

used old baby bottles as glassware, and made optical equipment with pieces of old compact disks. The two students, along with Freedhoff, the current Chapter president, decided to contact local industries and universities in addition to all science and engineering departments at their university in order to solicit equipment and monetary donations. Thus far, publicity for the event has been secured on campus, locally, and nationally, and the group hopes to be able to contribute to every science and engineering department at the Ateneo. The students find gratification in being able to encourage research and education in less-developed countries, plus the project provides an environmentally friendly way of recycling equipment that donors no longer use.

The group is soliciting glassware, solar calculators, pipettes, top-loading balances, centrifuges, circulating pumps, ultraviolet lamps, thermometers, heating mantels, heating tapes, chromatographs, spectrometers, refractometers, polarimeters, microscopes, simple optics and electronics, voltmeters, computer equipment (PC), technical journals, and other low-maintenance laboratory equipment. Monetary donations are also accepted to help cover shipping expenses and the purchase of disposable items such as pH

**To donate equipment or money for the Philippines project**

Contact Michal Freedhoff at 716-275-2980, e-mail: frem@uhura.cc.rochester.edu; Kristen Kulinowski at 716-244-1778, e-mail: krsk@DB1.cc.rochester.edu; or Sean Moran at 716-275-3027.

Checks and money orders can be made payable to the "University Outreach Society" and sent to one of the students listed above, c/o Department of Chemistry, University of Rochester, 404 Hutchinson Hall, Rochester, NY 14627; receipts and bank statements are available upon request.

Contact the students involved before sending equipment to ensure that the particular items are needed.

paper, batteries, and pipettes.

The shipment date is tentatively scheduled for early July 1995.

MICHAL FREEDHOFF

**UC—Berkeley Chapter Prepares for Exceptional Teaching Award**

For the third semester, the MRS Chapter at the University of California—Berkeley is gathering information and distributing a Course Evaluation Guide providing details on each class offered in the Department of Materials Science and Mineral Engineering. Both undergraduate and graduate students participate in the evaluation project. The Chapter further uses the information in order to choose a faculty member for the Exceptional Teaching Award. Timothy Sands was the most recent (and first) recipient of the Award.

The evaluation includes an overall rating for the course, the professor's teaching ability and clarity, the teaching assistants' instructing qualities, the textbook, and the homework assignments and exams. Recipients are chosen by tallying up scores based on the evaluation for each professor. Each recipient's name is engraved in a plaque the Chapter created that hangs in the department office. The recipient for the Spring semester will receive the award this Fall. □

Send MRS University Chapter and Section News to: Editor, *MRS Bulletin*, Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237-6006. Fax: (412) 367-4373; e-mail: Bulletin@mrs.org.

**CONFERENCE REPORT**

**International Workshop Illustrates Progress in Determination of 2-D Dopant Profiles**

The third international workshop on the Measurement and Characterization of Ultra-Shallow Doping Profiles in Semiconductors was held at Research Triangle Park, North Carolina on March 20–22, 1995. The workshop was chaired by Jim Ehrstein of the National Institute of Standards and Technology (NIST), Rajiv Mathur of Intel, and Gary McGuire of Microelectronic Center of North Carolina (MCNC). The meeting was attended by 135 people from 10 countries, and 51 papers and posters were presented. Refereed versions of the papers will appear in a single issue of *Journal of Vacuum Science and Technology*, as has the papers from the previous two workshops in this series.

This workshop, which has been held biennially since 1991, has the special character that it focuses on a single topic, dopant distributions in ultra-thin layers in semiconductor materials, in a manner that

is deeper than a general session on semiconductor characterization and yet broader than the coverage in specialty meetings that are focused on a single family of analytical techniques, such as the meetings on secondary ion mass spectrometry (SIMS) or atomic force microscopy (AFM).

In addition to many detailed papers on the use of SIMS, transmission electron microscopy (TEM), spreading resistance profiling (SRP) and capacitance-voltage measurements, progress was also reported in the use of AFM-based probes, analysis of secondary electron emission from doped junctions, and time-resolved surface photovoltage measurements. The meeting was significantly enhanced by sessions on process modeling and techniques for extraction of doping profiles from transistor characteristics for deep-sub micron CMOS devices.

Among the many dramatic examples of the recent progress which has been made

in the determination of two-dimensional dopant profiles, one of the most beautiful was the work of Roger Alvis and his co-workers at AMD and Stanford which used a combination of cross-section TEM and AFM, chemical etching, SIMS and process modeling to show the details of the effects ion energy and beam incidence angle on the characteristics of source/drain junctions on the implanted and shadowed edges of poly-silicon gate structures. The two-dimensional doping levels for As implants were determined over a concentration range from  $10^{20}$  to  $10^{18}$  cm<sup>-3</sup> with a spatial resolution of a few nm.

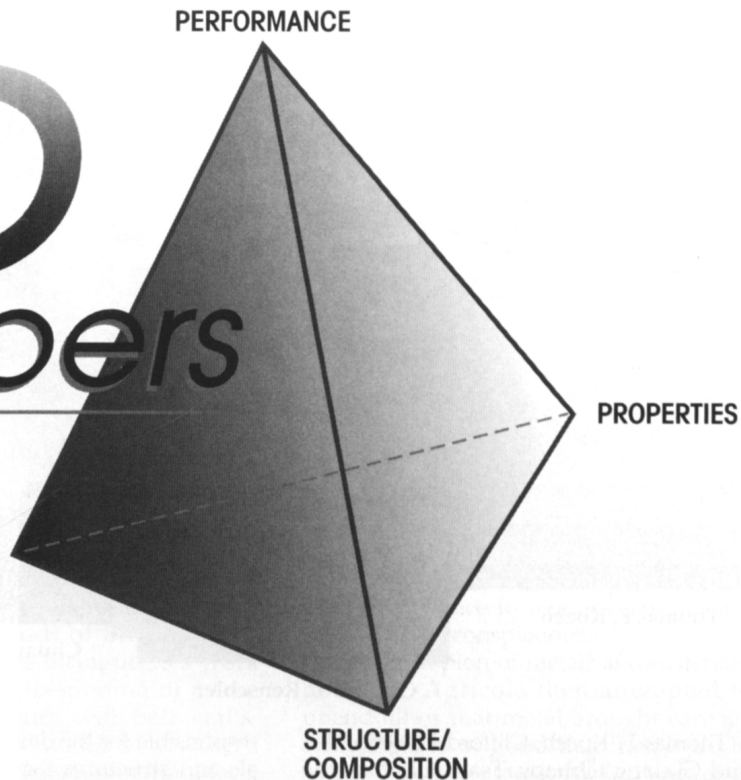
The workshop was sponsored by American Vacuum Society, Intel, MCNC, NIST, and Sematech with corporate support from Evans East and Varian. It is anticipated that this workshop will be held again in two years.

MICHAEL CURRENT

# Call for Papers

## Materials Synthesis and Processing

SYNTHESIS/  
PROCESSING



*Journal of Materials Research (JMR)* will feature a special section of original research papers on materials synthesis and processing in the April 1996 issue.

Since at least the time of the National Academy of Sciences' 1989 study "Materials Science and Engineering for the 90's" it has been generally recognized that in materials synthesis and processing there is "a serious weakness in the U.S. research effort" and "there are opportunities for progress in areas ranging from the basic science of synthesis and processing to materials manufacturing, that, if seized will markedly increase U.S. competitiveness."<sup>1</sup>

MRS has sponsored several symposia on processing issues, but while JMR has accepted papers it has not until now focused in that area.

The April 1996 issue will focus on synthesis and processing of engineered materials. For the purpose of this call for papers we will use the 1993 Federal Coordinating Council for Science, Engineering and Technology (FCCSET) definition of synthesis and processing as "the conversion of materials in their natural, atomic or molecular states to advanced materials suitable for specific intended uses, featuring precisely tailored properties and enhanced performance."<sup>2</sup> Papers on all aspects of synthesis and processing as defined above are solicited. Atomic and molecular level engineering of materials processes, modeling of processes, fundamental understanding of generic processes such as plasma processing, chemical vapor deposition, sintering, etching, etc., are all suitable topics. Studies of yield and reliability of manufacturing processes as they are connected to processing of high-technology materials are appropriate. Papers on synthesis and processing of semiconductors, ceramics, composites and other "high-technology" materials would be of particular interest. Dr. Peter Esherick of Sandia National Laboratories will serve as editor for these papers.

To be considered for this issue, manuscripts must be received at the USA Editorial Office by **August 1, 1995**. No extensions of the deadline will be granted.

All manuscripts submitted for this special section of the April 1996 issue will be reviewed in a normal but expedited fashion. The top 15-20 manuscripts of all those accepted will be scheduled for publication in the April 1996 issue of JMR, appearing in the standard JMR format in a separate section of the issue. Any manuscripts that are accepted for publication but cannot be included in the group scheduled for publication in the April issue will be scheduled to appear in the next available issue of JMR.

Send your manuscript (one original plus three copies) for consideration to:

**Dr. Robert A. Laudise, Editor-in-Chief**  
**Journal of Materials Research**  
**Materials Research Society**  
**9800 McKnight Road**  
**Pittsburgh, PA 15237**

**Telephone 412/367-9111**  
**Fax 412/367-4373**

*For information:*

E-mail: [miller@mrs.org](mailto:miller@mrs.org)

MRS Homepage on World Wide Web: <http://dns.mrs.org/>

Indicate that the manuscripts are intended for the JMR April 1996 special section on Materials Synthesis and Processing.

1. "Materials Science and Engineering for the 1990's - Maintaining Competitiveness in the Age of Materials," p. 3, National Academy Press, Washington, 1989.

2. "Advanced Materials and Processing: The Fiscal Year 1993 Program in Materials Science and Technology," p. 10, FCCSET Committee on Industry and Technology, NIST, Gaithersburg, MD, 1992.