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Division of Chemistry
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Letter from the Division Director

Matthew Platz

Greetings,

I am pleased to provide you with the semi-annual report from the Division of Chemistry of the National Science Foundation. As described elsewhere in this Newsletter, the National Science Board has released a report, "National Science Foundation's Merit Review Criteria: Review and Revisions"; the report is available at http://www.nsf.gov/nsb/publications/2011/meritreviewcriteria.pdf. The NSF is studying the recommendations of this report, which may result in changes to the next Grant Proposal Guide (GPG). Until such time, the current edition of the GPG governs the peer review process. For additional information, please see Important Notice 132, Implementation of Revised National Science Board-approved Merit Review Criteria that was issued on March 27, 2012.

Several exciting new opportunities for Principal Investigators (PIs), including CEMMSS (Cyber-Enabled Materials Manufacturing and Smart Systems), CIF21 (Cyberinfrastructure Framework for 21st Century Science & Engineering) and SusChEM (Sustainable Chemistry, Engineering, and Materials), are described in this newsletter. I also recommend reviewing the section on recent and upcoming workshops.

A Single Submission Window for Unsolicited Proposals

In recent years PIs were able to submit unsolicited proposals to the NSF Division of Chemistry in either July or November. However, beginning in 2012, Chemistry programs will only accept unsolicited proposals in September or October. PIs may submit to the following programs in September (Chemical Catalysis-CAT; Chemical Structure, Dynamics and Mechanisms-CSDM; Chemical Theory, Models and Computational Methods-CTMC; Chemical Synthesis-SYN), or to the following programs in October (Chemical Measurement and Imaging-CMI; Chemistry of Life Processes-CLP; Environmental Chemical Sciences-ECS; Macromolecular, Supramolecular and Nanochemistry-MSN). GOALI (Grant Opportunities for Academic Liaison with Industry) and RUI (Research in Undergraduate Institutions) proposals should be submitted to the programs during these windows as well. CRIF (Chemistry Research Instrumentation and Facilities), CAREER (Faculty Early Career Development Program), EAGER (Early Concept Grants for Exploratory Research), REU (Research Experiences for Undergraduates), MRI (Major Research Instrumentation Program) and CCI (Centers for Chemical Innovation) proposals are not affected by this change. PIs should continue to reference http://www.nsf.gov/div/index.jsp?div=CHE for the deadlines of these and other programs.

We are moving to one window in order to align the proposal life cycle more closely with the federal budget cycle. Funds allocated to federal agencies must be expended in the same fiscal year. A fiscal year begins on October 1 and ends the following year on September 30. The Division cannot underspend its allotment and bank it for use in the following fiscal year. In practical terms, this means that a program director must complete his or her work by July 31 to expend the funds allocated for that fiscal year. In the present system, some PIs who submit in July must wait nearly an entire year before they learn the outcome of their proposal. This is simply unacceptable. Under the changes we are initiating,

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the final funding decisions on unsolicited single investigator proposals will still be made in July, but PIs who are declined in July will have 8-12 weeks to study their review and resubmit proposals accordingly.

Between FY1994 and FY2011, the number of proposals received by the division has nearly doubled. The large increase in proposal pressure has translated into a dramatic increase in workload for the reviewer community. During this same period, the division budget did not increase at a similar rate, which decreased the funding rate from 45% to 23%. To prevent the funding rate from dropping even further, we choose to increase the average grant size at a rate that was significantly less than inflation, resulting in the purchasing power of the average award in 2011 to be approximately 7.4% less than it was in 1994.

The Division of Chemistry discourages the submission of more than one proposal from the same PI during the proposal-submission window. Proposals that are a duplicate of, or substantially similar to a proposal already under consideration by NSF from the same submitter are subject to return without review. This practice also applies to proposals that were previously reviewed and declined and have not been substantially revised, as well as to duplicates of other proposals that were already awarded. Please see the NSF Grant Proposal Guide (GPG) Chapter IV-Section B. "Return Without Review" at http://nsf.gov/pubs/policydocs/pappguide/nsf11001/nsf11_1.pdf for further information.

I am very proud of both the review process and of our community-based recommendation process. I anticipate that the move to one window will maintain the integrity of this system by reducing proposal pressure and proposer and reviewer workload. Hopefully, this change will improve award rates as well. Recently minted PhDs will have two opportunities per year to submit independent proposals to the division via the CAREER and the unsolicited single investigator programs. While I do understand that PIs who are declined will have a longer time interval to bridge between grants, I believe this change is necessary to preserve the long-term integrity of the peer review system.

FY2011 and FY2012 Budget Recap and President Obama's Budget Request to Congress

In FY2011, the NSF budget experienced a 0.85% budget cut relative to FY2010, and the Division of Chemistry received a minor 0.05% decrease. Because the President's FY2012 budget request (+12.4% over the FY2011 allocation) differed significantly from the final allocation, there was a ten week interval between the appropriation and final determination of divisional program budgets specifically. In FY2011, program officers received their final budget allocations around July 1, 2011. Relative to FY2010, the divisional portfolio (~70% individual investigator awards (IIA's), ~15% infrastructure, ~10% Centers for Chemical Innovation and 5% education) remained constant, as did the funding rate for single investigator proposals (~23%).

ARRA (American Recovery and Reinvestment Act of 2009) funding allowed the Division to make a larger than usual number of Individual Investigator Awards (IIAs). As a result, in FY2012, we expected a similarly higher number of renewal proposals, thus we moved $8M from infrastructure to the IIAs. The cuts to the Chemistry Research Instrumentation and Facilities and the Research Experience for Undergraduate programs are fully restored in the FY2013 NSF Budget Request. We will, however, move the CRIF submission deadline from June to January to align with the MRI Program. Since there is much overlap between CRIF and MRI proposals, we expect that we can reduce panelist and reviewer workload by considering proposals in common CRIF/MRI panels.

The NSF will receive a 2.5% increase in FY2012 over the FY2011 enacted budget; however, the Divisional increase is essentially flat (note the FY2012 budget request called for a 10.5% increase over the FY2011 Actual level). There was, however, a 3.5% increase in unsolicited single investigator proposals (including CAREER proposals) in FY2012 relative to FY2011.

The President's Budget Request for FY2013 calls for an increase of 4.2% or $9.8M to the Divisional budget. Much of this increase ($13.8M) is through a new program, "Sustainable Chemistry, Engineering and Materials" (SusChEM). SusChEM was developed in response to Section 509 of the America COMPETES Reauthorization Act of 2010, and will fund both IIAs and Centers for Chemical Innovation. Please stay tuned for more details related to SusChEM in the coming months.

As always, I would be very happy to discuss the move to one window, new initiatives, budgets, or any other aspects of Chemistry Division business at your faculty meeting. Please notify the Division (chemplans@nsf.gov) if you wish us to attend via Skype, Evo, WebEx, Polycom Tandberg VTC, or other technology.

Best wishes for continued success,

Matt Platz
Division Director
NSF Division of Chemistry
mplatz@nsf.gov

Sustainable Chemistry, Engineering, and Materials Initiative (SusChEM)

Tingyu Li

As mentioned in our March 2011 newsletter (http://www.nsf.gov/pubs/2011/nsf11040/nsf11040.pdf) the Chemistry Division is developing a sustainable chemistry program. This is in response to the America Competes Reauthorization Act of 2010. As part of this initiative, in Fiscal Year 2012, the Centers for Chemical Innovation (CCI) Program Phase I competition restricted proposal submissions to those related to Sustainable Chemistry. In addition, the Divisional American Competitiveness in Chemistry postdoctoral fellowship program was replaced by the Foundation-wide SEES Fellows Program.

A sustainable world is one in which human needs are met equitably without harm to the environment and without sacrificing the ability of future generations to meet their needs. Addressing this formidable challenge requires a substantial increase in our understanding of the integrated system of society, the natural world, and the impact of human activities on planet Earth. NSF's Science, Engineering, and Education for Sustainability (SEES) activities address this need through support for interdisciplinary research and education.

The simultaneous consideration of social, economic, and environmental systems and the long-term viability of those systems is fundamental to all sustainability research. Concepts that underlie the science of sustainability include complex adaptive systems theory, emergent behavior, multi-scale processes, as well as the vulnerability, adaptive capacity, and resilience of coupled human-environment systems. An important research goal is to understand how patterns and processes on local and regional scales relate to processes and patterns that manifest on a global scale over the long term. These topics guide research to explore alternate ways of managing the environment, migrating from finite resources to renewable or inexhaustible resources, and applying technology to improve human well-being. Conceptual frameworks for sustainability, including general theories and models, are critically needed for such informed decision making.

In FY2013, the sustainable chemistry initiative will evolve into the Sustainable Chemistry, Engineering, and Materials initiative (SusChEM) under the auspices of the NSF-wide Science, Engineering and Education for Sustainability program (SEES). Funding for the SusChEM initiative is in the President's FY2013 NSF Budget Request to Congress, and a workshop on SusChEM was held in January 2012 in Arlington, Virginia. (See http://engineering.ucsb.edu/suschem/ for more details).

The SusChEM initiative addresses the interrelated challenges of discovering new chemistry related to sustainable supply chains, production, and recycling of chemicals and materials. Examples include replacing the rare, expensive and/or toxic chemicals with earth abundant, inexpensive and benign chemicals, recycling of chemicals that cannot be replaced, developing non-petroleum based sources of organic chemicals, discovering new environmentally friendly chemical reactions and processes, and the design of efficient, low energy, chemical processes to facilitate recovery and recycling.

While no new solicitation is planned for the SusChEM initiative, NSF expects to issue Dear Colleague Letters to encourage submissions of SusChEM-related proposals through existing mechanisms in the participating NSF Divisions. These Divisions, their funding priorities, and collaboration requirements will be detailed in Dear Colleague Letters planned for issuance over the next few weeks.

Please visit the NSF SEES webpage at http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504707 for additional information.

Important Notice Regarding NSF Merit Review Criteria

Tanja Pietrass

In December 2011, the National Science Board (NSB) released a report on the National Science Foundation's merit review criteria. The NSB report, National Science Foundation's Merit Review Criteria: Review and Revisions, (http://www.nsf.gov/nsb/publications/2011/meritreviewcriteria.pdf) was the result of a thorough examination by the NSB Task Force on Merit Review. The Task Force was charged to investigate the effectiveness of the merit review criteria (intellectual merit and broader impacts) used by the National Science Foundation (NSF) since 1997 to evaluate all proposals. Information about NSF's plans for implementation of the revised National Science Board-approved Merit Review Criteria is available in the NSF Important Notice No. 132, available at http://www.nsf.gov/pubs/2012/in132/in132.pdf.

Designing Materials to Revolutionize and Engineer our Future

Mary Galvin-Donoghue

We are excited to announce a new materials initiative recently introduced by President Obama entitled Materials Genome Initiative (MGI - http://www.whitehouse.gov/sites/default/files/microsites/ostp/materials_genome_initiative-final.pdf). This initiative recognizes the importance of materials science to the well-being and advancement of society and aims to decrease the cost and time it takes to move from the discovery of a material to its use in the commercial market. It will leverage federal investments in materials research by developing an integrated approach to materials science and engineering that couples advanced computational methods with data management and new experimental techniques, ultimately enabling materials by design.

In support of this initiative, the Mathematical and Physical Sciences (MPS) and Engineering (ENG) Directorates issued a Dear Colleague Letter (http://www.nsf.gov/pubs/2011/nsf11089/nsf11089.pdf) for FY2012 that expressed interest in receiving proposals that accelerated materials discovery by building the knowledge needed to design a material with a specific function or property from first principles. This initial effort, called Designing Materials to Revolutionize and Engineer our Future (DMREF) emphasized activities in the Divisions of Materials Research (MPS), the Civil, Mechanical, Manufacturing, and Innovation (ENG), and the Chemical, Bioengineering, Environmental and Transportation Systems Divisions in ENG. This effort will be expanded in FY2013 to include the Divisions of Chemistry and Mathematical Sciences in MPS; Electrical, Computer and Cyber Systems in ENG; and the Directorate of Computer and Information Science and Engineering (CISE). This new initiative is broad-based and will offer funding opportunities to materials scientists, engineers, chemists, mathematicians, statisticians, physicists, and computer scientists. It is expected that groups submitting proposals will encompass a subset of synthesis, growth, processing; characterization techniques; theory/modeling/simulation; data mining, analysis and visualization; and the proposed research should involve a collaborative and iterative process, as well as a close coupling of expertise in a continuous feedback loop. Since another goal of this program is to develop data transparency and open access to algorithms, proposals should discuss how they will address open access.

NSF at the March 2012 American Chemical Society Meeting FedFunders Town Hall

Renee Wilkerson

The NSF Division of Chemistry and colleagues from other federal agencies held a joint "FedFunders Town Hall Meeting & Speed Coaching Session" at the National Meeting and Exposition of the American Chemical Society (ACS) in San Diego, California on Monday March 26, 2012, at the San Diego Convention Center. The town hall meeting is a partnership between the National Science Foundation's Division of Chemistry, the Department of Energy's Chemical Sciences, Geosciences, and Biosciences Division in the Office of Basic Energy Sciences (DOE BES), and the National Institutes of Health's Division of Pharmacology, Physiology, and Biological Chemistry in the National Institute of General Medical Sciences (NIH NIGMS).

A panel discussion led by Matthew Platz (NSF) and Miles Fabian (NIH), and John Miller (DOE) focused on brief program updates from each respective agency. Each agency also participated in a "speed coaching" activity immediately following the town hall portion to spend 10-15 minutes one-on-one with prospective or current investigators on topics including proposal preparation, current funding opportunities, chemistry education programs, post-award management, and others.

We appreciate everyone who attended this important outreach activity and look forward to seeing more attendees at the next town hall and speed coaching meeting at the August 2012 ACS National Meeting in Philadelphia, Pennsylvania.

Videoconferences with Chemistry

NSF Chemistry would be delighted to visit your organization via videoconference or teleconference. We can contact you using a variety of technology including Evo, WebEx, Skype, Polycom/Tandberg, or other methods depending on available resources. It's an effective way to update you and your colleagues on Chemistry Division business, programs, and opportunities, and to answer questions and address any concerns. Schedule a videoconference today by sending an email to chemplans@nsf.gov with preferred dates and times.

Cyber Infrastructure for 21st Century Science and Engineering (CIF21)

Evelyn M. Goldfield

Cyber Infrastructure for 21st Century Science and Engineering (CIF21) is a long-term strategic NSF-wide program to address research, workforce and infrastructure needs for all areas of science and engineering. CIF21 provides a framework for supporting computational and data-enabled science and engineering (CDS&E), particularly for science and engineering research that is enabled by computation, computational algorithms and tools, large-scale complex data and tools for data analysis. While NSF currently provides support for some integrative cyber infrastructure such as Extreme Science and Engineering Discovery Environment (XSEDE), CIF21 will help NSF in general (and MPS and CHE in particular) address these needs in a systematic, sustained, and strategic way. The Software Infrastructure for Sustained Innovation program is an example of a CIF21 activity that has been of interest to many in the chemistry community.

Chemistry currently invests in the development of theoretical and computational chemistry through its core programs, including the Computational Theory, Models and Computational Methods (CTMC) program. However, the grand challenges posed by sustainability research require advances in fundamental theoretical methods, algorithms, modeling and simulation techniques, data design and the development of a robust set of integrated computational tools that can take advantage of state-of-the-art computational hardware.

CIF21

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504730

XSEDE

https://www.xsede.org/

Software Infrastructure for Sustained Innovation

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503489&org=NSF

The NSF Graduate Research Fellowship Program

Timothy Patten

The NSF Graduate Research Fellowship Program (GRFP) was established in 1952 to select, recognize, and financially support individuals early in their careers with the demonstrated potential to be high achieving scientists and engineers. Last year, 2,000 of these prestigious fellowships were awarded to students who are now pursuing research-based Master's and Doctoral degrees in fields within NSF's mission of which 158 belong to one of the chemistry subfields. The ranks of NSF Fellows include numerous individuals who have made transformative breakthroughs in science and engineering research and who have become leaders in their chosen career paths. This group of fellows includes 30 Nobel Laureates and 440 National Academy of Sciences members.

Fellows receive a stipend of $30,000 per year plus a cost-of-education allowance to the degree-granting institution for three years, which is usable over a five year period. The fellowship is portable to any degree-granting institution of the student's choice. The deadline for applications usually falls in mid-November, and awards are announced sometime in early spring for commencement of the fellowship tenure at the beginning of the subsequent academic year.

The Chemistry Division encourages all chemistry department faculty members to identify potential applicants and to encourage them to apply for this fellowship. Further information can be found at the NSF website (http://www.nsf.gov) and the GRFP website (http://www.nsfgrfp.org).

Highlight Spotlight

The Division of Chemistry's mission is to support innovative research in chemical sciences, integrated with education, through strategic investment in developing a globally engaged U.S. chemistryworkforce reflecting the diversity of America. Related to our mission is the goal of communicating the value and articulating the impact and importance of chemistry as an essential science for addressing important questions and challenges facing the 21st century. To this end the Division of Chemistry encourages current and recent awardees to consider submitting a "Highlight" to inform us about recent research, education outcomes, and accomplishments stemming from NSF-supported work. Highlights offer at-a-glance snapshots of the Foundation's investments in research and education activities; they serve multiple purposes for informing Foundation stakeholders about our progress in advancing discovery, innovation, and education beyond the frontiers of current knowledge, and are shared through various media. Additional information on Highlights, example Highlights, and a Highlight Template are available on the Chemistry webpage at: http://www.nsf.gov/mps/che/Highlights/HighlightWebpages/highlights.jsp Highlights are accepted anytime at chemhighlights@nsf.gov

MPS AGEP Graduate Research Supplements (GRS)

Renee Wilkerson

The NSF Directorate for Mathematical and Physical Sciences (MPS) has initiated a partnership with the Division of Human Resource Development (HRD) in the Directorate of Education and Human Resources (EHR). PIs with current MPS research awards whose academic units are participating in the EHR-sponsored "Alliances for Graduate Education and the Professoriate" (AGEP) program may apply to MPS for a supplement to defray the costs for: stipend, tuition, benefits and indirect costs for an additional graduate research student working on the MPS-funded research. This funding opportunity is abbreviated to: AGEP - Graduate Research Supplements (AGEP-GRS).

In support of NSF's commitment to broadening participation among individuals, institutions, and geographic areas, these supplements are designed to promote increased participation in all fields of MPS research, with an emphasis placed on increasing the involvement in these fields by members of underrepresented groups -- a key goal of the AGEP Program.

A Dear Colleague Letter further describing this opportunity may be found at:
http://www.nsf.gov/pubs/2012/nsf12021/nsf12021.jsp?org=NSF

Details of the AGEP Program may be found here:
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503563

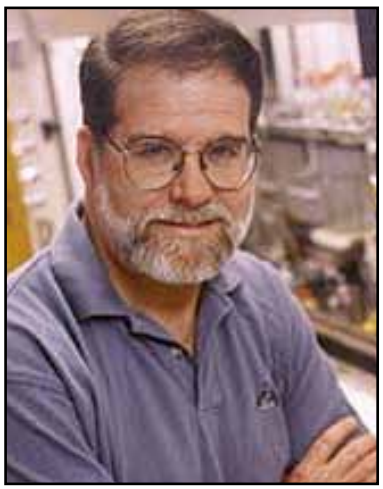
Staff Changes in the Division of Chemistry

Debbie Jones

The Division would like to thank Dr. Steven Bernasek (Princeton University), Dr. Michael Clarke (Boston College), and Dr. Philip Shevlin (Auburn University) for their contribution in the last year. The Division of Chemistry wishes them continued success as they return to their respective universities.

The Division welcomes the following new staff members: Dr. John Gilje, Dr. James Lisy, Ms. Michelle Jenkins, Mr. William Martin, and Mrs. Margaret-Anne Wampamba. Dr. James Lisy is a Professor of Chemistry at the University of Illinois at Urbana-Champaign. Dr. Lisy will be joining the Chemical Structure, Dynamics and Mechanisms (CSDM) and Chemical Theory, Models and Computational Methods (CMTC) Programs. Dr. John Gilje is a Professor of Inorganic and Organometallic Chemistry at James Madison University. Dr. Gilje will be in the Chemical Catalysis (CAT) Program on a part-time basis. Ms. Michelle Jenkins, Program Specialist, is from the Directorate of Social, Behavioral & Economic Sciences (SBE). Mr. William Martin, Program Assistant, is a part of the Non-Paid Work Experience Program, which provides disabled veterans with opportunities for career development and job placement at federal government agencies. Mrs. Margaret-Anne Wampamba, Program Specialist, is on a detail from the MPS Office of the Assistant Director and will assist with the Sustainable Energy Pathways (SEP) Program. We would also like to congratulate Illinois Johnson on her promotion to a Program Specialist within the Division of Chemistry.

Dr. Steven Bernasek



Dr. Michael Clarke

Dr. Philip Shevlin

Chemistry Events

Recent & Upcoming Workshops

Renee Wilkerson

SusChEM Workshop

January 17 - 19, 2012 Arlington, VA

The goals of the Sustainable Chemistry, Chemical Engineering, and Materials (SusChEM) workshop were to explore multidisciplinary synergies in research and education, and to encourage a consilient view of sustainability from the atomic/molecular scale to the systems level, including non-technical considerations. Expected outcomes include strategies to reduce or eliminate the use of rare elements and other scarce materials, reduce the use of freshwater and energy in processing and manufacturing, design benign replacements, and increase the feasibility of recovery/recycling of chemicals. For additional information on the SusChEM workshop, please visit http://engineering.ucsb.edu/suschem/

Chemistry Graduate Education Workshop

January 23 – 24, 2012 Washington, D.C.

A workshop was held at the National Academy of Sciences to examine the status and goals of graduate education in chemistry in the context of current societal challenges and employment opportunities for Ph.D. chemists. The effort was funded in part by an award (NSF Award CHE-1147410) from the Special Projects Program of the Chemistry Division to the Board on Chemical Sciences and Technology of the National Research Council.

The Workshop was led by Prof. Joseph Francisco, past President of the American Chemical Society, and currently the William E. Moore Distinguished Professor at Purdue University, and introduced by comments from Dr. Matthew Platz, Director of the Division of Chemistry. The workshop brought together stakeholders from academe, industry, and government to discuss the extent to which the goals and expectations of current Ph.D. programs in chemistry are well-aligned with societal needs in commerce, sustainability, and other critical areas. The conversation also addressed alternative models of chemical education, in which graduate students would complement courses and research in their chosen fields with acquisition of skills that would better prepare them for employment in education, industry, and government.

The Board on Chemical Sciences and Technology will write and disseminate a report of the discussions at the workshop. Visit the following website for additional information visit http://dels.nas.edu/global/bcst/Chemistry_Grad_Ed_Workshop/

Empirical Approaches to Alternative Chemistries of Life

April 1 – 4, 2012 Washington, D.C.

NSF and NASA jointly funded a workshop on *"Empirical Approaches to Alternative Chemistries of Life"*

Organized by David Lynn (Emory University), Cindy Burrows (University of Utah), and Ginger Armbrust (University of Washington)

Physical Chemistry Symposium Workshop for Undergraduate Chemistry Majors

Philadelphia, PA

Fall 2012 American Chemical Society National Meeting Contact Carol Parish for additional information at PHYSworkshop@richmond.edu

Separation Science on a Sustainable Future

ACS Symposium in the Fall

The recent NSF-sponsored workshop on SusChEM identified new research in separation science as a key priority. Thus, the NSF Divisions of Chemistry (CHE) and Chemical, Bioengineering, Environmental, and Transport Systems (CBET) are co-sponsoring an ACS symposium aimed at communicating the immediate needs for resource separation and recovery to the separation community. The symposium is titled "Separation Science for a Sustainable Future" and will be held during the fall ACS meeting in Philadelphia this August (Program #: ANYL 018). Dr. Catherine Hunt from The Dow Chemical Company (CatherineHunt@dow.com) and Dr. Mamadou Diallo from Caltech (diallo@wag.caltech.edu) will be co-chairing the symposium. The Symposium will feature a series of talks on purification and recovery of rare earth elements and their possible replacement with earth-abundant alternatives. This will be followed by an open-floor discussion. More information will be available soon at http://abstracts.acs.org/chem/244nm/meetingview.php?page=session&par_id=389

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Recent Meetings

AirUCI Annual Meeting

January 23 – 24, 2012 Laguna Beach, CA

Led by PI Barbara Finlayson-Pitts, the Center for Atmospheric Integrated Research at University of California at Irvine (AirUCI) focuses on increasing the molecular understanding of atmospheric processes using a rigorous and innovative interaction of theory and experiment. AirUCI is funded by MPS/CHE with cofunding from AGS/ATC (NSF Award CHE-0909227). The Center held its annual meeting at Laguna Beach, CA on January 23-24, 2012. The meeting featured presentations by invited speakers, all of whom are leading women scientists, as well as AirUCI faculty, postdoctoral researchers, and undergraduate and graduate students. The students also presented posters during break times. The meeting highlighted the collaboration of AirUCI faculty with researchers at Pacific Northwest National laboratory (PNNL), and with researchers in the Czech Republic, Germany, and Israel. During the last few years, the Center has made significant advances in the area of aerosol chemistry, and members' findings have led to significant improvement in the predictive power of climate and air pollution models. Visit the AirUCI website for additional information at http://airuci.uci.edu/

CCI Solar Annual Meeting

January 27 - 29, 2012 Huntington Beach, CA

NSF staff attended the annual retreat for the Powering the Planet Center for Chemical Innovation (CCI Solar), a Phase II NSF-Chemistry supported Center for Chemical Innovation. This team of researchers is investigating water splitting using solar energy. The retreat reported recent advances in homogeneous and heterogeneous catalysis, semiconductor light collectors and nanostructured materials chemistry. There was also a session on CCI Solar's successful outreach efforts, including the SHArK Project and Juice from Juice. Visit the CCI Solar website for additional information at http://ccisolar.caltech.edu/index.php

Upcoming Proposal Deadlines

All deadlines are 5 p.m., submitter's local time, unless otherwise noted

Faculty Early Career Development Program (CAREER) (NSF 11-690)	Full Proposal: varies by Directorate
July 23, 2012 (**BIO**, **CISE**, **EHR**, **OCI**) July 24, 2012 (**ENG**) July 25, 2012 (**GEO**, **MPS**, **SBE**, **OPP**)	
Science, Engineering and Education for Sustainability Fellows (NSF 11-575)	Full Proposal: December 3, 2012

NEW! The Division of Chemistry Is Moving to a Single Proposal Submission Window for Unsolicited Proposals and Discourages Multiple Submissions

Principal Investigators (PIs) may submit to the following Chemistry Division programs between September 1st and September 30th:

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

Proposals may be submitted to the following programs between October 1st and October 31st:

- 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 is always the following business day, at 5 pm local time.

The CRIF, CAREER, REU, MRI and the Centers for Chemical Innovation programs and any other programs that specify the submission date in a solicitation are not affected by this change. PIs should continue to visit http://www.nsf.gov/div/index.jsp?div=CHE for the deadlines of these and other programs.

CHE discourages the submission of more than one proposal from the same Principal Investigator during the proposal-submission window. Note that proposals that are a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter are subject to return without review. This also applies to proposals that were previously reviewed and declined and have not been substantially revised as well as to duplicates of other proposals that were already awarded.

Grant Opportunities for Academic Liaison with Industry-(GOALI/NSF 12-513) and Research in Undergraduate Institutions-(RUI/NSF 00-144) should be submitted within the Division windows listed above. Early Concept Grants for Exploratory Research (EAGER) and Rapid Response Research (RAPIDs) proposals are considered anytime. Please contact a Program Director in the appropriate program for assistance.

For a full list of NSF proposal deadlines, funding opportunities and more, visit http://www.nsf.gov/funding/

Newsletter Production

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