LUIGI PREZIOSI'S CV

- Full professor at the Politecnico di Torino
- Member of the Accademia dei Lincei since July 2016 (socio corrispondente).
- Member of the board of the PNR (National Research Project, Section Health) in 2019
- President of the School of Engineering Mathematics from 2007 to 2018 and vice-president from 2018

RESEARCH ACTIVITY
Essentially devoted to the different aspects of mathematical modelling, from the formulation of models, to their analytic study, simulation and validation, in particular on the following topics
- Tumour growth
- Tissue mechanics
- Vascular networks
- Cell-environment interactions
- Cell migration
- Multiscale aspects in individual based models
- Soil, sand, and avalanche mechanics
- Flow and stability of immiscible liquids
- Flow and stability of non-Newtonian fluids
- Hyperbolic models in heat conduction
- Kinetic models in gas-dynamics
- Composite material manufacturing processes

PUBLICATIONS
- 5 books and 5 edited books;
- 40 book chapters;
- More than 130 articles in peer-reviewed journals, with h-index=36 on Scopus, summing up to more than 6000 citations;
- The paper on "Heat waves" received more than 1400 citations and its addendum more than 500 citations. Other 11 papers have already received more than 100 citations.

MAJOR RESEARCH ACHIEVEMENTS
- Identified an efficient method to transport very viscous fluids in pipes with its workability window;
- First to model several composite material manufacturing processes;
- Introduced the use of the theory of mixture and then the theory of evolving natural configuration to describe tumour growth;
- Identified and modelled the mechanism of formation of vascular networks in embryogenesis;
- Identified criteria for cell segregation by the surrounding fibrous environment;
- Introduced a modification of cellular Potts models to include the presence of sub-cellular elements such as cell nucleus and membrane.

PATENTS
- Spinning rod tensiometer, an instrument to measure the interfacial tension between immiscible liquids, (U. S. Patent 4644782 e 5150607).
- Deflecting module for an anti-sand barrier, a barrier thus obtained and a protection method from windblown sand (PCT/IT2015/000129)

SUPERVISION OF GRADUATE STUDENTS
Supervisor of 16 Ph.D. Students and tutor of more than 80 master students (in the last ten years).