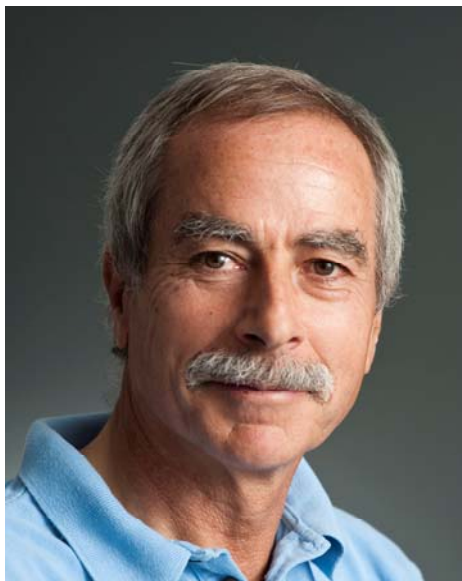


## **Gerd Schön Is Granted Fritz London Memorial Prize**

**KIT Scientist Is Honored for His Theoretical Work on Superconductivity in Nanostructures**



*Professor Dr. Gerd Schön, Karlsruhe Institute of Technology, is granted the renowned Fritz London Memorial Prize. (Photo: KIT)*

**Professor Dr. Gerd Schön, holder of a chair of the Institut für Theoretische Festkörperphysik (Institute for Theoretical Solid-state Physics) of Karlsruhe Institute of Technology, is granted the renowned Fritz London Memorial Prize of the International Union of Pure and Applied Physics for his contributions to the understanding of superconductivity in nanosystems. Apart from Schön, two other scientists are honored: Professor Humphrey Maris from the Brown University, Rhode Island, USA, and Professor Johan E. Mooij from the Technical University of Delft, the Netherlands. The prize will be handed over in August at the International Conference on Low-temperature Physics in Beijing, China.**

Research of the physicist Gerd Schön covers the electronic transport properties in nanostructures at low temperatures. This includes non-equilibrium effects and collective modes in supercon-

**Monika Landgraf**  
**Press Officer (acting)**

Kaiserstraße 12  
76131 Karlsruhe, Germany  
Phone: +49 721 608-4 7414  
Fax: +49 721 608-4 3658

**For further information,  
please contact:**

Inge Arnold  
Public Relations and  
Marketing (PKM)  
Phone: +49 721 608-2 2861  
Fax: +49 721 608-2 5080  
E-mail: [inge.arnold@kit.edu](mailto:inge.arnold@kit.edu)

ductors. Together with coworkers, he developed a theoretical description of dissipation in quantum mechanics for the specific example of superconducting tunnel contacts. Already at an early stage, he focused on the theory of single-electron effects in nanoscale systems. Today, these effects are seen in many experiments and play an increasingly important role in applications as measurement instruments. With his team, Schön realized that nanoscale superconducting contacts may serve as components of quantum computers (qubits) or for other applications in the field of quantum information, and he has studied their properties.

After his studies at the Universities of Karlsruhe and Dortmund and at Stanford University (USA), Gerd Schön received the PhD in 1976 at Dortmund. He then worked as assistant and Heisenberg fellow in Karlsruhe, Jülich, Cornell University, the University of California Berkeley, and the University of California Santa Barbara. In 1988, he was appointed full professor by the TU Delft, the Netherlands. Since 1991, he has been holding a chair at the KIT Institut für Theoretische Festkörperphysik. In addition, since 1998 he has been head of a working group at the Institute of Nanotechnology and he is a founding member of the DFG Center for Functional Nanostructures (CFN) at KIT. From 2002 to 2004, he was dean of the Department of Physics. Presently, he is spokesman of the Condensed Matter Section of the Germany Physical Society and member of a review board of the German Research Foundation.

#### **Fritz London Memorial Prize**

Gerd Schön is granted the Fritz London Memorial Prize in recognition of his theoretical work theoretical contributions to the understanding of superconductivity in mesoscopic systems, including work on dissipative quantum mechanics of junctions and the proposal of the superconducting charge qubit. Together with Schön, Humphrey Maris, Brown University, Rhode Island, USA, and Johan E. Mooji, Technical University of Delft, the Netherlands, will be honored. The activities of Hans Mooji and Gerd Schön have much in common: Schön's work on non-equilibrium superconductivity, single-electron effects, and superconducting qubits was carried out parallel to the experimental work by Mooji at Delft. It also resulted in several joint publications.

The Fritz London Memorial Prize commemorates the German-American physicist Fritz London and his excellent contributions to low-temperature physics. The prize is awarded by the IUPAP (International Union of Pure and Applied Physics) every three years.

**Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Wuerttemberg, Germany. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a knowledge triangle that links the tasks of research, teaching, and innovation.**

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