

Chemistry Notices

For the Week of December 12 to December 16, 2011

VISITING SPEAKERS & SEMINARS

Department of Chemistry Seminar

DR. JENNIFER CHEN

University of Washington

Department of Chemistry

WILL BE SPEAKING ON:

“Molding the flow of light: from optically amplified photocatalysts to plasmon-based biosensors”

DATE: Monday December 12, 2011

TIME: 10:00 a.m.

PLACE: E3-25 Chemistry Building

The interaction of light with matter underpins many biological functions and technological applications. From photosynthesis, to photovoltaic cells, to colorimetric biodiagnostics, light is both valuable as a source of energy and a spectroscopic probe. In this talk, I first demonstrate how photonic structures can enhance photochemistry using TiO₂ as a model compound. By molding TiO₂ into an inverse opal structure, I explore the unique phenomenon of *slow photons* for enhancing the absorption of TiO₂, and increasing its photocatalytic efficiency. I examine the important factors governing the slow photon enhancement and demonstrate that such an optical amplification can be synergistically combined with chemical enhancements. In the second part of my talk, I embark on plasmonic biosensors based on discrete gold nanoparticle dimers and photoswitchable clusters. The actuable dimers generate an opposite spectral shift than that arising from refractive index changes, allowing for the direct optical detection of analytes in complex media. Photoswitchable clusters provide another means of discriminating between target and interfering species. Furthermore I show that photoswitchable clusters can be used to replace thermal and chemical stringency washes with light, allowing discrimination of single-base mismatches.

Department of Chemistry Seminar

DR. NICOLAS PIRO

UC BERKELEY

Department of Chemistry

WILL BE SPEAKING ON:

“Transforming Phosphorus- and Nitrogen-Based Small Molecules on Transition Metal Platforms”

DATE: Wednesday December 14, 2011

TIME: 10:00 a.m.

PLACE: E3-25 Chemistry Building

Small molecules of the p-block can serve as elementary building blocks for more complex species, but much remains unknown about even the most elementary molecules and their interactions with metal centers. This talk will focus on the chemistry of basic phosphorus units (P-1–P4) in addition to chemistry of nitrous oxide and organic azides. The phosphorus chemistry follows a tale of P4 activation, P2 generation, and P3 assembly. Trapping reactions, kinetic measurements, and DFT calculations are used to probe the nature of reactive P–P multiply bonded intermediates and the mechanisms of their formation. The second portion of the talk will describe the synthesis and reactivity of early-metal pyrrolide complexes and their reactions with nitrous oxide and organic azides. This work resulted in the first crystal structure of nitrous oxide coordinated to a transition metal center. The synthesis of isostructural chromium complexes in three-states of charge will also be discussed along with the reactivity of high-valent, chromium(VI) imidos.

EMPLOYMENT OPPORTUNITIES

Tenure Track Assistant Professor of Chemistry at IU Northwest

Tenure Track Assistant Professor of Chemistry at IU Northwest, August 2012. A PhD in Chemistry plus experience in teaching and ability to develop a strong and visible research program is required. The specific sub-discipline is open but the successful candidate will be responsible for teaching advanced inorganic chemistry and inorganic lab. The department is certified by the American Chemical Society. IUN, located in the greater Chicago area, is one of eight campuses of Indiana University. The campus has a population of 6,000 students and offers Baccalaureate and Master degrees in a variety of academic disciplines. Deadline for full consideration is January 6, 2012 but applications will be accepted until the position is filled. Send a cover letter, cv, research and teaching statement as well as have three reference letters forwarded to N. De Leon, Chair, Search Committee, Department of Chemistry/Physics/Astronomy, Indiana University Northwest, 3400 Broadway, Gary, Indiana 46408 (email: cpachair@iun.edu). Indiana University Northwest is an EEO/AA employer and institution.

EMPLOYMENT OPPORTUNITIES, *continued*

Faculty of Science - Assistant or Associate Professor, Pharmaceutical Chemistry - UOIT11-156

Competition Number: UOIT11-156

Faculty of Science – Pharmaceutical Chemistry Professor

Posting Date: November 28, 2011

Closing Date: January 1, 2012

Appointment: Full-time Continuing

We invite you to consider joining UOIT's globally trained faculty as we further our reputation as a leading-edge learning and innovative research environment. UOIT has a 21st-century vision of teaching excellence at the undergraduate and graduate levels. At UOIT, we offer honours undergraduate degrees in chemistry with both bioorganic and pharmaceutical chemistry specializations. At the graduate level, we offer MSc and PhD degrees in both our applied bioscience and materials science graduate programs. Our educational philosophy is to challenge, encourage innovation, and connect our faculty, students and the community, while respecting the best practice traditions of Canada's established universities.

The Faculty of Science invites applications for a core faculty position in the chemistry program in the Faculty of Science. The appointment will be a tenure-stream or tenured position at the Assistant or Associate rank. This position is subject to budgetary approval, and would start at a mutually agreeable time, preferably no later than August 2012.

Applicants should possess a Ph.D. in Chemistry (with expertise in medicinal chemistry, chemical biology, synthetic organic chemistry or a related area) and a strong academic background with demonstrated achievement in teaching and research.

The successful candidate will have a demonstrated ability to develop and provide high quality curriculum; excellent communication skills; a willingness to work collegially; and be expected to play an integral role in the growth, development and identity of the chemistry program and the faculty of science. In keeping with a technology-enhanced learning environment utilizing laptop computers and wireless connectivity, UOIT seeks faculty members who will utilize a technology-enhanced learning approach, and who strive to explore and develop new pedagogies.

Applications will be accepted until January 1, 2012 or until suitable candidates are found. Applicants should submit in electronic format, a covering letter; a curriculum vitae including a list of publications; a statement of teaching interests; an outline of present and future research agendas; and 3 letters of recommendation to careers@uoit.ca, with competition number UOIT 11-156 and the applicant's name in the subject line.

UOIT is an equal opportunity employer and welcomes applications from qualified women and men, including members of visible minorities, Aboriginal peoples and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.

University of Florida Post Doc Position

This is an externally-funded postdoc position. Below is the job description. Please send me your CV, brief description of your research interest, and the names of references by email (hfan@ufl.edu). If you have any question, please send me an email or call me directly.

Job description:

Responsible for developing chip-based analytical methods, characterizing microfluidic devices, and applying microfluidics to biological applications.

Requirements:

1. Ph.D. in a science or engineering field related to the work.
2. Experience with microfabrication, surface chemistry, immunoassay, detection is desirable.
3. Ability to work independently with minimal supervision, attention to detail, and willingness to take on new challenges. Good writing and interpersonal skills.

EMPLOYMENT OPPORTUNITIES, *continued*

Faculty of Science - CRC Tier II, Forensic Science - UOIT 11-158

Competition No: UOIT11-158

Faculty or Department: Faculty of Science

Position Title: Canada Research Chair (Tier II) in Forensic Science

Appointment Type: Assistant or Associate Professor

Salary Range: Commensurate with qualifications and experience

Posting Date: November 29, 2011

Closing Date: January 31, 2012

The Faculty of Science at the University of Ontario Institute of Technology (UOIT) invites applications for a Tier II Canada Research Chair (CRC) appointment. The Faculty is seeking an exceptional emerging researcher with potential to lead the field related to Forensic Biology or Forensic Chemistry. The candidate should meld cutting edge technique with innovative questions in Forensic Science. The CRC will also inform the ongoing growth and development of the Applied Biosciences graduate program. Candidates with collaborative and/or interdisciplinary research experience are preferred.

As an innovative university, UOIT delivers a leading-edge learning environment that uniquely combines academic knowledge, research opportunities, hands-on skills and a vibrant student life. The vision for research at UOIT is to be committed to and engaged in academic and research activities of national and international standards, especially those activities with strong potential to address issues of local, regional, national, and global significance. Research activity at this young university has grown dramatically with a research profile that is both competitive with, and distinct from, other Canadian universities. UOIT's commitment to research excellence has resulted in millions of dollars in grants and awards, including nine Canada Research Chairs. For detailed information please visit:
http://research.uoit.ca/EN/main/about_research/fast_facts.html.

The CRC candidate must hold a PhD in a relevant discipline and should demonstrate extensive research experience in either Forensic Biology or Forensic Chemistry. It is essential that the candidate demonstrate commitment to research excellence, have the ability to develop collaborative research partnerships, the ability to conduct a dynamic and world-class research program, and exhibit strong teaching and communication skills. Appointment to this tenured or tenure-track faculty position will be at the Assistant or Associate Professor level, commensurate with the qualifications of the successful applicant.

Review of applications will begin on February 1, 2012 until a suitable candidate is found. Applicants should submit in electronic format a curriculum vitae including a list of publications, statements of research and teaching interests, and three letters of reference to careers@uoit.ca with the applicant's name and the competition number in the subject line.

UOIT is an equal opportunity employer and welcomes applications from qualified women and men, including members of visible minorities, Aboriginal peoples and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. Canada Research Chairs are subject to review and approval by the CRC Secretariat. Further details on the CRC Program can be viewed at <http://www.chairs.gc.ca>

WP Wagner Panel for all Disciplines: December 8th

We are recruiting panel members who are willing to share their experiences and insights regarding their area of work or research with Grade 10-12 students from Wagner High School. This is a chance to give students ages 15-17 some insight into University life, how you made your life choices, what inspired you to do graduate work, and where you hope to be in a few years from now. Volunteers will have 10 minutes to talk about their field of expertise/research on December 8 from 9:30-11:15 on campus. Some students may want to get in touch with panel members to obtain further information following the presentation. Please email Cynthia at cynthia.stretch@ualberta.ca if you are interested in this event.

OTHER OPPORTUNITIES/REQUESTS

Invitation to join the WISER Mentor Network Executive Committee!

WISER (Women in Science, Engineering, and Research) is a community of graduate students, post-doctoral fellows, and early career professionals in the fields of science, technology, engineering, and mathematics. WISER is supported by a mentor network comprised of professionals from academia, industry, and government, including organizations such as TEC Edmonton, Edmonton Economic Development Corporation, Schlumberger, Enbridge, Suncor, Willowglen Systems, and Quantiam Technologies. We hold monthly events which help attendees develop skills and networks to enable career success. Recent WISER events have included an Industry Mixer with keynote presentation by Dr. Jackie Shan, CSO of Afexa Life Sciences, Negotiation Skills workshop, and career panel sessions.

WISER is looking for graduate students and post-doctoral fellows to join our Executive and Event Committees. We hold one Executive meeting and one event per month. All new members are paired with an experienced WISER member who provides support and guidance. This is a great opportunity to meet new people, gain valuable experience in project management, marketing, leadership and to provide insight on the future direction of WISER.

If you are interested in a fulfilling opportunity to be part of a community that is making a difference and having fun at the same time, please send an e-mail to wiser@ualberta.ca with your name, position, department, letting us know of your interests.

WISER activities support diversity in the workplace and encourage the participation of both men and women.

Sandin Lecture Series Photograph Identification:

A photograph of the recent 2011 RB Sandin Lecture Invited Speaker Professor Vern L. Schramm and lecture attendees has been printed and now requires confirmation of the participant's. The photograph is posted outside E5-33 - kindly stop by and identify yourself (confirm on lists provided).

Copies of the photograph will be available for purchase. Sizes available and costs posted with photograph. Please see Lynne in W5-39a to order a copy of the photograph. Only prepaid orders will be submitted for printing.

The photograph will be posted until 16 December 2011 only.

Pricing: from photographer Reza Jafari

\$5 for 5x7* (Canon Glossy Photo Paper)

\$10 for letter size* (Canon Luster Photo Paper)

\$18 for 13x19** (choice of Canon Glossy Photo Paper or Inkpress Luster Photo Paper).

*5x7 and letter size print come with unlimited exchange for any damage for one year, including color fade, moisture effect or color bleeding.

**13x19 comes with one time exchange guarantee for 1 year. Custom size and media would be available. Samples of all the sizes will be available in Lynne's office.

Since the picture is very wide, but not tall, it may be better to trim the picture to the right dimensions, which could be done by the photographer free of charge.

Photo colouring and exposure will be adjusted – sample is slightly overexposed.