

In this Issue ...

- [Dates to Remember](#)
- [Message from the DMP Chair](#)
- [March Meeting Synopsis](#)
- [March 2006 Program Planning](#)
- [“Hot Topics” in Physics](#)
- [2005-2006 Executive Committee](#)
- [DMP Membership Initiative](#)

World Year of Physics

2005 is the World Year of Physics commemorating the pioneering contributions of Albert Einstein in 1905 - <http://www.physics2005.org/>

Dates to Remember

May 23, 2005

- Deadline for submission of Focus Topic Proposals to [David Vanderbilt](#)

July 1, 2005

- Deadline for sending nominations for the [McGroddy Prize](#) to [Myron B. Salamon](#)
- Deadline for sending nominations for the [David Adler Lectureship Award](#) to [Maria C. Tamargo](#)

Early July, 2005

- List of 2005 DMP Focus Topics posted on web and e-mailed

August 31, 2005

- Deadline for submitting invited speaker suggestions for Focus Topics (via the web)

November 30, 2005

- APS Abstract deadline for March 2006 Meeting in Baltimore, MD

Message from the DMP Chair

The special thanks of the DMP at large and of the DMP Executive Committee in particular go out to Jim Chelikowski whose four-year commitment to the DMP leadership ended with the expiration of his term as the DMP Past Chair - coincident with the end of the March 2005 APS Meeting in Los Angeles. Jim did an outstanding job of guiding the DMP through his vision, his ability to deal with a wide range of diverse personalities with great aplomb, and his plain common sense.

The DMP is also greatly indebted to our outgoing DMP APS Councilor, Slade Cargill, who served the Division ably, well, and long. We were fortunate to have someone with the professional-society leadership experience of Slade in the important Councilor position, and we are equally fortunate to have Leonard Feldman on board as the new DMP APS Councilor. Len Feldman is, in fact, a past DMP Chair with vast experience in both academic and industrial environments, and he is a welcome addition.

The sincere thanks of the DMP are also extended to two outgoing Members-at-large of the Executive Committee. The terms of Eric Isaacs and Talat Rahman ended with the closing of the March 2005 APS Meeting, and their contributions will be greatly missed. Again, however, we are fortunate to welcome two new Members-at-Large to the DMP Executive Committee with the election of Steven Louie and David Cahill. We are also fortunate to have Jeff Lynn as our new DMP Vice Chair. This year, in addition to chairing the DMP Fellowship Committee, Jeff will be assisting David Vanderbilt with the March 2006 program planning. DMP Executive Committee member Jacqueline Krim has also agreed to work with David in organizing the March 2006 DMP program, and we are grateful to her for taking on these additional tasks.

Finally, in the area of Executive Committee developments, Ted Einstein was re-elected as the DMP Secretary/Treasurer. Ted is the “rock” who constantly keeps us from drifting into dangerous territory, and we are extremely fortunate to have him continuing in this important and very demanding position.

Please remember that nominations for the James C. McGroddy Prize for New Materials are due to Myron B. Salamon, the Chair of the 2006 Selection committee by July 1, 2005. The nominations for the David Adler Lectureship Award are also due by July 1, 2005 to Maria C. Tamargo, the chair of the 2006 selection Committee. For detailed instructions on making nominations for either award, go to the [APS Home Page](#) and click on “[Prizes & Awards.](#)” Then go down the list of APS Prizes and Awards and click on the appropriate award title. On the corresponding page that will appear, in addition to contact and general information, there will also be a link to the general [APS Nomination Guidelines.](#)

One of the areas of emphasis that has been identified for action during the coming year by the DMP Executive Committee is the recruitment of new DMP members. Please see the DMP Membership Initiative paragraph at the end of this Newsletter, and please help the DMP by using the attached form to sign up new members!

Lynn Boatner
DMP Chair 2005-2006

March 2005 Meeting Synopsis

The March APS Meeting continues to grow in every sense.

This year there were 37 DMP focus topics (20 “DMP-only” sponsored and 17 co-sponsored topics) - including 4 invited symposia at the meeting. We had 110 DMP invited speakers plus additional invited speakers for the co-sponsored topics. There were 142 DMP-sponsored or co-sponsored sessions representing a total of 1711 contributed abstracts. This is to be compared to the total number of 5002 contributed abstracts for the entire meeting, which drew approximately 6500 attendees. The LA Conference Center provided an excellent and convenient venue, and all of the attendees had an opportunity to experience some of the famous California “liquid sunshine.”

During the March 2005 meeting, the DMP presented two prizes: The 2005 David Adler Lectureship Award went to Ramamoorthy Ramesh of the University of California, Berkeley, and the 2005 McGroddy Prize went to Yoshinori Tokura of the University of Tokyo.

Additionally, we welcomed 12 new DMP-sponsored APS Fellows. These are:

Ulrike Diebold, Tulane University; David J. Eaglesham, Applied Materials, Santa Clara; Bengt I. Lundqvist, Chalmers U., Sweden; Zhifeng Ren, Boston College; Caroline Anne Ross, MIT; Angel Rubio, U. del Pais Vasco, Spain; John Campbell Scott, IBM-Almaden; Mark David Stiles, NIST-Gaithersburg; Louis J. Terminello, LLNL; David Tománek, Michigan State University; Michael M.J. Treacy, Arizona State University; and Peter Willis Voorhees, Northwestern University.

March 2006 Program Planning

Focus Topics for 2006:

The DMP Program Committee is now calling for new suggestions for Focus Topics for the 2006 March Meeting to be held in Baltimore, MD on March 13 –17, 2006. Send your suggestions to the 2006 DMP Program Chair, David Vanderbilt (dhv@physics.rutgers.edu), by May 23, 2005. Please include a short title, a paragraph that describes the type of abstracts that would be appropriate for the proposed topic, and full contact information for two (or more) potential organizers who are at different institutions. The tasks of the organizers of Focus Topics include evaluating and recommending invited speakers, choosing session chairs, working with other partner units of APS as appropriate, and designating one of themselves to participate in the abstract sorting session in December at the APS headquarters in College Park, MD in preparation for the Baltimore Meeting next March. The organizers need to balance each other and ideally represent different intellectual perspectives (i.e. theory vs. experiment; basic vs. applied), and different geographic regions, and aspire to honor our commitment to work towards gender balance and encourage under-represented groups. The DMP Executive Committee will evaluate all suggestions.

"Hot Topics" in Physics

If literature citations are any guide, then the hottest thing in physics and chemistry may not be anything you read about in "Physics News in 2004", but a 40-year-old theory that predicts the ground-state density and energy of an interacting many-electron system by solving a self-consistent one-electron Schrödinger equation. The three most-cited papers in the history of Physical Review Letters, Physical Review and Reviews of Modern Physics are about the density functional theory of atoms, molecules and solids, according to S. Redner (<http://xxx.arxiv.org/abs/physics/0407137>). The authors of these three papers are APS Fellows Walter Kohn (who shared the 1998 Nobel Prize in Chemistry for this theory), Pierre Hohenberg, Lu Sham, John P. Perdew, and Alex Zunger; the last three are all DMP members. Four of the five papers most cited by chemists in 2003 were also density functional theory papers, according to the CAS Science Spotlight (<http://www.cas.org/spotlight/index.html>). One of the latter papers, co-authored by John P. Perdew, Kieron Burke and Matthias Ernzerhof in 1996, was also the most-cited physics paper published since the beginning of 1994, according to Thomson Essential Science Indicators.

DMP [2005-2006] Executive Committee

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DMP Membership Initiative

Help us to attract new DMP members!!

On the back page of this Newsletter (or, instead, by clicking the hyperlink below in this online version), you will find the APS form: *Application to Join APS Units*. Please help us to build a stronger Division of Materials Physics APS unit by using the form to recruit at least one (and more is better!) of your colleagues who is not currently a DMP member.

By building our DMP membership, we increase the visibility of materials physics as an increasingly important part of the APS. We also strengthen the impact of our numerous outreach efforts to other APS units, to Washington, and to related professional Societies. Additionally, DMP members are eligible to be considered for Fellowship in the APS through our annual allotment (presently 11 [+ foreign extras]) for the nomination of new APS Fellows. The cost to join the DMP is next to nothing (only \$7.00 added to the APS dues), and the form can also be used to join APS forums – at no cost for the first two forums. Personal contact is the most effective way to recruit new DMP members – so please use the accompanying form and help the Division in this endeavor by signing up at least one of your colleagues.

Instructions on how to become a member of DMP (or of any other APS unit) also appear on the DMP homepage (go to the APS Home Page click on “units”; if reading the online newsletter, simply click [here](#) to join online or [here](#) to download a pdf application), or one can simply call (301) 209-3280 and use a credit card to pay the \$7/year dues (have your APS membership number handy – look for it on the mailing label of your copy of Physics Today or any other recent APS publication sent to you.)

You can also fax the accompanying form to: (301) 209-0867.

Thanks for helping us grow the DMP!!