

Periodic Tabloid

Chemistry and Chemical Engineering Division at Caltech

Vol 1, No 2, Fall 2009

Schlinger Building to open in March 2010

The new CCE building is scheduled to be completed in March 2010. It will house chemical engineers and synthetic organic and catalysis chemists.



Alumnus Warren Schlinger (BS '44, MS '46, PhD '49) and his wife, Katharine, pledged an extraordinary lead gift for a new chemistry and chemical engineering

laboratory, which is now being constructed near the western end of the San Pasqual walkway on campus. The groundbreaking took place on February 18, 2008.

The new 60,000 square foot facility will have four floors. The first floor will house chemical engineering laboratories (atmospheric chemistry and materials), while the second and third floors will house laboratories for synthetic chemistry. The research groups of Stoltz, Reisman, Peters, Flagan, Kornfield, and Seinfeld will start work in their beautiful new labs in early March. Watch for the date of the dedication. The basement and part of the second floor will await future faculty hires.

Three webcams capture images of the construction progress every 15 minutes and can be viewed at: <http://cheme.caltech.edu/const.html>.



Center for Catalysis and Chemical Synthesis (3CS)

The 3CS Center was established through a grant of \$11 million from the Gordon and Betty Moore Foundation to ensure that Caltech remains a leader in the fields of catalysis, chemical synthesis, and chemical genetics.



The operation of the instrumentation is based on design of the experiment using Library Studio Software and implementation of the design using specific protocols for operation of the robotic equipment. Dr. Scott Virgil, who joined Caltech in 2007, assists researchers in planning their experiments.

The facility is temporarily housed in Crellin and Church chemistry buildings. When the building of the new Schlinger Laboratory of CCE is completed, the 3CS Center will move there.



Chemistry and Chemical Engineering welcomes new graduate students with a luncheon at the Beckman Institute courtyard.

A Divisional luncheon to welcome the 2009 incoming graduate students was held at noon on Wednesday, September 23rd. Faculty, students, and staff were invited to meet the new students and mingle over a pizza lunch. Agnes Tong, who is in charge of the chemistry graduate student records, coordinated the luncheon with help from a number of graduate students. More than 300 people were present.

Welcome new CCE graduate students!

Chemistry

Peter Agbo
 Sohyun Ahn
 Marco Allodi
 Taylor Barnes
 Thinh Bui
 Jean-luc Chaubard
 Jacob Good
 Michael Grodick
 Myles Herbert
 Jeffrey Holder
 Jacob Kanady
 Jeen Joo Kang
 Alexis Komor
 Davide Lionetti
 Maxwell Loewinger
 Jane Ni
 Anna Nordstrom
 Clinton Regan
 Russell Robertson
 Sandy Suseno
 Alexander Sutherland
 Benjamin Sveinbjornsson
 Andrew Wang

Chemical Engineering

Brett Babin
 Jeffrey Bosco
 Tristan Day
 Joseph Ensberg
 Amy Fu
 Brandon Heimer
 Dennis Ko
 Devin Wiley
 Kai Yuet

Biochemistry and Molecular Biophysics

Nathaniel Glasser
 Harry Gristick
 Samy Hamdouche
 Elizabeth Jensen
 Bor-Yuan Jiang
 Naomi Kreamer
 Thomas Martinez
 Joseph Meyerowitz
 Tri Vu





Jackie Barton, chair of CCE, was the keynote speaker at the 2009 Caltech Convocation

Caltech's annual convocation ceremony is a formal welcome and introduction to the Institute for new undergraduate students and their parents, graduate students, and postdoctoral scholars. This event was held at the Beckman Auditorium on Wednesday, September 23rd. The program included a greeting from President Jean-Lou Chameau and a presentation by Jacqueline Barton, Caltech's Hanisch Memorial Professor of Chemistry, and chair of the CCE Division.

Barton encouraged the incoming students not only to attend classes, but also to engage in research. She emphasized Chem 10, the Frontiers in Chemistry course, in which CCE colleagues talk to freshmen about their research. The students then visit the research laboratories, talk with graduate students about their work, and find out "what is really going on in all these buildings." Chem 10 and now Chem Eng 10 really provide an entry for many freshmen to get involved in research within the Division. Jackie highlighted some of the research in CCE. Then, going through some "scientific genealogy," she showed the students that in this same course, Caltech scientists of the past such as Linus Pauling and Arnold Beckman had spoken of their work: identifying global problems, then finding scientific solutions to them. Caltech has, and always will, take pride in that tradition.

One new faculty member and one returning faculty member

CCE is pleased to have added/restored two chemists to the faculty.

André Hoelz

André Hoelz was born in Lüdenscheid, Germany. He received his Vordiplom in Chemistry in 1993 and his Diplom in Chemistry and Biochemistry in 1997 both from the Albert-Ludwig University of Freiburg, Germany. He then moved to New York to enter the graduate program of The Rockefeller University, where he conducted his graduate research in John Kuriyan's laboratory as a pre-doctoral fellow of the Burroughs Wellcome Fund. André graduated with a Ph.D. in structural biology and biochemistry in 2003. He began postdoctoral studies with Thomas Sakmar as a Murray Foundation postdoctoral fellow and completed them with Günter Blobel, in whose laboratory he became research associate in 2007 and research assistant professor in 2009.



While working on the crystal structure of the 250-kDa Ca²⁺-calmodulin-dependent kinase II (CaMKII) core in John Kuriyan's laboratory, André developed a strong fascination for macromolecular assemblies. Inspired by the large CaMKII structure, André joined Günter Blobel's laboratory with the idea of starting a comprehensive structural and functional characterization of the ~120 million Dalton nuclear pore complex (NPC), one of the largest proteinaceous assemblies in eukaryotic cells. In Günter Blobel's laboratory André set up a structural biology subgroup that established the NPC as a viable target for an interdisciplinary divide-and-conquer approach, employing X-ray crystallographic, biochemical and in vivo studies, funded by a grant from the Leukemia and Lymphoma Society. Simultaneously, André started a second line of research on the regulation of the histone-modifying machinery. André will join the Caltech faculty in September 2010.

Jonas Peters

Jonas Peters was born in 1971 in Chicago, Illinois. In 1993 he received his bachelor of science degree in chemistry at the University of Chicago, where he worked with Professor Gregory Hillhouse on synthetic methods

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Employment opportunities for undergraduate students, graduate students, and postdocs can now be found at:

www.cce.caltech.edu/undergradjobs
www.cce.caltech.edu/gradjobs



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in inorganic chemistry. Jonas then spent a year as a Marshall Scholar at the University of Nottingham, UK, working with Professor James J. Turner, FRS. In the fall of 1994, Jonas left Nottingham to begin his doctoral studies under the direction of Professor Christopher C. Cummins at the Massachusetts Institute of Technology. Jonas' research focused on the activation and functionalization of small molecules using low coordinate tris-amido molybdenum and titanium complexes. After receiving his Ph.D. in inorganic chemistry in 1998, Jonas was a Miller Fellow at the University of California, Berkeley, under the guidance of Professor T. Don Tilley. Jonas began his independent research career as assistant professor in the Division of Chemistry and Chemical Engineering at Caltech in August of 1999, was promoted to associate professor in 2004, and to Professor of Chemistry in 2006. In July of 2007, he relocated to the MIT Department of Chemistry as the W. M. Keck Professor of Energy. His research program has centered on the development of preparative inorganic chemistry with a strong emphasis in the chemistry of transition elements and the activation of small molecules. Peters will rejoin our faculty in January 2010. He will be returning to Pasadena with his wife Dianne Newman, an HHMI professor in geobiology, and their son Ronen. It's great to have them home!

Jane Raymond retires after 32 years of teaching at Caltech

Dr. Jane Raymond retires after 32 years of service to teaching in the Division of Chemistry and Chemical Engineering. As the Director of Undergraduate Laboratories and Member of the Professional Staff, Jane oversaw the freshman lab, Chemistry 3a, Fundamental Techniques of Experimental Chemistry, the largest of the Division's laboratory courses and a core course requirement for Caltech students. She also managed and lectured in three other lab courses: Chemistry 3b, largely taken by chemical engineering majors, and a two term course, Chemistry 4ab that introduces modern methods of chemical synthesis and structural analysis for organic, inorganic, and organometallic compounds. 4ab are a popular course sequence with chemistry majors and serve as additional introductory laboratories for other students.

Jane received her BA from Reed College and her PhD from MIT. Prior to joining Caltech, she was a faculty member at Reed and the University of Chicago, and a visiting lecturer at UC Berkeley. In 1981 Jane helped chemistry faculty design and equip the current laboratory facility, the Clifford S. and Ruth A. Mead Undergraduate Laboratory. Mead Lab and the courses that Jane developed were forward-looking, providing students with facilities and techniques found in modern research laboratories. Over the years she was a passionate champion for Caltech students and demanded excellence from the many graduate student teaching assistants for her courses. In 1990 she received an Associated Students of Caltech award for excellence in teaching. Our heartfelt thanks and respect go to Jane for her many years of service to Caltech.

Faculty Updates



John D. Roberts



Brian M. Stoltz



Harry B. Gray



John H. Seinfeld

- **John D. Roberts** has received the 2009 NAS Award for Chemistry in Service to Society for seminal contributions in physical organic chemistry, in particular the introduction of NMR spectroscopy to the chemistry community.
- **Brian Stoltz** has received the 2009 Tetrahedron Young Investigator Award in Organic Chemistry. He will receive a certificate, an award of US \$1,000, and a Symposium-in-Print in one of the journals will be published in his honor.
- **Harry Gray** was the keynote lecturer at the Cottrell Scholars Symposium 2009. He also gave five lectures at the University of Wisconsin, including the Meloche and the Shain Lectures.
- **John Seinfeld** has received an Honorary Doctorate from Clarkson University at their commencement in May. Dr. Seinfeld holds honorary doctorates also from the University of Patras (Greece) and Carnegie Mellon University.

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