DIVISION OF CHEMISTRY

CHE NEWSLETTER

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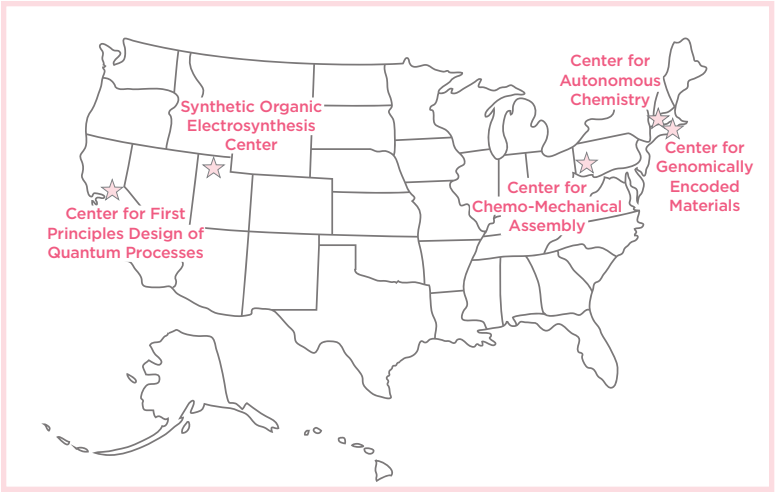

NEW CENTERS FOR CHEMICAL INNOVATION PHASE I AWARDS

The Centers for Chemical Innovation (CCI) program supports centers devoted to major, long-term, and fundamental chemical research. On September 1st, the Division of Chemistry announced five new Phase I awards ($0.6 million/y for three years) to develop cutting edge science, education and outreach activities. These are awards that culminate in the opportunity to compete for Phase II funding ($4 million/y for 5 years, renewable once).

The ***Center for First Principles Design of Quantum Processes*** aims to develop computational tools and experimental methods to understand, predict, and design the quantum mechanical phenomena that occur during chemical reactions. The researchers will explore the properties and dynamics of an array of energy transport processes. This work will help to develop a deep, fundamental understanding of how chemical reactions proceed. The leader of this center is Professor Todd Martinez at Stanford University.

The ***Center for Autonomous Chemistry*** is inspired by self-regulating chemical processes found in nature, like the process by which white blood cells in the body are selectively deployed to fight viruses and disease-causing bacteria. The team led by Professor Sankaran Thayumanavan at the University of Massachusetts Amherst will identify structural and functional signals that can autonomously move chemical agents and direct targeted reactions. This work may lead to a wide variety of applications ranging from sensing technologies to drug therapies.

The ***Center for Genomically Encoded Materials*** seeks to take advantage of known biological processes to produce precisely tailored polymers. Professor Alanna Shepartz and her team at Yale University adapt the translational

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UPDATE FROM THE DIVISION DIRECTOR

Dear Colleagues,

I hope that you have had an enjoyable fall! It is hard to believe that 2017 is behind us already. Over the past year, the Division of Chemistry has continued with successful programs such as the Centers for Chemical Innovation (CCI) Program, which made five Phase I awards in fiscal year (FY) 2017. CCI is already reviewing Phase I pre-proposals for FY 2018. CHE has also pursued new initiatives, including our ***Dear Colleague Letter on Data-Driven Discovery Science in Chemistry (D3SC)***; the first awards for this program were also made in FY 2017.

Funding Opportunities: We continue to encourage submissions for Major Research Instrumentation (MRI), and D3SC while introducing three new opportunities related to the NSF Big Ideas:

> Enabling Quantum Leap: Quantum Information Science and Engineering Network – TRIPLETS,
> Enabling Quantum Leap: Transformational Advances in Quantum Systems and
> Rules of Life (RoL): Forecasting and Emergence in Living Systems (FELS) (RAISE)
> NSF / DOE Quantum Science Summer School

Finally, we also have supplemental opportunities including ***Improving Graduate Student Preparedness for the Chemistry Workforce*** and Division of Chemistry Supplemental Funding for Proposals with International Collaboration. Please click on the link for more information:
https://www.nsf.gov/pubs/2018/nsf18037/nsf18037.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click

Chemistry Early Career Investigator Workshop: The NSF Chemistry Early Career Investigator Workshop will be held on March 26-27, 2018 at the Embassy Suites in Alexandria, VA. All early career faculty (and prospective faculty) are strongly encouraged to attend. The workshop will help participants craft research ideas, plan educational and outreach activities, develop NSF proposals, and assess and evaluate project aims. The workshop will provide opportunities to interact with successful NSF awardees as well as much of the NSF CHE staff. We gratefully thank this year's organizers Professor Gordana Dukovic from the University of Colorado Boulder and Professor Matt Whited from Carlton College. Applications for the workshop are due on January 15, 2018; see ***http://blogs.carleton.edu/nsf2018***. Registration is free and some financial aid is available for travel and lodging. Please share this information with your colleagues!

Division Director Search: The search for a new NSF Chemistry Division Director has begun, and the posting can be found on ***USA Jobs***. I have been at NSF for two years already, nearly fulfilling the commitment that I made to serving as Chemistry Division Director. The time has passed quickly and I have thoroughly enjoyed the opportunity to work at NSF. With that in mind, I highly recommend the opportunity and encourage applications and nominations to the Search Committee lead by Dr. Deborah Lockhart, Deputy Assistant Director for the Directorate for Mathematical and Physical Sciences. I am willing to have confidential conversations with anyone with interest in the position. I look forward to a new Division Director who will embrace the Division's ongoing initiatives and lead the Division of Chemistry's efforts in NSF-wide initiatives including the Big Ideas (***https://www.nsf.gov/about/congress/reports/nsf_big_ideas.pdf***).

NSF Program Officer Positions: CHE continues to have ***opportunities for rotating Program Officers***. CHE is interested in hearing from individuals who would like to join the Division. Rotators work at NSF for one to four years. Current rotators include Susan Atlas (University of New Mexico), Bob Cave (Harvey Mudd College), Max Funk (University of Toledo, Emeritus), Luke Hanley (University of Illinois at Chicago), Kevin Moeller (Washington University St. Louis), John Papanikolas (University of North Carolina at Chapel Hill), Tarek Sammakia (University of Colorado Boulder), and myself (Michigan State University). Any of us can tell you more about our experiences.

Please look for new ***Tumblr Posts*** and ***Tweets*** from CHE, where we hope to regularly highlight the amazing science, outreach and educational activities of our community. We thank our new Presidential Management Fellow, Melissa Olson, for working on this new activity! If you would like to see your research highlighted, please send an email to ***chemhighlights@nsf.gov***.

I wish you a very productive 2018, and look forward to another year of terrific chemistry research!

Best wishes,

Angela K. Wilson
Division Director, CHE

ANNOUNCEMENTS

CHEMISTRY ANNOUNCEMENTS

CHE IS DELIGHTED TO WELCOME THE FOLLOWING NEW PROGRAM DIRECTORS

Luke Hanley
Dr. Luke Hanley rotates in from the University of Illinois at Chicago. His research interests include analytical chemistry, mass spectrometry, bioengineering, and surface science, and in particular, laser desorption postionization mass spectrometric imaging of biofilms and organic films. Luke is a Program Director in the Chemical Catalysis (CAT) and Macromolecular, Supramolecular, and Nanochemistry (MSN) Programs.

Tarek Sammakia
Dr. Tarek Sammakia rotates in from the University of Colorado Boulder. His research interests include the use of oxocarbenium ions in organic synthesis, the synthesis of natural products, and selective catalysis. Tarek is a Program Director in the Chemical Catalysis (CAT) and Chemical Synthesis (SYN) Programs.

WE WELCOME OUR NEW PRESIDENTIAL MANAGEMENT FELLOW

Melissa Olson
Dr. Melissa Olson graduated from the University of Minnesota-Twin cities with a Ph.D. in Chemical Engineering and Materials Science, and she just returned from her postdoc at the École Polytechnique Fédérale de Lausanne. Her background is in the synthesis and characterization of thin films for solar energy conversion. She is assisting in division communications and program analysis.

THE DIVISION WOULD LIKE TO WELCOME DARREN KIMBLE

Darren Kimble
Mr. Darren Kimble joins us from the NSF Division of Physics (PHY) and is a Program Specialist in the Chemical Structure, Dynamics and Mechanisms (CSDM-A and CSDM-B), Environmental Chemical Sciences (ECS) and Undergraduate Programs in Chemistry (REU) Programs. We are glad to have him as part of our CHE team.

COVER ARTICLE *CONTINUED*

apparatus of E. coli, which normally promotes bond formation between amino acids to make proteins, to promote bonds between specific monomers to make sequence-specific polymers. This reaction could lead to the synthesis and discovery of new materials with novel properties and applications.

The ***Center for Chemo-Mechanical Assembly*** plans to harness the movements of particles that arise in systems with density, potential, or chemical gradients for self-assembly. The particles organized by these carefully designed gradients may then carry out complex chemical reactions or signaling. Potential applications include self-assembling micro-fluidic devices, portable biological devices, and automated materials assembly. Professor Anna Balazs at the University of Pittsburgh leads the team.

The ***Synthetic Organic Electrosynthesis Center*** explores the use of electrochemical techniques to synthesize organic molecules. Oxidation and reduction agents are commonly needed to drive organic synthesis, but this center hopes to bypass these potentially expensive and wasteful reagents by using electrochemistry to selectively add or remove electrons in C-H functionalization or cross-coupling reactions. This work, led by Professor Shelley Minteer at the University of Utah, could be used to develop new organic synthesis pathways or to scale up reactions in a sustainable and environmentally-friendly manner.

THE DIVISION WOULD LIKE TO SAY GOOD-BYE TO THE FOLLOWING STAFF MEMBERS

Illinois (Irma) Johnson

The Division would like to say thank you to Ms. Illinois (Irma) Johnson for her dedication to CHE for 15 years. Irma served as the Program Specialist for the Chemical Structure, Dynamics and Mechanisms (CSDM-A and CSDM-B), Environmental Chemical Sciences (ECS), and the Undergraduate Education (REU) Programs. Irma will move to the NSF Division of Electrical, Communications & Cyber Systems (ENG/ECCS) as a Program Specialist. We wish Irma much success, though we will greatly miss her!

David Rockcliffe

The Division would like to say thank you to Dr. David Rockcliffe for his dedication and hard work as the Program Lead for the Chemistry of Life Processes (CLP) Program. Dr. Rockcliffe will be returning to the NSF Molecular and Cellular Biosciences (MCB) Division where he will be the Cluster Leader in the Systems and Synthetic Biology Program. We wish Dave continued success and look forward to continuing to collaborate.

Eric Pfeiffer

The Division would like to say thank you to Mr. Eric Pfeiffer for his hard work as a Program Specialist for Chemistry. Eric worked for the Chemistry of Life Processes (CLP), Chemical Catalysis (CAT), and the Undergraduate Education (REU) Programs. Eric started his career at NSF as a Pathways Student and will return to his studies on a full-time basis.

Stephanie Albin

The Division would like to say thank you to Dr. Stephanie Albin for her dedication and hard work as an AAAS Science & Technology Policy Fellow. Stephanie helped CHE to collect and analyze data and information related to brain research. Stephanie is moving to Los Angeles, CA, working for the Kavli Foundation as a Science Program Officer. Again, we wish Stephanie all the best.

THE DIVISION WOULD LIKE TO SAY THANK YOU TO DENISE ZELAYA

Denise Zelaya

Ms. Denise Zelaya works in the MPS Front Office. CHE recognizes Denise for her willingness to go above and beyond in supporting CHE by helping with travel authorizations and approvals, scheduling and other logistical matters. She performs these duties on top of her regular jobs as a Pathways Student in the MPS Office of the Assistant Director.

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!

RECRUITMENT FOR CHE DIVISION DIRECTOR

We are currently searching for a Division Director for NSF Chemistry. The successful candidate leads a team of program officers in managing a broad portfolio of investments in research and education in Chemistry. S/he serves as a member of the leadership team of the Directorate for Mathematical and Physical Sciences and has managerial and oversight responsibilities for the effective use of Divisional resources in meeting organizational goals and objectives. This position includes directing the activities of the Division, assessing needs and trends in research and education related to the Division's programs, implementing overall strategic planning, and policy setting.

The Division Director supervises and provides leadership and guidance to senior executive level CHE staff (Deputy Division Director) and CHE program officers, as well as administrative and support personnel. The Division Director determines funding requirements, prepares and justifies budget estimates, balances program needs, allocates resources, oversees the evaluation of proposals and recommendations for awards and declinations, and represents NSF to relevant external groups. The Division Director fosters partnerships with other Divisions, Directorates, Federal agencies, scientific organizations, and the academic community.

The mission of the NSF Division of Chemistry is to support innovative research in chemical sciences, integrated with education, through strategic investment in developing a globally engaged U.S. chemistry workforce reflecting the diversity of America. CHE manages programs with a total annual budget of over $240 million. These programs support research and education that expand the knowledge base of the science of chemistry through single investigator and collaborative research. The deadline for application is February 20, 2018.

For more information, please see:
https://www.usajobs.gov/GetJob/ViewDetails/484734500

FUNDING OPPORTUNITIES

MAJOR RESEARCH INSTRUMENTATION (MRI)

A new solicitation for the Major Research Instrumentation (MRI) Program has been issued. **The submission window is January 29 - February 05, 2018 (due by 5 p.m. submitter's local time)**. The largest change in this solicitation is introduction of two new tracks. Previously there was an acquisition and instrument development track. In the new solicitation, track 1 is for proposals under $1 million and track 2 is for proposals between $1 million and $4 million. Each University is limited to two proposal submissions in track 1 and one submission in track 2.

This competition is expected to be vigorous. Anyone interested in submitting a proposal in track 2 to CHE is strongly encouraged to contact Dr. Carlos Murillo. The solicitation can be found at: ***https://www.nsf.gov/pubs/2018/nsf18513/nsf18513.pdf***

ENABLING QUANTUM LEAP: QUANTUM INFORMATION SCIENCE AND ENGINEERING NETWORK — TRIPLETS (THEORETICAL AND EXPERIMENTAL)

The Quantum Leap, one of the Ten Big Ideas, is a cross-NSF activity focused on extending our fundamental knowledge of the quantum world to enable the development of novel, transformative technologies. To train students in this dynamic emerging research area, the "Quantum Information Science and Engineering Network (QISE-NET)" has been formed. Through this network, TRIPLETS, composed of a faculty member (PI), industrial partner, and graduate student, will be supported for efforts in QISE. To apply, graduate students should submit a two-page project proposal on research objectives and plans for work in QISE. The typical award will consist of $10,000 per year to augment (not replace) a student's current stipend and will be used to reimburse travel to, and local expenses at, the company location for collaborative research. Yearly workshops will be held for participating students by the QISE-NET program. For more information, please see: ***http://qisenet.uchicago.edu***

DEAR COLLEAGUE LETTER (DCL)

RAISE ON ENABLING QUANTUM LEAP: TRANSFORMATIONAL ADVANCES IN QUANTUM SYSTEMS

This Research Advanced by Interdisciplinary Science and Engineering (RAISE) DCL encourages bold, interdisciplinary projects of up to $1 million over five years on research at the intersection of two of the NSF Big Ideas: Quantum Leap, which is a multi-pronged effort to advance fundamental understanding of quantum phenomena, materials, communications, and systems, and Convergent Research, which fosters the merging of ideas and approaches from widely diverse fields.

Quantum information science (QIS) is rapidly advancing as applications that use fundamental physical principles such as coherence, superposition, and entanglement are pioneered with ions, molecules, atoms, and atom-like systems. Superconducting qubits, quantum dots, and quantum optics are also advancing QIS. Breakthroughs in these fields are expected to promote better understanding of quantum chemistry, high-temperature superconductivity, magnetism, topological matter, thermodynamics, quantum electrodynamical chemistry, entanglement generation and measurement, hybrid quantum systems, quantum annealing, quantum tomography, quantum control, quantum computation, and quantum simulation.

CHE encourages researchers to submit interdisciplinary research projects that include at least three complementary components represented by researchers with expertise in the areas of chemistry, physics, mathematics, materials science, engineering, and computer/computational science, which are represented by the NSF Directorates for Mathematical and Physical Sciences (MPS), Engineering (ENG), and Computer and Information Science and Engineering (CISE). The innovative proposals must focus on quantum functionality by assessing aspects relevant to both fundamental and application concepts, and must result in experimental demonstrations of transformative advances towards quantum systems and/or proof-of-concept validations.

For more information, see: ***https://www.nsf.gov/pubs/2018/nsf18035/nsf18035.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click***. **Note, prior to submission, a one-page white paper must be prepared and submitted, by February 16, 2018, to cognizant Program Directors from at least three participating divisions/offices.**

For more information, please contact CHE Program Director Evelyn Goldfield, ***egoldfie@nsf.gov***.

DEAR COLLEAGUE LETTER (DCL)

RULES OF LIFE (ROL): FORECASTING AND EMERGENCE IN LIVING SYSTEMS (FELS)

NSF seeks to highlight the importance of research that forecasts the direction and dynamics of change in living systems. The robustness and reproducibility of processes associated with the emergence of complex properties in biological systems suggests the existence of underlying general principles ("rules") across the spectrum of biological phenomena. Identification and application of these fundamental rules would be of high value to both the scientific community and the Nation. This Dear Colleague Letter (DCL) describes an initial opportunity to identify areas where such rules may exist, to catalyze approaches toward their discovery, and to focus efforts on using these rules for prediction and design of useful biological systems. Activities supported via this DCL include Conferences, EArly-concept Grants for Exploratory Research (EAGERs), and Research Advanced by Interdisciplinary Science and Engineering (RAISE) grants to create opportunities for enabling predictive capability.

CHE encourages researchers to submit interdisciplinary research within the RoL:

1. Propose strategies to discover, elucidate, or apply a fundamental rule that, when more fully understood, could be used to predict a specific complex aspect of biological systems;
2. Target a specific emergent property, which spans biological scales (spatial and/or temporal scales; levels of biological organization);
3. Generate tools or theory and results that will be broadly generalizable beyond the system under investigation; and
4. Would not normally be funded by only the BIO Directorate; proposed research must also cross the disciplinary boundary represented by at least one of these directorates: Computer and Information Science and Engineering (CISE); Education and Human Resources (EHR); Engineering (ENG); Geosciences (GEO); Mathematical and Physical Sciences (MPS); and Social, Behavioral, and Economic Sciences (SBE).

For more information, see: ***https://nsf.gov/pubs/2018/nsf18031/nsf18031.jsp***. For a project to be considered for RAISE funding through this opportunity, a 2-page prospectus of the proposed research must be submitted to the RoL: FELS mailbox (***RoLBIO@nsf.gov***) by **February 20, 2018**. The 2-page summary must be a PAPPG-compliant PDF file and clearly lay out the idea of the RAISE and illustrate how the project would address the 4 criteria noted above. RAISE submissions must clearly explain the interdisciplinary nature of the project and indicate the relevant NSF directorate(s) in addition to BIO that would need to be involved in considering the merits of the project. Invited RAISE proposals must follow the guidelines contained in the PAPPG. For more information please contact CHE Program Director Susan Atlas, ***satlas@nsf.gov***.

RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU): OPPORTUNITIES IN CHEMISTRY

REU sites in chemistry are actively recruiting undergraduates for the summer of 2018. These sites offer excellent opportunities to gain hands on experience in many areas of chemistry. Cadres of students network with highly engaged faculty on cutting edge research projects. Please share the site with all undergraduate students who are looking for research experience: ***https://www.nsf.gov/crssprgm/reu/list_result.jsp?unitid=5048***

Also, the Chemistry REU Sites Program is updating the listing of institutions looking to host students in the summer of 2018. This active listing is updated constantly with new awards. If you have an REU Site that will accept chemistry students in the summer of 2018 and your site is not listed, please send an email to ***mbushey@nsf.gov*** and request that your site be listed.

2018 EARLY CAREER INVESTIGATOR WORKSHOP

The 2018 Chemistry Early Career Investigator Workshop will be held March 26–27, 2018 at the Embassy Suites Hotel in Alexandria, VA. The workshop will gather early-career chemistry faculty from all types of academic institutions with the goal of helping participants gain better insight into the proposal review process. A variety of successful awardees and NSF staff will offer valuable tips for preparing more competitive NSF CAREER proposals as well as proposals under Research Experiences for Undergraduates (REU), Research in Undergraduate Institutions (RUI), and other NSF programs, in addition to programs available from other federal agencies.

Group activities will focus on the formulation and evaluation of NSF CAREER proposals and will provide valuable networking opportunities with federal program officers, funded investigators, and other junior faculty. The workshop is expected to have 100 participants and will be open to junior faculty members conducting research in areas that are supported by CHE who have not previously served as a PI on a federally-funded research grant (not including REU, MRI, or postdoctoral training grants).

Applications for the workshop are due on January 15, 2018. Note: Registration is free and financial aid may be available for travel and lodging.

For more details, including the online application form, please visit: ***http://go.carleton.edu/nsf2018***

NSF/DOE QUANTUM SCIENCE SUMMER SCHOOL (QS^3)

Applications are now being accepted to the NSF/DOE Quantum Science Summer School (*http://qs3.mit.edu/index.php/summer-school-program*). This program is dedicated to the education of graduate students and postdocs in the fields of chemistry, materials science, engineering, and related fields. The annual summer school focuses on key topics of interest in quantum science and their applications to new technologies in academic and industrial contexts. The goal is to provide expert training to participants in these subfields by experts in the field in an intensive two-week format. This year's program will be held on June 10-22, 2018 at Cornell University and applications are now being accepted. **The application deadline is January 31, 2018, apply at QS3.mit.edu.**

OUTREACH ACTIVITIES

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

Three members of CHE — C. Michelle Jenkins, Darren Kimble, and Bob Cave — attended NOBCChE's 44th Annual Meeting, October 30 – November 2, 2017, in Minneapolis, MN.

The team exhibited at the Career Fair providing information on NSF's funding opportunities for students in programs such as: the Research Experiences for Undergraduates (REU), the Louis Stokes Alliances for Minority Participation Program (LSAMP), the Graduate Research Fellowship Program (GRFP), and the International Research Experiences for Students (IRES).

CHE also participated in the poster sessions, the Chat-N-Chew Professional Talks, the STEM Science Bowl Week Activities, and the Henry McBay Award Session (where Michelle Jenkins gave a presentation on Navigating Funding Opportunities in Chemistry at the National Science Foundation).

OUTREACH VISIT TO ATLANTA AREA UNIVERSITIES: SPELMAN COLLEGE, CLARK ATLANTA UNIVERSITY, MOREHOUSE COLLEGE, AND MOREHOUSE SCHOOL OF MEDICINE

Gloria Yancey, Marla Stewart, Colby Foss, and Michelle Bushey traveled to Atlanta area universities and colleges in late September 2017. The CHE group met with faculty and students at Spelman College, Clark Atlanta University, Morehouse College, and Morehouse School of Medicine. The CHE team listened to the faculty members' descriptions of their research interests and offered information about NSF and CHE programs. They also answered questions about the proposal submission and review process. The faculty members (especially the junior faculty) were encouraged to submit proposals and participate in proposal review. The Division thanks Professor Claudia Scholz, Associate Provost of Spelman College, for organizing the visit.

OUTREACH VISIT TO BARRY UNIVERSITY, FLORIDA MEMORIAL UNIVERSITY AND FLORIDA INTERNATIONAL UNIVERSITY

Outreach trips to Barry University, Florida Memorial University (FMU), and Florida International University (FIU) were undertaken by CHE Program Director Kelsey Cook in mid-August. At FIU, Dr. Cook held office hours for faculty and met with the first-year graduate students as part of their orientation (discussing the Graduate Research Fellowship Program and other opportunities and issues). At Barry University, Dr. Cook met with the Dean of Science and several faculty and department heads, discussing a wide range of NSF opportunities and grantsmanship ideas. Meeting with the chemistry head and additional faculty at FMU, Dr. Cook discussed a wide range of alternative resources that could help the program become competitive for NSF funding.

OUTREACH VISIT TO FLORIDA A&M UNIVERSITY

In October 2017, CHE Program Directors Colby Foss and Kelsey Cook visited Florida A&M University. After meeting with the Vice Chancellor for Research, they spent time with the Dean and several faculty (including assistant professors) discussing opportunities and grantsmanship challenges.

OUTREACH VISIT TO SOUTHERN TEXAS: THE UNIVERSITY OF TEXAS/RIO GRANDE VALLEY, TEXAS A&M INTERNATIONAL UNIVERSITY, TEXAS A&M UNIVERSITY CORPUS CHRISTI, PRAIRIE VIEW A&M UNIVERSITY AND TEXAS SOUTHERN UNIVERSITY

In September 2017, Anne-Marie Schmoltner, Program Director for Environmental Chemical Sciences, travelled to Southern Texas and visited several Minority-Serving Institutions: the University of Texas, Rio Grande Valley, Texas A&M International University, Texas A&M University Corpus Christi, Prairie View A&M University, and Texas Southern University. She met with undergraduate and graduate students, faculty members, university administrators and representatives from sponsored research offices to provide information about funding opportunities in the Chemistry Division, and at NSF in general.

There was a lot of interest in hearing about funding mechanisms and advice for proposal preparation, and new initiatives coming online at NSF. These meetings were very interactive and most of the time was spent answering audience questions. The visit occurred only a few weeks after hurricane Harvey made landfall in Rockport, TX causing historic flooding in Houston. Everybody had stories to tell about how their life was affected by the hurricane, but all the universities were open again and ready to continue their work of teaching and research.

If your organization would like a visit by NSF Program Staff, please contact us! We love to talk about science, education and outreach!

CHEMISTRY ORGANIZATION CHART

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Chemistry Program Abbreviations	
Chemical Catalysis (CAT)	Environmental Chemical Sciences (ECS)
CHE Centers (CCI)	Major Research Instrumentation (MRI)
Chemistry of Life Processes (CLP)	Macromolecular, Supramolecular & Nanochemistry (MSN)
Chemical Measurement & Imaging (CMI)	Research Experiences for Undergraduates (REU)
Chemical Structure, Dynamics & Mechanisms (CSDM A & B)	Chemical Synthesis (SYN)
Chemical Theory, Models & Computational Methods (CTMC)	

The mission of the Division of Chemistry is to promote the health of academic chemistry and to enable basic research and education in the chemical sciences. The Division supports research in all traditional areas of chemistry and in multidisciplinary fields that draw upon the chemical sciences. The Division also supports projects that help build infrastructure, workforce, and partnerships that advance the chemical sciences.

DIVISION OF CHEMISTRY
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