

2019 WEEKLY BULLETIN
DEPARTMENT OF CHEMISTRY, NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS
August 26, 2019

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

Arrivals

Yu Wang joined the Stoddart Group

BIP

BIP is on summer vacation and will resume in the fall.

Opportunities

Memorial Sloan Kettering Cancer Center (MSK) seeks innovative individuals for tenure-track positions at the Assistant Member or Associate Member level, or tenured positions at the Member (Professor) level, with strong research accomplishments in organic chemistry or chemical biology and interests in bringing chemical approaches to bear upon problems at the interface with biomedical research, including basic and translational research and across all disease areas. MSK offers a unique and collaborative scientific environment, exceptional research facilities and resources, and generous startup packages.

Faculty are eligible to hold appointments in and to recruit graduate students from the Tri-Institutional PhD Program in Chemical Biology, Tri-Institutional MD-PhD Program, Gerstner Sloan Kettering Graduate School of Biomedical Sciences, and Weill Cornell Graduate School of Medical Sciences. The first two programs are operated jointly with Weill Cornell Medical College and the Rockefeller University.

Applicants must have a PhD degree in chemistry, biochemistry, chemical biology, or a closely related discipline, a strong track record of scientific achievement, and dedication to problems at the interface of chemistry and biology. Senior applicants must also have a strong history of successful mentorship and extramural funding. Women and minority candidates are strongly encouraged to apply. MSK is an equal opportunity and affirmative action employer committed to diversity and inclusion in all aspects of recruiting and employment.

Application Deadline: October 15, 2019. Interested candidates should visit <https://facultysearch.ski.edu> to access the on-line faculty application. Please visit the site as soon as possible, as it contains important information on the required application materials, including deadlines for submission of letters of reference. Inquiries may be sent to Jocette Marquez, Program Coordinator at marquezj@mskcc.org or to Prof. Derek Tan, Chairman, Chemical Biology Program at tand@mskcc.org.

The Department of Chemistry at Washington University in St. Louis seeks to make one faculty appointment to begin in the fall of 2020. This is an open search and applicants with expertise in all areas of chemistry are encouraged to apply (for areas of current research, see: <https://chemistry.wustl.edu/research>). The position is at the tenure-track assistant-professor level, but

exceptional candidates at a more senior level will be considered. The expectations for the position includes directing a research program that is internationally recognized for excellence (as reflected by independent publications, external grant support, and invited lectures), providing outstanding educational opportunities for students at all levels (efforts that include both teaching assigned courses and advising), and participating in appropriate university and community service. Candidates must have a Ph.D. or equivalent doctoral degree in the field of chemistry or a closely related field at the time of appointment.

Applicants must apply at <http://apply.interfolio.com/65011>. Applications should consist of a cover letter, curriculum vitae, 2-3 concise research proposals (each ~2-3 pages in length), and a brief teaching statement (~1 page or less). We also welcome submission of an optional diversity statement that describes values, experiences, and plans relevant to attaining inclusive excellence in research, teaching, and service (~1 page or less). These documents are to be submitted in *electronic form* as PDF (portable document format) files. Applicants should also arrange for three letters of reference to be uploaded to Interfolio.

Completed applications for the position must be received by 01 October 2019 to ensure inclusion in the initial review. However, applications received later will also be considered until the search is concluded.

Washington University in St. Louis is committed to the principles and practices of equal employment opportunity and especially encourages applications by those underrepresented in their academic fields. It is the University's policy to recruit, hire, train, and promote persons in all job titles without regard to race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, protected veteran status, disability, or genetic information. Diversity and inclusion are core values at Washington University, and the strong candidate will demonstrate the ability to create inclusive classrooms and environments in which a diverse array of students can learn and thrive.

The Hope College Chemistry Department (www.hope.edu/academic/chemistry) invites applications for one tenure-track Assistant or Associate Professor position, open to all areas of chemistry, to start in Fall 2020. Candidates must have a Ph.D. Postdoctoral experience is preferred. The Chemistry Department is a national leader in undergraduate research. The development of a strong, externally-funded research program involving undergraduate students is expected. Start-up funds will be provided. Teaching responsibilities will be split between classroom and laboratory courses in the candidate's field of expertise and the introductory chemistry program.

About the Department of Chemistry

The Department of Chemistry has long been one of the nation's premier undergraduate chemistry programs. Despite the moderate size of Hope's student body, the ACS and ASBMB-certified chemistry department includes 14 research active faculty and graduates an average of 45 chemistry majors per year. The Department offers BA and BS degrees, a biochemistry and molecular biology major (jointly with the Biology Department), and an interdisciplinary neuroscience major.

Undergraduate education through excellent classroom teaching with appropriate modern pedagogies integrated with authentic faculty scholarship with undergraduate student collaborators is a hallmark of our program. Student-faculty collaborative research involves approximately 100 students per year, including 55 who perform research in the department each summer. The success of the research program is demonstrated by the publication of research results and by the accomplishments of our graduates. Members of the Department have published 140 peer reviewed papers since 2010, 96 of which incorporate over 298 student coauthors. Based on NSF records, 250 Hope graduates have received PhDs in chemistry since 1958, which ranks Hope in the top 1% of all 614 US liberal arts and undergraduate institutions. This production continues into the current decade, as an average of 10 students enter graduate

school each year. An average of 13 additional students enter medical or dental schools each year, representing an admissions rate of nearly 85%. Student-faculty collaborative research is supported generously by Departmental and College funds, but the majority of support is obtained from external funding agencies. Chemistry Department faculty currently hold active grants worth over \$1.4 million, acquired from the National Science Foundation, the Beckman Foundation, the American Chemical Society, Research Corp., and the Dreyfus Foundation, among others

The Chemistry Department is housed in the A. Paul Schaap Science Center, where each faculty member has a private office and an adjoining lab for research. A full time Director of Laboratories handles purchasing, maintains the chemical stockroom, and manages over 50 student employees within the department. The Department has a broad range of modern research and teaching instrumentation. A complete list can be found [here](#).

Qualifications

Candidates must have a Ph.D. Postdoctoral experience is preferred. Review of completed applications will begin September 16. A subset of candidates will be asked to be available for a video interview.

Application Instructions

The following application materials must be submitted electronically via www.hope.edu/employment/faculty:

- Cover letter
- Curriculum vitae
- Detailed description of research plans that includes the suitability of the projects for undergraduate researchers and potential funding opportunities (approximately 4-6 pages)
- Statement of teaching philosophy that may include reflection on your experiences, pedagogical approaches, and/or teaching goals. Please include a list of courses that you feel qualified to teach, whether those offered at Hope (<https://hope.edu/catalog/current/chemistry/index.html>) or others that you could envision. A description of how your teaching and/or mentoring could contribute to the Chemistry Department's promotion of inclusion and diversity is welcomed. (Approximately 2 pages total)
- A statement describing your fit to the mission of Hope College (<https://hope.edu/about/mission.html>). As it may not be addressed elsewhere in your application, please devote particular attention to the Christian aspect of the mission statement and your personal engagement with faith and/or a faith community. (Approximately 1 page)
- Unofficial undergraduate and graduate transcripts
- Contact information for at least three references. These references will be contacted upon application to submit a letter of recommendation

About Hope College

Hope College is a four-year liberal arts college where academic excellence and vibrant Christian faith join together in a supportive and welcoming community. Hope offers an academically rigorous, co-educational and residential education to 3,150 undergraduate students from 37 states and more than 36 countries. Affiliated with the Reformed Church in America since its founding in 1866, Hope College is known for its invitational ecumenical Christian atmosphere, friendly campus community, and well-balanced academic and co-curricular offerings. Hope's beautiful campus is located just steps from award-winning downtown Holland, Michigan, and fewer than seven miles from Lake Michigan.

At Hope College, accomplished faculty and staff mentor students to recognize the interconnectedness of the world and cultivate the skills, perspectives and habits that help them flourish inside and outside the classroom. Recognized as a national leader in undergraduate research and scholarship, Hope provides exceptional professional preparation and life-changing educational experiences that equip students for

success after graduation. The college has consistently ranked among the nation's top liberal arts colleges and is featured in the book *Colleges That Change Lives*.

<https://www.schooljobs.com/careers/hopeedu/jobs/2520193/chemistry-assistant-or-associate-professor>

Assistant Scientist Position with Argonne National Laboratory

<https://www.anl.gov/hr/external-applicants>, search requisition # 406724.

Position Description

The Time-Resolved Research group in the X-ray Science Division of Argonne National Laboratory utilizes state-of-art laser-pump, X-ray probe time-resolved X-ray diffraction, spectroscopy and imaging capabilities to investigate multiple time- and length-scale dynamics in the fields of physics, chemistry and material science. Typically this is accomplished via pump-probe methods where the excitation pump is an ultrafast laser pulse. We seek an Assistant Physicist to be part of a multidisciplinary team to perform and support the application of time-resolved methods to a wide variety of x-ray scattering and spectroscopy techniques. A substantial aspect of this position will be to enhance and maintain safe and reliable operation of the laser systems of the group.

The successful candidate will develop and conduct collaborative and independent experimental work in the field of time-resolved x-ray science. This includes providing support to users in planning, implementing, and conducting pump-probe experiments, as well as data processing and analysis. The candidate will also be responsible for conceiving, planning, and implementing novel pump-probe instrumentation and techniques. Results will be reported in appropriate forms: publishing results in refereed journals and making oral presentations at meetings, conferences, symposia, and seminars. Within 5 years of the appointment, the candidate will develop all or part of an R&D program of interest to and in line with the strategic goals of the Division.

Position Requirements

This level of scientific knowledge and sophistication required is normally associated with a Ph.D. in physics, chemistry, materials science, or related disciplines.

Considerable: Skill and experience in maintaining, operating, and applying high-power ultrafast laser systems. Experimental skills to develop scientific applications and advanced instrumentation for pump-probe x-ray techniques. Knowledge and experience in using and operating a user-orientated synchrotron radiation beamline. Skill and knowledge in understanding and applying theoretical models. Advanced understanding of abstract concepts, and synthesizing results within current experimental and theoretical frameworks. Ability to work well in a team environment.

Good: Written and oral communication skills. Communicate effectively with the beamline user community, potential beamline users, and scientific collaborators. Skill in advanced data analysis algorithms and methods. Knowledge of beamline components in terms of design, operation and maintenance. Advanced knowledge and extensive experience with x-ray scattering measurements and data analysis.

Postdoctoral position with Argonne National Laboratory

Here is the link, <https://www.anl.gov/hr/postdoctoral-applicants>, search the requisition ID: 406339.

Position Description

The research project will be focused on investigating electronic and structural dynamics of photovoltaic perovskite materials using time-resolved X-ray absorption spectroscopy and diffraction. You will also participate in the development of laser pump X-ray probe techniques for thin films and solid/liquid interfaces. The project is based in the Structural Science group at the APS. The successful candidate will join a diverse multidisciplinary team with expertise in chemistry, physics, and materials.

Position Requirements

A background in time-resolved physical chemistry.
Experience with ultrafast lasers.
Experience on synchrotron X-ray experiments.
Strong oral and written communication skills.
Experience with XAS data analysis.
Knowledge on pump-probe laser and X-ray techniques.
Requires a PhD in physics, chemistry, materials science and related disciplines.

American Society for Mass Spectrometry – Postdoctoral Research Associate/Ion mobility mass spectrometry

Description

We seek a postdoc with a desire to tackle applied research questions utilizing high-resolution ion mobility mass spectrometry instrumentation platform (Agilent 6560 IMMS). The postdoc will have the opportunity to broaden research experience, will have excellent opportunity for publication and instrument access on a daily basis is typical.

The successful candidate will explore various applications of ion mobility and mass spectrometry analytical measurements focused on environmental and clinical applications. In addition to addressing current projects, the successful candidate will be encouraged to develop novel, data-driven research concepts and participate in grant-writing as the opportunity arises.

We are particularly interested in candidates with strong mass spectrometry experience. Having experience on using LC/MS and ion mobility techniques is preferred.

Requirements

The candidate will hold a Ph.D. in chemistry or a closely related discipline and have strong mass spectrometry expertise. The candidate will have demonstrated experience in sample preparation, analysis and data interpretation. The candidate will possess the ability to work independently and summarize data findings for dissemination. Additionally, the ability to work collaboratively across disciplines, strong interpersonal, excellent communication skills, and the ability to self-direct a research project are required

Pacific Northwest National Laboratory (PNNL) is a world-class research institution powered by a highly educated, diverse workforce committed to collaboration and work-life balance. Every year, scores of dynamic, driven postdocs come to PNNL to work with renowned researchers on meaningful science, innovations and outcomes for the U.S. Department of Energy and other sponsors; here is your chance to be one of them!

Contribute to PNNL's goals in catalysis as part of the Lab's Physical Sciences Division (PSD). As an experimental postdoctoral researcher in the Catalysis Science group, you will join a multi-investigator team focused on the design of molecular catalysts for the hydrogenation of CO₂, carboxylic acids, and related species, with an emphasis on the impact of solvent on catalysis. You will be mentored by prominent researchers, including Aaron Appel, Eric Wiedner, and John Linehan, as you develop your experimental research, seeking to understand design concepts for molecular catalysts, often in close collaboration with heterogeneous catalysis colleagues.

The Ideal Candidate

If you are interested in becoming a postdoctoral researcher in catalysis at a national laboratory widely recognized for its work in catalysis, we want to connect with you. Details are below; you do not need to meet all of the preferred qualifications to be considered.

What you will do:

- Conduct independent research and work on team assignments
- Lead manuscript development and maintain a strong overall publication record in the peer-reviewed scientific literature
- Interact, communicate, and solve problems with a diverse team of co-workers in the Catalysis Science group, PSD and across PNNL
- Present research at technical conferences and project review meetings

PNNL is committed to diversity and inclusion; applications from women, minorities, individuals with disabilities, and veterans are strongly encouraged.

Email PNNL Recruiter Fred Bond at Fred.Bond@pnnl.gov for details, or share this opportunity with someone you know today.

Minimum Qualifications: Candidates must have received a PhD within the past five years (60 months) or within the next 8 months from an accredited college or university.

Preferred Qualifications

Minimum Qualifications:

- Ph.D. in Chemistry
- Experience in experimental catalysis research

Preferred Qualifications:

- Strong verbal and written communications skills
- Experience with synthesis, characterization, and mechanistic chemistry
- Synthesis and manipulation of air-sensitive materials (drybox and Schlenk techniques)
- Proficiency with a range of spectroscopic techniques, particularly NMR spectroscopy
- Functional knowledge of thermodynamic and kinetic concepts

https://careers.pnnl.gov/psc/hrmsx/EMPLOYEE/HRMS/c/HRS_HRAM_FL.HRS_CG_SEARCH_FL.GBL?Page=HRS_APP_JBPST&PostingSeq=1&SiteId=1&FOCUS=Applicant&jobopeningid=309626&

Colorado School of Mines: Post-doctoral researcher sought for full-time position at the Colorado School of Mines, in collaboration with our research sponsor. The project would focus on molten salt and materials chemistry of uranium, zirconium and lithium. Electrochemistry, materials science, molten salt and/or glovebox experience preferred. Ph.D. Required. Our group has a demonstrated history of exciting research in areas of nuclear security, materials management and fundamental f-element science.

Publications can be found here: <https://www.shafer-radiochemistry.com/publications/> and more information on the group can be found here: <https://www.shafer-radiochemistry.com/>

Responsibilities include: designing experiments and process flow; examination of solution effects in plating chemistry using electrochemical and spectroscopic methods electroplating; material characterization through SEM and other forms of microscopy, preparing biweekly progress update presentations and quarterly updates to research sponsor; collaborating effectively with sponsor partners through sample exchange, co-development of processes, and materials characterization; providing mentorship to a graduate student and undergraduate student on the project; maintaining excellent lab safety and a diverse, accepting work environment; and assisting our Assistant Research Professor with research group management (total of 10 graduate students, 1 undergraduate student, 1 technician).

How to Apply: Applications should email Professor Shafer (jshafer@mines.edu) with a CV, references and cover letter describing relevant skills and availability date (required). Desired start date is October 1,

2019, but flexibility exists regarding this. References will not be contacted until later in the selection process and you will be informed before that contact is made.

Total Rewards: Starting salary will be determined by the qualifications of the selected applicant balanced with project budget availability and available market information. Mines provides an attractive benefits package including fully paid health and dental insurance. Part of Mines' mission is to create a family-friendly environment supported through our dependent tuition benefits, parental leave benefits, and dependent care assistance plan, as well as in special events, camps, and programming. For more information visit: family.mines.edu

About us: The Colorado School of Mines is located in picturesque Golden, in the foothills of the Rockies, 15 miles west of Denver and 20 miles south of Boulder. The Shafer Research Group focuses on both the fundamental and applied aspects of actinide science and related technologies. Dr. Shafer's group is a high-quality, well-funded research program (\$750,000 in annual research awards) with support from DTRA, DOE-NNSA, DOE-SC, DHS, and NSF. The research group is highly interdisciplinary and matriculates' students with both Applied Chemistry and Nuclear Engineering graduate degrees.

University of Calgary, Postdoctoral Positions: In 2016, the University of Calgary was awarded \$75 million, over seven years, from the [Canada First Research Excellence Fund \(CFREF\)](#) for its initiative entitled: "[Global Research Initiative in Sustainable Low Carbon Unconventional Resources](#)". The goal of this research is to dramatically reduce the impact of energy extraction and energy use on the environment.

As part of the implementation of its CFREF scientific strategy and to address the Grand Challenge aiming to develop next generation of CO₂ conversion catalysis, a project in the production climate neutral synthetic fuels through electrocatalytic carbon dioxide reduction is seeking up to three team members at the Postdoctoral level to join the project.

The successful candidates will work within a multidisciplinary team of synthetic chemists, electrochemists, surface scientists and engineers consisting of 5-7 PI's, 5 PDFs and a similar number of graduate students. The primary aim will be to develop new, selective CO₂ conversion catalysts supported on novel conducting materials. While initially CO has been targeted as a product, other potential fuels will also be within scope.

Accordingly, we seek applications from qualified candidates within 2-4 years of their Ph.D. degree to fill Postdoctoral Fellow positions with the following specific qualifications:

1. **Synthetic inorganic chemistry (2):** Ph.D. in inorganic chemistry with an emphasis on the synthesis and characterization of organometallic and coordination compounds, particularly of the first row transition series. The ability to prepare and manipulate air and moisture sensitive compounds, and characterize them using a suite of modern spectroscopic and analytical techniques. Working knowledge of electrochemistry and electrocatalysis is also strongly desired.
2. **Electrochemistry and catalysis:** Ph. D. in electrochemistry with an emphasis on electrocatalysis, including homogeneous and surface electrochemistry on novel electrode materials. Experience in the evaluation and benchmarking of new CO₂ reduction catalysts, liquid/gas phase product analysis, surface and materials characterization techniques, and mechanistic analysis would be assets.

The appointments will be for 2 years with a \$55,000/year salary (CND dollars); the positions also come with sufficient research support to be managed by the candidate in consultation with the PI members of the team. In addition, the candidates will be required to work within a team environment and so excellent

communication skills and the ability to work effectively with a diverse group of interdisciplinary researchers is a must. As PDF team members, strong leadership in project management is also expected.

In assembling the CFREF research teams, aggressive diversity and equity targets are in place and so applications from under-represented groups are especially encouraged

Applications should be sent directly to Prof. Warren Piers, wpiers@ucalgary.ca, and should consist of a current CV, a list of 2-3 referees with contact information and a cover letter indicating your are applying for a position with the *Synthetic Fuels* team as a synthetic inorganic chemist or an electrochemist. Please also indicate your availability. The search will continue until the position is filled, preferably by January 1, 2020.

To be eligible as a Postdoctoral scholar at the University of Calgary, the candidate must have been awarded a PhD or equivalent within the five (5) years immediately preceding the appointment. Please review the [Eligibility](#) page for more information prior to applying for this position.

Postdoc position available at Dartmouth College with David Glueck 1-year position, may be renewed for another half year Start date January 2020 (some flexibility possible)
ACS-PRF funded “Metal-Catalyzed Enantioselective Hydration of Nitriles”
Requires experience in inert-atmosphere synthesis/characterization techniques
Also valuable: expertise in catalysis, NMR, phosphine chemistry

Please send (to glueck@dartmouth.edu) cover letter, CV, and 3 letters of recommendation, and contact me with any questions

David Glueck, 6128 Burke Laboratory, Department of Chemistry, Dartmouth College,
Hanover, NH 03755 USA
glueck@dartmouth.edu
dartmouth.edu/~glueck

Kester, An Illinois Tool Works Company, Itasca, Illinois - The Product Development Chemist will conduct materials research and experiments to develop electronic interconnection assembly materials. The successful candidate will develop new soldering materials at the lab level and will also lead the effort to ready new products for mass production through a manufacturing scale-up process.

Primary Duties and Responsibilities

- Develop new and improve current solder paste, liquid flux, tacky flux and cored wire products
- Interface with customers and sales team regarding VOC and evaluations of new products
- Determine new product performance specifications
- Contact suppliers to obtain new raw materials and technical information for evaluation
- Develop new test methods to differentiate new products from previous products and/or competitive products
- Manage new product design process
- Work with scale-up process engineers to bring new materials into mass-production
- Assist Product Management team with data collection for brochures, supplemental data packages, and other
- marketing materials
- Work on specific customer issues and solve internal manufacturing problems
- Perform routine maintenance of equipment and work area
- Support other departments as needed (QC, Engineering, Manufacturing, Sales & Marketing)
- Train less experienced staff in the department

- Occasional travel may be required
- Additional duties and tasks as assigned

Leadership Expectations – ITW

- Strategically Positions Business to Win in Markets. ITW leaders understand what is required to win. They are strategic and anticipate future trends. They bring an outside-in perspective to drive innovation in the organization. They demonstrate a strong enterprise mindset and do what is right for ITW.
- Delivers Results. ITW leaders execute and deliver. They exhibit exceptional business acumen and excellent project management skills. They are stewards of the ITW Toolbox. They hold themselves accountable for consistently meeting ITW’s earnings targets.

Qualifications: To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Minimum of a bachelor’s degree in Chemistry. A related technical graduate degree is highly desired
- Minimum of five (5) years professional chemistry experience with chemical/materials synthesis and test experiences.
- Have good knowledge of the soldering materials, electronics assembly process, electronic industrial standards & test methods, DOE design, statistical analysis, DFM and dFMEA methodologies, and proven application of this knowledge through professional experience.
- Strong project management skills to consistently meet deadlines
- Proven problem-solving skills, open minded for new knowledge and work methodology
- Strong verbal and written communication with excellent presentation skills; ability to effectively interact with customers and employees within all levels of the organization
- Ability to handle multiple tasks and work in a fast-paced environment
- Proficient computer skills - MS Office (PowerPoint, Excel, Word, Outlook, etc.); JMP and/or Minitab is a plus
- Must be a team player with excellent interpersonal and relationship building skills
- Takes initiative; able to function independently and make independent decisions
- Applicants must be authorized to work in the U.S. as a precondition of employment
- Sponsorship is not available for this position
-

Travel Requirements

Must be willing to travel domestically and internationally as necessary to fulfill the job responsibilities.

Travel estimate for this position is estimated to be up to 10%.

Contact: Shawn (Xiang) Wei xwei@kester.com<<mailto:xwei@kester.com>

www.kester.com