

## Andrew Sessler Wins Fermi Award



LBNL director emeritus Andrew Sessler, who aside from being a theoretical physicist is also an acclaimed humanitarian, has been named a recipient of the Enrico Fermi Award. He shares the award with University of Texas chemistry professor Allen Bard.

This Presidential award is one of the oldest and most prestigious science and technology honors bestowed by the U.S. government. It is given "to encourage excellence in research in energy science and technology benefiting mankind; to recognize scientists, engineers, and science policy-makers who have given unstintingly over their careers to advance energy science and technology; and to inspire people of all ages through the examples of Enrico Fermi, and the Fermi Award laureates who followed in his footsteps, to explore new scientific and technological horizons." Recipients have included some of the most distinguished names in the physical sciences, including other LBNL researchers.

Andy was selected for his outstanding contributions to the beam-physics knowledge basis that has underpinned the development of current-generation particle accelerators and storage rings deployed at leading research institutions throughout the world.

He first made his scientific mark in the 1950s with foundational work in particle accelerators that provided the basis for today's colliders, synchrotron light sources, and free-electron lasers. In addition, he and collaborator Keith Symon were among the first to report on stochastic phenomena, or chaos, in particle accelerators.

"I was very fortunate to be a theoretical physicist in the early years of particle accelerators," Sessler said. "We were able to apply theory to single and multiple particles effects in beams, which taught us how to obtain the intense beams necessary for colliders, synchrotron light sources and free-electron lasers."

As LBNL director in the days of the energy crisis, he was noted for opening new frontiers such as creation of what was then the Energy and Environment Division. "I felt the future of the Laboratory was in other directions as well as high energy physics," said Sessler. This represented a synergy of his science and technology vision and his personal ethos. An avid backpacker and skier who often rode a bike to work, he recalls, "I'd always loved the outdoors, and preserving the environment was a big concern. Seeing that the U.S. was developing a national energy plan, I knew we were one of the few places in the country with the expertise to help."

In addition to his ground-breaking work in accelerator and beam physics, and leadership in directing the scientific research landscape toward new horizons, Sessler is also being recognized for his public advocacy of scientific freedom and other humanitarian causes. During the Cold War, he was a co-founder of the human rights group Scientists for Sakharov, Orlov and Sharansky (SOS), advocating for Soviet scientists who were persecuted as dissidents. For this effort, in 1994 he became the first recipient of the American Physical Society's Dwight Nicholson Medal for Humanitarian Service.

He also has been a member of the National Academy of Sciences Committee on Human Rights and he worked on arms control work at the APS and the Union of Concerned Scientists (studies on Star Wars). In addition he has chaired the Federation of American Scientists.

## Steve Gourlay Elected Vice-Chair of the Division of Physics of Beams of the APS

AFRD Director Steve Gourlay was recently elected Vice-Chair of the Division of Physics of Beams (DPB) of the American Physical Society. A new Vice-Chair is elected each year and then steps annually through increasingly important leadership roles in DPB's Executive Committee: after serving as Vice-Chair, the person progresses through the roles of Chair-Elect, Chair, and Past Chair. Prior to formally taking office, the newly elected Vice-Chair immediately becomes Chair of the Fellowship Committee for the next year.

Steve's candidate statement outlines his plans:

As director of the Accelerator and Fusion Research Division at LBNL, I am well aware of the broad impact and importance of accelerators and the challenge of communicating this inside and outside the laboratory.

As Vice-Chair of the DPB Executive Committee I would help continue the role of the DPB to inform and educate the public and government so they are aware of the value and need for funding in accelerator science and technology development, support relevant APS publications, and provide peer recognition through awards and fellowships for our members.

A continuing challenge is to maintain our membership at a level that preserves our Division status. This is a critical activity and recently there have been some good ideas from the Executive Committee that we need to start aggressively implementing.

Another problem that the DPB should take on is what I call "the conference mess": government restrictions, proliferation of conferences, reduced participation at our signature community conferences, lack of opportunities for early career scientists and engineers, and internationalization. By broadly soliciting input from the community, I believe the DPB Executive Committee can help facilitate a conference structure that serves our needs, enhances our international partnerships and has the flexibility to withstand the unpredictability of government travel restrictions.

## Get to Know Your Colleague: James Swanson

**What is your current position and what are you working on right now?**

Mechanical Technician. I make various types of superconducting magnets. They have been collaborations with others, in-house designs and for CERN.

**Have you done other things at the Lab prior to your current activities?**

I have always been with the superconducting magnet group.

**What is your professional background? Where did you work before coming to the Lab?**

Before the Lab I worked at various firms in Silicon Valley.

**Where are you from originally? Where did you go to college or university?**

I grew up in the Santa Clara Valley. Our roots were from the Kingsburg area of California, where our ancestors settled when they immigrated from Sweden.

**At which age did you know you wanted to become a scientist or do what you are doing now?**

My grandfather was an inventor by trade, and we grew up as kids in his shop. We always worked with our hands, so it was a natural transition into the mechanical line of work.

**Do you have children? Pets? Want to tell us about them?**

My wife Kaleen and I have three children: Phillip, 23; Paxton, 20; and Peter, 15. We also have a McNab Herding dog named Phantom.

**What's on your MP3 player? What did you last listen to?**

It could be Handel, Ottmar Liebert or the Sundogs. I even came across a group from Tulsa called The Tractors.

**Is there something interesting about you that most people at the Lab don't know that you would like to share with the Division?**

Our middle daughter is disabled, so that takes a lot of our time caring of her. I have a small machine shop at the house that we love to use. I have somehow developed an addiction to restoring old farm tractors. Currently I have a 1958 Ford 801 that the boys and I got running and drive around the backyard. I also have been a volunteer with AWANA International, working with young kids for over 20 years. My wife and I love canoeing on still lakes and antique hunts in the Gold Country.



## Link of the Month: The Particle Adventure

Heard about the Higgs boson but don't really understand what it is? Fret not, there is a website to help : [www.particleadventure.org](http://www.particleadventure.org) by the Particle Data Group here at LBNL. It's a fun and interactive way to learn about particle physics (and even a little bit about particle accelerators).

Thanks to Steve Gourlay for background material on his election and James Swanson for "Get to Know Your Colleague". The photo of Andy Sessler in Alaska is from the Lab's photo archive (©2010 The Regents of the University of California, Lawrence Berkeley National Laboratory). Thanks to Joe Chew, Andy Sessler and Sam Vanecek for editing/proofreading.

Please send suggestions for news items, links or "get to know your colleague" to Ina Reichel ([IReichel@lbl.gov](mailto:IReichel@lbl.gov)).