

Tuesday 08 Nov 2011

# MOLECULAR WIRES AND DEVICES NANOMATERIALS IN THE MODERN WORLD

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The development of ever smaller electronic and photonic devices has recently focused on the preparation of molecular scale devices. There is a continuing need for new synthetic and processing strategies to prepare these nanomaterials. We have been pursuing new approaches to the preparation of sensors and switches in the context of conjugated polymers and molecular wires. Using a combination of organic coupling chemistry and coordination chemistry, new polymers can be prepared which exhibit long range electron and energy transport behaviors. In some cases, these polymers act as fluorescent sensors, responding selectively to analytes in solution. Derivatives of these materials can also be prepared as nanofibers, nanowires, and interfacial materials for electronic devices. More recent work has also explored their application as photovoltaics for solar energy conversion. The synthesis, design, and molecular characterization of recent materials developed in our lab and other will be discussed.

**6:00-6:30 pm Social Half Hour**

**6:30-7:30 pm Dinner**

**7:30-8:30 pm Presentation**

**East Central University, Ada, OK 74820**

Oklahoma Room: lower level of the Student Union

parking: visitor lot on S Francis Ave

*No parking permit is required, they are expecting us.*

map: <http://www.ecok.edu/campusmap/smallmaps/campusmap.html>

## Menu

Grilled Chicken Breast  
w/ Onions, Peppers, & Mushrooms  
Oven Roasted Potatoes  
Green Bean Casserole  
Salad, Rolls, Selection of Pies  
Tea, Water, & Coffee

## Cost

\$15 members

\$5 students

## RSVP Deadline

Tuesday, Nov 1<sup>st</sup>, 5 pm

Contact: Daniel McInnes

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ECOK campus map  
QR code

*RSVP is NOT required to attend the presentation.*

## Dr. Jones Biographical Sketch

Wayne Jones is Professor and Chair in the Department of Chemistry at the State University of New York at Binghamton (Binghamton University). He received his BS from St. Michael's College and his PhD in Inorganic Chemistry from the University of North Carolina at Chapel Hill, working with T. J. Meyer. After 18 months of a post-doctoral fellowship at the University of Texas at Austin, he declined an NIH post-doctoral fellowship to join the faculty at Binghamton University. His research and scholarship has been recognized internationally in the area of molecular wires and devices including recognition as a Fellow of the American Chemical Society in 2010. He has published over 100 research articles, review chapters, and patents in the areas of photoinduced electron and energy transfer in macromolecular systems including molecular wires, electrically and thermally conducting nanomaterials, and photoinduced electron transfer dynamics in organic/inorganic hybrid conducting polymer materials, and fluorescent conjugated polymer sensors. His research efforts have been supported by grants from the NIH, NSF, ACS-PRF and the NNSA as well as several industrial partners. His current collaborations include the Center for Autonomous Solar Power (CASP) and the Center for Advanced Microelectronics Manufacturing (CAMM) in the NY State Center of Excellence at Binghamton.

Recipient of several teaching awards including the State University of New York Chancellor's Award for Excellence in Teaching in 2001, his teaching interests involve long-term curriculum development in chemistry, including more expanded use of technology in introductory chemical education, use of interactive multi-media materials for self-directed learning and the design of new advanced undergraduate laboratories based on the guided inquiry approach. In 1996, he was appointed Director of the Center for Learning and Teaching and continues to work with faculty on innovative, student-centered approaches to learning. From 2001-2005, he served as Executive Assistant to the President, working on special projects involving both teaching and research. Since 2008 he has served as the Director of the Go Green Institute, a program designed to inspire middle school students to careers in Science and Engineering. He has worked as an external evaluator on several nationally funded learning initiatives related to nanotechnology and student-centered learning, and served as a reviewer on higher education accreditation teams.

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Jones group  
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