

The American Physical Society Topical Group on Precision Measurements and Fundamental Constants

Newsletter No. 41

March 2015

Marianna Safronova, University of Delaware
Secretary-Treasurer, GPMFC

TESTS OF FUNDAMENTAL SYMMETRIES WORKSHOP, APRIL 10

Dear Colleagues,

We invite you to attend a satellite workshop “Tests of Fundamental Symmetries” co-organized by the APS Topical Group on Precision Measurements and Fundamental Constants (GPMFC), and the Group on Few-body Systems (GFB) on April 10, 2015. This workshop will take place **the day before APS April meeting, Baltimore, MD (same venue)**. Workshop information is available at <https://sites.google.com/site/workshoptfs15/> web site.

A number of prominent speakers will present forefront results on searches for electric dipole moments and measurements of parity violation. The talks will showcase results from both the atomic-physics and nuclear/particle-physics communities. Post-docs and graduate students should especially consider coming as this is a great opportunity to get a snapshot of this exciting area of physics from leaders in the field as well as present their work.

GPMFC still have travel grants available to defray expenses for junior scientists who wish to attend the workshop and/or April meeting: <http://www.aps.org/units/gpmfc/meetings/travel.cfm>

If you would like to attend the workshop please **register** via workshop website by **MARCH 15, 2015**. Space is limited and so you are encouraged to reserve your place now.

If you wish to present a poster at the meeting you should indicate that, and the title of your proposed presentation, on the form.

Any questions regarding the workshop can be sent to workshopTFS15@gmail.com.

Note that as part of the April meeting (APR15), which will run for April 11-14 in the same location, there will be invited sessions on the same topic as the workshop (B8, H3) co-sponsored by GPMFB and GFB. These two invited sessions have been scheduled on Saturday and Sunday morning for the convenience of the workshop attendees and to avoid overlap with the IFCS-EFTF 2015 meeting in Denver.

Workshop Organizers:

Daniel Phillips (Ohio University, Chair, GFB)
Marianna Safronova (University of Delaware, Secretary-Treasurer, GPMFC)
Mike Snow (Indiana University, Executive Committee, GPMFC)
Chris Ticknor (Los Alamos National Lab, Chair Elect, GFB)

2015 APS APRIL MEETING

GPMFC meets with the April meeting in 2015.

The 2015 APS April meeting will be held at the Hilton Baltimore Inner Harbor, Baltimore, Maryland, April 11-14, 2015. Online registration and hotel reservation deadline: **March 20.**

Note that 3 out of 4 hotels listed in the APS web site are already full.

April meeting information is available at <http://www.aps.org/meetings/april/>.

GPMFC will co-sponsor three invited and two contributed April meeting sessions.

SATURDAY, APRIL 11

Session B8 10:45AM

Invited Session: Search for New Physics with Atoms, Molecules and Nuclei Room: Key 4

Invited Speakers: Dmitry Budker, Wick Haxton, John Doyle

Session C6 1:30PM

Fundamental Symmetries I Room: Key 2

Session E6 3:30PM

Fundamental Symmetries II Room: Key 2

SUNDAY, APRIL 12

Session H3 8:30AM

Invited Session: Neutral-Current Parity Violation - From eV to GeV Room: Holiday 2

Invited Speakers: William Marciano, Andrei Derevianko, Xiaochao Zheng

MONDAY, APRIL 13

Session S11 1:30PM

Invited Session: Precision Experimental Measurements of Gravitation Room: Key 7

Invited Speakers: Michael Hohensee, James Faller, Charles Hagedorn

TOPICAL GROUP ANNUAL MEETING

The 2015 annual meeting, business meeting, and executive committee meeting of the GPMFC Topical Group will be held during the April meeting in Baltimore, Maryland, April 11-14, 2015 (see above). The GPMFC business meeting and social outing will be on Saturday, April 11, 5:45PM (meet at room Key 9).

CONGRATULATIONS TO 2015 FRANCIS M. PIPKIN AWARD RECIPIENT

Holger Mueller, University of California, Berkeley

Citation:

"For his contributions to precision metrology and tests of fundamental laws of physics through the development and application of atom interferometry."

Background:

Holger Müller successfully applied for his first patent when he was 14. Later, he did his undergraduate thesis with Jürgen Mlynek at the University of Konstanz, Germany. He graduated from Humboldt-University, Berlin, with Achim Peters as advisor. Müller received a fellowship of the Alexander von Humboldt foundation and joined the group of Steven Chu in Stanford as a postdoc. In July 2008, he joined the physics faculty at U.C. Berkeley. The basic premise of his work is that precision measurements of fundamental quantities can help to address the great challenges faced by physicists now. The focus of his work uses methods from atomic, molecular, and optical physics. It is centered on advancing the experimental technology to push the sensitivity of experiments to new levels, and to perform precision measurements of fundamental quantities.

Selection committee: Eric Cornell, Chair; A. Derevianko; J. Faller; H. Gao; R. Pohl

CONGRATULATIONS TO OUR 2014 APS FELLOWS

Randolf Pohl, Max-Planck-Institute of Quantum Optics

Citation: For the observation of the 2S state of muonic hydrogen and for a precision measurement of the Lamb shift of muonic hydrogen, which has significant implications for the determination of the charge radius of the proton.

Ana Maria Rey, University of Colorado, Boulder

Citation: For her pioneering research on developing fundamental understanding and control of novel quantum systems and finding applications for a wide range of scientific fields including quantum metrology and emerging interface between AMO, condensed matter, and quantum information science.

APS FELLOW NOMINATIONS

The Topical Group is entitled to propose two candidates for Fellowship in the APS. The Fellowship Committee is chaired by John Doyle (doyle@physics.harvard.edu). Please consider nominating an accomplished colleague for this honor. Nomination instructions and the online form can be found at <http://www.aps.org/programs/honors/fellowships/nominations.cfm>

The deadline for GPMFC nominations is May 1, 2015.

2015 GPMFC ELECTION

In 2015, we will be electing two new Members at Large of the Executive Committee and a new Vice Chair who is in the succession for Chair. Please contact the Chair of the Nominating Committee, Tanya Zelevinsky (tz@phys.columbia.edu) to suggest nominees.

GPMFC TRAVEL SUPPORT FOR YOUNG SCIENTISTS

Each year, the Topical Group provides partial travel support to several graduate students and post-docs to present contributed papers at scientific meetings in the area of precision measurement and fundamental constants. Support is available to attend either the GMPFC annual meeting (April meeting in 2015) or any other meeting in which GMPFC is sponsoring a session (Tests of Fundamental Symmetries workshop or DAMOP). For more information and application instructions, go to:
<http://www.aps.org/units/gpmfc/meetings/travel.cfm>

UPCOMING CONFERENCES AND MEETINGS OF INTEREST **APRIL - JULY 2015**

The 2015 Joint Conference of the IEEE International Frequency Control Symposium & European Frequency and Time Forum

<http://ifcs-eftf2015.org/>

April 12-16, 2015
Denver, Colorado

DAMOP 2015

The 46th Annual DAMOP Meeting will be held on June 8-12, 2015 in Columbus, Ohio. The meeting information is available at <http://www.aps.org/units/damop/meetings/annual/>.
New: DAMOP will have Childcare Grants available this year, Application deadline is May 1, 2015.
<http://www.aps.org/units/damop/meetings/annual/childcare.cfm>

6th International Symposium on Symmetries in Subatomic Physics

<http://ssp2015.triumf.ca/>

Delta Ocean Point Hotel, Victoria, B.C. , Canada
June 8-12, 2015.

Gordon conference, Atomic Physics From Ultracold to Strongly Interacting Quantum Systems

Salve Regina University, Newport, RI
June 14-19, 2015

<http://www.grc.org/programs.aspx?id=10930>

Applications for this meeting must be submitted by **May 17, 2015**.

MITP topical workshop: The Ultralight Frontier

http://www.mitp.uni-mainz.de/172_ENG_HTML.php

Mainz, Germany
June 15-19, 2015

International Symposium on Molecular Spectroscopy (ISMS)

<http://isms.illinois.edu/>

Urbana, United States
June 22-26

The 22nd International Conference on Laser Spectroscopy (ICOLS)

Shangri La - Rasa Sentosa Resort on Sentosa Island, Singapore
<http://icols2015.quantumlah.org/>
June 28 - Jul 3

The Fourteenth Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory (MG14)

<http://www.icra.it/mg/mg14/>

University of Rome Sapienza, Rome, Italy

July 12 - 18

Conference of the European Group on Atomic Systems (EGAS)

<http://www.egas.lu.lv/>

University of Latvia, Riga

July 14 - 17

If a meeting of interest to GPMFC members is not on the list above please contact Marianna Safronova at msafrono@udel.edu so it can be added to the list in the future.

2014 - 2015 GPMFC EXECUTIVE COMMITTEE (YEAR TERM ENDS IN PARENTHESES)

Chair:

Dmitry Budker (2015)
University of California, Berkeley
budker@berkeley.edu

Member at Large:

Derek Kimball (2017)
California State University, East Bay
derek.jacksonkimball@csueastbay.edu

Chair Elect:

Zheng-Tian Lu (2015)
Argonne National Lab
lu@anl.gov

Member at Large:

Brian Odom (2017)
Northwestern University
b-odom@northwestern.edu

Vice Chair:

John Doyle (2015)
Harvard University
doyle@physics.harvard.edu

Member at Large:

Eric Hudson (2015)
UCLA
eric.hudson@ucla.edu

Past Chair:

Michael Romalis (2014)
Princeton University
romalis@princeton.edu

Member at Large:

Tanya Zelevinsky (2015)
Columbia University
tz@phys.columbia.edu

Secretary/Treasurer:

Marianna Safronova (2016)
University of Delaware
msafrono@udel.edu

Member at Large:

Michael Snow (2016)
Indiana University, Bloomington
wsnow@indiana.edu

Member at Large:

Jason Stalnaker (2016)
Oberlin College
Jason.Stalnaker@oberlin.edu