



DEPARTMENT OF PHYSICS AND ASTRONOMY



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IN MEMORY

Former KU physics professor **Peter M. Richards** died June 25, 2016 in Salem, Oregon of complications of dementia. He was 81 years old. Peter earned a bachelor's degree from Stanford and a Ph.D. from MIT. After postdoctoral years at Pisa and Oxford he joined the University of Kansas Physics and Astronomy Department, where he conducted experimental and theoretical research on magnetism in condensed matter systems between 1964 and 1970. Then he moved to Sandia Laboratories in Albuquerque as senior scientist until retirement. His extra-curricular passions were running— including the Boston Marathon and San Francisco's Bay-to-Breakers— and later mountain biking. He is survived by his wife Bette, a son Alec, and daughters Gwen and Margaret.

OUT AND ABOUT

Prof. Hume Feldman was on the Scientific Organizing committee and presented an invited talk "Cosmic Velocity Correlation Function" in *XIIIth Rencontres du Vietnam Large Scale Structure and Galaxy Flows* July 3rd – 9th, 2016, Quy Nhon, Vietnam.

Prof. Steve Hawley was an invited speaker at the *University of Colorado Summer Science Program* on July 19. The Summer Science Program is an immersive STEM experience for high performing high school seniors from across the country. Prof. Hawley also gave a program at the *Kansas Cosmosphere* on July 21 as part of the "Coffee at the Cos" series

Prof. Kong gave a series of invited talks, entitled by "Search for New Physics at the LHC RUN II and HL-LHC" at *Fermilab* (June 28), "750 GeV Diphoton Excess May Not Imply a 750 GeV Resonance" at *Santa Fe 2016 Summer Workshop* (July 4-8), and "Non-standard resonance- searches at the LHC" at *CERN* (Charting the Unknown, July 25-August 5). He also gave an invited talk on "Boosted Dark Matter" at *US-Korea-Conference 2016* at Dallas, TX (August 12)

Prof. Ian Lewis was a convener for the *Higgs Working Group at SM@LHC 2016* (May 3-6) in Pittsburgh, PA. He also gave talks "Double Higgs Production in the Singlet Extended SM" at the *Phenomenology Symposium 2016* (May 9-11) in Pittsburgh, PA,

"Fun With Singlets" at *Understanding the First Results from the LHC Run II* (June 27- July 22) at the Mainz Institute for Theoretical Physics, and a seminar "Fun with Singlets" (May 25) at the University of California-Irvine.

Prof. Melott's research team had considerable media coverage (about 50 international appearances) in July based on their paper published on effects of a somewhat nearby supernova a couple of million years ago. One example is phys.org, <http://phys.org/news/2016-07-ancient-supernovae-buffed-earth-biology.htm> . On July 23, he spoke on this topic in the monthly program of the *Astronomical Society of Kansas City*.

Theory student **Gopolang Mohlabeng** attended two summer schools at the *University of Colorado*, Boulder CO, (TASI2016, June 6 - July 1, "Anticipating the Next Discoveries in Particle Physics") and at *Mainz Institute for Theoretical Physics*, Germany (MITP school, July 24 - August 5, "New Physics on Trial at LHC Run II"). He gave a series of talks entitled by "Mixed Dark Matter in Left-Right Models" based on his recent paper at *UC Irvine* (May 4), at *Caltech* (May 5) and at *Pheno Symposium*, Pittsburgh, PA (May 9). He also gave a student talk at *TASI school* on MadDM (June 15) and gave a theory seminar at *Fermilab* on "Multi-Component Dark Matter through the Radiative Higgs Portal" (July 14).

John Ralston was honored by the *University of Johannesburg*, South Africa to serve as Respondent to the Inaugural Lecture of Professor **Soebur Razzaque** (KU PhD 2002) from May 18-24. Inaugural Lectures including academic commentary are the university's tradition to recognize promotion to the highest rank. The Professor Formerly Known as Soeb sends happy thanks to Professors Besson, Bean, McKay, and the other members of the RICE collaboration. **Ralston** attended the *Second International Workshop on the Proton Radius Puzzle*, held in Trento Italy June 20-24. He gave an invited talk, "The Muon Experimental Anomalies are Explained by a New Particle Coupling Proportional to Charge", based on work with KU Physics graduate student **John Martens**.

The talk "Multi-stream portrait of the Cosmic web" by **Ramachandra, Nesar and Shandarín, Sergei** was presented in April at the *American Physical Society* meeting in Salt Lake City, Utah.

AWARDS

Nesar Ramachandra received The University of Kansas *Graduate Research Presentation Award* at the 2016 Graduate Research Competition. The title of his presentation was "Components of the dark matter Universe".

RECENT PUBLICATIONS

Wang, T., Kafle, T. R., Kattel, B., and Chan, W. -L., "Observation of an Ultrafast Exciton Hopping Channel in Organic Semiconducting Crystal". *J. Phys. Chem. C* 120, 7491-7499 (2016).

Wang, T., Kafle, T. R., Kattel, B., Liu, Q., Wu, J., and Chan, W. -L., "Growing Ultra-flat Organic Films on Graphene with a Face-on Stacking via Moderate Molecule-Substrate Interaction" *Scientific Reports* 6, 28895 (2016).

"The Nucleus of the Planetary Nebula EGB 6 as a Post-Mira Binary", Howard E. Bond, Robin Ciardullo, Taran L. Esplin, **Steven A. Hawley**, James Liebert and Ulisse Munari, *Astrophysical Journal*, 826, 139, (2016)

"Terrestrial Effects of Nearby Supernovae in the Early Pleistocene" (**B.C. Thomas** (KU Ph.D. 2005), E. E. Engler, M. Kachelrieß, **A. L. Melott**, **A. C. Overholt** (KU Ph.D. 2013), and D.V. Semikoz) *Astrophysical Journal Letters*, 826, L3 (2016).
<http://dx.doi.org/10.3847/2041-8205/826/1/L3>

"Mixed Dark Matter in Left-Right Symmetric Models" Asher Berlin, Patrick J. Fox, Dan Hooper, **Gopolang Mohlabeng**, *Journal of Cosmology and Astroparticle Physics* 1606 (2016) no.06, 016

DEPARTMENT NEWSLETTER--CALL FOR ITEMS: Please send your items to Adrian Melott (melott@ku.edu). It's a lot easier to use them if you make them editor-ready: Group them according to the kind of item. Use plain text or Word. Don't number them. Don't say "I visited the Sheboygan Zoo." Use your name (third person). Etc....

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