One molecule at the time

SISSA awards an honorary PhD to Carlos Bustamante

June 25, 2015, 11 am
SISSA, “P. Budinich” Main Lecture Hall
Via Bonomea, 265, Trieste

The Peruvian-born biophysicist Carlos Bustamante has been awarded an honorary PhD by SISSA in Trieste for his innovative research and important contribution to our knowledge of the workings of biological systems through the development of molecular level investigation techniques. The ceremony will be held on 25 June at 11.00 am in the “P. Budinich” Main Lecture Hall of SISSA.
The International School for Advanced Studies (SISSA) in Trieste has awarded a honorary doctorate in structural genomics to Carlos Bustamante “for having made an important contribution to our knowledge of biological molecules by developing methods allowing detailed visualization of individual molecules”, explains Giuseppe Legname, SISSA professor and head of the School’s structural genomics group. The official ceremony during which Bustamante himself will receive his honorary PhD will be held on 25 June at 11.00 am in the “P. Budinich” Main Lecture Hall.

The introductory laudatio speech will be delivered by Legname, with whom Bustamante, a biophysicist by training, has been collaborating for several years. “In addition to testifying to the excellent scientific value of his research, the award given by SISSA is also proof of the importance that an institution like SISSA, with its three main research areas (physics, mathematics, and neuroscience), attaches to a multidisciplinary approach” explains Legname. “Bustamante’s collaboration with our group has focused on the joint study of the folding of the prion protein by applying his single-molecule manipulation techniques. Our respective contributions within this collaboration, starting from complementary viewpoints, have allowed us to put together an exhaustive and comprehensive description of the mechanisms underlying the pathogenesis of prion diseases”.

On the occasion of the ceremony Bustamante will be giving a talk entitled “A Journey Through Cellular Processes, One Molecule at a Time”. The talk will be in English and will explain the innovative nature of the latest technique invented by Bustamante. This is based on “optical tweezers” which, by virtue of their ability to mechanically manipulate individual biological molecules, have helped to uncover the workings of important cellular processes in biology which conventional techniques had not been able to reveal.

More in detail...

Born in Lima, in Peru, Bustamante graduated in medicine. He then moved to California and earned a PhD in biophysics from the University of Berkeley where we worked as a post-doctoral fellow until 1982. Following this experience, he moved to the Department of Chemistry of the University of New Mexico in Albuquerque, and in 1993 to the University of Oregon at Eugene. In 1998 Bustamante went back to Berkeley where he still works. He has been Howard Hughes Medical Institute Investigator since 1994 and an elected member of the National Academy of Science since 1992. During his career he has received many important scientific honours and international awards. He was also honoured with the Richtmyer Award of the American Association of Physics Teachers for his outreach activities and his ability “to convey difficult concepts in science to the general public”.

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