charles Campbell)

1 MITCHELL KAISER **2** DANIEL BAHAGHIGHAT **3** SARAH E. (BETSY) FLOWERS

Tyler J. Chozinski, Ph.D. Chemistry

Expansion Microscopy for the Interrogation of Nanoscale Features in Complex Biological Systems

(Assistant Professor Joshua Vaughan)

Dane William deQuilettes, Ph.D. Chemistry and Nanotechnology

Probing Local Heterogeneity in the Optoelectronic Properties of Organic-Inorganic Perovskites Using Fluorescence Microscopy

(Professor David Ginger)

Thomas H. Edwards, Ph.D. Chemistry

New Statistical Inference Methods for DEER Spectroscopy on Proteins

(Associate Professor Stefan Stoll)

Sarah E. (Betsy) Flowers, Ph.D. Chemistry

Preparation, Characterization, and Reactivity of Ruthenium Protic N-Heterocyclic Carbene Complexes

(Associate Professor Brandi Cossairt)

Zachary W. Fox, Ph.D. Chemistry

Two-Dimensional Vibrational-Electronic Spectroscopy: The Design and Development of a Novel Multidimensional Spectroscopic Technique to Directly Measure Coherent Coupling Between Vibrational and Electronic Degrees of Freedom

(Professor Munira Khalil)

Christopher E. Freye, Ph.D. Chemistry

Development of Instrumental and Chemometric Techniques for the Analysis of Complex Samples via Multi-Dimensional Gas Chromatography

(Professor Robert Synovec)

Christopher G. Gunderson, Ph.D. Chemistry

New Tools for Studying Nanoscale Electrochemical Phenomena

(Professor Bo Zhang)

Kimberly H. Hartstein, Ph.D. Chemistry

Stabilizing Degenerate Dopants in Colloidal Semiconductor Nanocrystals

(Professor Daniel Gamelin)

Danielle A. Henckel, Ph.D. Chemistry

Photo- and Electrochemical Investigations of Solution Processable Molecules and Materials for the Hydrogen Evolution Reaction

(Associate Professor Brandi Cossairt)

Lauren J. Kang, Ph.D. Chemistry

Developing Gold- and Silver-Catalyzed Dehydrogenative Cross-Coupling Toward Donor-Acceptor Polymer Synthesis

(Professor Christine Luscombe, Materials Science & Engineering)

Addie H. Kingsland, Ph.D. Chemistry

Utilizing Molecular Dynamics' Multipotent Methodologies to Measure Microscopic Motions of DNA Molecules: A Magniloquent Manuscript on DNA's Means and Mannerisms

(Assistant Professor Lutz Maibaum)

Jason A. Lee, Ph.D. Chemistry

Development of Novel Direct Arylation Methodology for the Synthesis of Conjugated Polymers

(Professor Christine Luscombe, Materials Science & Engineering)

Travis T. Lekich, Ph.D. Chemistry

Synthesis and Reactivity of ^{Me4}PCP and ^{Me4}POCOP Iridium Complexes

(Professor D. Michael Heinekey)

Sophia Masi, Ph.D. Chemistry

Development of Mass Spectrometry-Based Assays for Newborn Screening: Novel Approaches to Lysosomal Acid Lipase and the Mucopolysaccharidoses

(Professor Michael Gelb)

Nicholas P. Montoni, Ph.D. Chemistry

Plasmon Hybridization in Clusters of Metal Nanoparticles and Magnetic Nanoparticle Oligomers

(Associate Professor David Masiello)

Heidi D. Nelson, Ph.D. Chemistry

Defect-Related Luminescence in Nanocrystals: Spectroscopy and Computation

(Professor Daniel Gamelin)

Huong Thi Huynh (Ivy) Nguyen, Ph.D. Chemistry and Nanotechnology & Molecular Engineering

Structural Elucidation of Gas-Phase Peptide Ions by Tandem Mass Spectrometry and Molecular Dynamics Simulations

(Professor František Tureček)

Laura Marie Murphy Pascual, Ph.D. Chemistry

Metal-Free Photoredox-Mediated Ring-Opening Metathesis Polymerization Methods and Scope

(Affiliate Associate Professor AJ Boydston)

Steven C. Quillin, Ph.D. Chemistry

Electron Energy-Loss Spectroscopy: Analytical Theory and Numerical Simulations of Individual Nanoparticles and Nanostructures

(Associate Professor David Masiello)

Glennis E. Rayermann, Ph.D. Chemistry

Applications of Physical Chemistry in Solar Energy, Membrane Biophysics, and Cultural Heritage

(Professor Sarah Keller)

4 NICHOLAS P. MONTONI **5** STEVEN C. QUILLIN AND HEIDI D. NELSON, PHOTO BY MARIAH GENTRY

Soumyadyuti Samai, Ph.D. Chemistry

Reversibly Reconfigurable Plasmonic Nanomaterials

(Professor David Ginger)

Karena A. Smoll, Ph.D. Chemistry

Synthesis and Reactivity of Late Transition Metal Pincer Complexes: Progress toward Alkane Functionalization

(Affiliate Professor Karen Goldberg)

Jennifer L. Stein, Ph.D. Chemistry

Scratching the Surface of Colloidal InP Nanoparticles: Tuning the Physical and Electronic Structure through Surface Chemistry

(Associate Professor Brandi Cossairt)

Dana B. Sulas, Ph.D. Chemistry

On the Excited States Formed During Interfacial Charge Transfer and Recombination in Organic Bulk Heterojunction Photovoltaic Devices

(Assistant Professor Cody Schlenker)

Sarah M. Vorpahl, Ph.D. Chemistry

Correlating Nanoscale Optoelectronic and Mechanical Properties of Solution Processable Thin Film Photovoltaic Materials Using Scanning Probe Microscopy

(Professor David Ginger)

David B. Williams-Young, Ph.D. Chemistry

Towards Efficient and Scalable Electronic Structure Methods for the Treatment of Relativistic Effects and Molecular Response

(Professor Xiaosong Li)

Fan Yi, Ph.D. Chemistry

Development of Newborn Screening Methods for Mucopolysaccharidosis III type A and type B in Dried Blood Spots using Tandem Mass Spectrometry

(Professor Michael Gelb)

Mark E. Ziffer, Ph.D. Chemistry

Spectroscopic Studies of Exciton Electronic Structure and Charge Recombination in Solution Processed Semiconductors for Photovoltaics

(Professor David Ginger)

Our Donors

NOVEMBER 1, 2017– OCTOBER 31, 2018

During the past decade, we have seen a remarkable transition in publicly funded higher education. A decade ago, gift-derived funds played a small role in our programs, funding the occasional student fellowship or lecture. A decade later, we and other public institutions of higher education are heavily reliant upon gift funds for support of our baseline program. Today, annual gifts and endowment-derived funds are critical to every aspect of our teaching and research. Students, faculty, and staff are the beneficiaries of your gifts.

The UW Department of Chemistry is extraordinarily fortunate to have literally thousands of friends and alumni, a large fraction of whom contribute generously to our programs. We are deeply indebted to the donors named here. With your help, we are providing state of the art education to the current generation of students. Thank you!

If you are among our chemistry or biochemistry alumni who have not yet given back to the Department of Chemistry, we hope you will reconsider that choice. Our ability to help the current generation of students to achieve their dreams depends upon your gift. Thank you in advance for thinking of our students.

If your name is missing or misspelled, we apologize and hope you will let us know.

$10,000 and above

Anonymous
3M Company
Dr. Fred & Ms. Marilyn Dorer
Emerald Sky Foundation
ExxonMobil Corporation
Drs. Karen & Paul Gudiksen
Mr. Mark Jones
Duane Francis and
Barbara Gene LaViolette *(D)*
Mr. John & Mrs. Cathy Natt
Mr. Homer Twedt
Washington Research Foundation
Ms. Barbara Weinstein *(D)*
Mrs. Sharon Wolbach

$5,000–$9,999

Anonymous
Dr. Basil & Mrs. Gretchen Anex
Boeing
Leland L. Burger, Ph.D. *(D)*
Dr. David & Ms. Suzanne Dreyer
Dr. Bruce Eichinger &
Ms. Sandra Jackson-Eichinger
Dr. Lewis Honnen
Ms. Martha Ipsen
Drs. R. Irene & Gary Masada
Dr. A. Bruce &
Mrs. Joanne Montgomery
Drs. S. Rao & Usha Varanasi

$1,000–$4,999

Anonymous (2)
Dr. Stephen Alley & Ms. Amy Scott
Mr. Arvid Berg &
Ms. Sophia Zervas-Berg
Dr. Gerald & Ms. Sheila
Berkelhammer
BioMarin Pharmaceutical, Inc.
Mr. Donald & Mrs. Patricia Carlberg
Rear Admiral Linda & Mr. John Fagan
General Atomics
Mr. Norm Gregory *(D)*
Mr. Thomas & Mrs. Alice Hanson
Dr. Edward Hardwidge
Mr. Howard & Ms. Connie Harris Jr.
Ms. Jeanne Hsu
Dr. Dan & Ms. Jorgene Jensen
Prof. Alvin & Mrs. Verla Kwiram
Ms. Patricia & Dr. Walter Loveland
Dr. Betty Lowry *(D)*
Dr. Layton & Ms. Elizabeth McCoy
Mrs. Karen & Dr. James Mhyre
Ms. Lynn Nixon
Dr. James & Ms. Marcia Nusz
Dr. Raymond & Mrs. Sally Paxton
Prof. William & Mrs. Katrina Reinhardt
Dr. Bruce & Mrs. Alice Ronald
Mr. Eric Saegebarth
Prof. J. Michael & Mrs. Karen Schurr
Mr. Gary Schwartz
Dr. Jean'ne Shreeve
Dr. Jared Silvia & Prof. Brandi Cossairt
The Seattle Foundation
Ultragenyx Pharmaceutical, Inc.
Mr. Lyman Young & Ms. Marion So

$500–$999

Dr. Roy & Ms. Ione Behm
Mr. Paul & Mrs. Susan Bombardt
Ms. Ann & Mr. Carl Cady
Dr. Weichao & Mrs. Sandy Chen
Chevron Corporation
Dr. Ronald Diesen *(D)*
Drs. John Douglas & Eileen Starr
Drs. Jurgen & Mary Exner
Dr. Jackson & Mrs. Rosemary Harrar
Prof. Mike Heinekey &
Dr. Maureen Munn
Prof. Judith Jaehning &
Mr. Barry Polisky
Dr. David & Mrs. Franki Kohler
Mr. Tom Lee & Ms. Deborah Grace
Dr. Paul & Mrs. Jean Lepse
Dr. Joseph & Ms. Marne Osborne
Dr. Donna Oswald
Mr. Richard Pallett
Pfizer, Inc.
Dr. John Powell
Dr. Catherine Radzewich
Dr. Cynthia Stanich &
Mr. Matthias Blondeel
Dr. J. Daniel Wanwig

Up to $499

Anonymous (4)
Mr. Gerald & Mrs. Sara Adams
Mr. Howard & Ms. Carolyn Anderson
Mr. Cyrus Anderson
Mr. Jack & Ms. Carol Baush
Dr. Theodore Beck *(D)* and
Ms. Ruth Beck
Dr. James & Ms. Debra Billigmeier
Ms. Nancy Blase
Mr. Cornelius &
Ms. Catherine Borman
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LETTER FROM THE CHAIR *continued from page 1*

Our faculty continues to win awards and recognition for their accomplishments. A complete list of awards is found on page 5, but I will mention some recent highlights here. Associate Professor Brandi Cossairt won the National Fresenius Award from Phi Lambda Upsilon for which she will be honored at a symposium at the spring ACS meeting. Assistant Professor Ashleigh Theberge won the Beckman Young Investigator award. Professor David Ginger and Affiliate Professor Sotiris Xantheas were named to the Washington State Academy of Sciences. Assistant Professor Alshakim Nelson received a CAREER award from the National Science Foundation. Affiliate Professor Karen Goldberg was elected to the National Academy of Sciences.

The good news above is accompanied by less positive developments in terms of funding provided by the State of Washington. The College of Arts & Sciences mandated a budget cut of 1.5% and has severely restricted faculty hiring. Increased student enrollment has partially mitigated this situation, but we continue to operate within a very lean budget environment.

As always, I close with thanks to all of our friends. We continue to rely on your generosity. Your donations provide a vital supplement to our state funding. Your gifts directly impact the quality of the instruction that we can offer to our students. Thank you for your support.

Sincerely,

D. Michael Heinekey
Professor and Chair

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