



January, 2007  
Vol. 91, Issue 1

# Central Texas ACS

CentralTexasACS.org

Newsletter of the Central Texas Section of the American Chemical Society

**Tuesday, January 23rd, 6:30 – 9:00 pm:**

## Molecular Wires as Chemosensors and New Materials for Electronic Packaging

**Dr. Wayne Jones**

### Abstract:

Developing chemosensory devices selective for transition metals and other pollutants represents a critical need for the environmental community. Fluorescent conjugated polymer chemosensors have several advantages over small molecule sensors due to their high sensitivity, processibility, and ease of modification. Previously, our group has synthesized a series of fluorescent polymer chemosensors with a poly[p-(phenyleneethynylene)-alt-(thienyleneethynylene)] (PPETE) conjugated backbone. The transition metal loading dependence of these materials provides fundamental information regarding the role of energy transfer in the fluorescent chemosensor quenching mechanism. Recently, this work has been extended by addition of a N,N,N-trimethylethylenediamino receptor group which undergoes photoinduced electron transfer (PET) to the polymer exciton. Upon binding to analytes such as protons or some transition metal cations, the PET process is disabled and the emission from the polymer is enhanced. This system has been found to be particularly sensitive to  $\text{Hg}^{2+}$  ions that cause the fluorescence of the polymer to increase by a factor of  $\sim 2.7$ . Synthesis, characterization and photophysical behavior of this polymer will be discussed as well as its application to future turn-on sensor designs.

### El Mercado

Located at 17th and Lavaca  
1702 Lavaca St  
Austin, Texas 78701  
512-477-7689

Social "hour" from 6:30pm- 7pm.  
Dinner 7-8pm,  
Talk 8pm - 9pm.

Dinner \$10 Students \$5  
RSVP by January 19 at (512) 232-0680  
or [chair@centraltexasacs.org](mailto:chair@centraltexasacs.org)



## Central Texas ACS: January 2007 Chair's Page

### Letter from the Chair

Hello Everyone,

I hope you all enjoyed the holidays! A new year is upon us, and after a long vacation it's time to pick up where we left off, rested and ready for a year full of ACS activities.

My name is Jackie Padilla, and I am thrilled about serving as your local section chair for 2007. I would first like to take this opportunity to thank Kenneth Pavlat for serving as chair last year. He was successful in coordinating, planning, and selecting outstanding speakers in 2006, even with a new baby on the way. He has set the bar high for future leaders of the local section through hard work and dedication, and I look forward to taking on this responsibility. I would also like to thank the officers who are returning in 2007 for another year of service. I cannot mention one person more without mentioning all of them. Each has provided me with inspiration and a lot of behind the scenes work that I am very grateful for. Their names can be found on the back page of this newsletter.

A little about myself: I graduated from the University of Texas with a B.S. in chemistry in 2004. In school my favorite subject was organic chemistry. However, after working at a small environmental commercial lab in Round Rock, I found my niche in analytical chemistry. Now I work for URS Corporation in the Process Technology Office focusing on mercury emissions research.

My favorite meeting last year was in September at the Alamo Draft House where we watched CSI on the big screen and listened to two enthusiastic forensic chemists describe their work in the field. This year we have one more meeting scheduled than last year, and since the season is beginning one month sooner than the last, the entire calendar has vet to be finalized. The first meeting of 2007 will be

held January 23rd at El Mercado featuring the highly praised Dr. Wayne Jones. He will speak about selective pollutant chemosensors. Also, mark your calendars for February 22<sup>nd</sup>. Dr. David Lambert, the Director of the Department of Astronomy at The University of Texas, will give us a lesson in cosmochemistry.

All officers will be working hard this spring to find ways our local section can better cater to you. We will be meeting this week to discuss our goals and how we plan to accomplish them. One of my goals is to get to know more members individually, and find ways to attract existing members to meetings.

As always, please feel free to contact me, or any of the officers if you would like to find out ways to become more involved in local section activities. All of our contact information appears on the last page of this newsletter. I look forward to meeting you January 23<sup>rd</sup>.

Sincerely,  
Jackie Padilla, Chair



Come introduce yourself to me at the first meeting!

## Central Texas ACS: January 2007

### Calendar of Events

#### Tuesday, January 23

Speaker Wayne Jones

“Molecular Wires as Chemosensors and New Materials for Electronic Packaging”

El Mercado

1702 Lavaca St, Austin



#### Thursday, February 22

Speaker David Lambert

“The Origins of the Chemical Elements highlighting the current astronomical evidence for the synthesis of elements by the Big Bang, stars, and cosmic rays”

Johnny Carino’s Restaurant

6:30 pm – 9:00 pm

5601 Brodie Lane #1600, Austin

#### March 25-29

American Chemical Society  
233<sup>rd</sup> National Meeting & Exposition  
McCormick Place Convention Center  
Chicago, IL USA

#### Dr. Wayne Jones: Biographical Sketch

Wayne Jones is Associate Professor of Chemistry at the State University of New York at Binghamton. He received his BS from St. Michaels College and his Ph.D. 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 joined the faculty at Binghamton University. He has published over 80 articles and review chapters on his work in the areas of photo-induced electron and energy transfer in macromolecular systems including molecular wires, electrically and thermally conducting nanomaterials, and photo-induced electron transfer dynamics in organic/inorganic hybrid conducting polymer materials.

Current research efforts are supported by grants from the NIH, NSF, SRC, and NIST as well as several industrial partners. 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. He has received several teaching awards including the State University of New York Chancellor’s Award for Excellence in Teaching in 2001. He can be reached at the Chemistry Department and Institute of Materials Research, State University of New York at Binghamton, Binghamton, NY, 13902. [wjones@binghamton.edu](mailto:wjones@binghamton.edu); <http://chemistry.binghamton.edu/JONES/jones.htm>

# Central Texas ACS: January 2007

## 2006 Executive Committee: Officers and Program Directors

Chair	Jackie Padilla	URS	chair@	centraltexasacs.org	219-6569
Chair-Elect	Betsy McGrew	Stratagene	chairelect@		321-3321
Past-Chair	Kenneth Pavlat	Applied Analytical	pastchair@		339-1462
Secretary			secretary@		
Treasurer	Dr. Stan Hajost	Applied Analytical	treasurer@		339-1462
Councilor 1	Dr. Barry Streusand	Applied Analytical	councilor1@		339-1462
Councilor 2	Prof. Jim Boggs	University of Texas	councilor2@		466-9145
Alt. Councilor 1	Dr. Linette Watlins	Texas State University	altcouncilor1@		245-3125
Alt. Councilor 2	Dr. Denny Wagoner	AnalySys Inc.	altcouncilor2@		385-5886
National Chemistry Week	Betsy McGrew	Stratagene	NCW@		321-3321
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Women in Chemistry	Larisa Watson	University of Texas	wic@		471-7680
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Nominations Chair	Dr. Diane Kneeland	University of Texas	nominations@		232-0680
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Girl Scout Program	Betsy McGrew	Stratagene	girlscouts@		321-3321
Boy Scout Program	Dr. Barry Streusand	Applied Analytical	boyscouts@		339-1462
High School Coordinator	Dr. Neal Grice	Dept State Health Services	webmaster@		926-7844
Webmaster	Dr. Neal Grice	Dept State Health Services	webmaster@		926-7844
Newsletter Editor	Larry Nielsen	Microanalytics	editor@		218-9873

**American Chemical Society  
Central Texas Section  
P.O. Box 9811  
Austin, TX 78766**

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