

**Mid-Hudson Chemist  
American Chemical Society  
Department of Chemistry  
SUNY New Paltz  
1 Hawk Drive  
New Paltz, NY 12561**



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[www.midhudsonacs.org](http://www.midhudsonacs.org)**

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*Mid-Hudson Chemist* Editor/Publisher: Gissel Mentore

The Mid-Hudson Section of the American Chemical Society  
and the Chemistry Department of SUNY New Paltz

Announce

Advanced, Leading-Edge Semiconductor Research and Development....  
Science and Engineering at Its Best

**Dr. Charles Davis**  
IBM

Wednesday, November 15, 2006

Location: SUNY New Paltz, Coykendall Science Building (CSB) Rm 320  
Time: 7:00 PM  
(Refreshments at 6:15 PM)

Contact: Dr. Dan Freedman (freedmad@newpaltz.edu, 845-257-3795)

**About the lecture:** The comment, "...advances in semiconductor technology are occurring at a breathtaking pace and are impacting all aspects of our lives" should not be surprising to anyone. In order for these advancements to occur at the pace they do requires not only uncommon technical and business vision, but an enormous level of well coordinated and complementary activity between myriad scientists and engineers from many areas of specialization. These scientists and engineers develop, integrate, trouble-shoot, refine and optimize an amazing number of processes that allow a wide variety of materials (e.g., insulators, semiconductors and conductors) to be selectively deposited and removed with high accuracy, precision and control in a repeated manner over a large surface (e.g., a piece of silicon 300 mm in diameter). When completed, a wafer, made up of many chips is obtained that meets stringent reliability requirements and, of course, satisfies customer needs. This is clearly an example of "...science and engineering at its best".

**About the speaker:** Dr. Davis is a Senior Technical Staff Member at IBM's Semiconductor Research and Development Center in Fishkill, NY. Dr. Davis received a B.S. in Chemistry from Clinch Valley College of The University of Virginia in 1983 and a Ph.D. in Materials Science from The University Connecticut's Institute of Materials Science in 1987. Dr. Davis began his industrial career at IBM's Advanced Packaging Laboratory in Endicott, NY in 1988. During that time he led a team that developed unique and novel low-dielectric polymer blends for electronic packaging applications. It was during this period that he and his team published the first papers on the 308 nm excimer laser ablation of poly(tetrafluoroethylene). In 1993 Dr. Davis moved to IBM's Thomas J. Watson Research Center, Yorktown Heights, where he joined a team in developing advanced, high-performance/high-density chip carriers. In 1998, Dr. Davis moved to IBM's Semiconductor Research and Development Center in Fishkill, NY as an engineer and manager. His initial period at SRDC was spent in the interconnect group that was responsible for the introduction of copper. Most recently Dr. Davis led the team that was responsible for the implementation of IBM's first true, low-k technology offering. Dr. Davis is a member of the American Chemical Society and is an adjunct faculty member at SUNY New Paltz's Department of Chemistry and Marist College's School of Management. He has received fifteen U.S. Patents and is the author/co-author of over 50 publications and presentations.

**Directions to SUNY New Paltz:** Take I-87 to Exit 18 and turn left at the traffic light after the toll plaza (Rte. 299). From Rte. 299, turn left at the third traffic light onto S. Manheim Blvd. (Rte. 32 South). Turn right onto Mohonk Ave. East. For complete directions and campus map, visit <http://www.newpaltz.edu/about/directions.html>.

SUNY New Paltz - Department of Chemistry  
Fall 2006 Seminar Series

Location: SUNY New Paltz, Coykendall Science Building (CSB) Rm 321  
Time: 3:30 PM

Contact: Dr. Pamela St. John (stjohnp@newpaltz.edu, 845-257-3794)  
For directions, please visit <http://www.newpaltz.edu/about/directions.html>.

**Ms. Jennifer Vreeland**

Doctoral Candidate

Department of Chemistry and Chemical Biology, RPI

trans-(Pph<sub>3</sub>)<sub>2</sub>Rh(nbe)(SiMe<sub>2</sub>Ph): A Readily Accessible Rhodium (I) Silyl Complex and Its Role in Catalysis

**Friday, November 3**

**Dr. Miriam Rossi**

Department of Chemistry

Vassar College

Understanding the Mechanism of Natural Antioxidants Through Structural Studies

**Friday, December 8**

**Announcement: X-ray Diffractometer**

The Department of Chemistry at Vassar College has recently installed a state-of-the-art single crystal X-ray diffractometer for chemical crystallography. Funding for the instrument was obtained through a National Science Foundations Major Research Instrumentation proposal, "Acquisition of a CCD X-ray Diffractometer for Chemical Research and Education," NSF-0521237.

X-ray crystallography is a powerful technique for determining the molecular structure of materials, or the actual arrangement of atoms in molecules. X-ray diffraction techniques have enabled some of the most seminal discoveries in science, including the discovery of the double-helix structure of DNA and the elucidation of the structures of penicillin and hemoglobin.

The SMART APEX II platform diffractometer from Bruker Advanced X-ray Solutions is equipped with a MonoCap X-ray waveguide that increases the collimated X-ray intensity by a factor of 2.5, an APEX II charge-couple device (CCD) detector with ten-fold better sensitivity than first generation CCDs and an Oxford liquid nitrogen cryostream. These features make the instrument useful for a large variety of samples, including tiny, weakly diffracting and air-sensitive materials.

Science faculty members in the Hudson Valley who are interested in using the new instrument to obtain X-ray crystal structures in support of their research should contact Dr. Joe Tanski (845-437-7503, [jotanski@vassar.edu](mailto:jotanski@vassar.edu)) for more information.

Mary Dery, Ph.D.  
President



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# American Chemical Society

## Mid-Hudson Section

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Dear ACS Member,

It is again time to elect the individuals who will represent you on the Executive Board of the Mid-Hudson Section of the American Chemical Society. Your ACS dues support the Section's activities and we encourage you to take the time to select the people who will best serve your interests.

The goal of this section is to enhance the professional environment of those who work in chemistry. The section holds many programs during the year to promote professional and educational growth for our members and students in the region. The ACS membership is an opportunity to participate in a highly integrated effort toward increasing our knowledge of chemistry and how it applies to the world around us.

To save money, we are asking you to print out the attached ballot and send it in (instructions are given on the ballot). A biographical summary of the candidates is enclosed for your information.

The opportunity for a write-in candidate is also available. You can write the name, phone number and an email address (if available) of the candidate of your choice in the space provided on the ballot.

Very truly yours,

*Neil Fitzgerald*

Neil Fitzgerald, Secretary -- Mid-Hudson Section, ACS



# American Chemical Society Mid-Hudson Section

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## CANDIDATE BIOGRAPHIES

### MEMBER-AT-LARGE (3 year term)

#### JOCELYN NADEAU

*Occupation:*

Assistant Professor of Chemistry, Marist College

*Education:*

B.A., Chemistry, Smith College, 1997

Ph.D., Chemistry, Brown University, 2003

*Affiliations:*

Member of Sigma Xi since 1997

Member of ACS since 2000

Member of Council of Undergraduate Research since 2003

*Activities:*

Mid-Hudson ACS Member-at-Large 2005

*Research interests:*

synthesis of conducting polymers for charge-transport studies and sensor applications

### CHAIR-ELECT (3 year term)

#### NEIL FITZGERALD

*Occupation:*

Assistant Professor of Chemistry, Marist College

*Education:*

B.Sc., Chemistry with Environmental Science, University of Kent at Canterbury, 1991

M.Sc. Instrumental Analytical Chemistry, Loughborough University of Technology, 1993

Ph.D., Chemistry, University of Massachusetts Amherst, 1999

*Affiliations:*

Member of Royal Society of Chemistry since 1990

Member of ACS (Analytical Division) since 2000

*Activities:*

Secretary 2006

Coordinator of Family Night 2005

Co-organizer of Undergraduate Research Symposium 2003 and 2004

*Research interests:*

Atomic spectrometry sample introduction techniques, environmental analysis

### TREASURER (1 year term)

#### JOAN L. SKINNER

*Occupation:*

Information Scientist, Hoffmann La Roche

*Education:*

B.S. Chemistry, Douglass College

M.S. Computer Science / Information Systems, Marist College

*Affiliations:*

Member ACS (American Chemical Society) since 1991

Member SLA (Special Libraries Association) since 1995

Member PIUG (Patent Information Users Group) since 2001

Member ACM (Association for Computing Machinery) 2002

Member ACS WCC (Women Chemists Committee) since 2002

*Activities:*

Production of ACS Mid-Hudson Chemist, 1999-2001

Mid-Hudson Section Treasurer, 2000-2006

### SECRETARY (1 year term)

#### JOHN M. GALBRAITH

*Occupation:*

Assistant Professor of Chemistry, Marist College

*Education:*

B.A. Chemistry, Colorado College, Colorado College, CO 1992

Ph.D. Physical Chemistry, University of Georgia, 1997

*Affiliations:*

ACS Member Since 2001 (Physical Chemistry Division)

*Research:*

Theoretical/Computational Chemistry



# American Chemical Society Mid-Hudson Section

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<u>VOTING INSTRUCTIONS</u>
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- 1: Place the completed ballot in a small envelope.
- 2: Place the small envelope inside a larger envelope. **Sign** the larger envelope and include your return address.
- 3: Send to:

Pamela St. John  
Chemistry Department  
SUNY New Paltz  
CSB 102  
1 Hawk Drive  
New Paltz, NY 12561

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Note: All ballots must be received on or before **Wednesday, November 15, 2006.**

## Chair Elect

Neil Fitzgerald

Write in \_\_\_\_\_

## Secretary

John Galbraith

Write in \_\_\_\_\_

## Treasurer

Joan Skinner

Write in \_\_\_\_\_

## Member at Large

Jocelyn Nadeau

Write in \_\_\_\_\_

**DO NOT SIGN THIS BALLOT OR THE BALLOT ENVELOPE.  
PLEASE SIGN THE OUTER ENVELOPE.**