



Weill Cornell Medical College in Qatar

Qatar Foundation Research Division is pleased to announce the 10th Lecture of Qatar Foundation Distinguished Lecture Series

Professor Sir Richard Roberts

Nobel Laureate in Medicine 1993

“The Genomics of Restriction and Modification”

Date: 20th March 2011

Time: 10:00 am – 12:30 pm

Venue: Lecture Hall 4 – Weill Cornell Medical College in Qatar

Qatar Foundation Research Division is pleased to present to the public the tenth lecture of Qatar Foundation Distinguished Lecture Series by a Nobel Laureate who will speak about the discovery of new restriction enzymes and the new methodology that he has developed in the analysis of bacterial genome.

The lecture is followed by a discussion session with the speaker.

Admission is free and reservation is on first come first served basis. To register and /or learn more about the Qatar Foundation Distinguished Lecture Series please visit www.qf-research-division.org/distinguished/

For additional information contact us by emailing DLS.info@qf.org.qa or calling +974 - 4454 0541

BIOGRAPHICAL SKETCH OF PROFESSOR SIR RICHARD ROBERTS



Sir Richard Roberts is the Chief Scientific Officer at New England Biolabs, Beverly, Massachusetts. He received his Ph.D. from the University of Sheffield in Organic Chemistry and then moved to Harvard University in 1969 to work with Professor J.L. Strominger. In 1972 he moved to Cold Spring Harbor Laboratory under Dr. J.D. Watson eventually becoming Assistant Director. He first worked on the newly discovered Type II restriction enzymes in 1972 and in the next few years more than 100 such enzymes were discovered and characterized by his group.

Cloning of the genes for several RM systems followed and studies of these enzymes have been a major research theme. Work on Adenovirus-2 led to the discovery of split genes and mRNA splicing in 1977 and he received the Nobel Prize in Physiology or Medicine in 1993. The 35,937 nucleotide DNA sequence of the Adenovirus-2 genome was completed in 1985. This required the extensive use of computer methods, both for the assembly of the sequence and its subsequent analysis and many of the key programs required were first written by his group. The further development of computer methods for protein and nucleic acid sequence analysis continues to be a major research focus. The field of DNA methyltransferases is also an area of active research interest and crystal structures for the HhaI methyltransferase both alone and in complex with DNA were obtained in collaboration with Dr. Xiaodong Cheng. From this work came the discovery of base flipping in 1993 whereby the target cytosine base that becomes methylated is flipped completely out of the helix so that it is accessible for chemical reaction. A consuming interest has been the semi-automatic identification of restriction enzyme and methylase genes within the GenBank database and the development of rapid methods to assay function.

At present he is involved in a new initiative aimed at connecting computational biologists who are making functional predictions of bacterial genes with biochemists who will test those functions experimentally.

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 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 solutions to national challenges in health, climate change, the environment, clean energy and other fields.

Qatar Foundation's research strengths will be organized around core platforms of medicine, biotechnology, information and communication technologies, environmental sciences, molecular sciences and 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 organizations 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/>