

ALUMNI NEWSLETTER



DENVER CHEMISTRY DEPARTMENT | FALL 2018



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A Word From the Chair

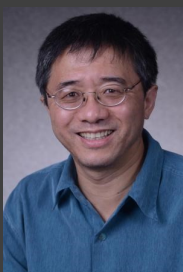
BY DR. HAOBIN WANG

A week before Thanksgiving the department hosted the annual Data Blast event. As before, this event was designed to provide student researchers in chemistry a chance to present and talk about their ongoing research, and inform the student body about the exciting research opportunities available on campus. Again, many excellent student researchers gave their presentations. One distinguished feature of the department, as pointed out by many observers, is that we have excellent students and a great program to accommodate them. Many students appreciated the fact that they can do frontier research with our award-winning faculty members. The success of the Data Blast event is a reflection of the faculty's research strength.

The Chemistry Department, although small in size and only offers M.S. degrees at present, has maintained a very active research program. This year the department's combined external funding ranks No. 2 in the college that includes four departments with Ph.D. programs. The total number of publications by our faculty is also at the same level with that of a small Ph.D. program anywhere in the country.

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A Word From the Chair (cont.)



I am also happy to share that a student of our Master's Program, Selina Vong, won the first prize in the first official 3-Minute Thesis Competition. She will compete again on January 25, and if she comes out as number one there as well, she will represent CU Denver/Anschutz at the Annual Meeting of the Western Association of Graduate Schools in early March, and at the Colorado state-wide competition in the Basilica (near Capitol Hill) in Denver on March 14.

Two years ago the department went through the academic program review that is conducted every seven years. Afterwards, the department worked with the college to develop a three-year implementation plan using the recommendations and suggestions from the external review team. Up to now, most of the recommended changes have been implemented. In particular, the new B.S. Biochemistry program has been approved by the regents and has formally launched. New courses have been developed in addition to extensive revisions of several existing courses. The department has significantly revised the Master's program curriculum. The number of newly admitted M.S. students has reached a record of 12 for this year. The department supported several junior faculty members to attend grant-writing workshops. Currently more than half of our faculty members have external grants. The department is actively working on funding mechanisms for the M.S. program.

This year a major research instrumentation (MRI) proposal for upgrading the department's existing NMR was funded by the National Science Foundation (NSF). In October, the new instrument was installed in the department. With the NSF-MRI grant and matching funds from the Provost and Dean, the department was able to make a substantial upgrade to our NMR facilities. The new instrument, a Bruker Avance Neo 400 MHz NMR, will be available to faculty and research students and also will be used by undergraduates in the Organic Chemistry labs. The instrument provides structural information about small molecules and proteins and is capable of working with solid and liquid samples. It is equipped with an auto sampler that allows many samples to be loaded and run remotely.

There are also some personnel changes in the department. Dr. Karen Knaus left the department, meanwhile John "Nick" Fisk joined as an assistant professor. Nick grew up outside of Philadelphia, attended Pennsylvania State University, majoring in chemistry and biochemistry, received a Ph.D. in Molecular Biophysics from the University of Wisconsin Madison, and was an NIH post-doctoral scholar at Caltech. He started his career at Colorado State University before joining the Chemistry Department at CU Denver. His laboratory works on the quantitative and synthetic biology of bacteriophage M13 and bacterial translation. Just after he became the chemistry faculty at CU Denver, he received a major NSF grant.

Recently, there has been a newly established Distinguished Lectureship in Chemistry: the Robert Damrauer Lectureship, endowed by Lennie and Bob Damrauer. This lectureship provides funds for students to invite a well-known chemist to our campus for a two to three day visit. The first lecture, by Sir Fraser Stoddard, a 2016 Nobel Laureate, is scheduled in the Fall semester of 2019. We are excited about this and want to invite more people, including our former alumni, to attend this event.

Finally, we are restructuring the departmental website to match the expectations of prospective students. We are working to establish a process that streamlines the updating of data from current sources and translation of those activities to suitable sections of the departmental website. If you have any suggestions for the departmental website, please contact Kaitlyn Torlone, our Administrative Assistant III.

As always, I will be happy to hear your thoughts and suggestions on how to further improve our program.

Sincerely,

Haobin Wang



Jeff Knight Named Dreyfus Teacher-Scholar



Associate Professor of Chemistry, Jefferson Knight has been named a 2018 Henry Dreyfus Teacher-Scholar by the Camille and Henry Dreyfus Foundation. This competitive award recognizes faculty from undergraduate-centered departments for outstanding accomplishments in research and education in the chemical sciences. Dr. Knight joins Dr. Hai Lin as CU-Denver Chemistry faculty who have received this distinction. The award includes a \$60,000 grant to support research and/or professional development for up to 5 years.

Welcoming New Faculty

Dr. John (Nick) Fisk

Professor Dave Tirrell. Nick started his independent career in the department of Chemical and Biological Engineering at CSU. In his free time, Nick enjoys his dogs, golf, and reading.

The guiding focus of the Fisk lab is harnessing and exploiting nature's amazing synthetic and self-assembly abilities to expand the potential chemistry of proteins, to generate new tools for understanding biology, and to create new materials and assemblies with technological utility. Research is motivated both by a deep scientific interest in understanding how complex sets of chemical interactions give rise to self-regulating biological systems and a desire to develop biomedical applications. The research projects in the laboratory are highly interdisciplinary in the fields of chemical and synthetic biology. The laboratory applies the tools of organic chemistry to generate new amino acids and modify protein assemblies. We employ the tools of molecular biology to produce and evolve protein assemblies and the components of the translational machinery that synthesize proteins. We utilize the tools of biophysical chemistry to understand these systems at the molecular level and the tools of materials science to build nanoscale devices.

The specific focus of the laboratory is in two broad areas: quantitatively understanding protein translation in order to engineer the translational apparatus to utilize expanded genetic codes (containing 21 or more amino acids) and quantitatively understanding the life cycle of the M13 bacteriophage in order to engineer the virus to generate nanoscale assemblies with expanded functionality as the components of molecular diagnostics and as new programmable protein materials. Much more detailed information about our research interests, our latest news, and our recent publications can be found on our lab website (www.nickfisklab.net).



CU Denver Chemistry Club

This year, the Chemistry Club enhanced engagement in the Fall semester. Membership rose to 80+ members. The monthly club meetings were a time for undergraduates to learn about chemistry research on campus, get help with some tutoring/advice, and to wind down by playing board games and eating pizza. DataBlast was held in November and students heard presentations from their peer undergraduate classmates, as well as graduate students, who do research within the department. ACS study guides for general chemistry and organic chemistry were sold to students to aid them for their ACS finals.

Join the CU Denver Chemistry Club through MyLynx and follow us on Facebook for event information! (@CUDenverChemistryClub)

CU Denver Chemistry Faculty Publications

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