



2013 Spring Meeting at Tarleton State

www.tarleton.edu/COSTWEB/AAPT-APS

March 1--deadline for early registration and abstract submission (<http://abstracts.aps.org>)

The Joint 2013 Spring Meeting of the Texas Section of the AAPT, the Texas Section of APS, and Zone 13 of SPS will be held at Tarleton State University, Thursday-Saturday, April 4-6, in Stephenville. The meeting is being hosted by the *Texas Physics Consortium* (see page 3 for more on the TPC).

Contributed papers from any area of physics research and/or physics/physical science education are welcomed and encouraged. Areas of particular emphasis for the meeting include Astronomy and Space Science, Innovations in Physics Teaching, Undergraduate and High School Student Research, Medical Physics, and Applications of Accelerators.

Most of the sessions and workshops will be held in the Tarleton State University Science Building. Lunch on Friday will be held in the Tarleton Banquet Hall in the Thompson Center, and the banquet on Friday night will be at the City Hall Banquet facility.

PLENARY TALKS at the Spring Meeting --

Dr. Joseph Nagyvary (right image below), retired professor of biochemistry and biophysics at Texas A&M University, will speak at the Friday evening banquet. He will describe his highly acclaimed violins, his research on Stradivarius violins, and comparisons of the Nagyvary and Stradivarius violins.



Wolfgang Christian (below left), Davidson College, will speak on *Building a national digital library for computational physics at all levels*, and he will also lead a workshop on *Using and adapting Open-Source-Based materials for an interactive class room*. **Marlan Scully** (below right), a member of the National Academy of Sciences and a recipient of many awards for his work in quantum optics, will speak on *Paths into the Schrodinger Equation from Classical Mechanics to Photon Dynamics*.



Chandralekha Singh (below left), University of Pittsburgh, will speak on *Improving students' understanding of quantum mechanics*, and she will lead a workshop entitled *Research-based tools and tips for teaching quantum mechanics*. **Peter McIntyre** (below right), Texas A&M, will speak on *Accelerator-Driven Subcritical Fission for Green Nuclear Power*.



An invited talk entitled *The 2-dimensional world of chemistry: graphene and other interesting materials* will be presented by **Gary Beall** (below left), Texas State University. Another invited speaker will be **Gary Glass** (below right), University of North Texas, who is an expert on high energy focused ion beam techniques for bio-systems microanalysis and micro-fabrication.



HYER STUDENT RESEARCH AWARDS

At each fall meeting the TSAPS presents a *Robert S. Hyer Research Award* for excellence in research to an undergraduate student and the faculty advisor, and to a graduate student and the faculty advisor. Each award consists of a \$500 check for the student and plaques for both the student and the advisor.

HYER AWARD NOMINATIONS: Send by Wednesday May 1, 2013, to hyer@APS.org. Nomination forms and information are at: www.aps.org/units/tsaps/awards/hyer/index.cfm or contact the chair of the Hyer Award Committee, Prof. Wim Geerts at Texas State University: wjgeerts@txstate.edu.

2012 HYER AWARD WINNERS:

The 2012 Hyer Award for Undergraduate Research was presented at the annual fall meeting to *Landon Banister* and his advisor, *Professor Stephen J. Sekula* of Southern Methodist University. The research addressed a major puzzle in physics: what are constituents of dark matter? Landon and his advisor analyzed data obtained at SLAC National Accelerator Laboratory to search for the decay of a B meson into a pair of “Dark Scalars”.

The 2012 Hyer Award for Graduate Research was presented at the fall meeting to *Yanshi Huang* and her advisor, *Professor Yue Deng* of UT-Arlington (photo below). They addressed the question: what was the cause of the surprisingly large difference in thermospheric density between the solar minima of 1996 and 2008? The research indicated that the observed density difference could arise from a difference in the Joule heating by magnetospheric processes; this explanation differs from previous explanations.



DISTINGUISHED SERVICE AWARDS

At the fall 2012 annual meeting Professors Charley Myles and Walter Borst (picture below), both of Texas Tech University, were honored with TSAPS Distinguished Service Awards. The Distinguished Service Awards recognize key persons who have contributed to the development of the Texas Section of the APS. Professor Myles was a TSAPS Executive Committee Member-at-Large 1992-95 and 2005-06, Secretary-Treasurer 2006-11, and organizer of fall meetings in 2003 and 2012. Professor Borst served in the TSAPS chair line 1989-92 and was Secretary-Treasurer 1999-05. In 1989 he worked with Dr. Jerome Danberg at Shell Research to create the TSAPS Student Awards for Best Presentations at the fall meetings.



TEXAS SPIN-UP

A “cracker-barrel” discussion was held at the 2012 fall joint meeting to share stories of progress in improving physics enrollments subsequent to the NSF-sponsored *SPIN-UP* workshop in Austin, May 4-6, 2012. Many of the Spin-UP attendees from the 21 Texas institutions that participated reported actions being taken to increase physics enrollments. A report on the Spin-Up workshop was in the Fall 2012 issue of the newsletter (TSAPS Newsletter #5), and further information about the workshop is on the website

<http://uteach.utexas.edu/Spin-Up2012>

TEXAS PHYSICS CONSORTIUM

See www.tarleton.edu/tpc

The *Texas Physics Consortium* (TPC) is a collection of eight Texas institutions that is working with the Texas Higher Education Coordinating Board Staff (THECB) to develop a new Joint B.S. Physics Degree program as a means of providing undergraduate physics education to their students while meeting the THECB minimum graduate threshold. The TPC institutions are

- Midwestern State University
- Prairie View A&M University
- Tarleton State University
- Texas A&M-Commerce
- Texas A&M-Corpus Christi
- Texas A&M-Kingsville
- Texas Southern University
- West Texas A&M University

Students at TPC institutions can take any course in the core physics curriculum, including lab courses. Live interactive courses are now available at the main institutional campuses as well as satellite campuses in Fort Worth, Midlothian, Weatherford, and Waco. The TPC is presently the third largest producer of B.S. Physics graduates in Texas.

TPC UPDATE: On January 31, 2013, the Board of Regents of the Texas A&M System approved the Joint Physics Degree. The next step in the process of establishing the Texas Physics Consortium will be for the boards of regents of the other participating institutions to approve the Joint Physics Degree.

REPORT ON FALL 2012 JOINT MEETING AT TEXAS TECH UNIVERSITY

The fall joint meeting in Lubbock had many excellent invited talks. The meeting’s highlight was a delightful inspirational autobiographical banquet talk by Dr. Ginger Kerrick, who described her career leading up to her current position as NASA Flight Director. In her 7 years as Flight Director, she has supported 13 International Space Station crews and 5 joint Space Shuttle missions.

The chair of the Organizing Committee for the Lubbock meeting was Charley Myles; 275 persons registered for the meeting. There were 202 contributed presentations covering a wide range of topics, particularly nanoscience, condensed matter physics, and atomic, molecular and optical physics.

FALL 2013 TSAPS-TSAAPT-SPS/zone-13 meeting to be held at UT-Brownsville:

Thursday-Saturday, October 10-12, 2013

The meeting will be hosted by the Department of Physics and Astronomy and the Center for Gravitational Wave Astronomy at the University of Texas Brownsville (UTB). Special activities at the meeting will mark the 10th anniversary of the Center for Gravitational Wave Astronomy, which was created by a grant from the University Research Centers program administered by NASA. The chair of the Local Organizing Committee of the meeting is Dr. Karen Martirosyan, phone (956) 882-6736, karen.martirosyn@utb.edu



All sessions and workshops will be held on beautiful UTB campus. The keynote speaker will be Dr. Robert Curl, a member of the team that discovered the carbon cage compounds known as the fullerenes. For this discovery, Dr. Curl shared the Nobel Prize for Chemistry in 1996 with Harold Kroto and Richard Smalley.

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