Contents

1 BOOKS AND BOOK CHAPTERS 1
2 REVIEW ARTICLES 2
3 ARTICLES IN INTERNATIONAL PEER REVIEWED JOURNALS 2
4 CONFERENCE PROCEEDINGS 10
5 LECTURES IN SUMMER SCHOOLS 12
6 INVITED TALKS IN INTERNATIONAL CONFERENCES 12
7 INVITED TALKS IN NATIONAL CONFERENCES 15

1 BOOKS AND BOOK CHAPTERS

Author

- "Basic concepts for simple and complex liquids"
  J-L. Barrat, Jean-Pierre Hansen
  Cambridge University Press, 2003


- "Theory of freezing and inhomogeneous liquids"
  J-L. Barrat, J-P. Hansen, in Simple Molecular systems at very high density (Editors P. Loubeyre, N. Boccara, Plenum, NY, 1988)

- "Molecular dynamics studies of diffusion in liquids"


Editor
2 REVIEW ARTICLES

1. "Molecular dynamics of supercooled liquids near the glass transition"

2. "Theory of polyelectrolyte solutions"

3. "Flow boundary conditions, from microscale to macroscale”, L. Bocquet,


3 ARTICLES IN INTERNATIONAL PEER REVIEWED JOURNALS


2. "On the stability of polydisperse colloidal crystals”
   J-L. Barrat, J-P. Hansen, J. de Physique 47, 1547 (1987)

3. "Role of triple correlations in the freezing of the one component plasma”


6. "Density functional theory of soft sphere freezing”

7. "Factorization of the triplet direct correlation function in dense fluids”

8. "Freezing of binary hard disks alloys. I : equation of state and pair structure of the fluid state”

9. "On the equilibrium properties of dense fluids: Triplet correlations, integral equations and freezing”

10. "Plasmon Dispersion in dense, partially ionized plasmas”
11. "Collective modes and single particle motion in Yukawa fluids near freezing"

12. "Structure of a nonneutral classical plasma in a magnetic field"

13. "Crystallisation of Carbon-Oxygen mixtures in white dwarfs"

14. "Influence of size ratio on freezing of oppositely charged hard spheres"

15. "Elastic response of a simple amorphous binary alloy near the glass transition"

16. "Isotopic shift on the melting curve of helium : a path integral Monte-Carlo study"

17. "The liquid glass transition of the hard sphere system"

18. "Dynamical diagnostics for the glass transition in a soft sphere binary alloy"

19. "Structural relaxation and dynamical correlations in a molten salt near the liquid glass transition : a molecular dynamics study"

20. "Mode coupling theory for the glass transition in a simple binary mixture"

21. "Simulation of brownian motion with frequency dependent friction"

22. "The role of molecular flexibility in the simulation of water"

23. "Density functional theory of freezing for simple systems"

24. "The phase diagram of hard spheres in a periodic external potential"

25. "Diffusion, viscosity and structural slowing down in soft sphere alloys near the kinetic glass transition"


27. "Collective and single chain fluctuations in block copolymers near the order-disorder transition"

28. "Diffusion of a symmetric copolymer in a periodic external potential"

29. "Molecular dynamics investigations of tracer diffusion in a simple liquid"
30. "Barometric equilibrium as a probe of the equation of state in colloidal systems"
31. "A possible mechanism for swelling of polymer brushes under shear"
32. "On the scattering properties of polyelectrolyte gels"
   J-L. Barrat, J-F Joanny, P. Pincus Journal de Physique II 2, 1531 (1992)
33. "Stability of Van der Waals compounds and intermolecular potentials in Helium-Xenon mixtures"
34. "Numerical study of a charged bead-spring chain"
35. "Hydrodynamic boundary conditions and correlation functions of confined fluids"
36. "Density profile of concentrated colloidal suspensions in sedimentation equilibrium"
37. "Persistence length of polyelectrolyte chains"
38. "Hydrodynamic boundary conditions, correlation functions and Kubo relations for confined fluids"
39. "Interacting rigid polyelectrolytes"
40. "Diffusive motion in confined fluids: mode coupling results and molecular dynamics calculations"
41. "Orientational glass transition in a rotator model"
42. "Numerical simulation of α quartz under nonhydrostatic compression"
43. "Quantitative study of a cooling granular medium"
44. "Strong to Fragile transition in a model of liquid silica"
45. "Energy input in a fluidized granular medium at a vibrating wall"
46. "Fast Diffusion of a Lennard-Jones cluster on a smooth substrate"
47. "Aging Effects in a Lennard-Jones Glass"
48. "Theoretical study of a novel five-coordinated silica polymorph"
49. "Melting, freezing and coalescence of gold nanonoclusters"
50. "Melting and Pressure-Induced Amorphization of Quartz"
51. "Fluctuation dissipation ratio in an aging Lennard-Jones glass"


71. "Dynamical Properties of the Slithering Snake Algorithm: A numerical test of the activated reptation hypothesis"

72. "Kapitza resistance at the liquid solid interface"

73. "Low friction flows of liquids at nanopatterned interfaces"


86. "Linear and nonlinear viscoelasticity of a model polymer melt: Molecular Dynamics and Rouse Modes analysis" M. Vladkov, J.-L. Barrat, Macromolecular theory and simulation 15 252 (2006)


118. "Influence of Tie and Loop Molecules on the Mechanical Properties of Lamellar Block Copolymers” A. Makke, M. Perez, O. Lame, J-L. Barrat Macromolecules, 45 8445-8452 (2012)


4 CONFERENCE PROCEEDINGS


5 LECTURES IN SUMMER SCHOOLS

1. "Calcul des propriétés de transport par dynamique moléculaire". Ecole d’été “Simulation de systèmes complexes” (Dijon, Juin 1995) - 4h lectures.

2. "Hydrodynamique à petite échelle et relaxation lentes dans les liquides”. Ecole de Physique Statistique de Beg Rohu "Systèmes vitreux et dynamique lente", France, Avril 1996. 20 hours lectures.

3. "Mode Coupling Theories” NATO ASI on Glasses (Organized by R. Julien), Cargese 1999, 6h lectures.

4. "Introduction to the Physics of Glasses” CNRS Summer school, AUtrans, June 2004, 6 hours lectures.

5. "Glasses and Ageing” Séminaire transalpin de physique, Champex, Mars 2006, 2 hours


7. "From micro to macroscale: examples from hydrodynamics, elasticity and plasticity” Granada school on computational physics Septembre 2008, 4 hours.

8. "Examples of multiscale modeling” Les Houches doctoral school "frontiers in condensed matter”, September 2010, 6 hours.

9. "Elasticity and plasticity of glasses”, JNCAS School on glasses, Bangalore, February 2011, 4 hours.

10. "Deformation of amorphous materials”, Minerva School, Weizmann Institute, February 2012, 4 hours.

11. "Coarse grained simulation for materials and interfaces”, Les Houches summer school, July 2012, 5h

12. "Elasticity and plasticity in amorphous materials, a statistical perspective” Fundamental problems in statistical physics 14, Bruneck, July 2017

6 INVITED TALKS IN INTERNATIONAL CONFERENCES

1. "Computer simulation of supercooled fluids” International meeting on relaxation in complex systems, Heraklion, Crete. (Juin 1991)

2. "Molecular dynamics of diffusion in liquids” Taniguchi conference on Molecular Dynamics, Ise Shima, Japon (Novembre 1991)

3. "Molecular dynamics in supercooled fluids near the glass transition” Gordon conference ”Physics and Chemistry of liquids” Plymouth, New Hampshire, USA (Aout 1992)


5. "Persistence length of charged polymer chains” Materials Research Society Meeting, Symposium on complex fluids (Boston, Décembre 1993)

6. "Dynamics of confined fluids and hydrodynamic boundary conditions” International workshop ”Molecular aspects of confined fluids” (Les Houches, Février 1994)

7. "Simulation and theory of simple supercooled fluids” Euroconference ”Neutrons in disordered matter” (Stockholm, Juin 1994)

8. "Structure of charged polymer chains” Institute of Theoretical Physics Workshop on Biomolecular Materials (Santa Barbara, USA, Aout 1994)
9. "Dynamical properties of polyelectrolytes" CECAM meeting on "Numerical studies of polyelectrolytes" (Lyon, Mars 1995)

10. "Mode coupling theories and simulation results on the glass transition". International workshop on "Recent advances in the theory of disordered systems: spin glasses, random fields, random polymers" (Saclay, July 1995)


15. "Large slip effects at a nonwetting fluid-solid interface" Faraday discussion "Physical Chemistry in the mesoscopic regime" Chester, April 1999.


21. "Dynamics at the liquid solid interface" Workshop on friction, CECAM, Lyon, Aout 2001

22. "Dynamics of linear and entangled polymers", Simu Conference "Bridging the time scale gap", Konstanz, Septembre 2001


26. "Rheology of amorphous solids by MD simulations" International conference on Molecular simulation, Tsukuba, Japon, Janvier 2004

27. "Elastic inhomogeneities in amorphous solids" XIXth Sitges Conference on Statistical Physics, Sitges, June 2004

28. "Effective temperature in driven systems" CECAM workshop on Fluctuations in nonequilibrium systems, Lyon, July 2004

29. "Nanorheology" SIMU/ESF conference "Bridging the gap", Genoa, August 2004


31. "Theories of the glass transition" Tutorial lecture, American Physical Society March meeting, Los Angeles, March 2005


38. "Local dynamics and entanglements in a polymer melt", Cecam workshop "Polymers at Interfaces", Lyon, October 2006.


40. "Heat transfer at the solid liquid interface: implications for nanofluids" International conference on nanofluids, Copper Mountain, Colorado, October 2007

41. "Rheology of glassy systems", Réunion annuelle de la société hollandaise de physique (FOM), Veldhoven, Janvier 2008

42. "Shear flow in dense colloids" Transregio SFB on Colloid Research, Bonn, Mars 2008

43. "Towards a multiscale modelling of amorphous systems" ESF Conference "Bridging length and time scales", Konstanz, Avril 2008

44. "Interfacial transport" Beijing KITP workshop on nanofluidics and microfluidics, May 2008, invited participant

45. "Elasticity and plasticity of glasses" Leiden Lorentz center workshop on glasses, August 2008

46. "Heat transfer and velocity slip at fluid solid interfaces" Juelich Soft Matter days, November 2008

47. "The jamming transition under shear" Euromech conference, Lisbon, September 2009


49. "Jamming transition of frictionless grains probed by shear flow" KITP Conference "Emerging concepts in glass physics", Santa Barbara, June 2010


52. "Plasticity of amorphous materials", CECAM workshop on mechanical properties of amorphous systems, Dublin, July 2011

53. Round table discussion panel member, SIMBIOMA conference, Konstanz, October 2011


55. "Viscosity divergence in suspensions at the jamming transition", Workshop on Complex transport in strongly interacting systems, Munich, July 2012

58. "Sheared athermal systems at jamming" 7th International discussion meeting on relaxation in complex systems, Barcelona, July 2013
60. "Quantitative modeling of a microemulsion flow" Schloss Ringberg, Max Planck Society meeting, May 2014
61. "Elastic properties of disordered systems" Heraeus School, Köln September 2014
62. "Mean field models of deformation", Workshop on Amorphous Solids, UNAM-Cuernavaca, March 2015
63. "Simple models of deformation in amorphous solids” Workshop on dynamics in hard and soft condensed matter, Buenos Aires 2015
64. "Mesoscale models of flow in glassy solids”, Nonlinear response to probe vitrification, Innsbruck 2015
65. "Elastoplastic models for amorphous plasticity” Avalanches, plasticity, and nonlinear response in nonequilibrium solids, Kyoto March 2016
67. "Elastoplastic models of plasticity in disordered systems” Statphys 26, Lyon, July 2016
70. "Simulating mechanical properties of nanostructured polymers with coarse grained models “, 8th International conference on Multiscale Materials Modelling, Dijon, October 2016
71. "Dynamical properties of a simple model of living tissue”, Recent Advances on the Glass and Jamming Transitions, Lausanne 2017

7 INVITED TALKS IN NATIONAL CONFERENCES

2. "Introduction aux théories de couplage de modes” Colloque "Assemblages moléculaires complexes” (Lyon, May 1993)
3. "Coefficients de transport et dynamique moléculaire” Séminaire Daniel Dautreppe "Expérimentation Numérique” (Grenoble, Septembre 1993)
4. "Polyelectrolytes en solution” Journées de la matière condensée de la Société Française de Physique, plenary talk (Rennes, September 1994)


13. "Modélisation de la rhéologie des systèmes vitreux mous", Groupe français de Rhéologie, Lyon, Décembre 2010