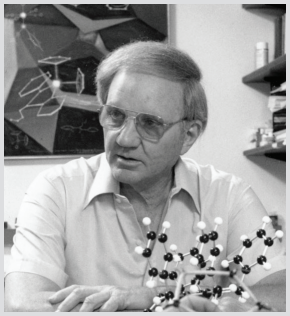
MARVIN D. RAUSCH LECTURESHIP IN ORGANOMETALLIC CHEMISTRY



Professor Marvin D. Rausch was a devoted faculty member of the Department of Chemistry at UMass Amherst from 1963 to 2001. He was widely recognized for research in organometallic chemistry and authored or co-authored over 350 scientific articles and served on the editorial boards of several journals in this area of chemistry. Professor Rausch mentored over 40 PhD students during his tenure here, and his course in advanced laboratory methodology set a standard for the training of advanced undergraduate and beginning graduate students. In addition to sponsoring this honorary seminar, he was also a generous donor to UMass Amherst's Athletic program and gave part of his fantastic crystal and mineral collection to the Department of Geosciences. To see a sample of the collection go to www.geo.umass.edu/rauschmineralgallery/

The ***Marvin D. Rausch Lectureship in Organometallic Chemistry*** was established to provide support for a lecture series which will be presented by individuals with outstanding established reputations in any aspect of organometallic chemistry. In this context, organometallic chemistry is described as the chemistry of chemical components which possess a direct carbon-to-metal bond. Areas of potential expertise for the focus of the ***Marvin D. Rausch Lectureship in Organometallic Chemistry*** include synthesis, catalysis, structure, bonding, spectroscopy, applications, or related areas.

We are extremely grateful to the late **Prof. Rausch** and family for the endowment of this seminar series.

Previous Speakers:

Professor Karen Goldberg, 2021
Professor John F. Hartwig, 2019
Professor Eric Jacobsen, 2018
Professor Stephen Buchwald, 2017
Professor Wolfgang Herrmann, 2016
Professor Karl Wieghardt, 2015
rofessor Tobin J. Marks, 2014
Professor Jerry L. Atwood, 2013
Professor Robert G. Bergman, 2012
Professor Thomas E. Bitterwolf, 2011

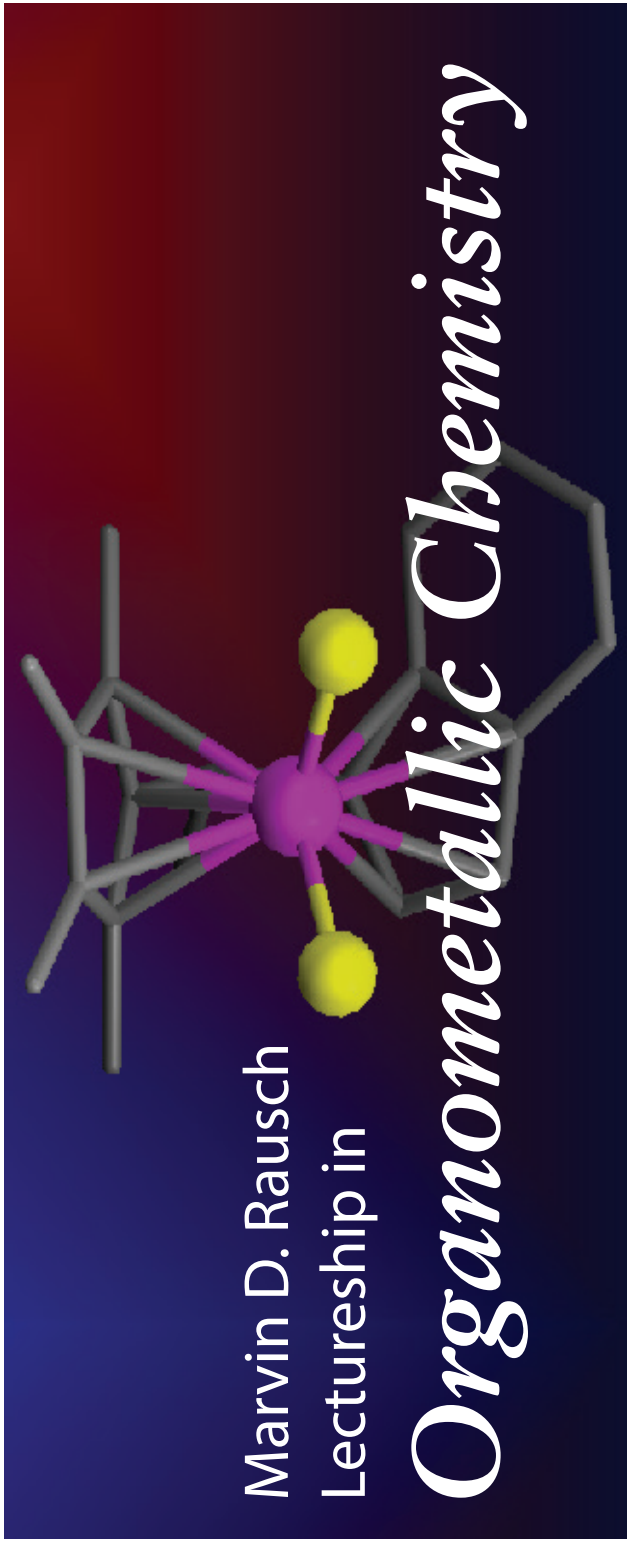
The Department of Chemistry, University of Massachusetts Amherst
presents

PROFESSOR GREGORY H. ROBINSON

Department of Chemistry, The University of Georgia

"From N-Heterocyclic Carbenes to Dithiolene-Based Radicals: A Counterintuitive Trek Through Main Group Chemistry

Thursday, April 21, 2022
11:30 a.m.
in-person and Zoom



GregoryRobinson

Gregory H. Robinson is a native of Anniston, Alabama. As both a gifted athlete and honor student in high school he earned a football scholarship to Jacksonville State University (Alabama). A four-year letterman on the Gamecock football team while earning All-Gulf South Conference and Gulf South Conference Defensive Player of the Year honors, Robinson earned his B.S. in Chemistry from JSU (1980). Robinson received his Ph.D. (1984) from The University of Alabama, where he studied synthetic inorganic main group chemistry in the laboratory of Professor Jerry L. Atwood. After spending a decade on the faculty of Clemson University (South Carolina), Professor Robinson joined the faculty of The University of Georgia (1995) and presently holds the title Foundation Distinguished Professor of Chemistry. Professor Robinson's research, concerning the synthesis, structure, and reactivity of unusual molecules of the main group (earth abundant) elements, has been described as "provocatively innovative and strikingly creative". Research highlights include: *(a)* experimental realization of the concept of *metalloaromaticity*—proof that molecules containing properly constrained metallic ring systems can exhibit traditional aromatic behavior; *(b)* synthesis and molecular structure of the first compound containing a metal-metal triple bond between two main group metals—the first "digallyne"—the gallium analog of acetylene; *(c)* synthesis and molecular structure of the first compound containing a boron-boron double bond—the first "diborene"—the boron analog of ethylene; and *(d)* carbene-stabilization of highly reactive diatomic allotropes such as silicon, phosphorus, and arsenic. Professor Robinson has published more than 170 peer-reviewed research articles in journals such as *Science, Nature Chemistry, Angewandte Chemie*, and the *Journal of the American Chemical Society*. Notably, Professor Robinson has received numerous honors including the Southern Chemist Award (1998), the Humboldt Research Prize (2012), the F. Albert Cotton Award in Synthetic Inorganic Chemistry (2013), and the Southeastern Conference (SEC) Faculty Achievement Award (2014). Professor Robinson is a fellow of the Royal Society of Chemistry (2017) and was recently elected to the National Academy of Sciences (2021).

"From N-Heterocyclic Carbenes to Dithiolene-Based Radicals: A Counterintuitive Trek Through Main Group Chemistry"

Abstract: Our laboratory has long had an interest in the synthesis, structure, and reactivity of unusual molecules that prominently feature the main group elements. These efforts afforded the experimental realization of "metalloaromaticity" (the concept that metallic rings may also display traditional aromatic behavior as exhibited by benzene) and novel molecules containing multiple bonds between heavier main group elements. Indeed, this laboratory reported the first example of a molecule containing a triple bond between two main group metals (a gallium analog of acetylene). Recent research efforts have concerned N-heterocyclic carbene stabilization of highly reactive main group molecules such as diborene (H-B=B-H), diphosphorus (P_2), disilicon (Si_2), and various elusive main group oxides (such as Si_2O_4 and $P2O_4$). This presentation will highlight our recent efforts to augment the molecular template of N-heterocyclic carbenes and their unexpected conversion to stable dithiolene-based radicals.

For more information, please visit https://www.gregoryhrobinson.com/