The Science of Surnames

First SISSA *colloquium* of the seasion with Paolo Rossi (University of Pisa)

21 September 2016, 3:00pm
SISSA, Aula Magna
Via Bonomea 265

Paolo Rossi, Physicist at the University of Pisa, whose eclectic interests range from particle physics to translating early medieval texts, will be the first speaker in this season's SISSA colloquium series. His talk will focus on the study of surnames through statistical mechanics, a useful approach for investigating population genetics.

What does distribution of surnames have to do with research in human biology and statistical mechanics? It may seem strange, but scientists have been studying surnames to understand

various aspects of population genetics for centuries. "It started in 1875 with the pioneering work of George Darwin, Charles' son, which studied marriages between first cousins with isonymy (the same last name), and, in more recent times, the analysis of King Edward III of England's family tree using statistical methods and numerical simulation, and the use of more general models for evaluating surnames in a given country (Korea and Japan, for example)," explains Paolo Rossi, Physicist at the University of Pisa. On September 21, Rossi will hold the first talk of the 2016-2017 season of the SISSA *Colloquia* series. He will speak about the study of surnames using tools of statistical mechanics.

The title of his speech is *Surname distribution and genealogical trees in population genetics and in statistical physics.* "The dynamic origin of surname distribution is related to the statistical properties of family trees. We can study the distribution of surnames using statistical mechanics, and thus enhance our understanding of the human family tree." Surnames behave a little like neutral genes that, while part of the genetic makeup, do not encode and are therefore not subject to natural selection. "That is why they are so interesting," says Rossi. "They only follow the laws of statistics."

"This approach, continues Rossi, "produces a series of illuminating theoretical results. Some of these hypotheses may also be tested using empirical data which is already available.The talk by Paolo Rossi, to be held in English, will take place in the Aula Magna of the School on September 21 starting at 3pm. It is free and open to the public.

Brief Biography

Paolo Rossi is a scientist of international caliber known for his considerable and varied interests in research. Dean of the Faculty of Mathematical, Physical and Natural Sciences at the University of Pisa, he is also a member of the National University Council (CUN). Past international experiences include periods of work at MIT in Boston and CERN in Geneva, where he studied Particle Physics and Statistical Field Theory. He has authored over 100 scientific articles in international peer-reviewed journals as well as textbooks on Classical and Quantum Physics.

His most recent research focuses on applying Physics methods and theoretical ideas to the study and modeling of social and cultural phenomena including academic recruitment processes. Rossi is also interested in the history of science and translates Italian early medieval chronicles from Latin to Italian. He has published historical novels as well.

IMAGE:

- **Crediti: Kevin Grocki (Flickr: http://goo.gl/oKj3Kj)**

Contacts:

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

via Bonomea, 265
34136 Trieste

More information about sissa: www.sissa.it