

David D. Awschalom

Director of the California Nanosystems Institute, University of California, Santa Barbara, U.S.A.



Professor Dr. David D. Awschalom will present his research activities in optical and magnetic interactions in semiconductor quantum structures, spin dynamics and coherence in condensed matter systems, macroscopic quantum phenomena in nanometer-scale magnets, and implementations of quantum information processing in the solid state. He has developed a variety of femtosecond-resolved spatiotemporal spectroscopies and micromagnetic sensing techniques aimed at exploring charge and spin motion in the quantum domain.

David Awschalom graduated in physics from the University of Illinois and received his PhD in experimental physics from Cornell University, USA. He served as a research staff member and manager of the Nonequilibrium Physics Department at the IBM Watson Research Center in Yorktown Heights, NY. In 1991, Awschalom joined the University of California, Santa Barbara as professor of physics and is also director of the California Nanosystems Institute. He heads the Center for Spintronics and Quantum Computation and is an associated faculty member in the Department of Electrical and Computer Engineering.

David Awschalom is best known for his work in spintronics in semiconductors. He was awarded the IMB Outstanding Innovation Award (1987), the Outstanding Investigator Prize from the Materials Research Society (1992), the International Magnetism Prize and Néel Medal from the International Union of Pure and Applied Physics (2003), the Oliver E. Buckley Prize from the American Physical Society (2005), the Agilent Europhysics Prize from the European Physical Society (2005), the Newcomb Cleveland Prize from the American Association for the Advancement of Science (2006), and the UC Faculty Research Lecturer Award (2008), and the David Turnbull Award from the Materials Research Society (2010). He is a member of both the National Academy of Sciences and the National Academy of Engineering and a fellow of the American Academy of Arts and Sciences.