UNIVERSITY OF MINNESOTA
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Department of Chemistry
Gassman Lectureship in Chemistry
February 4-6, 2015

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Professor Erick Carreira

Department of Chemistry & Biochemistry
Swiss Federal Institute of Technology

Website:
http://www.carreira.ethz.ch/people/emc

Host: Christopher Douglas

Erick M. Carreira was born in Havana, Cuba in 1963. He obtained a bachelor's degree in 1984 from the University of Illinois at Urbana Champaign ,under the supervision of Scott E. Denmark, and a doctorate in 1990 from Harvard University, under the supervision of David A. Evans. After carrying out postdoctoral work with Peter Dervan at the California Institute of Technology through late 1992, he joined the faculty at the same institution as an assistant professor of chemistry and subsequently was promoted to the rank of associate professor in the spring of 1996, and full professor in the spring of 1997. Since September 1998, he has been full professor of organic chemistry at the ETH Zürich. He is the recipient of the American Chemical Society Award in Pure Chemistry, Nobel Laureate Signature Award, Fresenius Award, a David and Lucile Packard Foundation Fellowship in Science, Alfred P. Sloan Fellowship, Camille and Henry Dreyfus Teacher Scholar Award, Merck Young Investigator Award, Eli Lilly Young Investigator Award, Pfizer Research Award, National Science Foundation CAREER Award, Arnold and Mabel Beckman Young Investigator Award, and a Camille and Henry Dreyfus New Faculty Award. He is also the recipient of the Associated Students of the California Institute of Technology Annual Award in Teaching and a Richard M. Badger Award in Teaching.

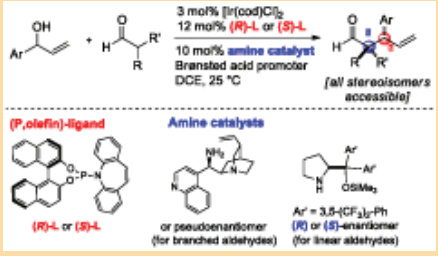
His research program focuses on the asymmetric synthesis of biologically active, stereochemically complex, natural products. Target molecules are selected which pose unique challenges in asymmetric bond construction. A complex multistep synthesis endeavor provides a goal-oriented setting within which to engage in reaction innovation and design. Drawing from the areas of organometallic chemistry, coordination chemistry, and molecular recognition, Carreira's group is developing catalytic and stoichiometric reagents for asymmetric stereocontrol.

Lecture 1:
Versatile Iridium Catalysts for a Broad Range of Asymmetric Transformations

4 p.m. Wednesday, Feb. 4
331 Smith Hall

A reception for Professor Carreira will be conducted in the Kate & Michael Barany Conference Room (117/119 Smith Hall) immediately following this lecture. All are welcome to attend.

The ability to readily access small-molecule building blocks at will has important consequences for the discovery and development of novel medicines and materials. It is particularly beneficial when the chemical methods are convenient while at the same time economically and environmentally tenable and sustainable. A focus of our research program at ETH-Zurich is the identification, study, and development of novel reactions and methods for preparation of functionalized structures. We are especially interested in catalytic processes that are easily executed and utilize readily available starting materials. We will discuss several new reaction processes that provide ready access to a host of fundamentally versatile building blocks for synthesis. The presentation focuses on the unique reactivity of Ir-complexes with a novel phosphoramidite-olefin ligand. We have found that these can activate allylic alcohols towards a wide range of direct displacement reactions, giving rise to optically active products.



Regents Professor Paul G. Gassman died in April 1993, at the age of 57. He was internationally known in the chemical community, and left behind a legacy of achievement. During his career, he served as mentor and adviser to 85 doctoral and master's candidates as well as dozens of postdoctoral associates and undergraduate students. Numerous awards, honors, and honorary degrees were bestowed in recognition of his contributions to research and his service to the scientific, professional, and university communities. Some of these awards include election to the National Academy of Sciences (1989) and the American Academy of Arts and Sciences (1992), the James Flack Norris Award in Physical Organic Chemistry (1985), Arthur C. Cope Scholar Award (1986), and the National Catalyst Award of the Chemical Manufacturers Association (1990). He served as president of the American Chemical Society in 1990. He was co-chair of the organizing committees of the National Organic Symposium (1991) and the National Conferences on Undergraduate Research meeting (1992), on the University of Minnesota campus. It was his wish that a lectureship be established to bring distinguished organic chemists to the Department of Chemistry. We are proud to present this lecture series in his honor.