Workshop on Dynamics in Viscous Liquids III

Accademia Nazionale dei Lincei
Centro Linceo «Beniamino Segre»
Rome
March 30 – April 2, 2011

Abstract Booklet

International Workshop on Dynamics in Viscous Liquids III

Accademia Nazionale dei Lincei
Centro Linceo Interdisciplinare "Beniamino Segre"

Rome, Palazzina dell'Auditorio
Via della Lungara, 230

March 30 – April 2, 2011

Programme

Organization
Giorgio Parisi, Thomas Voigtmann, and Emanuela Zaccarelli

Wednesday, March 30

08:00 **Registration**

08:45 **Welcome Note**
G. Parisi, E. Zaccarelli, and Th. Voigtmann

Session 1, Chair: Hartmut Löwen

09:00 **W. Kob**, Université Montpellier 2
Static and Dynamic Length Scales in Glass-Forming Liquids

09:20 **C. Dasgupta**, Indian Institute of Science, Bangalore
Growing length scales and their relation to growing time scales in glass-forming liquids

09:40 **M. Mosayebi**, ETH Zürich
A static correlation length diverging at the glass transition

10:00 **C. Cammarota**, CEA, Saclay
A phase-separation perspective on dynamic heterogeneities in glass-forming liquids

10:20 **Coffee break**

Session 2, Chair: Wolfgang Götze

10:50 **G. Szamel**, Colorado State University
Dynamic glass transition: mode-coupling theory, replica approach and emergence of rigidity

11:10 **K. Miyazaki**, University of Tsukuba
Is the Mode-Coupling Theory a Mean Field Description of the Glass Transition?

11:30 **R. Schilling**, Universität Mainz
Mean-field limit of mode-coupling theory

11:50 **F. Zamponi**, CNRS, Paris
Quantum glass transition and superfluidity of hard spheres

12:10 **Lunch**

Session 3, Chair: Kia Ngai

14:00 **J. C. Dyre**, Roskilde University
Isomorphs in liquid phase diagrams and their consequences for viscous dynamics

14:20 **A. Meyer**, Deutsches Zentrum für Luft- und Raumfahrt, Köln
Relation of properties of mass transport with melt structure in multicomponent viscous metals

14:40 **P. Gallo**, Università Roma Tre
Slow dynamics and fragile-to-strong transition in confined water and in aqueous solutions.

15:00 **J. Wuttke**, Forschungszentrum Jülich
Supercooled water dynamics near the resolution limit of neutron backscattering

15:20 **Coffee break**

Session 4, Chair: Andrea Puglisi

15:50 **K. Kroy**, Universität Leipzig
Hot Brownian Motion: When Big Beads Beat Bittie Beads

16:10 **N. Gnan**, Università di Roma "La Sapienza"
Predicting The Effective Temperature of a Glass

16:30 **M. Medina-Noyola**, Universidad Autónoma de San Luis Potosí
Incomplete Equilibration of Dense Hard-Sphere Fluids

16:55 **D. Villamaina**, Università di Roma "La Sapienza"
Ratchet effect in an aging glass

Thursday, March 31

Session 5, Chair: Frank Scheffold

09:00 **M. Laurati**, Universität Düsseldorf
Dynamics of Supercooled Colloidal Dispersions under Flow: A Study of Transient Regimes

09:20 **J. Horbach**, Deutsches Zentrum für Luft- und Raumfahrt, Köln
The relaxation of stresses in a glassforming soft-sphere mixture after the switch-off of shear

09:40 **J.M. Brader**, University of Fribourg
Nonlinear response of dense colloidal suspensions under oscillatory shear

10:00 **M. Siebenbürger**, Helmholtz-Zentrum für Materialien und Energie Berlin
Startup experiments of concentrated suspensions

10:20 **Coffee break**

Session 6, Chair: Stefan Egelhaaf

10:50 **F. Weysser**, Universität Konstanz
A mixture of binary hard discs at the glass transition under shear

11:10 **Ch. J. Harrer**, Universität Konstanz
Active and Nonlinear Microrheology

11:30 **P. Chaudhuri**, Université Claude Bernard Lyon 1
Flow of soft jammed materials - linking global flow to local properties

11:50 **R. Besseling**, University of Edinburgh
Shear banding and flow-concentration coupling in colloidal glasses

12:10 **Lunch**

13:45 **Poster Session A**

15:20 **Coffee break**

Session 7, Chair: Srikanth Sastry

15:50 **A. Heuer**, Universität Münster
Facilitation effects in supercooled liquids as a key ingredient for the dynamics

16:10 **P. Verrocchio**, Università di Trento
Cooperatively rearranging regions and their interfaces close to the glass transition

16:30 **M. Tarzia**, Université Pierre et Marie Curie, Paris
First steps towards a renormalization group approach for glasses

16:50 **S. Franz**, CNRS and Université Paris-Sud
Field Theory of Fluctuations in Glasses

17:10 **Break**

Session 8, Chair: Juan Colmenero

17:30 **F. Sausset**, Université Paris Sud
Characterizing order in amorphous systems

17:50 **F. Cardinaux**, University of Fribourg
Heterogeneous dynamics in dense monodisperse emulsions

Friday, April 1

Session 9, Chair: Thomas Voigtmann

09:00 **P. Keim**, University of Konstanz
Dynamics and local order in a 2D colloidal glass former

09:20 **C. Dalle-Ferrier**, Universität Düsseldorf
Glass-like dynamics of colloids in modulated potentials

09:40 **S. Lang**, Universität Erlangen-Nürnberg
Glass transition in confined Geometry: A mode-coupling theory

10:00 **D. Coslovich**, Université Montpellier II
Slow dynamics in cluster crystals and cluster glasses

10:20 **Coffe break**

Session 10, Chair: Emanuela Zaccarelli

10:50 **S. Buzzaccaro**, Politecnico di Milano
Highly nonlinear dynamics in a slowly sedimenting colloidal gel

11:10 **B. Ruzicka**, Università di Roma "La Sapienza"
Phase Separation and Equilibrium gels in a colloidal clay

11:30 **J. R. Gomez-Solano**, CNRS, Lyon
Nonequilibrium fluctuations of a Brownian particle in a quenched gelatin droplet

11:50 **C. P. Royall**, University of Bristol
Faceted polyhedral colloidal 'rocks': low-dimensional slow networks

12:10 **Lunch**

13:45 **Poster Session B**

15:20 **Coffee break**

Session 11, Chair: Giulio Biroli

15:50 **L. Berthier**, Université Montpellier 2
Six 'critical' packing fractions for disordered hard sphere systems

16:10 **M. Sperl**, Deutsches Zentrum für Luft- und Raumfahrt, Köln
Glass Transition in Driven Granular Matter

16:30 **H. Jacquin**, Université Paris Diderot – Paris 7
Microscopic many-body theory of the jamming transition

16:50 **P. Charbonneau**, Duke University
Structural Correlations in Jammed and Glass-Forming Hard Spheres Fluids

17:10 **Break**

Session 12, Chair: Ulrich Buchenau

17:30 **G. Monaco**, European Synchrotron Radiation Facility, Grenoble
Macroscopic, mesoscopic and microscopic regimes for the dynamical properties of disordered systems

17:50 **A. Arbe**, Centro de Física de Materiales, San Sebastián
Nanophase Separation and Anomalous Dynamics in Comb-like Polymers

19:00 **Conference Dinner** (Ristorante Il Pompiere, via di Santa Maria de' Calderari 38)

Saturday, April 2

Session 13, Chair: Francesco Sciortino

09:00 **A. S. Keys**, University of California Berkeley
Computer simulation study of structure and dynamics of elementary excitations in model glass forming liquids

09:20 **G. Tarjus**, Université Pierre et Marie Curie, Paris
The role of attractive forces in visquous liquids and its consequence for theories of the glass transition

09:40 **H. Tanaka**, University of Tokyo
Structural signature of slow dynamics in supercooled liquids: Critical-like glassy structural ordering

10:00 **E. Sanz**, University of Edinburgh
Crystallization Mechanism of Hard Sphere Glasses

10:20 **Coffee break**

Session 14, Chair: Giorgio Parisi

10:50 **C. A. Angell**, Arizona State University
An evaluation of the "ideal glassformer" concept, using van der Waals ellipsoids in the Gay-Berne model

11:10 **F. Mallamace**, Università di Messina
The dynamic crossover temperature is as important as the glass transition temperature: Evidence from liquid transport coefficients

11:30 **Closing Remarks**, G. Parisi

12:00 **Guided Tour to Villa Farnesina**