

Born in Paris November 1st, 1967

Married with Pascale, three children: Justine, Adèle and Simon

Highschool studies in Germany and at the German highschool in Paris

University from 1984 in Paris, Université Pierre et Marie Curie (UPMC, Paris 6)

Masters in High Energy Physics at Université Pierre et Marie Curie 1990

Work on high-dimensional gravity using Kaluza-Klein theories under the advisoring of Professor Richard Kerner

in the Department of Relativistic Gravitation and Cosmology. Moved to amorphous systems at the beginning of his PhD in 1991.

Defended his PhD "Très Honorable" in 1993. Persons like Minko Balkanski, Michel Ribes, and Rémi Mosseri were in the defense committee.

Subject on topology description of glass structure and its application to oxide and chalcogenide glasses

Assistant Professor at UPMC from 1993 to 1995

Agrégation de Sciences Physiques (highest concourse of the french academic system) in 1996

Associate Professor at UPMC in 1996

Worked on glass transition temperature variation and compositional effects.

In 2000, moved to the Laboratoire de Physique Theorique de la Matiere Condensee.

Has started to work on rigidity theory at the moment when the Intermediate Phase was discovered using statistical-topology models and more recently classical and ab initio molecular simulations.

Chair of the CNRS-NSF program on "Self-organization in oxide glasses" (2002-2004) with Cincinnati and CNRS-Orléans.

Chair of the ANR (Agence Nationale de la recherche) program on "Atomic scale foundation of a new phase in glasses" (2009-2011)

Chair of the Masters program on Nuclear Engineering at UPMC (2009)

On the accomplishments:

1) Topological based theories for compositional trends of the glass transition temperature. Demonstration that connectivity aspects play a key role.

2) First phenomenological models for non-mean field effects in glasses. Interpretation of the Boolchand intermediate phase and rigidity transitions. Editing a book on the subject. Establishing a link between the elastic nature of the network and ionic conduction: flexibility promotes conduction in solid electrolytes.

3) Molecular simulations of oxide liquids and glasses. Demonstration that a hierarchy of structural effects (FSDP, angular, local coordination nb) take place in GeO₂ under pressure.

4) Improvement of ab initio modelling of chalcogenides. Gaining an increased accuracy of electronic models, applied to GeSe₂. Application to the phase change material SnSe₂.

5) More recently, connecting models of rigidity to phase change materials leading to the rigidity phase diagram in GST materials. Should open a perspective enabling to study phase change materials in much the same fashion as network glasses.

Matthieu Micoulaut