

**Announcing the Fifth Lecture of
Qatar Foundation Distinguished Lecture
Series for Year 2009**

Professor Theodor Hänsch,

Nobel Laureate in Physics 2005
Max-Planck Institute

“Heartbeat of Light”

The QF Research Division is pleased to present to the public a lecture and dialogue session with a Nobel Laureate who will speak on a niche area of science that affects our daily lives.

Date: Sunday, November 16, 2008
Time: 9:30 am – 12:15 pm
Venue: Lecture Hall 238 – Texas A&M- Qatar
Qatar Foundation, Doha

Lunch and **student dialogue** with the speaker will follow the lecture. For lecture and/or student dialogue registration, please RSVP info.dls@qf.org.qa or call **+974 454 0522**

Admission is free and reservation is on first come first served basis.

BIOGRAPHICAL SKETCH OF THEODOR HÄNSCH



Professor Theodor Wolfgang Hänsch was born on October 30, 1941 in Heidelberg, Germany. He is a German physicist. In 2005 he received Nobel Prize in Physics for "contributions to the development of laser-based precision spectroscopy, including the optical frequency comb technique", sharing the prize with John L. Hall and Roy J. Glauber. Hänsch is Director of the Max-Planck-Institut für Quantenoptik (quantum optics) and Professor of experimental physics and laser spectroscopy at the Ludwig-Maximilians University in Munich, Bavaria, Germany.

Professor Theodor W. Hänsch gained his BS, MS and PhD degrees from Ruprecht-Karls-Universität Heidelberg in 1960s. Subsequently, he became a professor at Stanford University, California from 1975 to 1986. In 1986 Hänsch returned to Germany to head the Max-Planck-Institut für Quantenoptik. In 1989, he received the Gottfried Wilhelm Leibniz Prize of the Deutsche Forschungsgemeinschaft, which is the highest honor awarded in Germany. In 2005, he also received the Otto Hahn Award of the City of Frankfurt, the Society of German Chemists and the German Physical Society.

In 1970 he invented a new type of laser which generated light pulses with an extremely high spectral resolution (i.e. all the photons emitted from the laser had nearly the same energy, to a precision of 1 part in a million). Using this device he succeeded to measure the transition frequency of the Balmer line of atomic hydrogen with a much higher precision than before. During the late 1990s, he and his coworkers developed a new method to measure the frequency of laser light to an even higher precision, using a device called the optical frequency comb generator. This invention was then used to measure the Lyman line of atomic hydrogen to an extraordinary precision of 1 part in a hundred trillion. At such a high precision, it became possible to search for possible changes in the fundamental physical constants of the universe over time. With these achievements he was awarded the Nobel Prize in Physics in 2005.

ABOUT DISTINGUISHED LECTURE SERIES

The QF distinguished lecture series is an ongoing event to invite renowned scientists to share their experiences through lectures and to provide opportunities for local scientists to approach them for potential research collaborations.

Typically, a Nobel Laureate is invited to give a lecture about his work giving scientists in Doha insight about his work and chance to gain from his/ her expertise.

The Distinguished Lecture Series are part of QF Research Division mission to create a knowledge-based society in Qatar by introducing students, scientists and the public to globally renowned research achievements.

For more information about Distinguished lecture series past events, kindly visit:

<http://www.qf-researchdivision.org/distinguished/index.php>

RESEARCH, SCIENCE AND TECHNOLOGY AT QATAR FOUNDATION

Research is an essential component in Qatar Foundation's strategy to make Education City a world-class center for innovative education. Qatar Foundation's Research, Science and Technology Division, with Education City's branch campuses and Research Centers, is aiming at pursuing cutting-edge research and development that helps build Qatar's innovation and technology capacity, supports the growth of Qatari society and uncovers solution to national challenges in health, climate change , the environment, clean energy and other fields.

Qatar Foundation's research strengths are organized around core platforms of Health, Energy, Information and Communication Technologies, Environmental Sciences and Multidisciplinary research supported by enabling technologies such as Nanotechnology. Each of the university branch campuses boasts a research element, and SIDRA Medical and Research Centre will be as much cutting-edge research facility as clinical care provider. And Qatar Science and Technology Park will be an incubator where private companies can partner with government agencies and academic institutions and developing research into commercial applications. Qatar National Research Funds plays a vital role in providing financial support to researchers at all levels, from students to professionals, in the private, public and academic sectors.

As part of Qatar Foundation supporting national aspirations for research and development, the Research Division implements a number of programs that relate to achieving the development in niche areas of science that give the country competitive advantage while raising the research profile at the global stage. The QF distinguished lecture series provides an avenue to invite renowned scientists to share their experiences through lectures and to provide opportunities for local scientists to approach them for potential

research collaborations. The Scientific Research Exchanges serves to establish collaborative programs with hosting institutions for junior scientists to receive training in niche areas of research which are not available locally.

The Scientific Advancement and Coordination program highlights Ethical, Environmental, Economic, Legal and Social Issues of science and technology that must be addressed in a country in order to progress. The International Science Cooperation program helps to initiate targeted areas of research that give strengths to Qatar Foundation, Qatari Centers and Institutions by directing concentrated efforts in a particular area of work that is of strategic importance to Qatar Foundation and Qatar.

Qatar Foundation envisions research as a catalyst for expanding and diversifying a country's economy; enhancing the education and well-being of its citizens and the training and development of its workforce.

ABOUT QATAR FOUNDATION

Founded in 1995 by His Highness Sheikh Hamad Bin Khalifa Al Thani, Emir of Qatar, and chaired by Her Highness Sheikha Mozah Bint Nasser Al Missned, Qatar Foundation is a private, non-profit organization committed to the principle that a nation's greatest natural resource is its people.

Qatar Foundation's flagship project is Education City which has branch campuses of six major American universities. Others are expected to join in the coming years from various parts of the world. The branch campus concept-world-class universities bringing their best-regarded programs to Qatar as full-fledged partners with Qatar Foundation - is unique in the history of education.

Education City is, in essence, a university of universities, a community of education and research institutions that serve the whole citizen, from early childhood education to post-graduate study. A string of knowledge-based organisations is being created at Education City, including the Qatar Science and Technology Park which will house technology-based companies and entrepreneurs, and link the universities with industry.

For more information please visit: <http://www.qf.org.qa/>