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Preface

Tetrahedron Young Investigator Award 2009

The Executive Board of Directors for Tetrahedron Publications is pleased to recognize the outstanding achievements of Professor Michael J. Krische of The University of Texas and has awarded him a Tetrahedron Young Investigator Award in recognition of his exceptional creativity and contributions to the field of organic synthesis, especially in the development and application of novel carbon–carbon bond forming hydrogenation and transfer hydrogenation processes. Professor Krische presented his award address at the Tetrahedron Symposium that was held in Paris, France in June 2009. In honor of his receipt of this award, this special *Symposium-in-Print* entitled 'Recent Advances in Catalysis and Green Chemistry' has been organized. We are grateful to the many contributors for their substantial efforts in helping to create this unique issue and for their individual creative contributions to organic synthesis.



Professor Michael J. Krische obtained a B.S. degree in Chemistry from the University of California at Berkeley, where he performed research under Professor Henry Rapoport. After one year of study abroad as a Fulbright Fellow, he initiated graduate research at Stanford University with Professor Barry Trost as a Veatch Graduate Fellow. Following receipt of his Ph.D. degree, he worked in the laboratory of Jean-Marie Lehn at Université Louis Pasteur in

Strasbourg, France as an NIH Post-Doctoral Fellow. In Fall 1999, Professor Krische was appointed Assistant Professor at the University of Texas at Austin. He was promoted directly to Full Professor in Fall 2004, and in Fall 2007 was appointed to the Robert A. Welch Chair in Science. He has received numerous major awards, including the Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator, the Presidential Green Chemistry Award, the Dreyfus Teacher Scholar Award, the Alfred P. Sloan Research Fellowship, Cottrell Scholar Award, and the National Science Foundation-CAREER Award. His primary research interests reside in the discovery and development of catalytic carbon–carbon bond forming processes and their application to green chemical synthesis. In particular, he has pioneered a broad family of transition metal-catalyzed processes in which the redistribution of hydrogen serves to generate carbon-based nucleophiles and electrophiles en route to products of carbon–carbon bond formation. These processes provide an alternative to the use of pre-formed organometallic reagents in many classical carbonyl and imine additions and represent the first systematic efforts to exploit hydrogenation in carbon–carbon couplings beyond hydroformylation.

The first paper in this special issue is an important contribution from Professor Krische wherein he presents some of his recent discoveries in the area of ruthenium catalyzed, carbon–carbon bond forming transfer hydrogenation. The remaining papers collected in this special *Symposium-in-Print* represent the broad cross-section of contemporary synthetic organic chemistry. There are some fascinating accounts detailing the development of useful synthetic methods based on transition metal-catalyzed reactions as well as other catalyzed processes. There are also several elegant applications of methods to the total synthesis of natural products, a key step in the validation of new methodologies.

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