

2015 WEEKLY BULLETIN
DEPARTMENT OF CHEMISTRY, NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS
February 16, 2015

- Monday February 16th: *Special Seminar: David Masiello*
 Ryan Hall 4003
 4:00 – 5:00pm
- Tuesday February 17th: *3rd Year Organic Seminar: Owen Skinner*
 Ryan Hall 4003
 11:00am – 12:00pm
- Friday February 20th: *Chemistry Colloquium: Stosh Kozimor*
 Tech LR3
 4:00-5:00pm

For full schedule, including Center events, please see the Department Calendar:
<http://www.chemistry.northwestern.edu/events/calendar.html>

BIP

Meets every Friday at 2:45pm in Tech K140

Arrivals

Chen Wang joined the Weiss Group

Announcements

Master of Science in Law (MSL) Webinar: February 27 at 12:00pm www.law.northwestern.edu/msl
If you're interested in the intersection of law, business, and technology, you should know about the Master of Science in Law ("MSL"), a new degree program designed especially for individuals with engineering, science, technology, mathematics, and medical backgrounds. The one-year MSL provides focused business-centered legal training in the areas of intellectual property, entrepreneurship/business law, and regulation. MSL students will learn how to navigate the legal and business issues they will confront as scientists, engineers, doctors, and technologists; the MSL is not a traditional JD program to train lawyers. We have both a full-time and part-time option.

We will provide a comprehensive overview of the MSL program during the webinar and take questions from the audience. Anyone who is interested in the MSL program is also welcome to contact Susan Dennehy at susan.dennehy@law.northwestern.edu

Opportunities

School of Chemistry and Materials Science at the University of Science and Technology of China
We are pleased to announce the "Future Chemist International Summer Camp (FCISC)" on **June 28-July 13, 2015**, organized by University of Science and Technology of China (USTC). The summer camp will be held in the **USTC campus in Hefei, China**. We cordially invite the undergraduate students in chemistry or materials science majors in your prestigious institution to submit their applications to this newly launched program. Once admitted, for outstanding students and students who have financial

difficulties, their expenses (including **round-trip flight tickets of economy class, boarding and meal costs during the camp**) will be covered by the USTC.

The camp program will include research seminars and lab tours, hands-on research, and culture courses on campus. The School of Chemistry and Materials Science, Hefei National Laboratory for Microscale Sciences, and National Synchrotron Radiation Laboratory at the USTC will provide a platform for the activities. About 20 international students from US and European universities together with 20 domestic students from top China universities will be selected as the participants. We anticipate that the camp will provide the participants with an exceptional opportunity to combine high-quality learning and hands-on research experience with unforgettable summer experience. International students can immerse themselves in a multicultural environment and gain insights into Chinese culture. USTC and other Chinese students can have a taste of cultural exchange with international students without going abroad. The students can find more details and have their applications **submitted at <http://fcisc.ustc.edu.cn/>**. The application deadline is **March 15, 2015**.

The USTC (<http://en.ustc.edu.cn/>) was established by the Chinese Academy of Sciences (CAS) in September 1958. Its establishment was regarded as a major event in China's history of education and science. Since its very beginning, CAS has adopted a policy of "running the university with resources of the entire CAS and integrating each of its departments with relevant CAS research institutes." Led by a group of most renowned Chinese scientists of the time, USTC set up a series of programs that creatively encompassed the frontiers of science and emerging technologies to meet the needs of the nation for developing science and technology. The University emphasized the teaching of fundamental courses and provided its students with a wide range of high-level training that incorporated newly-emerging as well as interdisciplinary fields of study. In its second year, USTC quickly rose to the status of a national key university. Its high-quality educational work, characterized by ground-breaking studies, combination of teaching and research and integration of theory with practice, has produced a large number of highly accomplished people and many significant, internationally-recognized, original research breakthroughs.

The USTC School of Chemistry and Materials Science (<http://en.scms.ustc.edu.cn/>) embraces four departments and one center – Department of Chemistry, Department of Chemical Physics, Department of Materials Sciences and Engineering, Department of Polymer Science and Engineering, and Chemical Experimental Teaching Center. The school comprises two disciplines (chemistry, and materials science) and ten sub-disciplines (i.e. Inorganic Chemistry, Analytical Chemistry, Organic Chemistry, Physical Chemistry including Chemical Physics, Applied Chemistry, Polymer Chemistry and Physics, Renewable and Clean Energy, Materials Physics and Chemistry, Materials Science, and Materials Processing Engineering). Now there are about 2020 students studying in the school, including roughly 880 undergraduates and 1140 postgraduates. Apart from curriculum study and experimental ability training in USTC, students have the opportunity to perform research in some institutes of CAS. More than 80% of undergraduates pursue advanced education in universities and institutes in China and abroad.

Carus Group's search for the innovators of our second century Scholarship/Internship

Opportunity Are you interested in using chemistry to create a cleaner, safer, greener Earth? Carus Group is offering a scholarship plus a paid internship opportunity* to a student who proposes an innovative idea using chemistry to solve an environmental problem.

Prize: \$10,000 scholarship to the accredited school of your choice plus an opportunity to intern at Carus Group's Illinois research laboratory

What we do: Carus Group is a leading global supplier of environmental solutions for water treatment, air purification, and soil remediation. Carus has a 100-year history of identifying customers' needs, and innovating new ways to solve them using chemistry. Our products help clean drinking water and waste

water in communities around the world, remove pollutants from air, and eliminate toxins from soil. We want to do more! This year, Carus Group turns 100, and we are looking to collaborate with you, the innovators of our *second* century, to discover new ways to protect the environment.

How to apply: Carus will accept written proposals through March 22, 2015. Qualifying submissions will present an innovative, marketable, practical, new environmental solution using one or more of the following:

- Potassium Permanganate (KMnO₄)
- Sodium Permanganate (NaMnO₄)
- Hopcalite Catalyst (Manganese and Copper Oxides)
- Manganese dioxide (MnO₂)
- Polyphosphates (e.g., orthophosphate, tetrapotassium polyphosphate, sodium hexametaphosphate)

Submissions must include at least one of the target compounds for the proposed environmental application. Possible compounds could include, but are not limited to, the following:

- Air pollutants: mercury, carbon monoxide, ozone, sulfur dioxide, hydrogen sulfide, greenhouse gases (e.g., carbon dioxide)
- Inorganic water pollutants: selenium, arsenic, hexavalent chromium, lead, barium, radium
- Organic ground water and municipal water pollutants: carbon tetrachloride, chlorinated alkanes/alkenes, polychlorinated biphenyls, dichloromethane, pesticides, cyano toxins, N-nitrosodimethylamine, pharmaceuticals, endocrine disruptors
- Emerging contaminants: perchlorate, perfluoroalkyls (e.g., perfluorooctane sulfonate, perfluorooctanoic acid, 1,4 dioxane, cesium and strontium (e.g., Cs 137, Sr 90)

Proposals will be judged by a panel of Carus scientists based on the above criteria, on the evidence of innovative thought, and on the presentation of ideas and supporting information. All decisions of the panel are final. No purchase is necessary to enter the contest. (Additional rules and requirements apply.)

* For complete rules, eligibility, and downloadable application forms, visit the careers section of our website, www.caruscorporation.com. To learn more about Carus and what our products already do, visit our website, connect with us on LinkedIn, and follow us on Facebook and Twitter!

Additional rules and requirements:

Proposals must be original work, submitted in English as a Word document, double-spaced, in 12-point Times New Roman font. Entries must not exceed eight (8) pages. Any charts or tables used must be embedded within the document and will be counted toward the eight-page maximum. All sources must be cited. Peer-reviewed journal references are preferred. Suggested online resources include Google Scholar, ResearchGate, Scifinder, ScienceDirect, and Elsevier. Submissions must include a bibliography (which does not count toward the 8 page maximum). Do not place your name or other identifying information on any pages of your proposal. Identifying information should only go on the application form. Eligible applicants must be currently enrolled in a college or university, and must submit a completed Agreement on Conditions for Submission of Ideas. Current employees of Carus Group or any of its subsidiaries are ineligible. All entries will become the property of Carus and will not be returned. If no applicant meets qualification guidelines, Carus reserves the right in its sole discretion not to select a scholarship/internship winner.

For your safety: In order to qualify for an internship position, applicants must have a scientific or technical background, must have sufficient mobility to access all areas of the plant site in support of assigned work, and must otherwise comply with Carus requirements for employees at Carus Group locations.

Internship qualifications, availability, and preference will not be considered when selecting a scholarship winner. A follow-up application form and/or interview may be used to determine internship qualification. If the selected winner is unable or does not meet all qualifications to participate in a lab internship, said winner is still eligible to receive the \$10,000 scholarship.

Entries must be submitted, with an application form, via email to submissions@caruscorporation.com or via fax to 815-223-4486, and must be received no later than 11:59 pm CST on March 22, 2015. Applications submitted after the deadline for submission, or containing zipped or compressed files will not be accepted.

U.S. National Committee's Young Observer Program Travel Fellowship
48th IUPAC General Assembly and 45th IUPAC Congress
Busan, South Korea August 6-14, 2015

The International Union of Pure and Applied Chemistry (IUPAC), a worldwide leader in advancing the chemical sciences, is holding its [48th General Assembly \(August 6-13, 2015\) and its 45th Congress \(August 9-14, 2015\) in Busan, South Korea.](#)

The U.S. National Committee for IUPAC is seeking outstanding U.S. scientists and engineers under the age of 45, with interests and expertise related to the working groups of IUPAC, to travel as Young Observers to South Korea. The USNC/IUPAC will provide travel fellowships of \$2500 to successful candidates.

This Young Observer Program provides an excellent opportunity to become involved in the work of IUPAC, develop an international network of scientists and engineers, and represent your U.S. colleagues in the chemical sciences.

Successful candidates must:

- Be a U.S. scientist or engineer under the age of 45, be active in chemical or chemical engineering research in academia, government, or industry. Applicants must be a U.S. citizen or U.S. Permanent Resident (Green Card Holder).
- Have a specific interest in one or more of the business meetings and technical sessions that will be held in Korea.
- Have a strong interest in collaborative work with scientists in laboratories outside of the United States.
- Have an interest in continuing activities through the IUPAC organization.

Career scientist applicants should ideally have, but are not required to have, five years of independent research/work experience after the completion of their educational experience. In exceptional cases applications from graduate students and postdoctoral researchers will be considered.

Former YOs may apply for a maximum second YO experience. They must demonstrate how they have remained involved with IUPAC since their first experience.

2015 Young Observer Program Application Deadline is February 23, 2015.

For more information about the program and to apply, visit <http://ow.ly/GPPqI>. Questions about the program can be directed to BISO@nas.edu.

University of Twente – the Netherlands (Doctoral Student Opportunity) Professor Jurriaan Huskens at the University of Twente in The Netherlands is seeking a PhD student to work on multivalent

interactions on surfaces as part of a European Union network (<http://www.utwente.nl/tnw/mnf/vacancies/>). He is hoping that someone can start the project soon after he completes the selection process. Candidates should possess an MSc degree in Chemistry, Chemical Engineering, or Materials Science by the time of employment. Extensive pre-existing and hands-on experience with organic synthesis, surface functionalization and the appropriate analytical techniques is also required. Please indicate your interest by sending a CV to Professor Huskens at: j.huskens@utwente.nl

Description: For the European project “Multivalent Molecular Systems for Innovative Applications” we are looking for an enthusiastic PhD student. In this project, we will develop surface gradients of biologically relevant receptors and ligands. The gradient display, i.e., the spatial variation of surface density of the receptor/ligand, will allow variation of and unified assessment of the binding properties of these interactions. The project has both important fundamental and practical implications. Gradient-wise multivalent recognition allows the detection of so-called superselectivity, i.e. the non-linear response of binding partners in their multivalent recognition to the immobilized receptor/ligand. When combined with proper signal transduction mechanisms in an integrated device, this will offer new opportunities in biosensing.

The Hope College Chemistry Department invites applications for Analytical or Physical Chemistry and Organic or Biochemistry Visiting Professorships to fill 2 one-year, non-tenure track, full-time positions for academic year 2015-16. Candidates should have a Ph.D. or equivalent experience. Responsibilities include teaching lectures and/or laboratories in respective disciplines, and possibly General Chemistry. Application details are at www.hope.edu/employment/faculty. Review of applications begins March 1, 2015. Hope College is a Christian coeducational, residential liberal arts undergraduate college affiliated with the Reformed Church in America located in Holland, Michigan. Additional information about Hope College can be found at www.hope.edu

The 7th Yao Yuan Biotech-Pharma Symposium, to be held on April 18th, 2015 (Saturday) at College of Pharmacy Auditorium, University of Illinois at Chicago.

This is the seventh in a series of annual Yao Yuan conferences, and this year is co-sponsored with University of Illinois at Chicago, College of Pharmacy. With a theme of “At the Interface of Chemistry & Biology for Drug Discovery”, this year’s event is aimed at highlighting ground-breaking chemical biology approaches to dissect disease processes and impact drug discovery. Continuing with last year’s emphasis on students, there will be a poster session with SynChem, Inc.-sponsored awards and a panel discussion relevant to students hoping to find a future in drug discovery.

All poster presentations submitted before March 28, 2015 will be entered for selection for a “SynChem Award” that will be reviewed by a team of outstanding experts in pharmaceutical discovery. One 1st and two 2nd place award winners will be selected with an honorarium of \$500 and \$250, respectively. The 1st place winner will be invited to give an oral presentation.

Time: April 18, 2015 (Saturday)

Venue: University of Illinois at Chicago, College of Pharmacy Auditorium

Address: 833 South Wood St, Chicago, IL 60612

Deadline for Poster Submission: March 28, 2015

Registration: http://yypharm.org/?q=Conf_7thSymposium

Parking Map: <http://yypharm.org/UICparkingMap.pdf>

Confirmed Speakers:

- Chuan He, John T. Wilson - Distinguished Service Professor and HHMI Investigator, The University of Chicago
- Neil L. Kelleher - Walter and Mary Elizabeth Glass Professor, Northwestern University
- Mark Murcko - Former CTO of Vertex, Co-inventor of Three Marketed Drugs (Agenerase, Lexiva, Incivek) and Many Drug Candidates; Principal at Disruptive Biomedical, LLC; Professor, Massachusetts Institute of Technology & Northeastern University.
- Andrew Myers - Amory Houghton Professor of Chemistry & Chemical Biology, Harvard University
- Ed Reilly - Sr. Research Fellow & Project Director, AbbVie, Inc.

This event will be a valuable opportunity for learning amongst professionals, academicians and students. The standard registration fee for this event is \$25 for professionals and \$10 for students, for covering lunch, snacks, and coffee. Please register at: http://yypharm.org/?q=Conf_7thSymposium ASAP for early bird discount (\$15 before February 28, \$20 before March 31). Relevant discount options will be removed from a pull down menu at the registration site after these dates. Attached please find a conference flyer for your reference. Thank you and look forward to an exciting symposium.

The Department of Energy's (DOE) Office of Science is pleased to announce that the Office of Science Graduate Student Research (SCGSR) program is now accepting applications for the 2015 solicitation. Applications are due 5:00pm ET on Tuesday April 14, 2015.

The SCGSR program supports supplemental awards to outstanding U.S. graduate students to conduct part of their graduate thesis research at a DOE national laboratory in collaboration with a DOE laboratory scientist for a period of 3 to 12 consecutive months—with the goal of preparing graduate students for scientific and technical careers critically important to the DOE Office of Science mission.

The SCGSR program is open to current Ph.D. students in qualified graduate programs at accredited U.S. academic institutions, who are conducting their graduate thesis research in targeted areas of importance to the DOE Office of Science. The research opportunity is expected to advance the graduate students' overall doctoral thesis while providing access to the expertise, resources, and capabilities available at the DOE laboratories. The supplemental award provides for additional, incremental costs for living and travel expenses directly associated with conducting the SCGSR research project at the DOE host laboratory during the award period.

The Office of Science expects to make approximately 100 awards in 2015, for project periods beginning anytime between October 2015 and September 2016.

The 2014 program solicitation resulted in awards to 65 graduate students from 50 different universities to conduct thesis research at 15 DOE national laboratories. Detailed information about the program, including eligibility requirements and access to the online application system, can be found at: <http://science.energy.gov/wdts/scgsr/>.

The SCGSR program is sponsored and managed by the DOE Office of Science's Office of Workforce Development for Teachers and Scientists (WDTS), in collaboration with the six Office of Science research programs offices and the DOE national laboratories, and the Oak Ridge Institute of Science and Education (ORISE).

For any questions, please contact the SCGSR Program Manager, Dr. Ping Ge, at sc.scgsr@science.doe.gov.

The National Research Council of the National Academies sponsors a number of awards for graduate, postdoctoral and senior researchers at [participating federal laboratories and affiliated institutions](#). These awards include generous stipends ranging from \$42,000 - \$80,000 per year for recent Ph.D. recipients, and higher for additional experience. [Graduate](#) entry level stipends begin at \$30,000. These awards provide the opportunity for recipients to do independent research in some of the best-equipped and staffed laboratories in the U.S. Research opportunities are open to U.S. citizens, permanent residents, and for some of the laboratories, foreign nationals.

Detailed program information, including online applications, instructions on [how to apply](#) and a [list of participating laboratories](#), is available on the NRC Research Associateship Programs [Website](#) (see link above).

Questions should be directed to the NRC at 202-334-2760 (phone) or rap@nas.edu. There are four annual review cycles.

Review Cycle: **February**; Opens December 1; Closes February 1

Review Cycle: **May**; Opens March 1; Closes May 1

Review Cycle: **August**; Opens June 1; Closes August 1

Review Cycle: **November**; Opens September 1; Closes November 1

Applicants should contact prospective Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities. More detailed information and an online application can be found at www.nationalacademies.org/rap.