

# Daniele Coslovich

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Birth date: January 30th, 1980, Trieste (Italy)  
Citizenship: Italian

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**CURRENT POSITION** **Postdoctoral fellow** since Feb. 2008  
Technische Universität Wien (Austria) Project leader: Prof. Gerhard Kahl  
*Glass formation of colloids confined in porous materials*  
Fellowship funded by the Austrian Science Fund (FWF) (P19890-N16).

**EDUCATION** **Ph.D. in Physics** Apr. 2008  
University of Trieste (Italy) Advisor: Prof. Giorgio Pastore  
*Connections between structure, dynamics and energy landscape in simple models of glass-forming liquids*  
<http://www.openstarts.units.it/dspace/handle/10077/2563>

**“Laurea” in Physics** May 2004  
University of Trieste (Italy) Advisor: Prof. Giorgio Pastore  
*Energy surfaces, ergodicity and dynamics as indicators of the liquid-glass transition*  
Marks: 110/110 cum laude

**“Maturità scientifica”** July 1999  
Liceo Scientifico “G. Oberdan”, Trieste (Italy)  
Marks: 100/100

**FELLOWSHIPS** **CNR-INFN fellowship** Sept. 2004–Dec. 2004  
“Democritos” Simulation Center, Trieste (Italy)  
*Large-scale atomistic simulations.*

**LANGUAGES** Italian: mother tongue  
English: fluent  
German: intermediate  
French: principiant

**RESEARCH**

- Theory and simulation of the glass transition
- Fluids confined in porous media
- Dynamics and phase behavior of soft matter
- Design and development of molecular simulation software

## PAPERS

1. D. Coslovich and C. M. Roland, *Density scaling in viscous liquids: From relaxation times to four-point susceptibilities*, J. Chem. Phys **131**, 151103 (2009)
2. J. Kurzidim, D. Coslovich, and G. Kahl, *Single-particle and collective slow dynamics of colloids in porous confinement*, Phys. Rev. Lett. **103**, 138303 (2009)
3. D. Coslovich and G. Pastore, *Dynamics and energy landscape in a tetrahedral network glass-former: direct comparison with models of fragile liquids*, J. Phys.: Condens. Matter **21**, 285107 (2009)
4. D. Schwanzer, D. Coslovich, J. Kurzidim, and G. Kahl, *Effects of porous confinement on the structural properties of the Gaussian core model*, Mol. Phys. **107**, 433 (2009)
5. D. Coslovich and C. M. Roland, *Pressure-energy correlations and thermodynamic scaling in viscous Lennard-Jones liquids*, J. Chem. Phys **130**, 014508 (2009)
6. D. Coslovich and C. M. Roland, *Thermodynamic scaling of diffusion in supercooled Lennard-Jones liquids*, J. Phys. Chem. B **112**, 1329 (2008)
7. D. Coslovich and G. Pastore, *Understanding fragility in supercooled Lennard-Jones mixtures. I. Locally preferred structures*, J. Chem. Phys. **127**, 12504 (2007)
8. D. Coslovich and G. Pastore, *Understanding fragility in supercooled Lennard-Jones mixtures. II. Potential energy surface*, J. Chem. Phys. **127**, 12505 (2007)
9. D. Coslovich and G. Pastore, *Are there localized saddles behind the heterogeneous dynamics of supercooled liquids?*, Europhys. Lett. **75**, 784 (2006)

## PROCEEDINGS

1. D. Coslovich and G. Pastore, *Linking slow dynamics and local structure in simple models of glass-forming liquids*, in “Proceedings of the XVth International Congress on Rheology”, AIP Conference Proceedings **1027**, 1321 (2008)

## SEMINARS

1. “Structural motifs, heterogeneity and dynamics in glassy systems”  
Jozef Stefan Institute, Ljubljana (Slovenia), June 2010
2. *Amorphous order and unstable modes in close-packed and network glasses*, COST Workshop on Physics of Amorphous Solids: Mechanical Properties and Plasticity, Les Houches (France), March 2010
3. *Amorphous order and dynamic heterogeneity in glass-forming liquids*  
Laboratoire des Colloïdes, Verres et Nanomatériaux, Montpellier (France), February 2010
4. *Snapshots of glassy energy landscapes*  
University of Vienna, Vienna (Austria), November 2009
5. *Network-forming and close-packed glasses: Two distinct universality classes?*  
CompMat '09, Burg-Schlaining (Austria), October 2009
6. *Strongly correlating liquids and density scaling of the dynamics: Examples and counterexamples from hard and soft matter*  
IDMRCS 6th, Rome (Italy), September 2009
7. *Close-packed and network-forming glasses: Two distinct universality classes?*  
Science College Seminar, CMS, Vienna (Austria), June 2009
8. *Thermodynamic scaling of the dynamics and pressure-energy correlations in fragile glass-formers*  
Viscous Liquids and the Glass Transition VII, Søminestationen (Denmark), April 2009
9. *Linking slow dynamics and local structure in simple models of glass-forming liquids*  
15th International Congress on Rheology, Monterey (U.S.A.), August 2008

10. *Understanding fragility in supercooled liquids: Role of locally preferred structures and energy landscape*  
CECAM Workshop “Glasses meet glasses”, Lyon (France), June 2007
11. *Localized saddles of the potential energy surface and dynamical heterogeneities in supercooled Lennard-Jones liquids*  
Van t’ Hoff Institute, University of Amsterdam (Netherlands), October 2006
12. *Dynamical heterogeneities and localized saddles in supercooled Lennard-Jones mixtures*  
(awarded as “best student seminar”)  
“CCP5 Summer school 2006”, Cardiff (U.K.), July 2006

TEACHING	<p><b>Co-supervisor of master student</b> 2009 Technische Universität Wien (Austria) <i>Vibrations and diffusion in colloidal cluster crystals</i>, Lukas Strauss <a href="http://tph.tuwien.ac.at/smt/extra/publications/diploma/strauss.pdf">http://tph.tuwien.ac.at/smt/extra/publications/diploma/strauss.pdf</a></p> <p><b>Tutor in Physics e Mathematics</b> 2006 University of Trieste (Italy) Tutor in Physics (Mechanics, Thermodynamics) and Mathematics (Calculus, Linear algebra), Bachelor in Physics, 40 h.</p> <p><b>Tutor in Computational Physics</b> 2006 University of Trieste (Italy) Tutor in Computational Physics (introduction to Fortran 90), Master in Physics, 8 h.</p>
SERVICES	<p>Co-organizer of the CECAM workshop “Complex dynamics of fluids in disordered and crowded environments” (<a href="http://www.cecama.org/workshops.html">http://www.cecama.org/workshops.html</a>), June 2010</p> <p>Referee for scientific journals (Journal of Chemical Physics, Journal of Physical Chemistry B, Molecular Physics, Physical Review E, Physical Review Letters), since 2008</p> <p>Webmaster of the “Soft Matter Theory” group website at the Technische Universität Wien (<a href="http://tph.tuwien.ac.at/smt/">http://tph.tuwien.ac.at/smt/</a>), since 2008</p> <p>Guide at the scientific museum “Immaginario Scientifico”, Trieste, Sept. 2002–Dec. 2003</p> <p>Organization of scientific conferences, Faculty of Science, University of Trieste, 2003</p>
PRICES AND AWARDS	<p>ICTP Award for undergraduate students, International Center for Theoretical Physics (ICTP), Trieste, Oct. 2002</p> <p>Fellowship of the “Luciano Fonda” college for undergraduate students, University of Trieste, 1999–2002</p>
PROGRAMMING SKILLS	<p>Operating systems: Linux, Windows</p> <p>Programming languages: Fortran (90/95/2003), Python, HTML; basic knowledge of C, C++, Java</p> <p>Parallel programming (MPI)</p> <p>Analysis, design e development of object-oriented software; application to molecular simulation software</p> <p>Usage software for classical (LAMMPS) and <i>ab-initio</i> (Quantum ESPRESSO) simulation software; usage of visualization tools (VMD, Jmol).</p>

Vienna, July 10, 2010