

## Cali Conference “1st Centennial of Superconductivity: Trends in Nanoscale Superconductivity and Magnetism”

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2011 marked the first centennial of the discovery of superconductivity. In 1911, Kamerlingh Onnes, in Leiden, Netherlands, while working on the liquefaction of helium at very low temperatures, discovered the superconducting state of matter. The road has been long and exciting since the seminal work of Onnes and there is sustained strong interest in the topic. It took several decades after the experimental discovery to propose an explanation of the phenomenon now known as the Bardeen, Cooper, and Schrieffer (BCS) theory. Since its advent, each decade has seen the discovery of at least one new major class of superconducting materials. The journal hosting these proceedings is itself a testimony to the vibrant research done in the field. The *1st Centennial of Superconductivity; Trends on Nanoscale Superconductivity and Magnetism* international workshop that took place at the Universidad del Valle, Cali, Colombia from June 29 to July 1, 2011 aimed at celebrating the event and present new avenues and trends in the area of superconductivity and its relation to magnetism.

The conference had several important goals. First, the intent was to foster interactions and collaborations between the scientific communities of North America and Europe

with those in South America. The emphasis was set on discussing ideas for novel superconducting and magnetic materials. The second goal was to give an opportunity to Ph.D. students and postdocs to present their work to an international group of experts.

The workshop was also the opportunity to celebrate the 60th birthday of Pedro Prieto Pulido, past president (2001–2009) of the Colombian Physical Society, American Physical Society Fellow in 2000 and a major driving force for physics research and education in Colombia. Friends and colleagues of Pedro Prieto wrote many of the papers that are presented in the following. They offer an overview of the current research in their respective field. The breadth of topics covered ranging from high-temperature superconductivity to magnetic nanoscale materials over multifunctional oxides and heterogeneous superconducting-magnetic systems shows the broad interests Pedro has developed over his long fruitful career. The contributions presented in the following celebrate Pedro’s ability to sustain a physics research program in a place and time where the support is difficult to obtain.

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