

## Aspen Center for Physics Celebrates 50 Years

The Aspen Center for Physics was founded in 1962, “by physicists, for physicists.” In the 50 years since, the Center has become a nucleus for progress in the field of theoretical physics. As Gil Refael, a participant from Caltech stated in a recent exit report, “The Aspen Center for Physics provides an opportunity for us researchers to jointly contemplate the directions our fields should take, and to determine the most interesting problems we should research and address. I think that Aspen, in this way, is crucial for maintaining the fabric of our research community. Without it, our sense of common mission and direction would be significantly impaired, making our scientific process of research and discovery much more individualistic and significantly less effective.”

### Scientific Impact

There have been 116 Nobel Laureates in Physics in these 50 years. Fifty-three or 46% have participated in the Aspen Center for Physics. More than 10,000 scientific papers have acknowledged work done at the Center. Many have contributed immeasurably to the slow, subtle progress that is the way of science but three easily identifiable leaps forward have been: 1) significant headway in String Theory 2) the conception of Supersymmetry and 3) the birth of arXiv.

### Why Aspen?

First the summer home of the Ute Indians, then a silver boomtown and winter ski town, Aspen became the site of the Goethe Bicentennial in 1949. The Aspen Institute of Humanistic Studies grew from the Bicentennial and the Aspen Music Festival and School soon followed. In 1961, two physicists, George Stranahan, a graduate student at the Carnegie Institute of Technology, and Professor Michael Cohen of the University of Pennsylvania approached Bob Craig, the executive director of the Aspen Institute, with a proposal: a unique research center where theoretical physicists might gather in the summer. It would be an unstructured environment, free from distractions, where physicists could work unfettered by their normal responsibilities. As the original mission of the Aspen Institute, inspired by Johann Wolfgang von Goethe, called for synthesizing the sciences with the humanities, Craig received the suggestion enthusiastically. In 1962, the Physics Division of the Aspen Institute opened. In 1968 it became a Colorado non-profit corporation, the Aspen Center for Physics, and in 1991 it received permanent ownership of its four-acre campus, the *circle of serenity*, sharing Aspen’s 70 acre “academic campus” in the residential west end of town.

The friendliness of the small mountain town, the inspiring landscapes and the unlimited opportunities for outdoor recreation, alone or with colleagues, refresh the mind and inspire new ideas. String theory, supersymmetry, arXiv and countless developments in fundamental physics research were spawned in Aspen. As former ACP president Pierre Ramond, University of Florida, said of his first visit here in 1970, “It was this change of atmosphere which led me to stop calculating and start thinking.”

For historical details and stories see <http://aspenphys.org/aboutus/history/index.html>

### Summer Program, mid-May to mid-September

The Summer Program supports individual and collaborative research enhanced by a schedule of informal, three- to five-week workshops in biophysics, astrophysics and cosmology, particle physics, and condensed matter physics. This summer three of the thirteen workshop titles are: "A Window on the Formation of the Milky Way," "New Particle Physics at the LHC and its Connection to Dark Matter," "Evolutionary Dynamics and Information Hierarchies in Biological Systems." Past workshop topics have included such diverse areas as the physics of ocean microenvironments, of locomotion, of jamming. <http://aspenphys.org/physicists/summer/program/currentworkshops.html>  
<http://aspenphys.org/physicists/summer/program/pastworkshops.html>

Participants range from young post-doctoral fellows to professors, researchers and experimentalists in every field of physics. Any physicist who wishes to pursue a serious program of research at the Center is invited to apply. The selection committee seeks scientific excellence and diversity in under-represented groups, areas of specialization, levels of experience and home institutions. Each summer, about 40% of the participants are new to the Center. <http://aspenphys.org/physicists/summer/index.html>

The Center provides 43 double offices randomly assigned, an auditorium for 100 and seminar room for 40, several breakout rooms and a coveted covered patio. The picnic area provides a convivial atmosphere for lunches and a weekly picnic for participants and their families. Barbecues are available for grilling and a volleyball court for an afternoon workout.

### **Winter Conferences**

Begun in 1985, Winter Conferences consist of six or more specific and intensive week-long conferences. Each week, fifty to a hundred participants, including graduate students, meet daily for talks at the Center, share a block of hotel rooms and eat meals together, totally immersing in the subject of study. A mid-day break gives participants a chance to extend their discussions on the ski slopes and winter trails.

<http://aspenphys.org/physicists/winter/currentconferences.html>

Video of 25<sup>th</sup> Anniversary of Winter Conferences

<http://www.grassrootstv.org/Show.aspx?ShowID=8737>

### **Public Events**

The free Heinz R. Pagels Memorial Lectures and informal dialogues in summer and the Maggie and Nick DeWolf Lectures in winter bring cutting-edge research to the interested non-scientist. The audience often numbers more than 250. With the Aspen Science Center, the Aspen Center for Physics hosts summer barbecues for local and visiting youth who come with their families to picnic, participate in science experiments and hear an entertaining and informative physics talk. During the Physics Café held before the winter lectures, two physicists answer questions in a conversational setting. The physicists also visit local schools and engage in one-on-one conversations with interested high school students.

See <http://aspenphys.org/public/currentlectures.html> for the current lecture schedule and <http://aspenphys.org/public/pastlectures.html> for archived past lectures.

