the Photon online

MARCH 2011

Michael Levin Awarded Sloan Research Fellowship

Michael Levin was among the 118 chosen for the prestigious Sloan Research Fellowship program. He was recognized for his work in Condensed Matter Theory.

Levin received his undergraduate degree from Harvard College in 2001. After receiving his PhD from MIT, Dr. Levin became a Junior Fellow of the Harvard Society of Fellows. Previously, he received the Andrew M. Lockett Award for MIT doctoral theoretical physics research and the MIT Presidential Compton Fellowship. He joined our faculty as an Assistant Professor in the condensed matter theory group in the summer of 2010 coming directly from Harvard Junior Fellowship.

The Alfred P. Sloan Foundation awards fellowships to early-career scientists and scholars in recognition of achievement and the potential to contribute substantially to their fields.

For a complete list of winners, visit:
www.sloan.org/fellowships/page/21

Thomas Mason Interdisciplinary Fund

Thomas Mason, a professor at the University of California, Los Angeles, with appointments in the departments of Chemistry/Biochemistry and Physics/Astronomy, studied physics and electrical engineering here in College Park, and graduated summa cum laude in 1989. He is a member of the California NanoSystems Institute, and an expert in experimental physical chemistry and soft matter physics. Citing the benefits of his own multifaceted education, Dr. Mason established the Thomas Mason Interdisciplinary Fund to expose talented doctoral students in the UMD Department of Physics to problems and approaches in non-physics disciplines through summer interaction with professors in other departments. If you are curious about chemistry, intrigued by avionics, fascinated by fractals or enraptured by exocytosis , Dr. Mason's fund could provide support for a summer's worth of intellectual explorations. To take advantage of this, please formulate a plan with your advisor and a cooperative scientist in another department. Feel free to also discuss your proposals/aspirations with the Associate Chair for Graduate Studies, Tom Cohen.

When you have a clear outline of what you would like to do this summer, submit the information requested on the *form* by *April 11*.

INSIDE

NEWS

Nick Hadley was quoted in *Symmetry Breaking*, on March 2, in the article "LHC publishes first Higgs measurements." http://www.symmetrymagazine.org/breaking/2011/03/02/lhc-publishes-first-higgs-measurements/

Greg Sullivan was quoted in the *Washington Post*, on February 7, in the article "IceCube Opens up a window on energy in the universe." http://www.washingtonpost.com/wp-dyn/content/article/2011/02/07/AR2011020703606.html?hpid=artslot

Dan Lathrop's research on Taylor-Couette flows, gathering information about angular momentum transport by measuring the torque required to rotate the inner cylinder at a fixed rate, was featured in *Nature*-News & Views, February 24. http://www.nature.com/nature/journal/v470/n7335/full/470475a.html

Hassan Jawahery has been selected to serve as the PI (spokesperson) of the US effort in the Super B project. The international collaborative project, located in Italy, aims to develop a very high intensity electron-positron collider to study extremely rare processes in the decays of heavy quarks and leptons.

Michael Fisher was the subject of an article published in *EurophysicsNews*, January 2011 edition. The interview occurred during his trip to Madrid to receive the BBVA Foundation of Knowledge Award in Basic Sciences. http://tinyurl.com/65rwk3n

Jim Gates was the subject of an article in WMBB News on February 15. Gates, who praised Albert Einstein publically supporting many African Americans, was a guest speaker at the Naval Surface Warfare Center-Panama City Division, commemorating Black History Month.

Doug Currie gave a talk, entitled "A Lunar Laser Ranging Retroreflector for the 21st Century," on February 23. The podcast can be downloaded at, http://tinyurl.com/6g42efr

Maxwell's Demon in the Quantum World

Maxwell's Demon is a theoretical construct introduced by James Clerk Maxwell in an attempt to understand the microscopic foundations of the second law of thermodynamics. Maxwell's thought experiment points to a subtle relationship between thermodynamics and information, and has provided food for thought for generations of physicists. Recent years have seen a resurgence of interest in this topic, in part due to advances in experimental tools for manipulating nanoscale systems.

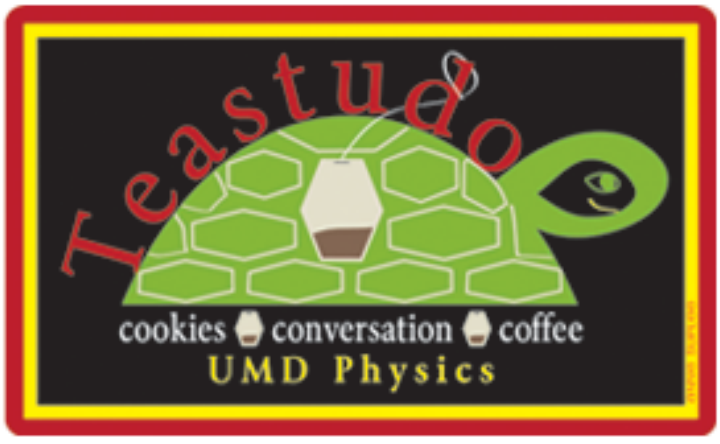
The Viewpoint essay by Alumnus Jordan Horowitz, '10, and Juan Parrondo discusses a *Physical Review Letter* on the interplay between Maxwell's demon and quantum mechanics, highlighting the effects introduced by the quantum statistics of fermions and bosons. This research elegantly combines information theory, the second law of thermodynamics and quantum behavior.

http://physics.aps.org/viewpoint-for/10.1103/PhysRevLett.106.070401

Dan Lathrop and his team released a time-lapse video, spanning 1.5 days, of the arrival of the 3-meter sphere. They are establishing the world's largest experiment designed to duplicate the earth as a self-generator of a magnetic field. The video is at, http://www.youtube.com/watch?v=GJALlHaOe5Y&feature=player_embedded

PHYSICS TEA IS BACK!

Starting March 9 in the Physics Lobby.
Every Monday, Wednesday and Thursday at 3:30PM.



EVENTS

Kid Spy Workshop: Operation Night Spy

Annually, MRSEC and the International Spy Museum co-host a KidSpy Workshop titled: Operation Night Spy. Students from middle schools in the DC metro area, including MRSEC partner schools, attend the evening program to discover the science behind spying. Students participate in boot camp, spy activity stations, and materials analysis laboratories. These activities are developed by MRSEC researchers and volunteers, and give students a fun way to learn how materials science, physics, and chemistry can be applied in spying missions. Building on the success of these activities, MRSEC has participated in Spy Fest and developed the summer camp, Mission Possible: The Science Behind Spying.

March Colloquia

March 1 - The Langenberg Lecture
Carl Wieman, Office of Science and Technology Policy

March 8 - *What is a Plasma Wave?*
Nathaniel Fisch, Princeton University

March 15 - *Fiat Lux: Light from Bubbles, X-rays from Peeling Tape and Nuclear Fusion from Crystals*
Seth Putterman, University of California – Los Angeles

March 29 - *Quantum Magnetism from the Bottom Up*
Christopher Monroe, Joint Quantum Institute & University of Maryland

All colloquia are free of charge and are held in the Physics Lecture Hall (1410 Physics Building) at 4:00PM. They are preceded by refreshments at the same location, beginning at 3:30PM. Both events are open to the public

www.umdphysics.umd.edu/events/physicscolloquia.html

save the date

MARYLAND DAY 2011
EXPLORE OUR WORLD!
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Saturday, April 30

CONTACT US:

The Photon is an online newsletter from the University of Maryland Department of Physics. For questions, comments or to submit information, please contact Carole Cuaresma Kiger, ccuaresm@umd.edu.