



All about prions



Trieste hosts PRION2014 conference on neurodegenerative diseases

26 May, 5.30 pm
Revoltella Museum
via Diaz, 27, Trieste

Prion diseases are a class of encephalopathies that have very severe symptoms. The PRION conference, for the past 10 years the main meeting place for the world's leading experts in these neurodegenerative diseases, is being held in Trieste this year. Organized by SISSA's Prion Biology Laboratory, the conference will see the participation of no less than two Nobel Prize laureates: Stanley B. Prusiner and Eric R. Kandel. Within the conference, the organizers have also planned a



public event, co-organized with the Trieste's City Council, entitled "Prion diseases: from animals to humans", to illustrate to the general public the problems related to these severe neurological disorders.

Prion encephalopathies are transmissible diseases which received plenty of public attention a few years ago, during the so-called "mad cow emergency" (BSE, or bovine spongiform encephalopathy, is in fact one of these diseases). Every year, the PRION conference, now at its 10th edition, brings together the leading researchers engaged in the study of prion diseases. This year the conference will take place in Trieste from 27 to 30 May and will also see the participation of two Nobel Prize laureates, Eric R. Kandel and Stanley B. Prusiner. The presence of Prusiner, in particular, is highly significant, as he was the first scientist to isolate, in the 80s, prions, the molecules thought to underlie these diseases.

Attendance at the conference, organized this year by the Prion Biology Laboratory of the International School for Advanced Studies (SISSA) of Trieste directed by Giuseppe Legname, is restricted to experts in the field, but the School has decided to reach out the general public by planning an event, co-organized with the Trieste's City Council, to be held in the Auditorium of the Revoltella Museum in Trieste, on Monday 26 May at 5.30 pm. The public event aims to illustrate to the general public the problems related to prion diseases in animals and humans, and provide an overview of current research and future prospects. There will also be a presentation addressing patients and their families.

Guests include **Maurizio Pocchiari** of the *Istituto Superiore di Sanità* (ISS), who is the director of the National Encephalopathy Registry. Pocchiari will be talking about the human forms of these diseases. **Cristiano Corona** and **Daniela Meloni**, both veterinarians from the TSE (transmissible spongiform encephalopathies) Referral Centre, will illustrate the spread of encephalopathies among animals. The *Istituto Zooprofilattico Sperimentale* (Veterinary Medical Research Institute) of Piemonte, Liguria and Valle D'Aosta, where the two researchers work, was the first to isolate the bovine form of spongiform encephalopathy in Italy, in 2004. Plenty of attention will also be given to sufferers and their families, thanks to the presence of **Raffaella Robello**, vice president of the *Associazione Italiana Encefalopatie da Prioni* (AIEnP). **Giuseppe Legname**, director of the Prion Biology Laboratory of SISSA will be the moderator. The public event at the Revoltella Museum will be held in Italian and entrance is free.

More in detail...



Only in the past few decades have scientists understood that a specific protein known as a prion underlies the development of some neurodegenerative diseases. Prions are very peculiar infectious agents in that they are the only ones (unlike viruses, bacteria, fungi and other parasites) not to contain DNA or RNA. Despite their apparent simplicity they are able to spread their pathogenic action widely, by modifying normal proteins. PrP^{Sc} (the pathological form of the prion protein) is in fact able to induce other similar proteins, but with benign form (PrP^C), to take on an abnormal conformation and in turn become toxic. Prions are also infectious because they can be transmitted from diseased to healthy individuals as commonly occurs in other infectious diseases (though they use “molecular” infectious mechanisms that are very different from those of the common cold).

The first scientist to isolate prions was **Stanley B. Prusiner** in the 80s, who thanks to this research was awarded the Nobel Prize for Medicine and Physiology in 1997. His presence at the PRION2014 conference attests to the high scientific quality of this meeting. Also at the conference, to be held at SISSA on May 27-30, will be **Eric R. Kandel**. Kandel is a neuroscientist who received a Nobel Prize for Medicine and Physiology in 2000, for his studies on the physiological bases of memory (he was the author of the famous studies on *Aplysia californica*, an animal model that is widely used to study the biochemical bases of learning processes).

USEFUL LINKS:

- Website of the Prion Biology Laboratory at SISSA: <https://www.sissa.it/nb/prionlab/>

Contact:

Communication office:

pressroom@sissa.it

Tel: (+39) 040 3787557 | (+39) 340-5473118, (+39) 333-5275592

via Bonomea, 265

34136 Trieste

More information about SISSA: www.sissa.it