

2015 WEEKLY BULLETIN
DEPARTMENT OF CHEMISTRY, NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS
April 6, 2015

Tuesday April 7th: *3rd Year Organic Seminar: Edward Dale*
Ryan 4003
11:00am – 12:00pm

Faculty Lunch Seminar: Fraser Stoddart
Tech K140
12:00 – 1:00pm

Friday April 10th: *Special Seminar: Annemarie Huijser*
Ryan Hall 4003
11:00am – 12:00pm

Chemistry Collquium: Daniel Kahne
Tech LR3
4:00 – 5:00pm

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

BIP

Meets every Friday at 2:45pm in Tech K140

Arrivals

Yihui He joined the Kanatzidis Group
Kimin Lim joined the Marks Group
Amrit Poudel joined the Ratner Group

Announcements

Interested in Law, Business, and Science/Technology?

Consider [Master of Science in Law \(MSL\)](#) – a degree program for STEM-trained professionals offered by Northwestern University School of Law. Designed especially for students 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 learn how to navigate the legal issues they will confront as scientists, engineers, doctors, and technologists; the MSL is not a traditional JD program to train lawyers.

Join our webinar April 6 at 5pm via

<http://northwesternuniversity.adobeconnect.com/nulawmslwebinar/>. We will provide a comprehensive overview of the MSL program, including curriculum, faculty, schedule, and more. We will also take questions from the audience. You are also welcome to contact Susan Dennehy at susan.dennehy@law.northwestern.edu to talk more about the MSL program.

Opportunities

The Chemistry Department at the Illinois Institute of Technology (IIT) seeks candidates for a full-time lecturer position starting August 2015 (earlier start date is possible and negotiable). Applicants must have a Ph.D. in chemistry. The primary responsibilities include teaching undergraduate level courses especially general chemistry and organic chemistry. Additional responsibilities include oversight and maintenance of chemistry teaching laboratory and associated instruments. The initial appointment will be for one year with the possibility of a longer-term renewable contract based on performance and mutual satisfaction. Please visit <http://science.iit.edu/chemistry> for further information.

Applicants should send a cover letter, a curriculum vitae, a statement of teaching philosophy including experience with undergraduate lab oversight and instrument maintenance. All applications should be submitted electronically as a single pdf file to chemistry_search@iit.edu. Applicants should also arrange to have three letters of references submitted electronically to the same e-mail address or as a hard copy to: Professor Rong Wang, Department of Chemistry, Illinois Institute of Technology, Chicago, IL 60616.

Review of applications will begin immediately and will continue until the position is filled. IIT is an equal opportunity/affirmative action employer. Individuals from underrepresented groups in physical sciences are strongly encouraged to apply.

Postdoctoral Fellow with the University of Missouri Any candidate with experience in inorganic or organometallic chemistry would be considered, but candidates with backgrounds in *electrochemical catalysis* or *carbon dioxide activation* would be a plus. This position will likely be funded through a collaborative NSF funded Center for Carbon Capture and Conversions (C4) (<http://www.brown.edu/research/projects/capture-and-conversion-of-co2/>), though sufficient startup funds are available to continue the position even if this center doesn't get renewed in Phase II.

Professor Wesley Bernskoetter will be bringing a wonderful group of current personnel from Brown, but is looking to expand the program with talented new hires. The start date is flexible, but summer-early fall is preferred. Any candidates who might be interested in a position are encouraged to send a CV and cover letter to wb36@brown.edu

Gas Technology Institute (GTI) – a leading research, development, and training organization serving the global natural gas and energy industry – is organizing tcbiomass 2015 in an effort to bring together experts and visionaries to explore the progress in the field of bioenergy. The conference will take place November 2-5, 2015 at the Westin Chicago River North Hotel situated in the heart of downtown Chicago, Illinois.

Building off the success of past biennial sessions, tcbiomass2015 is anticipated to attract more than 300 researchers, scientists, engineers, developers, policymakers, commercializers, and funders from around the globe for 3 days of peer-reviewed scientific presentations and posters. Taking “Technology for the Bioeconomy” as the overall theme, attendees will hear the latest research, development and deployment results for thermal biomass conversion and upgrading technologies and systems to help grow the bioeconomy and achieve a clean and sustainable energy future.

If you have an interest in sharing you emerging technology and process insights, we welcome you to submit an abstract of 250 to 300 words by April 10, 2015.

tcbiomass2015 Student Poster Challenge

GTI will host a competitive student poster contest to connect top engineering and science students with global bioenergy experts through tcbiomass2015. Students will have the opportunity to present their research to scientific peers and receive valuable feedback.

Undergraduate and Graduate students are encouraged to submit poster abstract by April 10, 2015. The students whose posters are chosen from a selective pool of applicants will be invited to attend tcbiomass2015 at a reduced rate and participate in the poster session. The posters will be judged by the Technical Program Committee during the dedicated sessions and evaluated on technical merit and both visual and oral communication effectiveness. The winning individual or team will be awarded with a \$1,000 cash prize and international exposure.

This will be a unique experience, bringing together a comprehensive perspective on renewable energy goals and key issues associated with the sustainable production and use of biomass. Because of your university's strong presence in the field, we encourage you to participate in this important event.

Pfizer: Enzymologist/Biochemist, Oncology Research Unit (Non-PhD) La Jolla, California

Visit www.pfizercareers.com and apply to job ID 1008805

All over the world, Pfizer colleagues are working together to positively impact health for everyone, everywhere. Each position at Pfizer touches and contributes to the success of our business and our world. That's why, as one of the global leaders in the biopharmaceutical industry, Pfizer is committed to seeking out inspired new talent who share our core values and mission of making the world a healthier place.

Role Description:

Kinase signaling pathways regulate important cellular functions related to cancer tumorigenesis. The development of targeted kinase inhibitors has revolutionized the effective treatment of cancer patients. This Enzymologist/Biochemist will make important contributions to our molecular and biochemical understanding of these kinase signaling pathways through the development of robust, automated kinase activity assays and selectivity screens to drive the SAR (structure-activity relationship) of our kinase inhibitor projects. The scientist will provide high quality data that drives decisions on projects and seeks to better understand the kinase signaling pathways involved in cancer malignancies.

- Provides expertise to the development and implementation of robust, automated biochemical assays for enzyme targets, including kinase activity assays
- Generates high quality data and correlates in vitro and in vivo SAR for small molecule projects
- Develops and implements innovative biochemical selectivity screens for projects
- Works with CROs to effectively manage resources for project activities

Qualifications

- Bachelors of Science degree + 2-5 years of experience, or Masters of Science degree + 1-2 years of experience
- Biochemist with experience in kinase signaling and drug discovery. Must have strong technical abilities and skilled in performing biochemical analysis and the development of automated plate-based biochemical assays. Preference for candidates with pharmaceutical/biotech drug discovery experience in evaluating small-molecule inhibitors against enzyme targets, including protein kinases.

Core Competencies:

- Experienced in enzyme kinetics, enzyme assay development, good understanding of enzyme inhibition mechanisms and SAR for drug discovery. Preference for candidate with strong background in protein kinase drug discovery.
- Good track record for performing multiple robust, automated assays simultaneously
- Skilled in analysis of assay data and presenting data in written and oral reports
- Demonstrated ability to work and contribute to project teams in a collaborative environment
- Develop pathway analysis tools and methods to measure multiple cell metabolites simultaneously (LC-MS/MS, isotopes) and link enzymology (metabolic pathways, kinetics) & bioanalytical methods for molecular fingerprints (mass spectroscopy, kinetic studies, HPLC)
- Experienced in the design and development of robust, automated biochemical and functional assays. Strong biochemistry background, highly skilled in biochemical methods such as enzyme kinetics, protein characterization, tumor metabolism, and signal transduction with a good understanding of the link between cancer molecular targets, protein complexes, target modulation, and disease.
- Skilled in automated plate-based assay systems, liquid handling instruments, and detectors for various assay formats: spectrophotometric, fluorescence, radiometric. A demonstrated track record in the successful development and implementation of automated enzyme and biochemical assays for the screening of compounds, data analysis, and integrating of biochemical data into an understanding of the MOA of small molecule and biologic lead candidates.
- Established track record for the transfer and management of assays performed at CROs.

Core Quantum Technologies is seeking highly motivated PhD level engineers or scientists for a research scientist position in chemical and biomolecular engineering. CQT is a dynamic start-up focused on developing quantum dot nanoparticle reagents for liquid and solid tumor biopsy pathological imaging. CQT was founded in 2012 as an Ohio State University Technology Commercialization Company and is housed at the TechColumbus technology incubator in Columbus, OH. CQT was the winner of the 2012 Fisher Business School Business Plan Competition, participant in the NSF I-Corps Entrepreneurial Boot Camp, and recipient of Technology Validation Start-Up Funding from the Ohio Third Frontier Program. CQT has received funding from federal, state, and private equity sources.

The desired candidate should possess:

- A PhD or equivalent in Chemical Engineering, Biomedical Engineering, Chemistry or Physics
- Self-motivation and ability to work independently
- Quantum dot synthesis experience
- Experience with block-polymer self-assembly
- Experience with electrospray or electrospinning for high volume nanomanufacturing
- Experience with nanoparticle transfer from organic to aqueous phase
- Experience with nanoparticle physics and optical property characterization, i.e., absorbance, photoluminescence
- Experience with general nanoparticle characterization, i.e., transmission electron microscopy, dynamic light scattering, zeta potential measurement
- Experience with bioconjugation protocols for antibodies and avidin-biotin coupling
- Downstream processing experience for small volume products, including separation via centrifugation, dialysis, filtration
- Ability to establish GMP documentation and QC procedures for eventual FDA application

CQT is an equal opportunity employer and will not discriminate on the basis of race, color, sex, national origin, religion, disability, age, protected genetic information, sexual orientation or parental status. A compensation package of up to \$70K based on expertise, a healthcare allowance, and equity participation are available to qualified candidates. If interested, please contact Dr. Jessica Winter, winter.63@osu.edu. Core Quantum Technologies is located at 1275 Kinnear Road, Columbus, Ohio 43212

The 9th annual BEST Symposium, hosted by The Dow Chemical Company, will be held in Midland, MI on September, 14-16, 2015. BEST (Building Engineering and Science Talent) introduces doctoral and post-doctoral scientists from U.S. ethnic minority groups (Hispanic, African American or Native American) to the wide range of rewarding careers in industrial research particularly the many opportunities available with Dow, where we create innovation at the intersection of chemistry, biology and physics. This conference, developed jointly by Dow's minority scientists and Ph.D. recruiting team, supports the company's commitment to a diverse work force.

Applicants must be pursuing degrees in chemistry, chemical engineering, materials science, physics, biochemistry, molecular biology, microbiology, or other closely related fields and should be within 18 months of degree completion by the conference date. Please encourage any students that you identify to apply for the conference by visiting our website at <http://www.dow.com/BEST>. All applications are due by June 15, 2015.

All travel expenses, meals and hotel accommodations for those selected to participate in the BEST Symposium will be paid for by The Dow Chemical Company. However, participation neither obligates the student to apply for employment, nor guarantees future consideration for employment by The Dow Chemical Company. If you would like additional information on BEST, please contact Lidaris San Miguel Rivera, 2015 BEST Symposium Chairperson
The Dow Chemical Company 1707 Building, Midland, MI 48642 phone: 989-636-9535 | email: best@dow.com

The Purdue University Center for Drug Discovery currently has an opportunity for a postdoctoral researcher in the research group of Professor Philip S. Low. We are seeking a highly motivated candidate to join a multidisciplinary team that aims to discover, develop and translate promising new candidates into the drugs of tomorrow.

Research experience in biochemistry, molecular biology or hematology is required. Research experience in human erythrocyte biochemistry is preferred. Experience in cloning, site-directed mutagenesis, expression/purification and characterization of recombinant proteins is preferred. Experience with the routine culturing of mammalian cells is also strongly desired. Candidates with a strong background in erythrocyte characterization, hematology and a strong background in standard biochemistry techniques are especially encouraged to apply.

The successful candidate should be able to use their discretion and independent judgment in all areas of research including experimental design, project management, and implementing strategies for cross-functional teamwork and collaboration. They will be responsible and accountable for the design of lab experiments, be able to delegate and manage day-to-day research procedures efficiently. Furthermore, excellent oral and written communication skills in English are essential.

Responsibilities will also include preparing data for both publication and grant application purposes, participation in formulating ideas and concepts for grants, writing manuscripts for peer review publication, presenting research results at conferences and major meetings, and participating in discussions with international scientists to lead and support research. Knowledge of all applicable NIH and OSHA safety rules, as well as ensuring that all safety regulations and proper methods for handling potentially dangerous chemicals, pathogens, substances and materials are followed is also required.

Requirements:

Applicant must have a PhD and a track record of accomplishment and creative scientific contributions as evidenced by publications and/or presentation at scientific meetings.

How to apply:

Please submit a cover letter, CV, a research summary of 2 pages or less, and contact information for 2 references combined into a single PDF file by email to: lowreserachgroup@gmail.com

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.