

# Science and Technology of Materials, Interfaces, and Processing

### **Topical Areas**

Biomaterials
Environmental S&T
Magnetic Materials
Manufacturing S&T
Materials Characterization
Materials Processing
MEMS
Microelectronic Materials
Nanometer-Scale S&T
Plasma S&T
Surface Engineering
Surface Science
Thin Films
Vacuum Technology

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## **Recap of 2012 Hudson Mohawk Chapter Activities**

The Hudson Mohawk Chapter of AVS hosted two meetings in 2012 – a summary of the meetings is provided below.

The Spring Meeting was held at Russell Sage Dining Hall at Rensselaer Polytechnic Institute, Troy, NY, on April 2, 2012 from 3:00 PM to 7:30 PM. The meeting was organized and conducted by Professor Ganpati Ramanath (RPI), the Chair of the AVS Hudson Mohawk Chapter, with invaluable support and help from Dr. Eric Bersch (Sematech), and Dr. Vin Smentkowski (GE). There were about 40 participants including about 25 students, from RPI, SUNY, GE, Sematech, IBM, Physical Electronics, Kratos and ThermoFischer and Brooks Automation.

The meeting began with a half hour informal networking mixer over coffee and tea, followed by five 20-minute talk presentations that included stimulating discussions. Topics included thin film growth, new approaches to spatially resolved tomography and temperature measurement methods, and tailoring novel thermal interface properties. Each talk was followed by a five-minute question and answer session. The talk session seamlessly segued into a posters-with-pizza session that lasted more than the originally scheduled time frame of 90 minutes. There were 12 posters presented on topics including quantum well solar cells, bulk nanostructured thermoelectric materials, organic thin films and polymer composites for thermal management applications, to name a few. The abstracts can be found at:

http://www.avs.org/chapters/hudsonmohawk/pdf/spring\_abstracts12.pdf.

At the cusp of the two events, Dave Surman talked about the benefits of being an AVS member to the students.

The quality of the both the talks and the posters was high, evoked an excellent response through in-depth scientific discussions and exchange of ideas. The high quality of the presentations made it a difficult task for the panel of judges to pick the winners of the best talk and poster prizes. Parul Tyagi (SUNY, Albany) won the best talk prize for her work on Characterization of few layer grapheme films grown on Cu, Cu-Ni and SiC substrates, and Alexandra Krawicz (RPI) was adjudged the winner of the best poster prize for her work on Porphryn-based molecular multilayer thin-film assembled on gold electrodes for electro-optical applications. The winners will be provided support for attending the AVS national meeting this year.

The 2012 Fall Meeting was held at the College of Nanoscience and Engineering, NSF Auditorium and Rotunda, University at Albany, on October 11, 2012 from 3:00 PM to 7:30 PM. The meeting was co-organized by Dr. Eric Bersch (SEMATECH), Dr. Vin Smentkowski (GE) and Professor Ganpati Ramanath (RPI). There were about 35 attendee's including about 20 students, from from SUNY, RPI, GE, SEMATECH, IBM, Cornell, Physical Electronics and Kratos. A book of abstracts can be found at: <a href="http://www.avs.org/chapters/hudsonmohawk/pdf/fall\_abstracts2012.pdf">http://www.avs.org/chapters/hudsonmohawk/pdf/fall\_abstracts2012.pdf</a>.

The meeting began with six 20-minute talk presentations. This was followed by a posters-with-pizza session with 12 posters. Both the talk and poster sessions evoked stimulating discussions. An executive committee meeting was held in which Ramanath,

Smentkowski, Bersch, Ventrice, Diebold, Surman and others discussed the logistics of the next meeting, improving attendance, and forming a local student chapter. The quality of the both the talks and the posters was high, evoked an excellent response through in-depth scientific discussions and exchange of ideas. The high quality of the presentations made it a difficult task for the panel of judges to select the best talk and poster. Florence Nelson from College of Nanoscale Science and Engineering won the best talk prize for Spectroscopic Ellipsometry and Abberation-Corrected STEM for the Optical and Structural Characterization of Graphene and Akitomo Matsubayashi from College of Nanoscale Science and Engineering won the best poster prize for "Oxide Growth on CVD Graphene for Efficient Spin Injection".

The Hudson Mohawk Chapter is in the process of assembling a proposal for the formation of a student chapter. Professor Ganpati Ramanath expects to submit the package for review/discussion at the Jan 2013 meeting of the AVS Board of Directors. Carl Ventrice from College of Nanoscale Science and Engineering will be the 2013 Chair and David Jung from KAUST-Cornell Center for Energy and Sustainability will be the 2013 Chair elect for the Hudson Mohawk Chapter of AVS.