



Winter School 2014

January 4-12
B2 Institute
University of Arizona
Tucson, AZ



ITAMP News

Harvard-Smithsonian Center for Astrophysics
itamp.harvard.edu

FALL 2014

Workshops, Topical Groups, & Schools

ITAMP/B2 Institute Winter Graduate School on AMO Physics, at University of Arizona- Biosphere 2, Tucson, Arizona, January 6-13 2015.

ITAMP/B2 Institute Joint Workshop on Hybrid Quantum Systems, H. Sadeghpour (ITAMP), P. Meystre (University of Arizona), at University of Arizona- Biosphere 2, Tucson, Arizona, February 16-18, 2015.

Charge Exchange X-rays in Current and Future Astrophysical Researches, Vasili Kharchenko (ITAMP/UCONN), R. Smith (CfA), Ralph Kraft (CfA). at CFA, April 13-15, 2015.

ITAMP/B2 Institute Winter Graduate School on AMO Physics, at University of Arizona- Biosphere 2, Tucson, Arizona, January 4-12, 2014.

From Atomic to Mesoscale: The Role of Quantum Coherence in Systems of Various Complexities
Organizers: Svetlana Malinovskaya (Stevens Institute), Irina Novikova (William & Mary), and Christian Buth (Argonne Nat'l Lab), March 10-12, 2014.

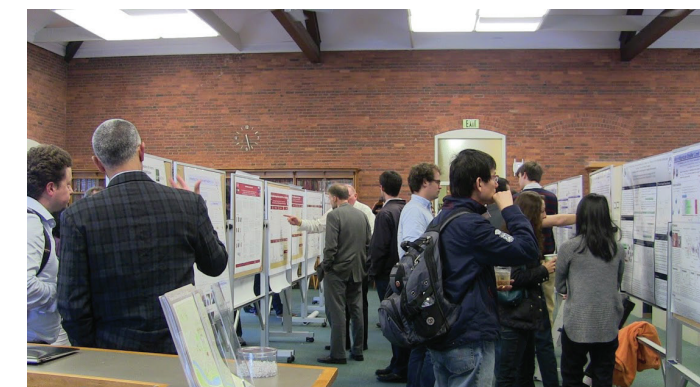
A Symposium on Science @ ITAMP
May 5-6, 2014.

Atto-FEL Conference, at University College London, June 30 -July 2, 2014.

Joint Workshop with IAEA on Uncertainty Assessment for Atomic and Molecular Data
J. Tennyson (UCL), D. Schultz (UNT), K. Bartschat (Drake), H. Chung (IAEA), J. Babb (ITAMP), July 7-9, 2014.

ITAMP is 25 Years Old!

It may be hard to imagine, but ITAMP is 25 years old. These have been transformative years for the AMO physics, ushering in a renaissance in the field. The AMO sciences have been recognized by a spectrum of accolades, including the 1997, 2001, 2005 and 2012 Nobel prizes. ITAMP began life as a theoretical center to promote and facilitate research and training in the broadly-defined areas comprising AMO physics. ITAMP remains true to this mission.



ITAMP has hosted more than 100 workshops, topical group meetings, and more recently, AMO Physics Winter Schools over this period. Scholars from nearly all sub-disciplines of AMO physics have visited ITAMP; as invited speakers, as short- and long-term visitors, as participants to its workshops and topical group meetings,

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A Celebration of
Science @ ITAMP in
25 Years!



AMO THEORY INPUT WANTED

Have an idea for a workshop you want to organize? Have some sabbatical time? Would you like to bring a group of people together? ITAMP can make it happen.

Contact Us:

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Our website is: itamp.harvard.edu

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SEND YOUR STUDENTS TO THE ITAMP/B2 INSTITUTE 2015 WINTER SCHOOL!

The ITAMP/B2 Institute Winter Graduate School on AMO Physics co-sponsored with the University of Arizona-Biosphere 2, Tucson, January 6-13, 2015. Visit www.cfa.harvard.edu/itamp/winterschool2015.html

2014 Postdoctoral Fellows



Igor Pikovski did his PhD work in the group of Caslav Brukner at the University of Vienna on opto-mechanical systems, their use to probe quantum gravity phenomenology and on decoherence due to time dilation. Currently

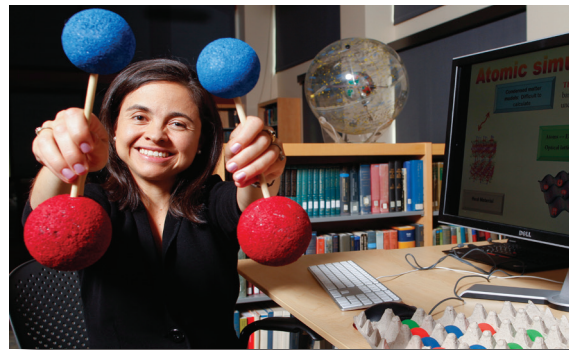
he is interested in quantum control of quantum optical systems and the interface between low-energy quantum mechanics and gravity.



Stefan Pabst received his PhD degree in physics from DESY and the University of Hamburg. For his PhD work, Stefan

received the Helmholtz PhD prize. His research focuses on ultrafast electronic and molecular motion triggered by atto- to femtosecond light pulses. Stefan is particularly interested in multi-electron dynamics appearing on these short time scales.

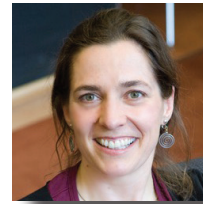
Former ITAMP Posdoc Receives A MacArthur "Genius" Award



We're overjoyed to learn that **Ana Maria Rey** who was an ITAMP postdoctoral fellow (2005-2008) was awarded a MacArthur Fellowship. The details can be found here <http://www.macfound.org/fellows/901/>.

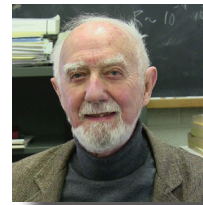
Ana Maria was also the recipient of the APS Maria Geoppert Mayer Award. The citation and information can be read here <http://www.aps.org/programs/honors/awards/goeppert-mayer.cfm>.

2013 Willis E. Lamb Award for Laser Science and Quantum Optics



Susanne Yelin was jointly awarded the 2013 Willis E. Lamb Award for Laser Science and Quantum Optics with Shaul Mukamel and Peter Nordlander. The citation can be read here: <http://www.lambaward.org/2013/2013-yelin.html>.

2013 Honorary Doctor of Chemistry



Alex Dalgarno has been awarded Honorary Doctor of Chemistry by the Sapienza - Università di Roma. The citation can be read here: <http://www.cfa.harvard.edu/itamp/News.html>.

2014 Winter School on Ultracold Rydberg Physics

The winter Graduate School has had its third year of great success. ITAMP and the B2 Institute in Arizona organized nine-day graduate school in AMO physics January 4-12, 2014. The main topic was Ultracold Rydberg physics and engineering. The B2 Institute campus, where the Winter School is held, is located at the Catalina Mountains near Tucson. The school coordinated with the EC TTN Network program on training and research in Rydberg Physics (COHERENCE). Particular attention was paid to recruiting students from under-represented schools. The next Winter School with the theme of "Hybrid Quantum Systems", will be held on January 6-13, 2015. The lectures from past Winter Schools are available on the ITAMP YouTube channel.

News (In Brief)

In 2014, ITAMP organized the third Winter School with the B2 Institute, three workshops at ITAMP and a conference at University College London. During the '12-'13 academic years, ITAMP and HQOC supported 12 speakers from all over the world, and eight seminars were held in collaboration with Harvard's Chemistry and Chemical Biology Department. In addition to the long-term visitors, more than 30 short term visitors/speakers visited ITAMP both in the Harvard Physics Department and at the Harvard-Smithsonian Center for Astrophysics.

Farewell

Misha Lemeshko is now Assistant Professor at the Institute of Science and Technology Austria (ISTA), located in the suburbs of Vienna. He will be leading a new theory group working at the interface of atomic, molecular, optical, chemical, and condensed matter physics, in strong collaboration with European and American researchers. The group will focus on studying complex physical phenomena using controllable quantum systems, such as ultracold atoms and molecules, and will pursue research into decoherence at the microscopic scale, many-body physics of ultra cold quantum gases, and manipulation of systems using electromagnetic fields.

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YouTube Channel

ITAMP continues to offer videos from workshops and the Winter Schools on YouTube. Recent videos can be found by searching for "**ITAMP Physics**". Older videos can be found at youtube.com/ITAMPphysics.

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Alumni Event



Dining at the Harvard Faculty Club.

Long Term Visiting Fellows

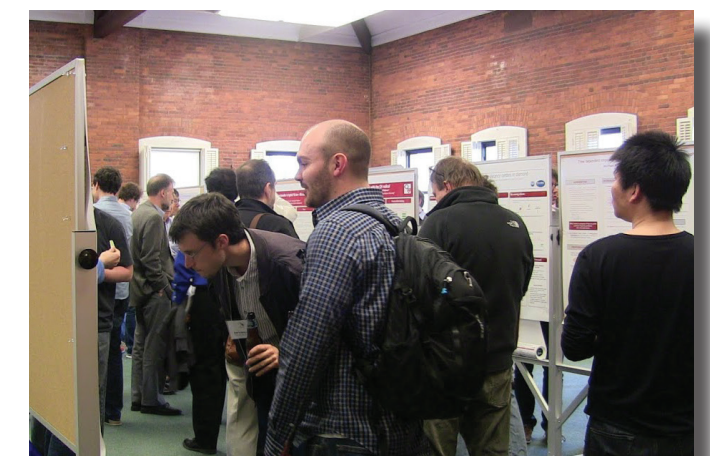
Amitai Bin-Nan (AAAS Congressional Science Fellow)
Klaus Bartschat (Drake University)
Elena Kuznetsova (Russian Quantum Center)
Mei Zhang (Beijing Normal University)
Deborah Santamore (Delaware State University)
Andrea Derevianko (University of Nevada - Reno)
Turker Topcu (University of Nevada - Reno)
Hong Ling (Rowan University)
Lea Santos (Yeshiva University)

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ITAMP is 25 Years Old! *Continued from page 1*

as fellows, and as students. It is a truly international center for theoretical AMO sciences.

On May 5-6, 2014, ITAMP hosted a large gathering of former fellows in Cambridge. Indulging in celebration and retrospection is a healthy exercise in planning for the future. The fellows discussed physics, dined at the Harvard Faculty Club and had a great time during a poster session/reception in the Jefferson Lab Library. It was great times for everyone. The talks are available on the ITAMP Youtube Channel (itamp.harvard.edu) and below are some of the photos from this event.



Poster Session/Reception at the Jefferson Lab Library.