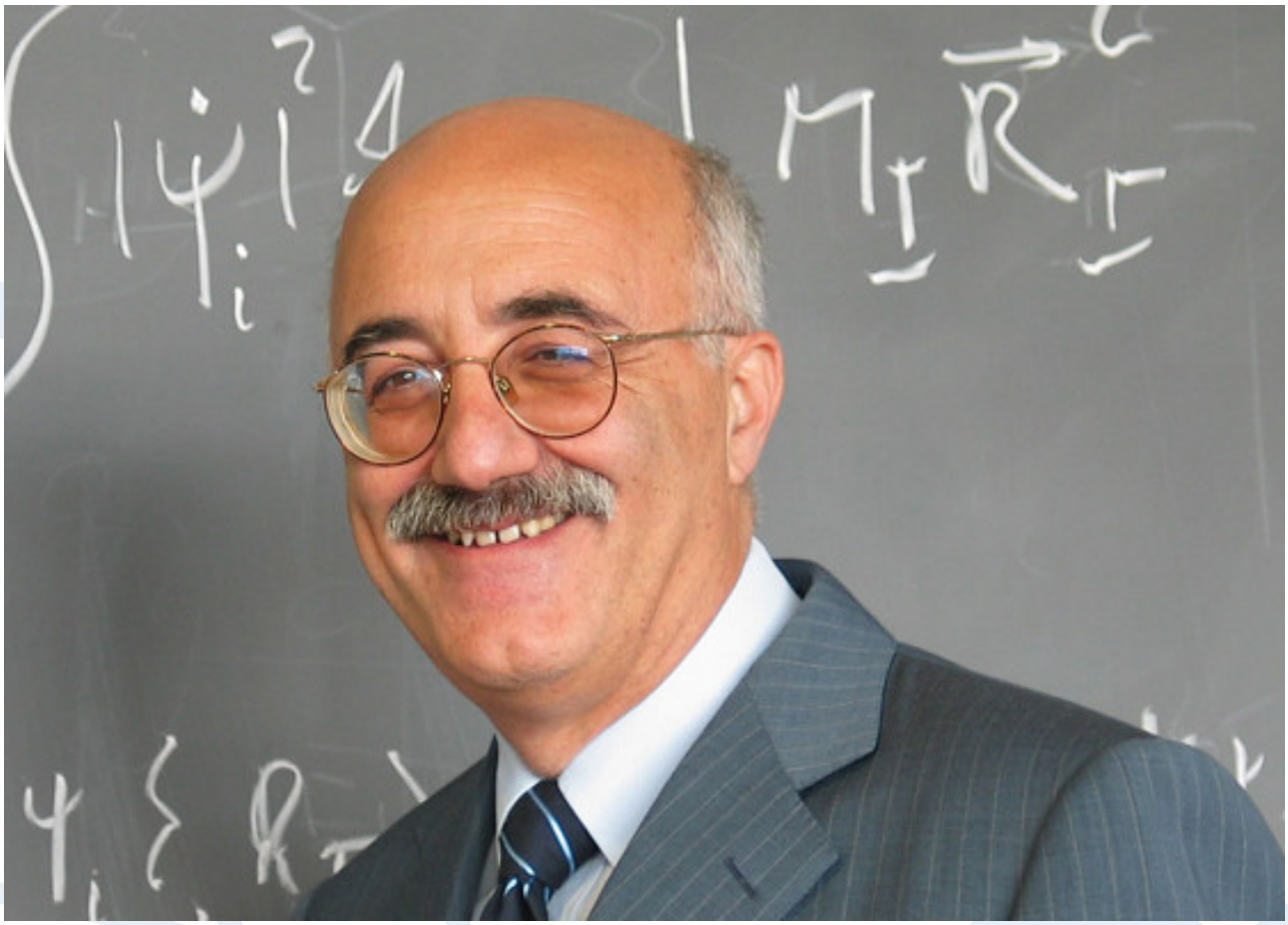
Parrinello at SISSA



The highly awarded physicist returns to SISSA for a conference

30 May 2016, 2.30 pm
SISSA, room 128
Via Bonomea 265, Trieste

Michele Parrinello, a former SISSA professor, has remained a model for the school and a mentor for some of the scientists who work here. On May 30th, the physicist who was awarded the Dirac Medal, amongst others, will be at SISSA for a conference where he will explain his method for the simulation of "rare events", a major challenge in the multifaceted world of computer simulations.

Since his days teaching at SISSA in the 80s, Michele Parrinello, now a professor at the Swiss Federal Institute of Technology in Zurich (and at the Università della Svizzera Italiana in Lugano)

has collected a host of experiences and awards: first at the IBM Research laboratory in Zurich, then at the Max Planck Institute in Stuttgart, Germany, and then finally back in Switzerland. In the meantime, the physicist found the time to win a Dirac Medal (in 2009 together with Roberto Car with whom he was also awarded, the same year, the Sidney Fernbach Award) and, in 2011, the Marcel Benoist prize.

Parrinello is among the scientists with the highest world ranking and since 2004 he has been a member of the British Royal Society, the exclusive and very old (in fact the oldest worldwide) scientific society. He is also a member of the American National Academy of Sciences. And although almost 30 years have passed since his time in Trieste he is still an important figure for the International School for Advanced Studies (SISSA) of Trieste, where two of his former students (Alessandro Laio and Giovanni Bussi) are now professors and where Erio Tosatti, one of the scientists who co-authored some of his important papers, still works.

Parrinello will be at SISSA next May 30th where he will hold a seminar on the simulation of rare events, entitled "Fluctuations and Rare Events". "Rare events", explains Giovanni Bussi,"are difficult to simulate, they would require very long time frames to be observed. As a result, we need methods to solve this problem, like the one proposed by Parrinello".

Bussi gives us an example: nature itself has had to find a method to "facilitate" the occurrence of certain events. For instance, certain biochemical processes inside the cell are fundamental for life, but if they are left to their own devices it would take them ages to take place. "And indeed we have enzymes which are molecules that act to increase the likelihood that a chemical process will take place. But rare events are not relevant only to biology, they interest also those who study the physics of materials as well as other fields. Parrinello proposes a method which, just like the enzyme in the cell, maximizes the probability of the event happening in simulations", explains Bussi.

Parrinello's seminar will be held in English and, while directed to the scientific staff at SISSA, it is also open to the students of other institutes who are interested in attending.

IMAGES:

- **Credits: Università della Svizzera Italiana**

Contact:

Press office:
pressoffice@sissa.it
Tel: (+39) 040 3787644 | (+39) 366-3677586

via Bonomea, 265
34136 Trieste

More information about SISSA: www.sissa.it