

DEPARTMENT OF C

THE 17TH BIENNIAL

**Eisch Lectureship
in Inorganic/
Organometallic
Chemistry**

Friday, April 5, 2024, 4 p.m.
Smart Energy Building, Fountain Room

Gregory H. Robinson

UGA Foundation Distinguished
Professor of Chemistry
Department of Chemistry
The University of Georgia

N-Heterocyclic Carbenes and Dithiolene Radicals: Counter- intuitive Main Group Chemistry

Our laboratory has long pursued the synthesis, structure and reactivity of unusual molecules that prominently feature main group elements. These efforts resulted in several discoveries, including the experimental realization of “metalloaromaticity” (the concept that metallic rings may also display traditional aromatic behavior as exhibited by benzene), the first example of a molecule containing a triple bond between two main group metals (the gallium analog of acetylene), and the first compound containing a boron-boron double bond — the first “diborene”. Recent research efforts have concerned N-heterocyclic carbene stabilization of highly reactive main group molecules such as diphosphorus (P₂), diarsenic (As₂), and disilicon (Si₂). Furthermore, we have utilized carbene-stabilization to trap elusive main group oxides such as Si₂O₄ and P₂O₄. This presentation will prominently feature our recent efforts to augment the molecular template of N-heterocyclic carbenes and their unexpected conversion to stable dithiolene-based chemical radicals. These novel radicals have shown promise in the activation of small molecules, such as ammonia.

Previous Lectureship Recipients

2012
Stephen L. Buchwald
MIT

2013
David W. C. MacMillan
Princeton University

2014
Brian M. Stoltz
California Institute of Technology

2015
Eric N. Jacobsen
Harvard University

2016
Bob Crabtree
Yale University

Phil Baran
Scripps Research Institute

2017
Stephen J. Lippard
MIT

Daniel A. Singleton
Texas A&M

2018
Clifford P. Kubiak
University of California, San Diego

Scott E. Denmark
Univ. of Illinois, Urbana-Champaign

2019
John F. Hartwig
University of California, Berkeley

Gregory C. Fu
California Institute of Technology

2020
Vern L. Schramm
Albert Einstein College of Medicine

2022
Karen Goldberg
University of Pennsylvania

2023
Kendall N. Houk
University of California, Los Angeles

Polly L. Arnold
University of California, Berkeley