

Precision Measurement and Fundamental Constants Group Newsletter A Topical Group of the American Physical Society

<http://www.aps.org/units/pmfc/>

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“... It might perhaps be considered that the foregoing remarks are uncalled for and that in view of the beautiful results that have been obtained by the use of highly sensitive instruments it is only a question of care and patience to be able to gain results of equal accuracy and value. This is not necessarily true, since some are tied by circumstances to laboratories situated in close proximity to electric trams, railway trains, *et hoc genus omne*, not one of which is conducive to rest and peace as far as galvanometers are concerned. The notes, born of sad experience, are written not for those fortunate enough to work in places more free from disturbing influence but rather for those who, though by fate condemned to work amidst such disturbances, are enthusiastic enough to aspire to research and hope to succeed in spite of the ills that beset them.”

Edward Charles C. Baly, *Spectroscopy*, Longmans, Green and Co., London, 1929.

2008 Election Results

In this year's election for new members of the Executive Committee of our Group, Blayne Heckel was elected Vice-Chair, and David Kawall and Zheng-Tian Lu were elected as Members-At-Large. About 25% of the Group's membership voted in this year's election for officers to serve on the Executive Committee. This is a typical participation rate for our Group over the past several years. The great majority of voting members used APS's electronic voting system, which simplifies the process. We are grateful to all of the candidates for their willingness to serve the Group.

2008 APS Fellows

Our Group is entitled to propose candidates for Fellowship in the APS. The Fellowship Committee was chaired by John Gillaspay. This year, our Fellows were Protik Majumder of Williams College, “for precision measurements of atomic structure that test atomic

theory and probe the basic laws and symmetries of nature, and for engaging talented undergraduate physics students in making such measurements,” and John Turneaure of Stanford University “for pioneering the development of ultrahigh-Q superconducting microwave cavities and their application to fundamental physics experiments, and for development of the Gravity Probe B science instrument to test General Relativity.” The GPMFC nominated Fellows were recognized at the banquet of the DAMOP meeting in May. Congratulations! Please consider nominating a worthy and accomplished colleague for this honor.

GPMFC Program for 2008

The Group sponsored several sessions at the DAMOP meeting at Penn State: “Fundamental Symmetries,” “Searches for Relativity Violations,” “Atomic Clocks and Searches for Variations in Fundamental Constants,” and one of the poster sessions at the meeting.

The GPMFC sponsored a session of invited lectures at the April APS meeting in St. Louis: “Electric Dipole Moment Experiments”. The Program committee consisted of Eric Hessels (Chair), Eric Burt, and Blayne Heckel.

Upcoming Program

The annual (business) meeting of the Group for 2009 will be at the April APS meeting in Denver, CO, which will be held May 2-5. Which just goes to show you the importance of precision. We encourage members with ideas for future program topics to contact the Program Committee members. The new Program Committee chair is John Gillaspay, with Eric Burt serving again. We encourage new ideas for focus sessions on high-precision research of all kinds.

Student Travel Support

We remind members that we have funds available to support students to travel to meetings to present research findings to our Group program. While we cannot cover all travel expenses, we can certainly defray a large part of the costs for students. We have historically offered an amount in the range \$200-400 per student. Applying for travel support is as simple as contacting the Secretary/Treasurer of the Group **at the time you send in abstracts to the meeting**, and requesting that your abstract be scheduled with the sessions sponsored by the Group. Please see the group website for details: <http://www.aps.org/units/pmfc/meetings/travel.cfm>

Minutes of the Business Meeting and Reception

The annual business meeting of the Group was held at the DAMOP meeting at Penn State University on May 28, 2008. Attendance was 33 members who were interested in business before pizza. The meeting was called to order by outgoing Chair Eric Hessels.

Financial Report:

As of April 30, 2008, the balance in the Topical Group account was \$37,786.11, up from \$34,900.79 on April 30, 2007 and \$30,851.71 on April 30, 2006. For the fiscal year to date, the total earnings were \$2885.32, of which \$2,095 were from membership dues, and \$802 from investment income. The revenue from the Topical Group's share of meeting revenues has not yet been credited to the Topical Group's account for FY2008.

Membership Report:

The membership of the Topical Group as of May 2008 was 419, representing 0.91% of the full APS membership. Membership in 2007 was 433, representing 0.94% of the APS membership. From 2004 to 2008, membership has been relatively stable from 0.87% to 0.94% of APS membership, and slowly increasing in absolute numbers.

Members of the Executive Committee reminded Group members in attendance to recommend PMFC colleagues for APS Fellowship, and to consider nominations for the Pipkin Award to be given in 2009. Other business included discussing sponsoring a prize for best student poster presented on an area in PMFC. General consensus was that a modest prize could help recruit new students to our Group and that the Group has the financial resources available to do so. The discussion was remanded to the Executive Committee.

There continues to be some discussion among the Group about the best way to ensure that we remain a broad-based, interdisciplinary Group not exclusively focused on atomic-molecular-optical physics. There is some frustration about participating in the annual April APS meeting, but we feel optimistic that strong programs of invited speakers, covering precise measurements using a wide variety of techniques, can be appealing at that large gathering.

No further business being brought before the meeting, we adjourned to enjoy a lovely afternoon informal get-together. Your secretary lost count (at 65) of participants talking over fundamental constants and precision measurements while eating pizza *en plein air*. The popular pizza event does seem to be a good recruiting tool.

2008-2009 Executive Committee (Year Term Expires in Parentheses)

Chair: David DeMille (2009)
Yale University
david.demille@yale.edu

Past Chair: Eric Hessels (2009)
York University
hessels@yorku.ca

Chair-Elect: John Gillaspay (2009)
NIST
john.gillaspay@nist.gov

Secretary/Treasurer: Paul Vetter (2010)
Lawrence Berkeley National Lab
pavetter@lbl.gov

Vice Chair: Blayne Heckel (2009)
University of Washington
heckel@phys.washington.edu

Member-at-Large: David Kawall (2011)
University of Massachusetts/
Brookhaven National Lab
kawall@physics.umass.edu

Member-at-Large: Eric Burt (2009)
Jet Propulsion Lab
eric.a.burt@jpl.nasa.gov

Member-at-Large: Maynard Dewey
(2009)
NIST
mdewey@nist.gov

Member-at-Large: Mikhail Romalis
(2010)
Princeton University
romalis@princeton.edu

Member-at-Large: Susan Gardner (2010)
University of Kentucky
gardner@pa.uky.edu

Member-at-Large: Zheng-Tian Lu
(2011)
Argonne National Lab
lu@anl.gov

See also the Group's governance page on the web for contact information:
<http://www.aps.org/units/pmfc/governance/officers/index.cfm>