

Letter from the Division Director

By Matthew Platz



Greetings,

I am pleased to provide my biannual report to the community on new and planned developments at the Division of Chemistry of the National Science Foundation. In many ways this has been a challenging year. The division received its final budget for FY11 only in late June of 2011, which meant that decisions on pending proposals were made very late in the year. For example, July 2011 was spent making final decisions on proposals submitted in July 2010 and November 2010 while also receiving proposals for fiscal year 2012. In the end, the news was relatively good, and the Chemistry Division took a small budget cut compared to FY10. This cut was absorbed strategically to preserve historic funding rates in the single investigator awards program.

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Sustainable Chemistry

As mandated in the America Competes Reauthorization Act of 2010, activities towards developing a sustainable chemistry basic research program are underway. Following a workshop and webinar hosted at the National Academy of Sciences, the scientific themes for this program are beginning to take shape. We are envisioning a program that will fund research to discover the basic science needed to (a) utilize new (non-petroleum based) sources of important raw materials, (b) replace rare, expensive and/or toxic chemicals and materials with earth-abundant, inexpensive and benign alternatives, (c) economically recycle chemicals that cannot be replaced such as phosphorus and the rare earth elements, and (d) devise environmentally friendly chemical reactions and processes that require significantly less energy, water and organic solvents than current practices.

Continued on page 2

The community should also note the following:

- As mentioned in the previous newsletter, the Chemical Research Infrastructure (CRIF) program will be suspended in FY12 to allow historic funding rates during the ARRA echo year, when renewal proposals of numerous stimulus year proposals are expected. We plan to restore CRIF in FY13 but departments can still apply for instrument funds in FY12 through the MRI program.
- The Centers for Chemical Innovation (CCI) Program Phase I competition will be limited to proposals related to Sustainable Chemistry. See the CCI Program Webpage for more information: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13635&org=CHE&from=home
- The International Collaboration in Chemistry program may also be restricted to proposals related to Sustainable Chemistry.
- The American Competitiveness in Chemistry Post Doctoral Fellowship Program will become part of an NSF-wide Science, Engineering and Education for Sustainability (SEES) post doctoral fellowship program.

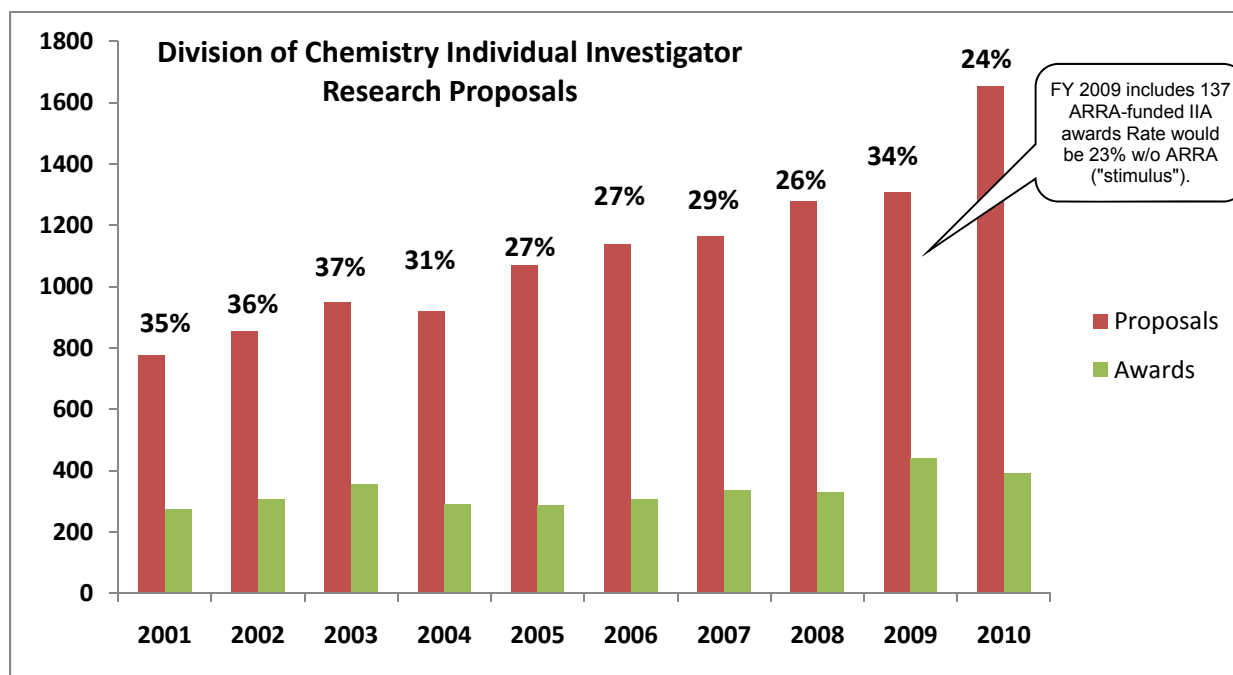
Chemistry to Move to One Submission Window in Autumn of 2012

At this time, PIs can submit unsolicited single investigator award proposals in either July or November to the Division of Chemistry. The benefit to the community is obvious: a PI can plan his/her writing schedule around two possible submission times. However, the November window does not provide PI's enough time to revise and resubmit a declined July submission, because often the Division simply does not have sufficient budget information to act on proposals submitted in July by November. This would also be true if the second window for submission were to be in January.

In FY10, the Division made the largest number of awards in its history, yet the funding rate was the lowest in the last 16 years (excluding FY09, the ARRA year). The reason for this dichotomy is obvious: inflation in the number of proposals consistently outpaces the growth of the divisional budget. Of course, the graph on the next page (Figure 1) does not show the tremendous expenditure in person-hours spent writing and reviewing each proposal. In fact, we must send each proposal out to 6-10 reviewers to obtain the minimum required number of substantive reviews. The burden we are placing on our already overworked reviewer community is putting the review process at risk.

Continued on page 3

Figure 1. Trends in Division of Chemistry Individual Investigator Research Proposal Funding Rates



Source: NSF Enterprise Information System 7/29/11

Note: Special projects/centers/fellowships, etc. are omitted

The Division will move to one submission window starting in calendar 2012 to reduce the workload of the community in creating and reviewing the increasing number of proposals. This window will align with the Federal budget cycle and allow us to finalize funding decisions well before the next submission window opens. Specific details will be announced this coming winter.

Rotator Positions at the NSF

We highly encourage you to consider spending a year or two at the NSF. The NSF is a great place to work as I can personally attest. By August 2012, we may need new program officers in chemical biology, synthesis, catalysis and physical inorganic and organic chemistry. Interested chemists may contact me directly.

Continued on page 4

NSF at Your Faculty Meeting

NSF Chemistry would be delighted to visit your department via videoconference. We can videoconference via Skype, WebEx, EVO, Polycom/Tandberg VTC, or other methods depending on your preferences and resources. I hope this will be an effective way to update you and your colleagues on Division business, answer questions and address any concerns you might have. Please send an email to chemplans@nsf.gov to express your interest in this opportunity.

Finally, I hope to make this newsletter useful to the PI community, so please send me your questions and suggestions for subject matter. I look forward to hearing from you soon.

Sincerely,

Matthew Platz, Ph.D

Division Director
Division of Chemistry
National Science Foundation
mplatz@nsf.gov

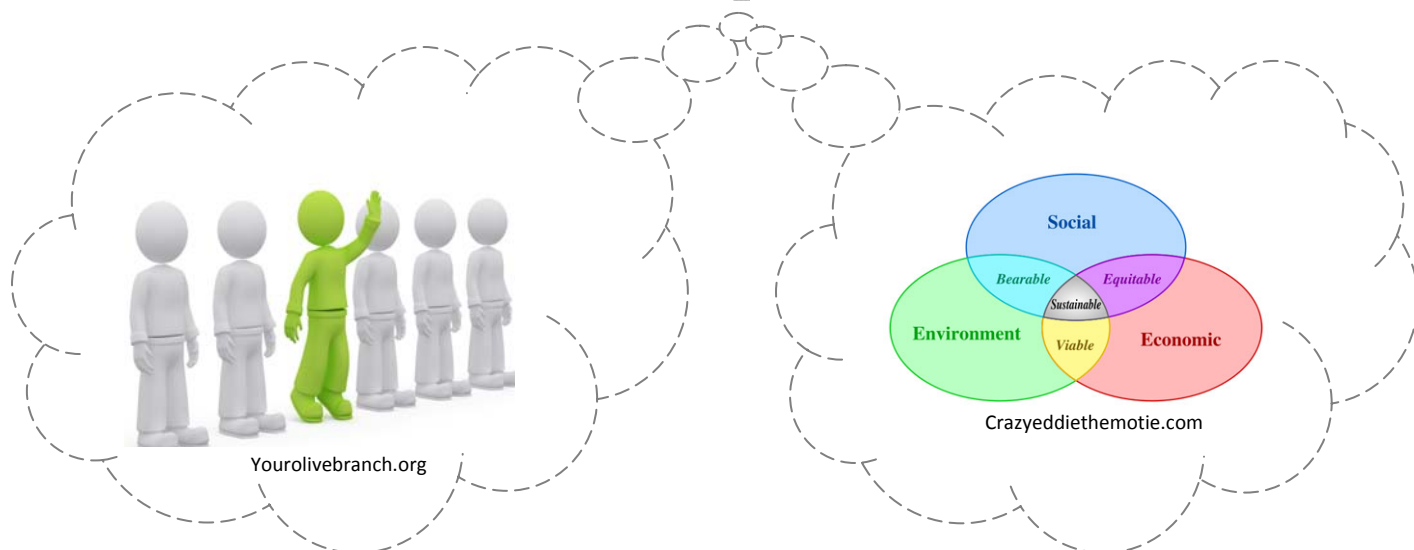
The Sustainable Chemistry Workshop

By Tingyu Li

The Division of Chemistry recently helped fund a National Academy of Sciences workshop entitled "Basic Science to Advance Sustainable Chemistry" on April 28, 2011. The webcasted workshop was attended by a distinguished group of academic and industrial chemists, as well as representatives from the NSF, the EPA, the American Chemical Society, and the Office of Science and Technology Policy of the White House.

At the workshop, speakers from the Electronic and Telecommunications industry, the Chemicals industry, the Pharmaceuticals industry, and the Consumer Products industry discussed chemistry breakthroughs needed to move their respective industries towards more sustainable practices. Examples include efficient transformation of syngas to higher carbon compounds, chemistries to enable bio-based feedstocks, and replacements for rare and toxic chemicals. Also discussed were possible research areas that could be funded under a sustainable chemistry basic research program, potential challenges in starting a sustainable chemistry basic research program, interactions between industry and academic researchers, and educational issues related to sustainability.

More detailed information such as the meeting recap, list of participants, and agenda are available at: <http://dels.nas.edu/global/bcst/SustainableChemistry>.



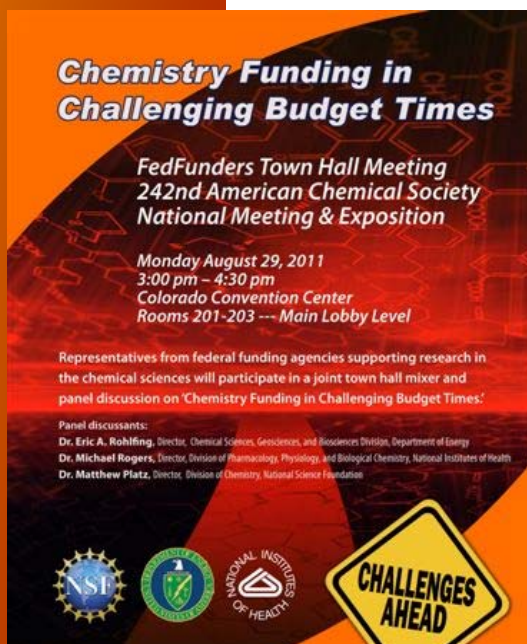
NSF at the August 2011 American Chemical Society Meeting

By Renee Wilkerson

FedFunders Town Hall Meeting

The NSF Division of Chemistry and representatives from other federal agencies jointly held a “FedFunders Town Hall Meeting” at the National Meeting and Exposition of the American Chemical Society (ACS) in Denver, Colorado on **Monday, August 29, 2011** at the Colorado Convention Center. The FedFunders Town Hall Meeting is a partnership between the NSF’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), Robert Lees (NIH), Eric Rohlfing (DOE), and Dorothy Miller (EPA) focused on “Chemistry Funding in Challenging Budget Times.” Attendees also had an opportunity to network with program directors from the multiple federal agencies.





Chemistry Funding in Challenging Budget Times

FedFunders Town Hall Meeting
242nd American Chemical Society
National Meeting & Exposition

Monday August 29, 2011
3:00 pm – 4:30 pm
Colorado Convention Center
Rooms 201-203 --- Main Lobby Level

Representatives from federal funding agencies supporting research in the chemical sciences will participate in a joint town hall mixer and panel discussion on ‘Chemistry Funding in Challenging Budget Times.’

Panel discussants:
Dr. Eric A. Rohlfing, Director, Chemical Sciences, Geosciences, and Biosciences Division, Department of Energy
Dr. Michael Rogers, Director, Division of Pharmacology, Physiology, and Biological Chemistry, National Institutes of Health
Dr. Matthew Platz, Director, Division of Chemistry, National Science Foundation



Speed Coaching for Success with NSF

The Division of Chemistry hosted its “speed coaching” event for PIs, students, educators, and other researchers on **Tuesday, August 30, 2011 at the Colorado Convention Center**. Participants spent up to fifteen minutes one-on-one with program directors from across NSF to discuss topics related to research and education programs and funding opportunities at NSF.



“Speed Coaching for Success with NSF”
Join representatives from across the National Science Foundation (NSF) for an exciting “speed coaching” event! Spend at least 10 minutes one-on-one with Program Directors to discuss any topic related to research and education grants, programs, and funding opportunities at NSF.

Colorado Convention Center
Room 605 (Main Level)
Tuesday, August 30, 2011
1 pm – 4 pm



SUCCESS

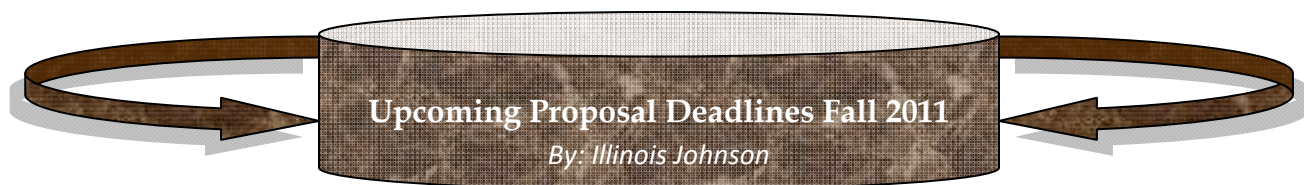
SUCCESS STARTS WITH BEING INFORMED!

SOME TOPICS FOR DISCUSSION:

- General NSF Questions – Data Management Plans, Broaders Impacts, Peer Review
- Proposal Preparation – Where to Submit Your Proposal
- How to Become a Reviewer or Panelist with NSF
- What to Do After Being Declined
- Infrastructure & Equipment
- Undergraduate Research & Education Programs
- Graduate Research Fellowships
- Postdoctoral Opportunities
- International Opportunities

Registration is not required, but participants can sign-up for a preferred time slot at the FedFunders Town Hall Meeting on Monday August 29, 3:00 pm – 4:30 pm in the Colorado Convention Center, room 201/203, main lobby level.

The National Science Foundation (NSF) is an independent federal agency whose mission includes support for all fields of fundamental science and engineering. Find out more about NSF by visiting www.nsf.gov



Division of Chemistry Fall Proposal Submission Window: November 1 – November 30

This window applies to unsolicited research proposals in the disciplinary research programs as well as RUI and GOALI proposals that will be submitted to the Division of Chemistry.

| | |
|---|----------------------------------|
| Chemical Synthesis (SYN) (PD 09-6878) | Full Proposal: November 30, 2011 |
| Chemical Structure, Dynamics, and Mechanisms (CSDM) (PD 09-6879) | Full Proposal: November 30, 2011 |
| Chemical Measurement and Imaging (CMI) (PD 09-6880) | Full Proposal: November 30, 2011 |
| Chemical Theory, Models, and Computational Methods (CTMC) (PD 06-6881) | Full Proposal: November 30, 2011 |
| Environmental Chemical Sciences (ECS) (PD 09-6882) | Full Proposal: November 30, 2011 |
| Chemistry of Life Processes (CLP) (PD 09-6883) | Full Proposal: November 30, 2011 |
| Chemical Catalysis (CAT) (PD 09-6884) | Full Proposal: November 30, 2011 |
| Macromolecular, Supramolecular, and Nanochemistry (MSN) (PD 09-6885) | Full Proposal: November 30, 2011 |

Supplements to funded awards may be submitted at any time. EAGERs and RAPID proposals may also be submitted at any time. PIs who are considering a requesting a supplement, EAGER or RAPID award are strongly encouraged to speak with a Program Director before applying.

Principal Investigators are also reminded that the NSF Grant Proposal Guide (http://nsf.gov/publications/pub_summ.jsp?ods_key=nsf11001) contains explicit guidance on formatting and other required elements of NSF proposals. Proposals that do not comply with these guidelines may be returned without review.

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

| | |
|---|--|
| Research Experiences for Undergraduates (REU) (NSF 09-598) | Full Proposal: August 24, 2011 |
| Centers for Chemical Innovation (CCI) (NSF 11-552) | Preliminary Proposal: October 5, 2011 (Phase I) |

For a full list of upcoming NSF proposal deadlines, visit
http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date

Proper Acknowledgement of NSF Awards

By: Evelyn Goldfield

It is very important that all publications that result from NSF funding properly acknowledge the NSF award **by grant number**. Proper acknowledgement helps us assess the impact of a given award, better manage our awards and understand our portfolio. Proper acknowledgement is particularly necessary for principal investigators (PIs) who have multiple lines of funding either from NSF or other federal agencies. For those with multiple awards, please note the following:

1. In your annual and final reports, include only those publications that explicitly acknowledge the given award.
2. In the "Results of Prior NSF Support" section of your renewal proposals, **list only those publications that result from the particular referenced award**. If there is a valid reason to list other publications, please detail this reason and the actual source of funding.
3. When acknowledging multiple awards in publications, include only those that contributed to the research being reported. Specify the actual contribution of each award to the work; where possible. Please do not use a blanket acknowledgment listing all your grants on each of your publications.
4. If you have more than one line of funding:
 - a. Indicate the relationship between your proposed research and your funded research, addressing synergy, overlap etc. either in the project description or on the current and pending support form.
 - b. If you are part of a large collaborative or center, indicate the approximate annual amount that you actually receive. It is also helpful for us to know your intellectual contribution to the collaborative activity or the center.

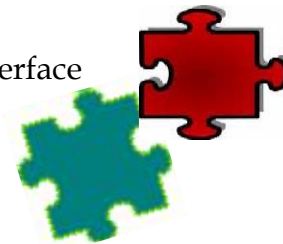
Awardees are encouraged to reference their specific Award Conditions for further guidance.

Staff Changes in the Division of Chemistry

By: Debbie Jones

The Division would like to wish a fond farewell to the following departing staff members: Mrs. Amy Jacobson, Mrs. Estha Montgomery, Dr. Daniel Rabinovich, Dr. Kelsey Cook, Dr. Stephen Bernasek, Dr. Philip Shevlin, and Dr. Michael Clarke. Dr. Daniel Rabinovich returns to the University of North Carolina at Charlotte as a Professor of Inorganic Chemistry; Mrs. Estha Montgomery moves to the NSF Division of Ocean Sciences as a Program Specialist; Mrs. Amy Jacobson joins another federal agency as a Program Specialist; and Dr. Kelsey Cook is on a one-year detail at the Office of Science and Technology Policy as a Senior Policy Analyst for Physical Sciences. Dr. Stephen Bernasek (Princeton University), Dr. Michael Clarke (Boston College), and Dr. Phil Shevlin (Auburn University) are reassuming their previous full-time commitments. The Division of Chemistry wishes them continued success.

The Division welcomes the following distinguished scientists who have or will be joining the Division of Chemistry: Dr. Malcolm Forbes, Professor of Chemistry at the University of North Carolina at Chapel Hill; Dr. Tong Ren, Professor of Inorganic Chemistry at Purdue University; and Dr. Sharon Neal, Professor of Analytical Chemistry at the University of Delaware. The Division also welcomes Michelle Jenkins as a Program Specialist.



- The mission of the Division of Materials Research (DMR) is to support new discoveries about the behavior of matter and materials; to create new materials and new knowledge about materials phenomena; and to address fundamental materials questions that can transcend traditional scientific and engineering disciplines and lead to new technologies. Many aspects of this mission overlap with efforts by the CHE Division, and the two divisions are working to align their activities and portfolios.

Several programs in CHE (e.g. CSDM, MSN, and CTMC) and DMR (e.g. Biomaterials, Condensed Matter and Materials Theory, Polymers, Solid-State and Materials Chemistry) provide funding for research in similar areas, but depending on the focus of the research plan, may be funded in either CHE or DMR. In some cases, the proposal may even be co-reviewed and/or co-funded by programs in both divisions to serve the best interest of the proposal.

- Proposals that emphasize the development of new chemical processes to make materials will typically be better suited for CHE. The study of the macroscopic properties of materials or efforts to synthesize new materials including extended structures and nanoparticles by well established chemical methods fit within the DMR portfolio. Proposals focused on the investigation of the catalytic properties of materials should be submitted to CAT.

Michael Scott (mjscott@nsf.gov, ph: 703-292-4771), a program officer in DMR, has been assigned to work with both DMR and CHE to facilitate interactions between the two divisions. Michael can be consulted with any general questions/concerns about where to submit proposals near the interface of the two divisions. We encourage people to contact program officers within the programs of interest with specific questions about proposals prior to submission.

PO Comments in FastLane – Mechanism for Feedback to Proposers on Proposal Actions by Program Officers (PO)

By: Renee Wilkerson

As part of standard proposal processing procedures, NSF PIs receive information following final action on their proposals to inform them about the review process of their proposal. When a decision has been made (whether an award or a declination), the following information is released to the PI through FastLane¹:

- description of the context in which the proposal was reviewed;
- copies of all reviews used in the decision (with any reviewer-identifying information redacted);
- copy of panel summary, if the proposal was reviewed by a panel at any point in the process;
- site-visit reports, if applicable.

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In addition, if not otherwise provided in the panel summary, the PI is provided an explanation (written or telephoned) of the basis for the declination. Written feedback often comes in the form of "PO Comments". PO Comments are an official part of the review process for a single proposal. They are used by programs (typically a Program Officer) to provide additional comments and information to a PI regarding the outcome of their proposal. Each proposal's review process can differ from the others in the same division or panel. In such situations, the PO Comments section can be used to further qualify the outcome of the review process as stated in the Context Statement. They can also be used to provide feedback regarding the PO's recommendation for an award or non-award action. They may also be used to communicate other information about the proposal status, for example, a proposal's compliance status with Grant Proposal Guide and/or solicitation requirements. ***PO Comments will become available to the PI in the Proposal Status inquiry application (under Proposal Functions) of FastLane upon final action.***

A few years ago the Division of Chemistry began using PO Comments routinely to provide feedback and guidance to proposers especially for proposals that were declined. In some instances, PO Comments are used to give awardees additional information regarding outcomes of the merit review process. Proposers are reminded to check for PO Comments after final action on proposals.

¹NSF Grant Proposal Guide, NSF 11-1, Chapter III – NSF Proposal Processing & Review, [Section F. Review Information Provided to PI](#)

By: Charles Pibel

Chemistry NOW --- NBC and NSF Partner to Create the 'Chemistry NOW' Video Series

In celebration of the International Year of Chemistry, the NSF Divisions of Chemistry (CHE) and Materials Research (DMR) in partnership with the Office of Legislative and Public Affairs (OLPA) recently supported an activity aimed at communicating the value of chemistry to the general public. Chemistry NOW is a free online resource produced by NBC Learn (the education arm of NBC News) and the National Science Teachers Association (NSTA) featuring a series of videos, documents, images, school lesson plans and other tools to explore the presence and function of chemistry in everyday life. Structured around themes like "Chemistry of Water," "Chemistry of Smell," "Chemistry of Burgers," and "Chemistry of Chocolate," Chemistry NOW gives viewers a glimpse into the science of common physical objects in our world and the changes they undergo every day. The series also examines the lives and work of scientists on the frontiers of the 21st century. Some of the videos feature narration by NBC News personalities Al Roker and Hoda Kotb.

View the Chemistry NOW videos and content at:

NBC Learn - <http://www.nbclearn.com/chemistrynow>

NSF Science 360 - <http://science360.gov/series/Chemistry+Now/277b153a-f3fb-4277-920a-c8bb1a8b7806>

We want to hear from you! Send your NSF-supported IYC 2011 pictures, stories, and content to chemplans@nsf.gov

Which NSF Program Presents the Best Fit for My Research at the Chemistry/Biology Interface?

The *Chemistry of Life Processes Program* within the Chemistry Division is focused on molecular-level inquiries at the Chemistry/Biology interface in which the primary approach or tools employed are those of chemistry. Projects that integrate experimental and theoretical chemical approaches into studies of biomolecular processes in the domain of proteins, nucleic acids, carbohydrates and lipids will be considered. The use of small molecules such as ligands, inhibitors, signal transducers or molecular beacons to interrogate biological systems is a characteristic mode of inquiry for CLP investigators. Studies directed at elucidating cofactor, (metallo)enzyme, ribozyme or riboswitch mechanism/design or characterizing molecular recognition as they relate to macromolecular assembly or macromolecule-effector complexation are at the core of the program. Other appropriate areas of inquiry include, but are not limited to, peptide design, alternative base pairs, and molecular definition of emerging “codes” such as those associated with glycomics and histones.

Certain topics at the Chemistry/Biology interface have elements of interest to both the CHE-CLP program and clusters within the Division of Molecular & Cellular Biosciences (MCB) (vide infra). In such cases, when considering submission to CLP, please note that to be appropriate for CLP the proposal should, at its nexus, seek to reveal underlying chemical principles. Such topical areas include protein folding, post-translational modification and DNA damage and modification.

Also included here are areas of molecular recognition at macromolecular interfaces, such as protein-protein and protein-nucleic acid interactions. With regard to this latter area, the CLP program is especially interested in proposals that seek to elucidate design principles of molecular recognition, through the modulation of such interactions. Of equal interest is the de novo construction of systems that mimic native protein-protein/nucleic acid interactions, based upon the design principles garnered from the study of the native system.

Please note that while projects whose long term scientific broader impacts may have biomedical implications may be acceptable for submission to CLP, those with direct biomedical aims are more appropriate for the National Institutes of Health or other health-directed funding agencies, and will be returned without review from the NSF. As always, contact the cognizant program officer(s) at the Foundation if/when in doubt about which program represents the best fit for your science.

In considering submitting a proposal at the Chemistry/Biology interface to the NSF, PIs should be aware that there are several programs at the Foundation at the boundary between the MPS (Mathematical and Physical Sciences) Directorate and the BIO Directorate that should be considered. This piece is meant to both articulate the interests of the *Chemistry of Life Processes (CLP) Program* within CHE (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503417) and act as a guide to the PI, so that s/he has the overview at the front end of the proposal preparation process, and targets the most appropriate program.

Continued on page 11

- (1) If the project is focused upon fundamental physical principles that underlie biological function, and seeks to interrogate living systems, then submission to the *Physics of Living Systems Program (PoLS)* within the MPS-Physics Division may be in order (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6673).
- (2) If the proposal at its core is investigating biological materials, be they materials of biological origin, or those that mimic or are inspired by biological materials, then it may be most appropriate for the *Biomaterials Program (BMAT)* within the MPS-Division of Materials Research (DMR) (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13699).
- (3) If the proposal is primarily focused on answering a fundamental question in biology, then the PI should consider submitting to the MCB Division of the BIO Directorate. MCB divides itself into Clusters as follows:

(a) *Biomolecular Dynamics Structure and Function Cluster (BDSF)* – (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503609&org=NSF) e.g. molecular biochemistry/biophysics; global protein-protein interactions, synergy and allostery, biomolecular structure and dynamics, particularly as studied by X-ray, NMR and EPR techniques;

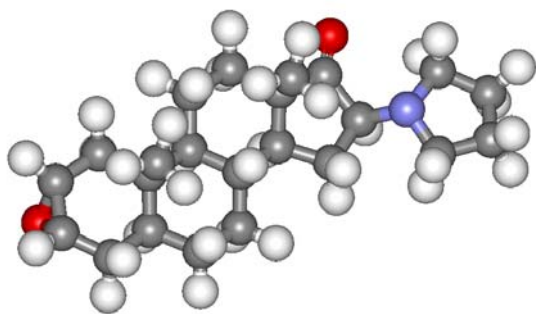
(b) *Cellular Processes (CP)* – (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503612&org=MCB&from=home) – e.g. membrane protein function, organelle trafficking, cytoskeletal dynamics;

(c) *Genetic Mechanisms (GM)* (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503610&org=MCB) – e.g. DNA replication and repair, gene expression, chromosome dynamics, epigenetics;

(d) *Networks and Regulation (NR)* (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503611&org=MCB&from=home) – e.g. signaling and metabolic networks, artificial/minimal cells, microbial communities, synthetic biology.

Please note that while projects whose long term scientific broader impacts may have biomedical implications may be acceptable for submission to CLP, those with direct biomedical aims are more appropriate for the National Institutes of Health or other health-directed funding agencies, and will be returned without review from the NSF. As always, contact the cognizant program officer(s) at the Foundation if/when in doubt about which program represents the best fit for your science.

David Berkowitz
Program Director
Chemistry of Life Processes



Journal of Chemical Education



Fotosearch.com

The Centers for Chemical Innovation (CCI) Program announces a new competition for Phase I Centers. Preliminary proposals are due on October 5, 2011. For this year's (FY 2012) competition, the topic for Phase I proposals is restricted to "Sustainable Chemistry". Appropriate areas of focus in Sustainable Chemistry include

1. Developing clean, safe, and economical alternatives to traditional chemical products and practices.
2. Exploring alternatives to petroleum as a source of feedstock chemicals, including biorenewables.
3. Exploring earth-abundant, inexpensive and benign alternatives to rare, expensive and toxic chemicals. Examples include indium, germanium, rare earth elements and platinum catalysts.
4. Developing efficient recognition/sequestration and recycling of key elements essential for sustainability, for example phosphorus and rare earth elements.

Other topics within sustainable chemistry may also be appropriate, although topics related to alternative energy and climate change are best supported by the various SEES competitions and will not be considered by CCI in FY 2012.

Phase I funding provides significant resources (\$1.75M over three years) to develop a compelling Phase II CCI. Phase II funding (to be considered in FY 2015) is \$4M/yr for five years, followed by a possible renewal. PIs are urged to read the CCI Program Solicitation (available at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11552)

Potential Principal Investigators may contact the cognizant Program Officers to discuss their ideas. Contact information is given in the Program Solicitation. Investigators are also advised to check the NSF Chemistry Events Calendar <http://www.nsf.gov/events/index.jsp?org=CHE> for a possible webcast discussing this program, on September 7, 2011.

Research and Education Highlights

The Division of Chemistry's highest priority is to provide support for research and education activities in the chemical sciences. We request "highlights" from our grantees to help us communicate the excitement, importance, and value of achievements derived from NSF-supported projects. Highlights are essential to advancing the Division's mission in several ways, including justifying our budget request at the Directorate, Foundation, and Federal levels. A Highlight Template is available on the Chemistry webpage at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11552

Highlights are accepted from current and past investigators of NSF Chemistry supported projects via e-mail anytime. Send your Highlights to:

chemhighlights@nsf.gov

We want to hear from you!

Chemistry Webpage Updates

Check out the NSF Division of Chemistry website at

<http://www.nsf.gov/div/index.jsp?org=CHE>.

We are updating site content to bring more information to the community. Notable presentations from NSF staff will be posted in our new 'Presentations' section of the web. Highlights submitted by Principal Investigators will be posted in the near future. Visitors to the website can also view CHE's portfolio of active awards geographically by program both with or without 2009 ARRA Stimulus awards. Check back often for updates.

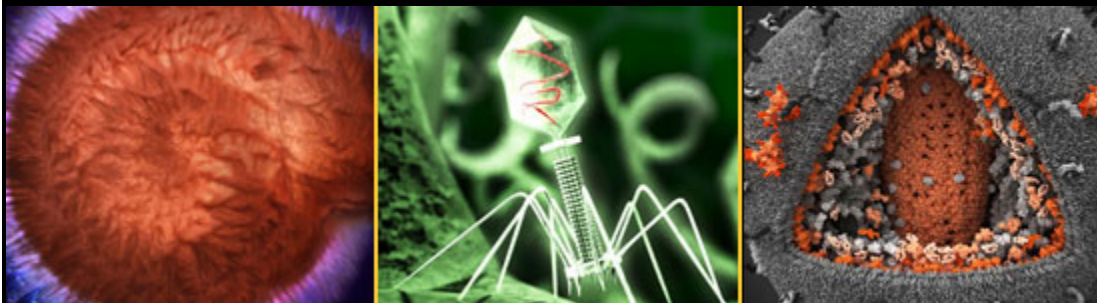
Let us know if you have ideas or suggestions for updating the Chemistry website---send your comments to chemplans@nsf.gov.

INTERNATIONAL SCIENCE & ENGINEERING
VISUALIZATION CHALLENGE

CALL FOR ENTRIES

ENTRY DEADLINE: SEPTEMBER 30, 2011

SCIENCE AND ENGINEERING'S MOST POWERFUL STATEMENTS
ARE NOT MADE FROM WORDS ALONE



NEWS of Exciting Changes to This Year's Challenge!

The National Science Foundation (NSF) and the journal *Science*, published by the American Association for the Advancement of Science, invite you to participate in this year's Challenge. The competition recognizes scientists, engineers, visualization specialists and artists who produce innovative work in visual communication. Winning entries will be published in *Science* and *Science Online*, and will be displayed on the NSF website.

Now You Can:

- Submit your entries online
- Read what the judges think about the entries
- Vote for your favorite entry People's Choice
- Share your favorite entries on Facebook and Twitter

Award Categories:

- Photography
- Illustrations
- Informational Posters and Graphics
- Videos
- Interactive Video Games

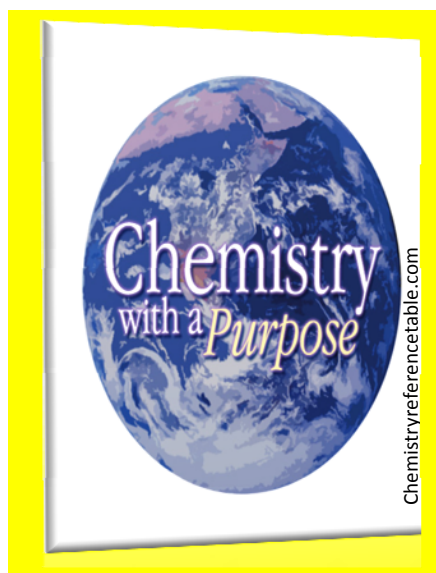
Learn About the Challenge:

[Challenge Website](#)

[Complete Entry Information](#)



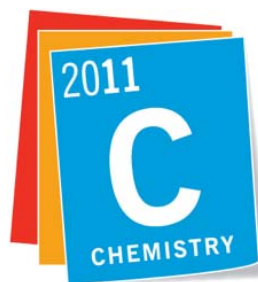
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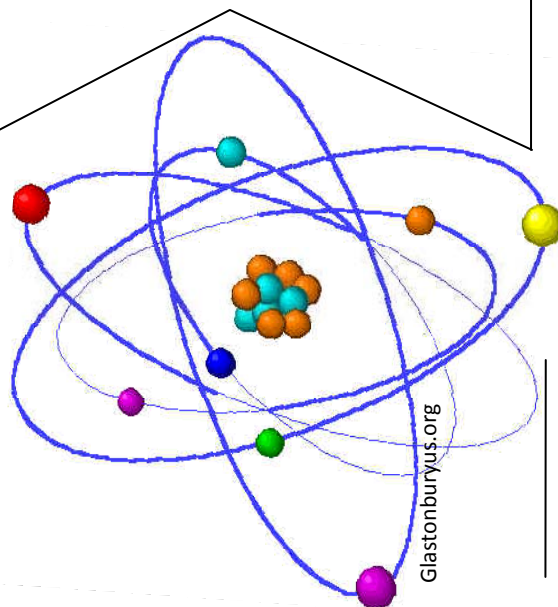
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University of Fort Hare



International Year of
CHEMISTRY
 2011



Glastonburyus.org

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