SUMMER 2016

DIVISION OF CHEMISTRY

CHE NEWSLETTER

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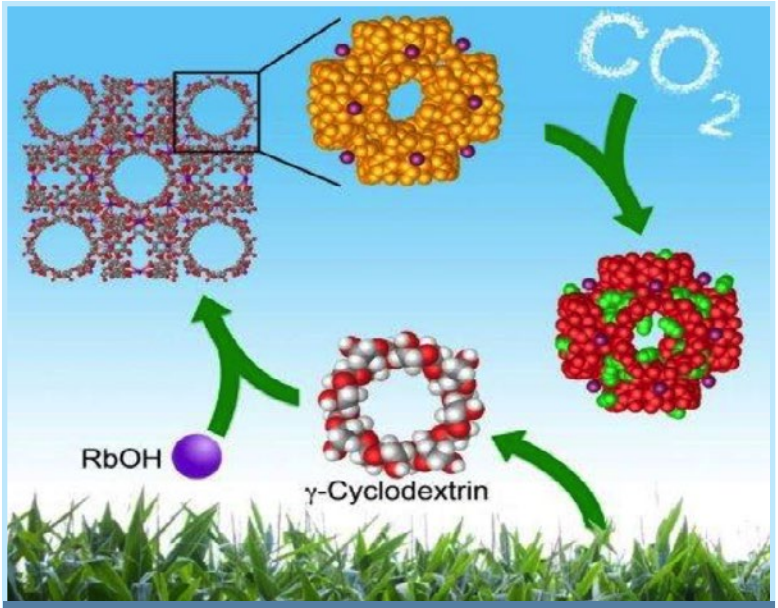


Image of transforming renewable resources into advanced materials for carbon capture: An experiment for young scientists. Prof. Brian H. Northrop, Wesleyan University, CHE-1352239

This research was carried out under the guidance of Professor Brian H. Northrop at Wesleyan University. Graduate student, Merry K. Smith, and high school student, Samantha R. Angle, adapted and optimized the procedures for use in undergraduate and high school laboratories. Support for this work was provided by the NSF Division of Chemistry through a CAREER award to Prof. Northrop. The experiments summarized in this highlight have been implemented into the undergraduate curriculum at Wesleyan University and carried out by students at Middletown High School in Middletown, CT.

This educational and outreach project provides a valuable and instructive means of introducing young scientists to topics of technological and societal importance such as climate change and environmental remediation, resource management, nanoscience, and the synthesis of advanced materials.

CHE COMMUNICATION LISTSERV SIGN-UP

Stay informed with the latest news and topics of interest from the NSF Division of Chemistry: sign up for our mailing list by sending an email message with the subject line, '**Subscribe to CHE**', to: *cheminfo@nsf.gov*. Please share this information with your colleagues!

UPDATE FROM THE DIVISION DIRECTOR

ANGELA K. WILSON

It is hard to believe that summer is passing so quickly, as has my time at NSF. I have been at NSF now for several months, and the Division has been through our triennial review, and much of an award cycle during this time period. I have seen first-hand the remarkable dedication of the Chemistry Division staff. They work hard to fund as many high quality proposals as possible, often, with heroic efforts. I have also had the opportunity to meet many review panels, and thank those of you who have served in this capacity, as well as those of you who have served as ad hoc reviewers or virtual panelists. The time and effort you have spent in reviewing one or more than one proposal or project is very much appreciated. Your advice and insight benefit the whole community by ensuring we make excellent use of taxpayer dollars.

The Division is experiencing many changes, from staffing changes to program opportunities. First, we say farewell and thank several outstanding program officers who have completed their rotations in the Division and will be returning to their home institutions. These include: Carl Carrano, Richard Johnson, and Sarah Stoll. The Division will miss each of them a great deal. They have been wonderful colleagues and advocates for the chemistry community. We welcome several new program officers, who are highlighted later in this newsletter. We are delighted to have them join us. We also welcome Michele R. Johnson, from the Division of Physics, who is on detail as our Program Support Manager. We also congratulate C. Michelle Jenkins who has been promoted to Program Analyst – she is taking on many important new responsibilities.

In terms of program opportunities, we highlight updated Dear Colleague Letters for INFEWS and SusChem later in this newsletter. Please note the new solicitation for Phase I Centers for Chemical Innovation has been published and we are looking forward to your proposals! There are other opportunities that are forthcoming, and we encourage the chemistry community to visit the NSF Chemistry website for updates: ***http://www.nsf.gov/div/index.jsp?div=CHE*** (This site provides links to Dear Colleague Letters and new solicitations, highlighting initiatives within the Division of Chemistry).

At the ACS National Meeting in August, most of the NSF Chemistry Division staff will be present. On Tuesday afternoon, August 23, there will be a Federal Funders Town Hall Meeting, where representatives from several federal agencies will speak about their agencies and grant opportunities. This event will be followed by speed-coaching opportunities, where investigators may meet one-on-one with program officers. There will also be opportunities to provide feedback on community needs for mid-scale instrumentation and scientific discovery through data science. We welcome community participation and discussion. The session will be a part of the ACS Presidential Symposium on "NSF Opportunities" that will be held on the afternoon of Monday, August 22. Finally, at the ACS National Meeting, CHE staff will be giving talks focused on NSF opportunities supporting career development, new investigators, and faculty at predominantly undergraduate institutions. We look forward to your involvement, if of interest.

As noted, the Division recently went through its triennial review. We thank the many individuals who served on the Committee of Visitors (COV), and especially Professor Sharon Hammes-Schiffer (University of Illinois) for serving as the Chair of the COV. Links are provided later in this newsletter to the COV report as well as to the Division's response.

For years I had hesitated considering an opportunity at NSF. I was told that the rotator experience is "not what it once was". I am so delighted that I was contacted about serving a rotation at NSF. I can tell you that it is a terrific experience, getting to know NSF from the inside, working with the community and other agencies, and having an opportunity to be a part of determining the direction of chemistry supported by NSF. My research laboratory at my university is still afloat, and the experience is positive, both professionally, and personally. If you have interest in serving a rotation at NSF, please feel free to contact me. We are fully staffed at the present, but will have some opportunities beginning in Fall 2017. I would be glad to address any questions and discuss the experience.

I hope that you are having an enjoyable, productive summer!

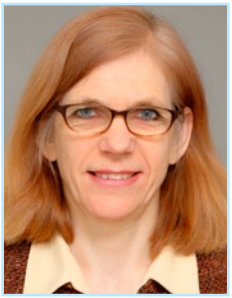
Angela K. Wilson
Division Director
Division of Chemistry

DIVISION OF CHEMISTRY STAFFING

THE DIVISION WOULD LIKE TO CONGRATULATE THE FOLLOWING STAFF MEMBERS

NO PHOTO

Michelle Jenkins
The Division of Chemistry would like to congratulate Ms. C. Michelle Jenkins on her new promotion to Program Analyst in the Division. Michelle was previously a Program Specialist.



Dr. Anne-Marie Schmoltner
Dr. Anne-Marie Schmoltner has joined the Division permanently as a Program Officer in the Chemical Structure, Dynamics & Mechanisms A (CSDM-A) Program, and as the Team Lead for Environmental Chemical Sciences (ECS) Program. Ann-Marie was previously a Program Officer in the Atmospheric and Geospace Sciences (AGS) Division.

Dr. Michelle Bushey
We congratulate Dr. Michelle Bushey for accepting a permanent position as Program Officer in Chemistry. She will be working in the Chemical Measurement and Imaging (CMI) Program and will be the Team Lead for the Research at Experiences for Undergraduates (REU) and Special Projects Programs. Previously, Michelle was a faculty member at Trinity University.

Dr. Lin
Dr. Lin He has accepted a permanent position as Program Officer in the Division. She will be working in the Centers for Chemical Innovation (CCI), and Chemical Measurement and Imaging (CMI) Programs. Previously, Lin was at North Carolina State University.

Gloria Yancey
Gloria Yancey is currently on a 120 day detail as the Directorate Administrative Coordinator in the Directorate for Mathematical & Physical Sciences. Gloria is our Program Support Manager. We miss her, but understand she is learning a lot at the MPS level.

THE DIVISION WELCOMES THE FOLLOWING NEW STAFF MEMBERS:

Dr. Robert Cave
Dr. Robert Cave is an Associate Dean for Academic Affairs and Professor of Chemistry at Harvey Mudd College. Dr. Cave will serve as a Program Officer in the Chemical Theory, Models & Computational Methods (CTMC) Program.

Dr. Kenneth Moloy
Dr. Kenneth Moloy was the Senior Researcher at DuPont Central Research and will be working in the Chemical Catalysis (CAT) and Chemical Synthesis Programs (SYN).

THE DIVISION WELCOMES THE FOLLOWING NEW STAFF MEMBERS:

Dr. Kevin Moeller
Dr. Kevin Moeller is a Professor at Washington University in St. Louis. Dr. Moeller will serve as a Program Officer in the Chemical Synthesis (SYN) and Chemical Structure, Dynamics and Mechanisms B (CSDM-B) Programs.

Dr. Max Funk
Dr. Max Funk is an Emeritus Professor at the University of Toledo and will join the Division as a Program Officer in the Chemistry of Life Processes (CLP) Program. Max has previously served as a Program Officer in CHE.

Ms. Michele Johnson
Ms. Michele Johnson has joining the Division on a 120 day detail assignment as the Program Support Manager. Ms. Johnson served as a Program Analyst in the Division of Physics in the Directorate for Mathematical & Physical Sciences.

THE DIVISION WOULD LIKE TO SAY THANK YOU TO THE FOLLOWING PROGRAM OFFICERS FOR THEIR DEDICATION AND HARD WORK:

Dr. Carl Carrano
Dr. Carl Carrano from San Diego State University worked with the Chemistry of Life Processes Program (CLP). Carl also served on the MPS Broadening Participation Working Group.

Dr. Richard Johnson
Dr. Richard Johnson from University of New Hampshire was the Team Lead of the Chemical Synthesis (SYN) Program and assisted in the Chemical Structure, Dynamics & Mechanisms B (CSDM-B) Program. Richard served as the Chemistry representative on CAREER Coordinating Committee. He also served as the Divisional photographer.

Dr. Sarah Stoll
Dr. Sarah Stoll from Georgetown University served as a Program Officer in the Macromolecular, Supramolecular, and Nanochemistry (MSN) and Chemical Synthesis (SYN) Programs. Sarah has been involved in outreach - especially the 44th MARM meeting.

CHANGES IN PROPOSAL SUBMISSION PROCESSES

ATTENTION PROPOSERS: NEW AUTOMATED PROPOSAL SUBMISSION COMPLIANCE CHECKS ARE HERE FOR FASTLANE

NSF continues to focus on the automated compliance checks of proposals in order to decrease the burden on both the research community and NSF staff. As of August 1, 2016, all proposals are subject to a new series of automated compliance validation checks to ensure proposals comply with requirements outlined in Chapter II.C.2. of the *Proposal and Award Policies and Procedures Guide (PAPPG)*.

The new set of automated compliance checks will trigger error messages for each of the following rules:

> 1 — Biographical Sketch(es) and Current and Pending Support files are required for each Senior Personnel associated with a proposal; and
>
> 2 — Biographical Sketch(es) can only be uploaded as a file, must not exceed two pages and can no longer be entered as text.

Note About Proposal File Update (PFU):

> Proposers should be aware should that if a proposal was received prior to August 1 and contained only one Biographical Sketch and/or Current & Pending Support file (rather than individual files for each senior personnel), a PFU addressing any section of the proposal will result in the proposal not being accepted if it does not comply with these new compliance checks. The checks will be run on all sections of the proposal regardless of which section was updated during the PFU.

Note About Grants.gov:

> Proposers should also be aware that Grants.gov will allow a proposal to be submitted, even if it does not comply with these proposal preparation requirements. Should NSF receive a proposal from Grants.gov that is not compliant, it will be returned without review.

Please note that the new set of compliance checks are **in addition to** the compliance checks that currently exist in FastLane. You can view a complete list of FastLane auto-compliance checks, including these checks, by visiting: *http://www.nsf.gov/bfa/dias/policy/autocheck/compliancechecks_july16.pdf*. The list specifies which checks are run depending on funding opportunity type (GPG, Program Description, Program Announcement, or Program Solicitation) and type of proposal (Research, RAPID, EAGER, Ideas Lab, Conference, Equipment, International Travel, Facility/Center, or Fellowship). It also specifies whether the check triggers a "warning" or "error" message for non-compliant proposals.

We encourage you to share this information with your colleagues. For system-related questions, please contact the NSF Help Desk at 1-800-381-1532 or Rgov@nsf.gov.

SIGNIFICANT CHANGES AND CLARIFICATIONS TO THE GRANT PROPOSAL GUIDE (GPG)

Editorial changes have been made to either clarify or enhance the intended meaning of a sentence or section or ensure consistency with data contained in NSF systems or other NSF policy documents. Throughout the PAPPG, website references and Division or Office names have been updated to reflect current information. Please click on the below link to view significant changes: *http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp*

FUNDING OPPORTUNITIES

CENTERS FOR CHEMICAL INNOVATION (CCI) SOLICITATION

NSF Chemistry is looking forward to reading your proposals for tackling Grand Challenges in Chemistry. After a hiatus, the Division is again holding a CCI Phase I competition — the first step in building large research centers focused on major, long-term fundamental chemical research challenges.

The CCI Program is a two-phase program. Phase I awards ($600,000/y for 3 years) support small teams of researchers as they develop the collaborative science, management structure, and broader impacts that will lead to a compelling Phase II proposal ($4 million/y for 5-10 years). This competition is open to projects in all fields supported by NSF Chemistry.

The CCI Program Solicitation (NSF 16-568) is now on the web: *http://go.usa.gov/cSjed*. The first CCI deadline is for a required Preliminary Proposal due September 15, 2016.

Please contact CCI Program Officers Katharine Covert (*kcovert@nsf.gov*) or Lin He (*lhe@nsf.gov*) to discuss ideas and ask questions. Program Officers will also be available at the American Chemical Society (ACS) National Meeting in Philadelphia to discuss the CCI program as well.

Web link: *https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=13635&ods_key=nsf1656*

INNOVATIONS AT THE NEXUS FOOD, ENERGY AND WATER SYSTEMS (INFEWS)

Humanity is reliant upon the physical resources and natural systems of the Earth for the provision of food, energy, and water. It is becoming imperative that we determine how human civilization can best function across the natural and built environments to provide for a growing demand for food, energy, and water systems while minimizing ecosystem impacts.

Last year, the Division of Chemistry sponsored/co-sponsored four INFEWS workshops. CHE thanks the workshop organizers, steering committees, and workshop participants for their efforts to provide valuable perspectives for consideration by the entire chemistry community. The workshop reports are now available online:

> Addressing the Scientific, Technological and Societal Challenges of the Energy, Water, and Food Nexus: Enabling Resiliency in Energy, Water, and Food Systems for Society, April 16-17, 2015
> *http://www.nsf.gov/mps/che/workshops/uarizona_few_nexus_workshop_report_final.pdf*
>
> FEWS NSF Workshop: Closing the Human Phosphorus Cycle, June 8-9, 2015
> *http://www.nsf.gov/mps/che/workshops/phosphorus_cycle_report_final.pdf*
>
> FEWS NSF Workshop: Food-Energy-Water Systems Challenging Chemists and Chemical Engineers in the 21st Century, October 13-15, 2015
> *http://www.nsf.gov/mps/che/workshops/infews_workshop_report_2015.pdf*
>
> FEWS NSF Workshop: Grand Challenges in the Nitrogen Cycle, November 9-10, 2015
> *http://www.nsf.gov/mps/che/workshops/n_cycle_workshop_executive_summary_november_2015.pdf*

In addition, CHE and the Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET) have recently re-issued a Dear Collegague Letter (DCL) to continue to encourage advances in understanding the nitrogen and phosphorus cycles; the production and use of fertilizers for food production; and the detection, separation, and reclamation/recycling of nitrogen- and phosphorus-containing species in and from complex aqueous environments. CHE proposals on these topics should be submitted within the existing September or October windows. Please see: *https://www.nsf.gov/mps/che/INFEWS_DCL_NPH2O.pdf* or contact your cognizant Program Officers listed in the DCL for more details.

SUSTAINABLE CHEMISTRY, ENGINEERING, AND MATERIALS (SUSCHEM) FUNDING OPPORTUNITY

In fiscal year (FY) 2013, NSF started an initiative to encourage and foster research in Sustainable Chemistry, Engineering, and Materials (SusChEM), partially in response to the mandate of the America COMPETES Reauthorization Act of 2010. The SusChEM program addresses the interrelated challenges of sustainable supply, engineering, production, and use of chemicals and materials.

In FY 2017, the participating Divisions are Chemistry (CHE); Chemical, Bioengineering, Environmental, and Transport Systems (CBET); Materials Research (DMR); Earth Science (EAR); and the Materials Engineering and Processing Program in the Division of Civil, Mechanical and Manufacturing Innovation(CMMI). They have reissued the SusChEM DCL to call for new proposals in this topic area. CHE proposals on this topics should be submitted within the existing September or October windows. Please click on the link for more details:
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf16093

PROPOSAL SUBMISSION WINDOWS (IIAS)

Principal Investigators (PIs) may submit proposals to the following CHE programs between **September 1st** and **September 30th, 5 pm local time:**

- Chemical Catalysis - CAT
- Chemical Structure, Dynamics and Mechanisms A - CSDM A
- Chemical Structure, Dynamics and Mechanisms B - CSDM B
- Chemical Theory, Models and Computational Methods - CTMC
- Chemical Synthesis - SYN

Proposals may be submitted between **October 1st** and **October 31st, 5 pm local time:**

- Chemical Measurement and Imaging - CMI
- Chemistry of Life Processes - CLP
- Environmental Chemical Sciences - ECS
- Macromolecular, Supramolecular and Nanochemistry - MSN

Note that if the last day of a submission window falls on a weekend or official federal government holiday, the deadline will be on the following business day, at 5 pm local time.

ARTICLES OF INTEREST

COMMITTEE OF VISITORS (COV) REPORT

By NSF policy, each program that awards grants and cooperative agreements must be reviewed at three-year intervals by a Committee of Visitors (COV) comprised of qualified external experts. NSF relies on their judgment to maintain high standards of program management, to provide advice for continuous improvement of NSF performance, and to ensure openness to the research and education community served by the Foundation. Reports generated by COVs are used in assessing agency progress in order to meet government-wide performance reporting requirements, and are made available to the public.

On May 11-12, 2016, the Chemistry Division convened a COV that was charged to address and prepare a report on:

> The quality and effectiveness of the merit review process;
>
> The selection of reviewers;
>
> The management of the programs under review;
>
> The management of the overall portfolio including the balance across disciplines and sub-disciplines, award size and duration, awards to new and early-career investigators, etc.

Decisions to award or decline proposals are ultimately based on the informed judgment of NSF staff, based on evaluations by qualified reviewers who reflect the breadth and diversity of the proposed activities and the community. Systematic examination by the COV of a wide range of funding decisions provides an independent mechanism for monitoring and evaluating the overall quality of the Division's decisions on proposals, program management and processes, and results.

Both the COV report and the Directorate's response to the report are available on the MPS advisory committee web page: ***http://w.nsf.gov/mps/advisory/cov.jsp***

We are grateful to the COV Members for all the hard work they did to assure the transparency and accountability of the NSF Division of Chemistry merit review processes. We are especially grateful to the COV Chair, Dr. Sharon Hammes-Schiffer, University of Illinois at Urbana-Champaign, for her exemplary leadership during the COV process.

2016 CHEMISTRY CAREER AWARDEES

CONGRATULATIONS TO THE NSF/CHEMISTRY 2016 CAREER AWARDEES

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the NSF's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. Such activities should build a firm foundation for a lifetime of leadership in integrating education and research.

We hereby recognize the NSF/CHE CAREER Awardees, Class of 2016!

Alabi Christopher

Cornell University

Award Number:

1554046

Title:

Precise Assembly and Evaluation of Sequence-Defined Macromolecular Architectures.

Nandini Ananth

Cornell University

Award Number:

1555205

Title:

Theoretical Investigation of Photo-induced Charge and Energy Transfer in Organic Photovoltaic Materials.

Aaron Beeler

Trustees of Boston University

Award Number:

1555300

Title:

Chemical Transformations Enabled by Flow Chemistry.

Orion Berryman

University of Montana

Award Number:

1555324

Title:

Fundamental Studies of Multidentate Halogen Bond Donors for Supramolecular Catalysis.

Michael Brown

Indiana University

Award Number:

1554760

Title:

SusChEM: New Methods for Cu-Catalyzed Cross-Coupling Reactions.

Eric Brustad

University of North Carolina at Chapel Hill

Award Number:

1552718

Title:

Expanding Protein Chemistry through the Evolution of Orthogonal Non-Natural Heme: Enzyme Pairs. Architectures.

Daniela Buccella

New York University

Award Number:

1555116

Title:

Fluorescent Tools for the Study of Biological Magnesium.

Rebecca Butcher

University of Florida

Award Number:

1555050

Title:

A multidisciplinary approach to the investigation of secondary metabolism in nematodes.

Wesley Chalifoux

Board of Regents, NSHE, University of Nevada, Reno

Award Number:

1555218

Title:

Precise Assembly and Evaluation of Sequence-Defined Macromolecular Architectures.

Shelley Claridge

Purdue University

Award Number:
1555173

Title:
Standing, Lying, and Sitting: Restructuring Intermolecular Forces in Molecular Monolayers and Freshman Chemistry.

Brandi Cossairt

University of Washington

Award Number:
1552164

Title:
New Models for Controlling InP Nucleation, Growth, and Luminescence using Magic-Sized Clusters and Targeted Surface Chemistry.

Mingji Dai

Purdue University

Award Number:
1553820

Title:
Carbonylation Methodologies and Strategies for Complex Natural Product Synthesis.

Albert DePrince

Florida State University

Award Number:
1554354

Title:
Quantum-mechanical methods for electronic excited states in complex systems.

Dipannita Kalyani

Saint Olaf College

Award Number:
1554630

Title:
SusChEM: Nickel Catalyzed Arylation: Reaction Development and Mechanistic Investigation.

Michael Findlater

Texas Tech University

Award Number:
1554906

Title:
SusChEM: Iron Catalysts for the Reduction of Amides.

Ignacio Franco

University of Rochester

Award Number:
1553939

Title:
Decoherence, Non-Equilibrium Properties and Stark Control of the Electrons at Nanoscale.

Renee Frontiera

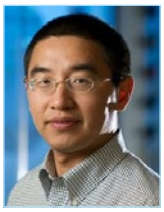
University of Minnesota-Twin Cities

Award Number:
1552849

Title:
Super-resolution Raman microscopy for all-optical, label-free nanoscale chemical imaging.

Haifeng Gao

University of Notre Dame



Award Number:
1554519

Title:
SusChEM: Develop Unprecedented Chain-growth Polymerization Method to Access Structurally Defined Hyperbranched Polymers.

Ramesh Giri

University of New Mexico

Award Number:
1554299

Title:
SusChEM: Development of Tandem and Multi-Component Couplings with Base Metals and Organic Electron Donors.

David Gorin

Smith College

Award Number:
1554814

Title:
DNA-Catalyst Conjugates for Site-Selective Transformations in Biological Contexts.

Catherine Grimes

University of Delaware

Award Number:
1554967

Title:
Molecular Recognition of Bacterial Cell Wall Fragments by Yeast and Humans.

Libai Huang

Purdue University

Award Number:
1555005

Title:
Ultrafast Nanoscopy of Energy Transport in Molecular Assemblies.

Todd Hudnall

Texas State University at San Marcos

Award Number:
1552359

Title:
Correlating Organic Radical Structure to Electrochemical and Photophysical Properties: Evolving Energy Storage and Light-Emitting Materials.

Kami Hull

University of Illinois at Urbana-Champaign

Award Number:
1555337

Title:
Rhodium-Catalyzed Oxidative Functionalization Reactions.

Vlad Iluc

University of Notre Dame

Award Number:
1552397

Title:
Nucleophilic, Radical, and Electrophilic Palladium Carbene Complexes: New Types of Reactivity for Palladium.

Elena Jakubikova

North Carolina State University

Award Number:
1554855

Title:
SusChEM: Computational Studies of Light-Induced Dynamics in First-Row Transition Metal Complexes.

John Jewett

University of Arizona

Award Number:
1552568

Title:
Triazabutadienes as a Versatile Tool in Chemical Biology.

Matthew Kiesewetter

University of Rhode Island

Award Number:
1554830

Title:
Stereoselective and Rate-enhanced H-bonding Catalysts for Ring-Opening Polymerization.

Thomas Maimone

University of California at Berkeley

Award Number:
1554544

Title:
New Annulative Methods for the Synthesis of Complex Meroterpenes

Thomas Makris

University of South Carolina at Columbia

Award Number:
1555066

Title:
Mechanism of Cytochrome P450 Alkene Biosynthesis.

Steven Mansoorabadi

Auburn University

Award Number:
1555138

Title:
Mechanistic and Biosynthetic Studies of Dinoflagellate Bioluminescence.

Smaranda Marinescu

University of Southern California

Award Number:
1555387

Title:
Metal Complexes with Pendant Proton Relays for Small Molecule Activation.

Alexander Miller

University of North Carolina at Chapel Hill

Award Number:
1553802

Title:
Dynamic Hemilability Controlled by Cation-Responsive Pincer-crown Ether Catalysts.

Amanda Morris

Virginia Polytechnic Institute and State University

Award Number:
1554046

Title:
SusChEM: Electron Transfer Mechanisms in Metal Organic Framework Thin Films. Architectures.

Deborah Perlstein

Trustee of Boston University

NO PHOTO

Award Number:
1555295

Title:
Elucidating the role of ATP in Cytosolic Iron Sulfur Cluster Biogenesis.

Alexandre Shvartsburg

Wichita State University

Award Number:
1552640

Title:
High-Resolution Multidimensional Nonlinear Ion Mobility Spectrometry for Analytical Separations and Structural Characterization.

Jennifer Stockdill

Wayne State University

NO PHOTO

Award Number:
1554752

Title:
Harnessing the reactivity of neutral aminyl radicals for complex Heterocycle Synthesis.

Ryan Sullivan

Carnegie-Mellon University

Award Number:
1554941

Title:
Effects of Chemical Aging on the Ice Nucleation Properties of Natural and Anthropogenic Atmospheric Particles.

Daniel Turner

New York University

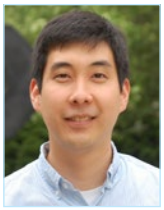
NO PHOTO

Award Number:
1552235

Title:
Investigating how Conical Intersection Topography Drives Photochemistry using High-Sensitivity Femtosecond Spectroscopy

Christopher Uyeda

Purdue University



Award Number:
1554787

Title:
SusChEM: Metal-Metal Bonds as Active Sites in Catalysis.

Stephen Valentine

West Virginia University

Award Number:
1553021

Title:
Developing hybrid IMS/OMS-MS/MS techniques for protein complex structure characterization.

Yolanda Vasquez

Oklahoma State University

Award Number:
1554924

Title:
Unraveling the Cluster Chemistry of Chalcogenide Semiconductor Nanoparticles.

Adelina Voutchkova-Kostal

George Washington University

NO PHOTO

Award Number:
1554963

Title:
SusChEM: Recyclable transfer hydrogenation catalysts by tuning non-innocent catalytic supports. Architectures.

Joshua Vura-Weis

University of Illinois at Urbana-Champaign

Award Number:
1555245

Title:
Tabletop Extreme Ultraviolet Spectroscopy of Femtosecond Spin Crossover Dynamics. Architectures.

Matthew Whited

Carleton College

Award Number:
1552591

Title:
SusChEM: Cooperative Small-Molecule Activation by Ambiphilic Pincer-Type Complexes Featuring Metal/Main-Group Bonds.

Yan Xia

Stanford University

Award Number:
1553780

Title:
Controlling Polymer Degradation, Microstructures, and Sequences via Living Alternating Polymerization of Cyclopropenes and Low-Strain Cyclic Olefins.

Jenny Yang

University of California at Irvine

Award Number:
1554744

Title:
SusChEM: Activation and Electrocatalytic Reduction of CO2 by Abundant Metal Complexes and Development of K-12 Electrochemical Educational Projects.

Jing Zhao

University of Connecticut

Award Number:
1554800

Title:
Synthetically Controlled Plasmon-Multiexciton Interaction in Semiconductor-Metal Hybrid Nanostructures.

Paul Zimmerman

University of Michigan at Ann Arbor

Award Number:
1551994

Title:
CDS&E: Predictive Discovery of Complex Reaction Mechanisms.Architectures.

AMERICAN CHEMICAL SOCIETY NATIONAL MEETING AND EXPOSITION

The Division of Chemistry will participate in this year's 252nd American Chemical Society (ACS) National Meeting and Exposition in Philadelphia, PA on August 21-25, 2016.

ACS Meeting website: *www.acs.org/content/acs/en/meetings/fall-2016.html*

Please mark your calendar with the following days and times to find NSF Staff at the following symposiums and presentations.

Monday, **August 22, 2016** from **1:00 — 4:00 P.M.**

Philadelphia Marriott Downtown – Liberty Salon C

ACS Presidential Symposium: "NSF Opportunities"

Monday, **August 22, 2016** from **8:00 — 10:00 P.M.**

Pennsylvania Convention Center – Halls D/E

Sci-Mix poster session and mixer

Tuesday, **August 23, 2016** from **1:00 — 5:00 P.M.**

Pennsylvania Convention Center – Room 122B

Federal Funders Town Hall Meeting

Speed Coaching Session

Wednesday, **August 24, 2016** from **7:00 — 9:00 P.M.**

Pennsylvania Convention Center – Hall D

Physical Chemistry Division Poster Session

The NSF Staff is looking forward to another successful and productive meeting and exposition!

NATIONAL ORGANIZATION FOR THE PROFESSIONAL ADVANCEMENT OF BLACK CHEMISTS AND CHEMICAL ENGINEERS (NOBCCHE)

The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) is dedicated to building an eminent cadre of people of color in science and technology. In pursuit of this mission NOBCChE initiates and supports local, regional, national, and global programs that assist people of color in fully realizing their potential in academic, professional, and entrepreneurial pursuits in chemistry, chemical engineering, and related fields. The organization promotes careers in science and technology as an achievable goal for elementary, middle, and high school students. In addition, NOBCChE encourages college students to pursue graduate degrees in the science, technology, engineering, and mathematics (STEM) disciplines. NOBCChE also provides professional development programs, networking and mentoring for early to mid-career professionals.

The 2016 43rd Annual Meeting will be held November 8-11 at the Raleigh Convention Center in Raleigh, North Carolina. The Annual Meeting provides an opportunity for STEM students and professionals to learn about next generation technologies while developing personal and professional connections. The Annual Meeting is also a time to celebrate the past and present achievements of NOBCChE members.

This year the NSF Division of Chemistry will be involved in the Exhibits, Poster Sessions and STEM Science Bowl at NOBCChE 2016. Please see the NOBCChE website for further details: *www.nobcche.org/conference*

The NSF Staff is looking forward to another successful and productive meeting and exposition!

SOCIETY FOR THE ADVANCEMENT OF CHICANOS/HISPANICS AND NATIVE AMERICANS IN SCIENCE (SACNAS) MEETING

The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) is an inclusive organization dedicated to fostering the success of Chicano/Hispanic and Native American scientists, from college students to professionals, in attaining advanced degrees, careers, and positions of leadership in STEM. SACNAS achieves its mission impact through outcome-based programming and initiatives. The organization serves over 25,000 students and professionals each year with its conference and year-round programs, and thrives on the dedication and support of hundreds of volunteers.

The 2016 SACNAS National Conference will be held October 13-15 at the Long Beach Convention Center in Long Beach, California. 2016 SACNAS is three days of cutting-edge science, training, mentoring, and cultural activities for students and scientists at all levels. Conference programming is specifically tailored to support undergraduate and graduate students, postdoctoral researchers, and career professionals at each transition stage of their career as they move towards positions of science leadership.

This year the NSF Division of Chemistry will be involved in presentations at 2016 SACNAS. Please see the SACNAS website for further details: *www.2016sacnas.org*

RECRUITING ROTATORS

We are once again recruiting rotating Program Officers. Please visit the CHE website for further details: *http://www.nsf.gov/div/index.jsp?div=CHE*

Read on to hear from several of our former "rotators" about their experiences while at NSF:

Dr. Fraser Fleming, Ph.D., Professor and Head of Department of Chemistry for Drexel University — former Program Officer in the Chemical Catalysis Program and Team Lead in the Chemical Synthesis Program

Working as a rotating Program Officer at NSF was an outstanding experience. The position provided an opportunity to serve the chemical community while learning more broadly about chemistry and the intricacies of various government, private, and public organizations. Program Officers can offer unique advice to facilitate people's research and their careers by connecting individuals to new opportunities, by focusing Principal Investigators on their really creative, transformative research ideas, and by helping people think broadly about emerging frontiers in chemistry.

Running panels provided another great opportunity to learn and contribute by making sure all avenues of a proposal are evaluated. The 45-50 minute discussion on emerging trends in organic synthesis at the beginning of the panels was extremely insightful while establishing a bar to gauge proposals against in the evaluative phase. The opportunity to strategically include a few new or struggling Principal Investigators alongside experienced experts was just one way to help people in developing their own proposals.

The work environment at NSF was excellent. The staff is talented and the people are very willing to help pass on tips and wisdom. Support was available to Program Officers to return to their home institution and to attend conferences. Regular internal professional development programs were available ranging from negotiation to people-solving skills that were taught by a very competent group of professionals. Two years as a Program Officer provided a unique set of skills, opportunities to help others, and a diverse experience that was unrivalled for exposure to excellent chemistry and professional development.

Dr. Matthew Platz, Ph.D., Vice Chancellor for Academic Affairs for University of Hawaii at Hilo — Former Division Director (DD) of NSF Chemistry

It was my honor and pleasure to serve as the Director of the Division of Chemistry between September 2010 and January, 2013. As DD, I was an Ohio State University faculty member working as an IPA in Arlington Virginia. My retirement from OSU on January 1, 2013, had as a consequence, the end of my time with NSF.

I very much enjoyed my time at NSF and grew both as a person and as a professional. My collaborative work on what became Sustainable Chemistry, Engineering, and Materials (SusChEM) and Innovations at the Nexus of Food, Energy and Water Systems (INFEWS), and a joint initiative with the Environmental Protection Agency (EPA), were among the most rewarding experiences of my career. It was also a pleasure to work in a division with dedicated scientists and administrative staff all of whom were consummate professionals and selfless servants of chemistry and chemists. I also loved living in Northern Virginia.

When the time is right in your life and career, I heartily recommend to all chemistry faculty, to spend a couple of years in the NSF Division of Chemistry.

DIVISION OF CHEMISTRY
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