

The Case Chemist

NEWS FROM CASE WESTERN RESERVE UNIVERSITY'S DEPARTMENT OF CHEMISTRY

SUMMER 2013
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From the Corner Office

EXCITEMENT AROUND CAMPUS

The 2012–2013 academic year had a refreshing air of good things happening around University Circle. In fall 2012, we welcomed the largest, brightest freshman class in university history, 1,371 students. Our classrooms and labs are bursting at the seams. Strosacker, Schmitt, and Ford auditoriums have been upgraded to HD technology-enhanced classrooms for our large lecture courses. The university target for enrollment has settled on an entering class size of 1,250 students. We have started offering more sections of introductory lecture and lab courses to accommodate the enrollment increase.



Mary Barkley,
Department Chair

Construction proceeds apace on the new Tinkham Veale University Center, rising in the previous Freiburger Field behind Kelvin Smith Library and Thwing Center on the north campus. The \$50 million project addresses long-standing aspirations for a campus center with the scale and style worthy of a major university. The design is aggressively green, and the architecture is striking. You can watch construction in real time at case.edu/universitycenter/webcam.

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Department Chair

Mary D. Barkley

Associate Chair

John D. Protasiewicz

Managing Editor

Robert C. Dunbar

Production Editor

Brian W. Brauchler

Department of Chemistry

Case Western Reserve University
10900 Euclid Avenue
Cleveland, OH 44106-7078
Phone: 216.368.3620
Web: case.edu/chem

Special thanks to College of Arts & Sciences staff

Arthur Evenchik
Karyn Newton
Sarah Robinson
Brian Thornton



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From the Corner Office

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The new Uptown residential, retail, and cultural district on Euclid Avenue in the heart of University Circle is open for business. Check it out at uptowncleveland.com. This diverse and exciting enclave features a pedestrian mall, grocery store, bookstore, retail shops, restaurants, and upscale apartments. The new Museum of Contemporary Art (MOCA) at the intersection of Euclid and Mayfield and the adjacent Toby's Plaza are a stunning, inviting landmark. The Cleveland Institute of Art will be consolidating its campus in Uptown. Meanwhile, Case Western Reserve is partnering with the Cleveland Museum of Art to purchase the Cleveland Institute of Art Gund Building and surrounding property on East Boulevard.

UNIVERSITY FINANCIAL UPDATE

The \$1 billion capital campaign, Forward Thinking, is running far ahead of schedule with about 80 percent attainment, thanks to the incredible generosity of our donors!

The university recently completed a major strategic planning effort to succeed the previous five-year Strategic Plan. See case.edu/strategicplan for information on the process. Two chemistry faculty members (**Mike Kenney and I**) served on the working groups. Departmental and college strategic planning is ongoing.

BA IN CHEMICAL BIOLOGY

Our new chemical biology BA degree received final approval from the Ohio Board of Regents in January 2013 and opened for enrollment in spring 2013. So far, 10 students have declared the chemical biology major. The course requirements reflect the department's vision of what is necessary and exciting for a chemistry-oriented student planning a career in the life sciences. We expect the new major to attract some of our traditional chemistry BA students as well as other biology-oriented students.

A new biochemistry lab course, CHEM 306, was developed for the chemical biology major and taught for the first time in spring 2013. The first and only biochemistry lab offered on campus, this course gives students hands-on experience with modern techniques and equipment for immunoassay, protein purification and analysis, enzyme kinetics, and proteomics, among other topics.

GRADUATE PROGRAMS

Under the leadership of **Mike Zagorski**, our MS program has received a major face-lift. With increased publicity and strengthened program structure, it has proven popular, with about 12 incoming full-time master's students enrolled each year.

The Ohio Board of Regents reviews the state's PhD programs on an eight-year cycle. Our doctoral

program was reviewed this year for the first time. Following a comprehensive self-study penned by **Tony Pearson**, we had an on-campus external review by Professor Joseph Francisco from the Chemistry Department at Purdue University. Dr. Francisco met with groups of faculty, doctoral students, and administrators during his one-day visit. He gave our PhD program a favorable review, while suggesting ways to address national trends in federal funding and employment.

SPECIAL GRANTS

Blanton Tolbert received a grant from the Center for AIDS Research at Case Western Reserve University for biophysical and biochemical studies of HIV transcription.

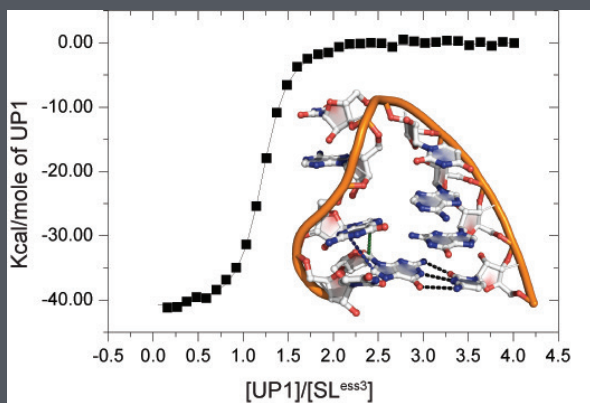
Carlos Crespo received an ACS Project SEED grant for work with economically disadvantaged high school students. Six students from the Cleveland area spent eight weeks doing chemistry experiments in our labs; two of these students were back for a second summer.

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Research Spotlight: Blanton Tolbert

Research in Blanton S. Tolbert's group focuses on the molecular mechanisms of host-virus interactions, particularly determining 3D structures and developing quantitative models of protein-viral RNA complexes that function in gene expression. In projects funded by the National Institutes of Health, Blanton uses NMR to probe solution structures of RNA molecules from HIV. His group recently published the first high-resolution NMR structure of an HIV RNA that regulates biochemical splicing. The structure suggested how HIV recruits a human protein to a specific genetic locus. The group used calorimetric titrations coupled with mutagenesis to validate the structure. Blanton is also a faculty member of the Center for HIV RNA Studies at the University of

Michigan, an integrative team of scientists that aims to advance knowledge of the late-phase replication of HIV RNA. Blanton's work could lead to the identification of novel therapeutic targets against HIV.



From the Corner Office

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Carlos Crespo received a CSURM Fellowship for the 2013 Photochemistry Gordon Research Conference.

Graduate student **Katie Doud** in Greg Tochtrop's group was awarded a National Institutes of Health (NIH) fellowship.



Raul Juarez

COMINGS & GOINGS

The newest addition to our faculty is **Blanton S. Tolbert**, an assistant professor in our research focus area of chemical biology (see next page). We were also very fortunate to appoint two new lecturers to help with the increased enrollment in our introductory courses. **Raul Juarez** is a fresh PhD from Marvin J. Miller's group in the chemistry department at the University of Notre Dame. Raul received his BS in food science from the Universidad de las Américas, Puebla (Mexico). **Richard West** (PhD '12) did his PhD in Jim Burgess' group. Richard received his BS in chemistry from Wayne State University.



Richard West

Darlene Khalid joined the office staff as a secretary; she worked previously at Cleveland State University. **Garnetta Stallworth** replaced Angelia Peterson as our accounting clerk. Garnetta came with years of experience in Research Administration at Case Western Reserve University.

John Hays (PhD '80), our longtime facilities manager, suffered a severe stroke in September 2012 that left him paralyzed on the left side. Many of you may remember the excellent support he provided for computers and instrumentation during his 28-year service to the department. **Kathryn Howard**, a research assistant in my group, stepped in to take over his duties.

Mike Kenney, inspired by his strong interest in technological teaching innovations, took a half-time appointment in Information Technology Services. Mike has kept a firm foot (and office) in chemistry, and continues to be a mainstay of undergraduate education in the department.

Rob Dunbar retired as emeritus professor, seen off with a high-class retirement dinner at L'Albatros restaurant. Rob plans to continue his long-distance collaborative research with the FOM Institute in the Netherlands.

A New Face



Blanton Tolbert

Blanton Tolbert was appointed assistant professor in July 2012. Blanton earned his PhD in biophysics from Rochester University in 2007, where he worked with Ravi Basavappa and Douglas M. Turner. He did postdoctoral work at the University of Maryland, Baltimore County as a Howard Hughes Medical Institute Research Associate with Michael F. Summers. In 2009, he was appointed assistant professor in the chemistry department at Miami University. Blanton made a fast start at CWRU with two new NIH grants and help from a postdoc and three graduate students, who also moved from Miami University. See the "Research Spotlight" box for a look at his research interests.

Faculty Honors and Awards

Greg Tochtrop was promoted to associate professor with tenure.

Carlos Crespo was appointed to the Frank Hovorka Assistant Professorship in Chemistry.

Geneviève Sauv e was awarded an American Chemical Society Petroleum Research Fund (ACS-PRF) Doctoral New Investigator grant for synthesis and structure-function relationship studies of polymers containing core substituted naphthalene diimides.

Last year we were thrilled with the prestigious National Science Foundation CAREER Award to **Genevi ve Sauv e**. This year the outstanding success of our junior faculty was doubly recognized with not one, but two of these highly prized five-year grants.

Carlos Crespo received a 2013 CAREER Award to test two

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We want to hear from you!

We are proud of the accomplishments of our faculty, students and alumni. Let us know about job changes, awards, honors and life events. Please email your news and contact information updates to contact-cas@cwru.edu or use the enclosed envelope.

Faculty Honors

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paradigm-shifting ideas: (1) intramolecular reactions play a larger role than reactive oxygen species in DNA damage and (2) intersystem crossing rates in organic molecules are not always smaller than internal conversion rates. His funded research will have impact on the use of DNA scaffolds as advanced devices, light-harvesting and photonic materials, and templates in photosensitized solar cells.



Carlos Crespo

Anna Samia received a 2013 CAREER Award to develop new composite materials and magnetic imaging technologies to investigate the mechanical and chemical degradation of plastic materials used in artificial joints. Her funded research will mimic how implants age in the body and test how the microstructure of the polymer implant affects its wear properties while it is simultaneously subjected to chemical stress.

Alumni Updates

Paul D. Adams, PhD '00, was recently promoted with tenure to associate professor of chemistry and biochemistry at the University of Arkansas-Fayetteville.

Stefanie C. Avsenek, MS '64, is retired from Lubrizol and living in Mayfield Village.

Robert J. Belner, BS '46, MS '48, PhD '55, retired in '83, and celebrated 65 years of marriage with Marilyn in August 2012 in Fort Myers, FL, with children and grandchildren attending.

William D. Von Benken, MS '69, retired from teaching chemistry at Euclid High School in 2010.

Carli A. Carnish, BA '04, MN '11, is currently studying adult gerontology at the Frances Payne Bolton School of Nursing.

Lawrence C. Cerny, BS '51, MS '53, and his wife are developing a personalized freeze-dried blood service and are looking for support.

Margaret Sunday Christoph, MS '49, worked seven years for Standard Oil (Ohio) doing research, and taught chemistry for 40 years. She writes from Elkton, Md.

Brian A. Clamp, MS '88, is a science instructor at Morningside High School and an adjunct professor of chemistry at Irvine Valley College in California.

Anthony P. D'Addario, PhD '71, is a part-time consultant and does

Continued on next page

lab inspections and expert witness testimony in San Diego.

Allen P. Franks, BA '59, LLB '63 is retired in Margate, Fla, as president of IAS Inc. His career activities included director of research at Reichold; chemical sales, Sovereign Chemical Co.; patent attorney, Goodrich; and chemist, PPG Industries.

Karen Friday, BA '69, MS '69, MD '76, moved to California in 1990 to work at Syntex Pharmaceuticals. She was in the U.K. with the development group from 1993-1995 when Roche took over. She was with Roche Bioscience until she left to return to academia as a cardiologist at Stanford School of Medicine, where she remains today.

Robert Howe, BA '78, remains active as the director of a small medical group in Wilburham, Mass. He also maintains an interest in music performing in a local symphony. His research on the history of the oboe received a 2012 publication

award from the American Musical Instrument Society.

Eun Hoo Kim, PhD '10, has joined the research lab of Nobel Laureate Dr. Ei-Ichi Negishi at Purdue. Eun is working on expanding Zr-mediated chemistry for industrial applications.

Francis M. Logullo Sr., PhD '65, is happily retired from DuPont in Hockessin, Del.

Irving Malkin, BS '54, MS '60, retired as a manager of electrochemical research from Diamond Shamrock Corp in 1982. He is an emeritus ACS member.

Glenn R. McElhattan, MS '63, writing from Franklin, Pa, retired in 2007 after 39 years teaching at Clarion University of Pennsylvania (following 9 years at Rocky Grove High School). He was the Clarion University Distinguished Faculty recipient in 1994. He reports that grandson **Ben Sturtz** is a doctoral student in chemistry.

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2012 Distinguished Alum

David C. Fries, PhD '70 (Sundaralingam, Post-doc with Fackler). Although unable to attend the Awards Luncheon, he supplied a video capturing his career and philosophy. His original intention of pursuing an academic career was deflected by the attraction of industry, and then venture capital and entrepreneurship. Seventeen years with GE led him on to venture capital activities, and ultimately to running the startup Productivity Solutions. A two-year trial of retirement was unsuccessful, and he is again immersed in chemistry-related

entrepreneurial activities. He gave us incisive wisdom about the entrepreneurial world, and reminded us that "It all comes down to family."



David C. Fries

Alumni Updates

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Ronald R. Oetgen, BA '60, MS '62, PhD '65, has been tutoring chemistry at Roanoke College.

Lee R. Rice, BS '65, travels to jungles and deserts on fieldwork as vice president of exploration at IBC Advanced Alloys Corp.

Margaret Hall Ridge, MS '44, is retired and in assisted living in Danvers, Mass.

Page Salenger, BA '84, is a nephrologist in private practice in upstate New York. He is the Medical Director of Rubin Dialysis Center in Clifton Park and head of the nephrology division at Ellis Hospital in Schenectady, N.Y.

Lewis J. Schupp, BS '52, MS '54, PhD '55, is retired in Kirtland from G.E. (Nela Park), where he was a research chemist for 32 years. He served 31 years on the Kirtland School Board as president.

Allan Z. Schwartzberg, BS '51, has retired from his role as a clinical psychiatry professor at Georgetown Hospital.

Michelle Shea, BS '07, is excited that she was accepted to medical school at Northeast Ohio Medical College.

Ken Thompson, PhD '68, is retired but now teaches photography and leads workshops in Glen Ellyn, Ill.

Richard M. Zirkin, BS '52, MD '56, is retired as a part-time pathologist in West Broomfield, Mich., and spends his winters in Florida.

In Memoriam

James Gianelos	BS '51
Alan Bruce Spiegel	MS '67
Jackson Wisner	PhD '57

Support the Chemistry Department

You can contribute to our success by making a gift to the department. Your gift will allow us to continue to offer opportunities for our students to excel academically and to conduct cutting-edge research. Please return your gift in the enclosed envelope or give online at giving.case.edu. Thank you.

Department of Chemistry
Case Western Reserve University
10900 Euclid Avenue
Cleveland, OH 44106-7078
case.edu/chem



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