



Universiteit Leiden



PRESS RELEASE

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Symposium and Technology Milestone Dedications to Commemorate 100 Years of Superconductivity

Leiden, The Netherlands: On 8 April 2011, an international celebration will be held to commemorate the 100th anniversary of the date Heike Kamerlingh Onnes and his collaborators discovered superconductivity in the Physics Laboratory of Leiden University, the Netherlands.

Superconductivity is the enigmatic effect that below a certain transition temperature the electrical resistance of some materials drops to exactly zero. It was first noticed in Mercury at temperatures just a few degrees above absolute zero (-273°C), soon to be followed by other metals, using liquid helium as a refrigerant. In 1986 it was discovered that some ceramic materials become superconductors at much higher temperatures than what can be reached by using liquid nitrogen as a coolant.

Superconductivity has a wide range of technological applications. Commercially the most important are the powerful superconducting electromagnets used in MRI (magnetic resonance imaging) and in the beam steering and focussing magnets of particle accelerators.

A complete microscopic theory of superconductivity of metals was proposed only in 1957 by Bardeen, Cooper and Schrieffer. The theory of the high-temperature superconductors remains one of the major outstanding challenges of theoretical physics.

Special Events Planned

To commemorate this historic milestone, a special one day symposium entitled ‘100 Years of Superconductivity’ will be held in Leiden, The Netherlands, on 8 April 2011, the centennial anniversary of the discovery.

The symposium will start at 10:00 a.m. in the Leiden Theatre, one of the oldest and most beautiful theatres in the Netherlands. Talks will be given by Prof. Dirk van Delft, director of the Museum Boerhaave, about ‘Heike Kamerlingh Onnes and his Cryogenic Laboratory’ and by Prof. Peter Kes, Leiden Institute of Physics, on ‘The Notebooks of Kamerlingh Onnes and the Discovery of Superconductivity’.

At 11:30 a.m., the symposium will continue in the nearby Museum Boerhaave, the Dutch National Museum of the History of Science and Medicine. The special exhibition ‘Mercury practically zero’ (a quotation from Kamerlingh Onnes’s notebook entries on 8 April 1911) shows original apparatus and documents concerning the discovery of superconductivity.

Afternoon lectures will commence at 2:00 p.m. at the Kamerlingh Onnes Building, the original location of the Leiden Physical Laboratory. Dr. Johan Overweg of Philips Research will discuss ‘New Developments in MRI,’ and Prof. Jan Zaanen of the Lorentz Institute of Theoretical Physics will address the topic ‘Superconductivity in the 21st Century’.

A special ceremony will follow at 3:15 p.m. Two plaques will be dedicated in the Kamerlingh Onnes Building at the University of Leiden, where superconductivity was discovered 100 years earlier. One plaque will be presented by President Moshe Kam of IEEE, the world's largest technical professional association, which will designate the location as an IEEE Milestone In Electrical Engineering and Computing. The IEEE Milestones in Electrical Engineering and Computing program honours significant technical achievements that occurred at least 25 years ago in technology areas associated with IEEE. This Milestone will be the 110th to be approved since the IEEE Milestone Program was established in 1983. It is sponsored by the IEEE Council on Superconductivity and the IEEE Benelux Section,

A second plaque containing the same inscription will be presented by Philips Research, but in Dutch. Gilles Holst, the first director of Philips Research in 1914, belonged to the team that discovered superconductivity. A reception will follow the dedication ceremonies.

For more information about the '100 Years of Superconductivity' Symposium, contact Dirk van Delft (dirkvandelft@museumboerhaave.nl) or Peter Kes (kes@physics.leidenuniv.nl).

About Philips Research

Philips Research is a global organization that helps Royal Philips Electronics in the area of health and well-being for both developed and emerging markets.

Learn more at <http://www.research.philips.com/>

About Museum Boerhaave

Museum Boerhaave is a museum of the history of science and medicine, based in Leiden, the Netherlands. Learn more at http://www.museumboerhaave.nl/e_intro.html

About University of Leiden

Leiden University is the oldest university in the Netherlands. It was founded in February 1575. It was the first university in the Netherlands to practice freedom of belief and religion, as reflected in the university's motto, *Praesidium Libertatis*, Bastion of Liberty. Learn more at <http://www.about.leiden.edu/>

About IEEE

IEEE, the world's largest technical professional association, is dedicated to advancing technology for the benefit of humanity. IEEE is the trusted voice on a wide variety of areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics. Learn more at <http://www.ieee.org>.

About IEEE Council on Superconductivity

The IEEE Council on Superconductivity is affiliated with the IEEE and promotes programs and activities on the science and technology of superconductors and their applications.

Learn more at <http://www.ewh.ieee.org/tc/csc/>