

# Alumni News

Fall 2016

## CU Denver Chemistry Department

### A Word from the Chair

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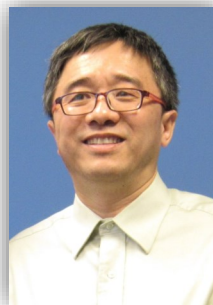
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The 2016-17 academic year is the year for big, important changes in the department. First, we are expecting a significant enhancement of leadership as several junior faculty reach senior rank. At the beginning of this fall three faculty members received promotion: Dr. Yong Liu was tenured and promoted to Associate Professor; Dr. Margaret Bruehl was promoted to Associate Professor Clinical Teaching Track (CTT), and Dr. Marta Maron became Assistant Professor CTT. Five more faculty members have submitted their tenure or promotion applications for the next academic year. Meanwhile a more important change is on the research environment in the department. Out of the twelve tenure-track faculty members eight are currently holding federal and/or private grants. With the great effort made by junior faculty members I expect this number to increase in the coming years.

In the Chemistry Department at CU Denver, we always seek to provide a high-quality, rigorous chemistry education to all of our students. We are constantly looking for ways to improve our instruction, including reaching out to broad populations of students. In 2012, we launched a Biochemistry Emphasis concentration within the BS Chemistry major, as part of an effort to engage students

who are interested in the processes of life at the molecular level. Since that time, the annual number of chemistry graduates has increased by 50%, and more than half of Chemistry majors now select the Biochemistry Emphasis. In the coming years, we plan to further expand biochemistry opportunities by replacing the Biochemistry Emphasis with a standalone program, BS in Biochemistry. A committee chaired by Dr. Jeff Knight has been working



tirelessly on this. We have already started offering new courses for this program: Dr. Jeff Knight taught a course last spring on the biochemistry of metabolic diseases, Dr. Xiaojun Ren is reintroducing our long-dormant Biochemistry of Cancer class, and we are introducing a Foundations of Physical Chemistry course to help pre-health students prepare for the quantitative rigor of the Physical Chemistry series. We do not yet have a date set for launching a BS Biochemistry program, but we look forward with excitement to the expanded opportu-

nities it will bring. We will keep you posted.

Another major change is on the department's master program. Led by Dr. Scott Reed, the department is restructuring graduate-level requirements to make our MS degree more accessible and meaningful for students. Our program focuses on providing students the skills and knowledge necessary to conduct specialized research in preparation for careers in chemistry and related disciplines. Completing an MS in Chemistry at CU Denver can position a student for admission to a competitive PhD or health sciences program and the valuable experience gained throughout the program can set one up for success in pharmaceutical and biotechnological industries. Our flexible program can now accommodate various students, whether one is looking for a quick route to a graduate degree, or wants to complete a degree while staying at the current job, or wants to delve into research to see if that is the right path.

*Continued on pg 2*

## Word From Chair Continued

The program is divided into three core areas. Students will select a track to pursue during their MS degree: a Biochemistry Track, a Synthesis and Measurement Track, and a Molecular Modeling Track. Students interested in gaining experience in a broad range of chemistry are encouraged to consider the traditional track. The department has a BS-MS program for accelerated students and is establishing a joint BS-MS program with the Chemistry Department of the Metropolitan State University of Denver. With proper planning, students can take graduate classes during their undergraduate years and can thus complete their MS degree within one year in their graduate study.

To witness these changes I would like to invite you to visit our department, have a chat with our faculty and

students, or attend our highly successful seminar program held every Friday from 11 AM to noon. One third of the seminar speakers are from out-of-the-state institutions, one third from in-state institutions, and the rest from downtown and Anschutz campuses. Very often we also have special programs. Last year the department held the Jean Dreyfus Boissevain Lecture-ship in Chemistry for Undergraduate Institutions. The funding provided for two summer undergraduate research assistantships in chemistry and for a two-day student-focused visit by a highly prominent chemist, Dr. Sharon Hammes-Schiffer, member of National Academy of Sciences. In addition to a general audience seminar and a chemistry-focused seminar, Dr. Hammes-Schiffer spent a significant part of her visit interacting with our undergradu-

ate chemistry majors, discussing their research and coursework. This proved to be a highly impactful collection of events for our Chemistry majors. We hope that with your help and suggestions, we can host more such events in the future.

*Haobin Wang*

Haobin Wang

## Dr. Scott Reed's Stockholm Sabbatical



During the 2015-2016 academic year, Prof. Scott Reed was on sabbatical at Stockholm University in Sweden. Prof. Reed was appointed

as a Visiting Professor in the Department of Biochemistry and Biophysics. Working in the lab of Prof. Peter Brzezinski, the goal of this sabbatical was to improve the understanding of how the vesicle transport system overcomes the energetic barrier of merging two lipid membranes.

While abroad, Dr. Reed witnessed many Swedish traditions including some interesting academic traditions. For example, one tradition involved their PhD defense. A few months before defending a PhD thesis a student takes part in a "spikning". This involves nailing your PhD thesis to a tree. Every department has their own tree (usually just a large piece of bark, really) conveniently located for students. There was



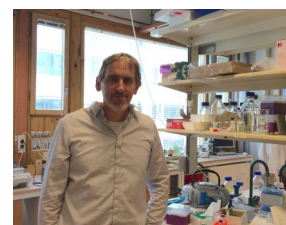
usually a hammer tied to a string hanging from the tree. The beautifully printed theses were often spared the nail and simply hung by a string.

The PhD thesis defense was also quite different from the experience in the US. The defense was much a more involved process. Dr. Reed served as a committee member on two defenses where he was able to witness the special role of the "opponent", a tradition absent from US theses defenses. The opponent is a special member of the committee who gives a 15 to 45 minute introduction to the thesis work. Sometimes they talk longer than the student. And after the defense the opponent spends about an hour asking questions of the student "defendant". That happens before the questions are opened up the rest of the committee and the rest of the audience! As a result, a thesis defense takes up most of the day. Although, being Swedish, they usually manage to take a break for a "fika" during the day. Fika is the Swedish tradition of taking time out of the day to have a coffee and a snack



with your co-workers.

A highlight of the year for Dr. Reed was getting to attend the Nobel Prize ceremony. The ceremony takes place in December, a cold but beautiful time of year in Stockholm. The entire city takes notice of the ceremony and surrounding events. The hotel that houses the laureates displays the flags from their countries of origin. The city with otherwise unimpeachable public transportation grinds to a halt near the concert hall where the King awards the prizes. And the laureates in Chemistry, Physics, and Economics come to Stockholm University to give free public lectures on their research during the week leading up the ceremony. There are not many tourists in Stockholm in early December but for a scientist, there couldn't be a better time to visit.



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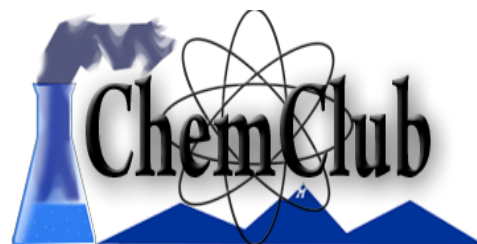
## CU Denver Chemistry Club

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In the Fall 2016 semester the Chemistry Club focused on recruitment of new members and educating students on research opportunities. They attended events such as Fall Fest and the Student Organization Carnival to help prompt and advertise CU Denver's Chemistry Club to new and continuing students and other organizations.

On November 05, 2016 the Chemistry Club hosted its fourth DataBlast. DataBlast: a Student Research Symposium was attended by over 50 students

and faculty, with many of the attending students not having prior exposure to the research opportunities on our campus or within the Department of Chemistry. With the success of DataBlast, we look forward to bringing new opportunities to the student body next in future semesters!



# CU Denver Chemistry Faculty Publications

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## CU Denver Chemistry Faculty

Larry Anderson, Prof. Emeritus	Doris Kimbrough	Scott Reed
Margaret Bruehl	Karen Knaus	Xiaojun Ren
Priscilla Burrow	Jefferson Knight	Marino Resendiz
Robert Damrauer	Jung-Jae Lee	Liliya Vugmeyer
Douglas Dyckes Prof. Emeritus	Hai Lin	Xiaotai Wang
Vanessa Fishback	Yong Liu	Haobin Wang



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