# DMP <u>NEWSLETTER</u> Division of Material Physics A Division of the American Physical Society

March 2000

#### In this Issue ...

This Newsletter is being sent only in electronic format to alert you to a few DMP special events at the APS March Meeting in Minneapolis, March 19-24, 2000. In also includes election results and the joint DMP/DCMP statement that endorses the proposed National Nanotechnology Initiative.

#### Features:

**Special Symposium on** Nanotechnology

DMP Business Meeting

**DMP Reception** 

**Election Results** 

Nanotechnology Endorsement Statement

## **Special Symposium:**

The FY2001 Nanotechnology Initiative: What's in Store for the Future (Session Q35)

Wednesday, March 22 5:30pm - 7:00pm **Ballroom B, Convention Center** 

Chair: James Langer, APS President

#### **Speakers:**

- Evelyn Hu, Director, Center for Quantized Electronic Structures, UCSB
- Robert Dynes, Professor of Physics and Chancellor, UCSD
- Patricia Dehmer, Associate Director, Basic **Energy Service**, DOE
- Thomas Weber, Director, Materials Research Division, NSF

(See the endorsement statement at the end of this newsletter that was sent to Congressional representatives.)

## DMP Business Meeting (Fellowship Certificates Awarded)

Tuesday, March 21, 2000 5:30 pm **Room 103C, Convention Center** 

## **DMP** Reception

(To honor our Awardees and new Fellows, to thank the Focus Session Organizers for their efforts in helping to put the meeting together, and to meet Executive Committee members.) "any and all friends of DMP are welcome"

#### 6:30pm-8:30pm Hennepin Room, Hilton

#### Awardees:

• James C. McGroddy Prize:

M. Brian Maple, UCSD (Session I4)

For the synthesis of novel d and f electron materials and for the study of their physics.

#### • David Adler Lectureship Award:

Bertram Batlogg, Lucent Technologies (Session M7) For his contributions to materials physics, including superconductivity, colossal magnetoresistance, heavy fermions and organic semiconductors, and his excellence in lecturing on materials science and industrial research to both scientific and lay audiences.

#### New Fellows sponsored by DMP:

- Bartelt, Norman Charles, Sandia National Laboratories
- Collings, Peter John, Swarthmore College
- Fuoss, Paul Henry, AT&T Laboratories
- Ice, Gene Emery, Oak Ridge National Laboratory
- Jena, Purusottam, Virginia Commonwealth University
- Krim, Jacqueline, North Carolina State University
- Loong, Chun-Keung, Argonne National Laboratory
- Oosterhuis, William T., U. S. Dept. of Energy
- Wood, Colin E. C., Office of Naval Research
- Zunger, Alex, National Renewable Energy Laboratory

### Election Results: (terms commence after the March Meeting)

We thank all participants in the election! The Winners are:

Vice Chair: Denis McWhan, Brookhaven National Laboratory APS Councilor: Slade Cargill, Lehigh University Member at Large: Mike Aziz, Harvard University Eric Fullerton, IBM - Almaden Research Center

## 1990-2000 National Nanotechnology Endorsement Statement:

The Executive Committees of the Division of Materials Physics and the Division of Condensed Matter Physics of the American Physical Society enthusiastically endorse the National Nanotechnology Initiative. We represent approximately 7,500 professional physicists, including many who are leaders in this emerging area of research.

The ability developed over the last decade to manipulate and study materials at the nanometer length scale offers possibilities for advances in science and technology whose potential impact is so vast that we are only just beginning to get a glimpse of it. We are at a time in the development of this technology similar to the early '90's when the Internet was emerging. Nanotechnology offers enormous potential for discovering new fundamental science, for creating new materials with unique and important properties, and for developing new technology. Recent discoveries include an electronic device based on a single molecule, manipulation of biocellular function

via synthetic nanocrystal insertion, and nano-scale sensors able to detect environmental conditions with unprecedented accuracy. The impact will be felt in nearly every area of technology, from information storage and processing, to medicine, to remote sensing, to automobiles and telephones. The impact on fundamental science is equally broadbased, from new tools to measure X-rays from distant galaxies to measuring the properties of individual electrons in semiconductors. In addition, we believe that the ability to visualize and manipulate atoms and molecules will capture the public's imagination and inspire a new public commitment to teaching and learning science.

Development of nanoscale science and technology is dependent on progress in an extraordinarily wide range of fields, including physics, chemistry, materials science, biology, and engineering. It underlies a new unity in science where progress often depends on a multidisciplinary approach, and where a technological or scientific advance in one field can create extraordinary opportunities in another.

A strong investment by the nation in nanotechnology will lay the intellectual and technical foundation for sustained advances in cutting edge science, innovative technology, and economic competitiveness over the next quarter century. Nanotechnology is the next great frontier, with challenges and opportunities that will extend our reach and enrich our lives. As physicists, we stand ready to work together with other scientific challenges and the technological opportunities. We believe that the National Nanotechnology Initiative will bring unprecedented rewards to our society.

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