

Davide Fiocco

Doctoral Assistant EPFL

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Born in Verona, Italy, age 29



Experience

2009--present **Research assistant**, EPFL, Lausanne.

- Research:
 - Investigation of mechanical properties of dense amorphous materials in the frame of the Indo-Swiss joint research program between the EPFL, Switzerland and JNCASR Bangalore and TIFR Hyderabad, India;
 - Investigation of mechanical properties of gels and bigels within a collaboration between the EPFL and the University of Cambridge, United Kingdom;
 - Studies of diffusion of water in sugar matrices, via coarse-grained models, in order to achieve a long-lasting foam on beverages (cappuccino), in a collaboration between the EPFL and the Nestlé Research Center, Lausanne, Switzerland;
 - Investigation on effective forces in asymmetric binary mixtures of square-well fluids, in collaboration with the University of Trieste, Italy.
- Talks:
 - "Oscillatory deformation of a model glass"
From cooperativity in supercooled liquids to plasticity of amorphous solids,
CECAM workshop, ETH, Zurich, Switzerland, June 2013
- Publications:
 - Effective forces in square well and square shoulder fluids, J. Phys. Chem. B, 2010
 - Oscillatory athermal quasi-static deformation of a model glass, Physical Review E, 2013
 - Encoding of memory in sheared amorphous solids, PRL, 2014
 - Aggregation dynamics, structure, and mechanical properties of bigels, Soft Matter, 2014
- Teaching:
 - General Physics, assisting Prof. C. Hébert
 - Biothermodynamics, assisting Prof. P. De Los Rios and Prof. M. Dal Peraro
 - I mentored Master's students in Physics during their theses/projects.

Education

2009--present **Ph.D. Candidate**, Theoretical Physics Institute, EPFL, Lausanne.

Courses:

- School and Conference on Multiscale Modeling and Simulations of Hard and Soft Materials, Bangalore, India, December 2009
- Multiscale simulation methods for complex flows, Lausanne, Switzerland, June 2010
- Complex materials in Physics and Biology, Varenna, Italy, July 2010
- First school on Computational Physics: Soft Matter, Les Houches, France, June 2011
- Modern Computational Science: Optimization: Oldenburg, Germany, August 2012
- Modern Photovoltaic Technologies, Lausanne, June 2013

2007--2009 **M.Sc. Condensed Matter Physics**, Università degli Studi di Trieste, Trieste, Italy, 110/110 and honors.
Theoretical and experimental methods of solid state physics: electronic properties in materials, physics of surfaces, fundamentals of semiconductor fabrication, numerical simulation via Monte Carlo and Molecular Dynamics.

2003--2007 **B.Sc. Physics**, Università degli Studi di Trieste, Trieste, Italy, 109/110.
Inelastic X-ray and UV scattering at the synchrotron radiation facilities ESRF, Grenoble, France and Elettra, Trieste, Italy

2003 **Scientific high school degree**, Liceo Scientifico G. Galilei, Verona, Italy, 99/100.