

Silvia Corezzi, PhD

Physics Researcher

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1967: Born on 21 March

1994: Master in Physics (University of Pisa)

1995: VI National School of Materials Science

2002: PhD in Physics (University of Perugia)

2006: SFB TR6 Summer School on Soft Matter 'Colloids in External Fields: Physics and Applications'

POSITIONS

1995-2007: Research Assistant at the University of Pisa, University of Perugia, University of Roma 'La Sapienza', CNR-INFM PolyLab

2007-2008: CNR-INFM Researcher

2008-present: Researcher (in Physics of Matter) at the University of Perugia

SCIENTIFIC ACTIVITY ABROAD

2000: Visiting Scientist at Fachbereich Physik, Universität Halle, Germany

2008: Visiting Scientist at École Normale Supérieure de Lyon, France

2009: CNRS-Associate Researcher at École Normale Supérieure de Lyon, France

TEACHING

2000-2008: Teaching Assistant in General Physics at the Faculty of Engineering (Univ. Perugia)

2009-2018: 13 Master-courses in Physics, Spectroscopy, Didactics of Physics (Univ. Perugia)

Supervisor or Tutor of 6 Master Thesis and 2 Ph.D. Thesis

RESEARCH

2000-2016: Participation in the research activity of 4 PRIN projects, 1 INFM-PAIS project, 1 INFM-PRA project, 2 FIRB projects, 1 project of the University of Perugia.

2009-2015: participation in the project "Materia soffice: Self-Assembly, Clustering, Arresto Strutturale" of CNR.

2003-2016: 15 experiments in the major international synchrotron light and neutron infrastructures after proposal acceptance.

Main research interests include: relaxational and vibrational dynamics of disordered materials (liquids, glasses, polymers); supercooled liquids and glasses; glass transition; gelation; chemical vitrification; polymerizations; epoxy resins; viscoelastic characterization of materials; aggregation kinetics of soft matter; hydration properties of molecules of biological interest.

Techniques: Light scattering (Brillouin spectroscopy, inelastic x-ray spectroscopy, photon-correlation spectroscopy, Raman spectroscopy), dielectric spectroscopy, neutron spectroscopy, calorimetry, reology, molecular dynamics simulations.

WORKSHOP ORGANIZATION

Member of the Organizing Committee (Scientific Secretariat) of the international conference "Frontiers in Water Biophysics 2012" -Perugia (Italy).

Member of the Organizing Committee (Scientific Secretariat) of the international conference "Frontiers in Water Biophysics 2017" -Erice (Italy).

Member of the Organizing Committee (Scientific Secretariat) of the international conference "Frontiers in Water Biophysics 2019" -Erice (Italy).

GRANTS AND AWARDS

2008: S. Corezzi et al., *Soft Matter* **4**, 1173 (2008) – Recognized as “hot article” for *Soft Matter*
2008: Recipient of CNR grant for “*Short-Term Mobility (STM) 2008*”
2009: Recipient of 3-months Associate Researcher grant from CNRS at ENS de Lyon (France)
2012: S. Corezzi et al., *Soft Matter* **8**, 11207 (2012) – Recognized as “hot article” for *Soft Matter* and highlighted on Soft Matter Blog (<http://blogs.rsc.org/sm/2013/01/02/>)
2012: Recipient of “*premium una-tantum*” of the University of Perugia
2012: *National Scientific Abilitation* as Associate Professor (Sector: Experimental Physics of Matter)
2018: *National Scientific Abilitation* as Associate Professor (Sector: Models and Methods for the Chemical Sciences)
2018: *National Scientific Abilitation* as Associate Professor (Sector: Applied Physics)

RECENT FUNDING RECORD

2014: Principal Investigator of “Progetto di Ricerca di Base 2014” – Title: “*Volcanic glass structure and eruption dynamics: a multidisciplinary approach integrating geological and physical methods*” (5.500 EURO)
2014-2017 Principal Investigator of “PRIN 2012” – Title: “*SMART: New smart gels from the soft matter*” - Project 2012J8X57P (153.000 EURO)
2017: “Finanziamento delle attività base di ricerca (FFABR) 2017” (3.000 EURO)

OTHER ACTIVITIES

2009-2010: Member of the Commission of Scientific-Disciplinary Area n.2
2009-2011: Member of the teaching-committee of the Ph.D. Course in “Physics and Physical Technologies” (Univ. Perugia)
2015-present: Member of the teaching-committee of the Ph.D. Course in “Science and Technology for Physics and Geology” (Univ. Perugia)
2015-present: Member of the Committee on Research of the Department of Physics and Geology (Univ. Perugia)
Jun2009-Dec2015: Associated to *Institute for Complex Systems* of CNR (CNR-ISC)
Jun2017-present: Associated to *Institute of Materials* of CNR (CNR-IOM)
March2018-present: Associated to *Institute of Nuclear Physics* (INFN)

TALKS AND CONFERENCES

11 invited speaker contributions; 1 invited lecture at international school (Sweden); 15 regular oral contributions; more than 27 posters.

List of invited contributions

- *Martin-Luther-Universität Halle-Wittenberg*, July 2000 in Halle (Saale), Germany. Lecture: ‘Check of models of the glass transition by temperature- and pressure-dependent measurements’.
- *15th Polymer Networks Group Meeting: Polymer Networks’2000*, July 2000 in Krakow, Poland. Plenary lecture: ‘Influence of temperature, pressure and connectivity on the dynamics of glass formers explored by dielectric spectroscopy’.
- *4th International Discussion Meeting on Relaxations in Complex Systems*, June 2001 in Heraklion (Crete), Greece. Talk: ‘Glass transition of an epoxy resin: influence of temperature, pressure and connectivity’.
- *INFN Research Unit of Pisa*, October 2001 in Pisa, Italy. Lecture: ‘Glass transition of an epoxy resin induced by temperature, pressure and chemical conversion: A configurational entropy rationale’.
- *5th International Discussion Meeting on Relaxations in Complex Systems (IDMRCS)*, July 2005 in Lille, France. Talk: ‘Dynamical arrest in a chemically reactive fluid’.
- *École Normale Supérieure de Lyon*, March 2008 in Lyon, France. Seminar: ‘Glue-glasses: Step polymers as a laboratory into understanding glass formation’.

- Summer School *Glass formation, gelation and colloidal aggregation*, 17-22 August 2008, Smögen (Sweden). Invited lecture: 'Glue-glasses: the chemical pathway to glasses and gels'.
- 6th *International Discussion Meeting on Relaxations in Complex Systems (IDMRCS)*, 30 August–5 September 2009 in Roma, Italy. Talk: 'Connecting irreversible to reversible aggregation: A molecular dynamics study of a patchy particle model'.
- 7th *International Discussion Meeting on Relaxations in Complex Systems (IDMRCS)*, 21-26 July 2013 in Barcelona, Spain. Talk: 'Stress-induced modification of the boson peak scaling behavior'.
- 8th *International Discussion Meeting on Relaxations in Complex Systems (IDMRCS)*, 23-29 July 2017 in Wisła, Poland. Talk: 'Autocatalytic aggregation of patchy particles'.
- International workshop "*Glasses and Polymers: the Science of Disorder*", 15-16 November 2018, Messina (Italy). Talk: 'Exploiting patchy particles to understand autocatalytic aggregation'.

List of regular contributions

- CNR-GNSM Sez.B & INFM Sez.C Annual Meeting, November 1997 in Genova, Italy. Talk: 'Dielectric relaxation in epoxy glass-forming systems'.
- 5th *International Conference on Dielectric and Related Phenomena*, September 1998 in Bielsko-Biala, Poland. Talk: 'The check of the Stokes-Einstein-Debye diffusion law in epoxies of increasing molecular complexity'.
- GNSM-Sez. B & SISN Annual Meeting, November 1998 in Perugia, Italy. Talk: 'Check of the Debye-Stokes-Einstein diffusion law in epoxy systems with increasing molecular complexity'.
- 7th *International Workshop on Disordered Systems*, March 1999 in Molveno-Andalo, Italy. Talk: 'Relaxation behaviour of supercooled systems explored by full analysis of the dielectric response'.
- *National Conference on Physics of Matter*, June 2000 in Genova, Italy. Talk: 'Check of models of the glass transition by means of temperature- and pressure-dependent dielectric measurements'.
- 9th *International Workshop on Disordered Systems*, March 2003 in Molveno-Andalo, Italy. Talk: 'Configurational entropy and dynamics in chemical vitrification'.
- 10th *International Conference on the Physics of Non-Crystalline Solids*, July 2003 in Parma, Italy. Talk: 'Physical and chemical vitrification: the role of configurational entropy'.
- 3rd *International Symposium on Slow Dynamics in Complex Systems*, November 2003 in Sendai, Japan. Talk: 'The role of configurational entropy in physical and chemical vitrification'.
- 6th *Liquid Matter Conference*, July 2005 in Utrecht, The Netherlands. Talk: 'Clustering, glass transition and gelation in a reactive fluid'.
- 10th *International Workshop on Disordered Systems*, 18-21 March 2006, Molveno (Trento), Italy. Talk: 'Bond-induced static and dynamic evolution in chemically reactive mixtures: IXS experiments and simulations'.
- 11th *International Workshop on Disordered Systems*, 16-20 March 2008, Andalo (Trento), Italy. Talk: 'Effect of polymerization on the Boson Peak, from the liquid to glassy phase'.
- 12th *International Workshop on Disordered Systems*, 15-18 March 2010, Andalo (Trento), Italy. Talk: 'A molecular dynamics study of a patchy particle model'.
- *WaterEurope 2014*, 12-14 June 2014, Zaragoza, Spain. Talk: 'Hydration and rotational diffusion of levoglucosan revealed by extended depolarized light scattering'.
- *Frontiers in Water Biophysics 2015*, 7-12 September 2015, Erice, Italy. Talk: 'Solute, solvent and solvation dynamics in water-carbohydrate solutions revealed by Extended Depolarized Light Scattering'.
- *II Workshop on Stability of Amorphous Pharmaceuticals*, 10-12 December 2015, Pisa, Italy. Talk: 'Plasticization and demixing behavior of ketoprofen-loaded PLGA studied by temperature scanning Brillouin spectroscopy'.

PUBLICATIONS

Author of 70 peer-reviewed publications, including 1 Nature, 1 Nature Communications, 4 Phys. Rev. Lett., 1 Phys. Rev. X

List of publications in international journals with referees

1. S. Corezzi, M. Bianucci, P. Grigolini, 'Chaos and thermal conductivity' *Phys. Rev. E* **52**, 6881 (1995)
2. R. Casalini, S. Corezzi, D. Fioretto, A. Livi, P.A. Rolla, 'Unified dielectric description of the dynamics of polymeric systems undergoing either thermal or chemical vitrification' *Chem. Phys. Lett.* **258**, 470 (1996)
3. R. Casalini, S. Corezzi, A. Livi, G. Levita, P.A. Rolla, 'Dielectric parameters to monitor the cross-link of epoxy resins' *J. Appl. Polym. Sci.* **65**, 17 (1997)
4. S. Corezzi, S. Capaccioli, G. Gallone, A. Livi, P.A. Rolla, 'Dielectric behaviour vs. temperature of a monoepoxide' *J. Phys.: Condens. Matter* **9**, 6199 (1997)
5. S. Capaccioli, S. Corezzi, G. Gallone, P.A. Rolla, L. Comez, D. Fioretto, 'Dynamics of epoxies: a full dielectric analysis by wideband spectroscopy' *J. Non-Cryst. Solids*, **235-237**, 576 (1998)
6. S. Capaccioli, E. Butta, S. Corezzi, M. Lucchesi, P.A. Rolla, 'Hopping charge transport in conducting polymers studied by dc conduction and dielectric response analysis' in 'Xerographic Photoreceptors and Organic Photorefractive Materials IV', S. Ducharme/J.W. Stasiak, Editors, *Proc. SPIE Int. Soc. Opt. Eng.*, **3471**, 162-173 (1998)
7. D. Fioretto, L. Comez, G. Socino, L. Verdini, S. Corezzi, P.A. Rolla, 'Dynamics of density fluctuations of a glass forming epoxy resin revealed by Brillouin light scattering' *Phys. Rev. E*, **59**, 1899 (1999)
8. L. Comez, D. Fioretto, L. Palmieri, L. Verdini, S. Corezzi, J. Gapinski, A. Patkowski, W. Steffen, E.W. Fischer, 'Dielectric and light-scattering analysis of the α -relaxation of an epoxy system' in 'Polymers and Liquid Crystals', Andrzej Wlochowicz Editor, *Proceedings of SPIE Vol.4017*, 120-124 (1999)
9. S. Corezzi, E. Campani, P.A. Rolla, S. Capaccioli, D. Fioretto, 'Changes in the dynamics of supercooled systems revealed by dielectric spectroscopy' *J. Chem. Phys.*, **111**, 9343 (1999)
10. S. Corezzi, P.A. Rolla, M. Paluch, J. Ziolo, D. Fioretto, 'Influence of temperature and pressure on dielectric relaxation in a supercooled epoxy resin' *Phys. Rev. E*, **60**, 4444 (1999)
11. S. Corezzi, S. Capaccioli, G. Gallone, M. Lucchesi, P. A. Rolla, 'Dynamics of a glass-forming triepoxide studied by dielectric spectroscopy' *J. Phys.: Condens. Matter* **11**, 10297 (1999)
12. S. Corezzi, M. Lucchesi, P.A. Rolla, S. Capaccioli, G. Gallone, M. Paluch, 'Temperature and pressure dependences of the relaxation dynamics of supercooled systems explored by dielectric spectroscopy' *Philos. Mag. B* **79**, 1953 (1999)
13. S. Corezzi, S. Capaccioli, R. Casalini, D. Fioretto, M. Paluch, P.A. Rolla, 'Check of the temperature and pressure dependent Cohen-Grest equation' *Chem. Phys. Lett.*, **320**, 113 (2000)
14. R. Casalini, S. Capaccioli, M. Lucchesi, P.A. Rolla, S. Corezzi, 'Pressure dependence of structural relaxation time in terms of the Adam-Gibbs model' *Phys. Rev. E* **63**, 031207 (2001)
15. G. Gallone, S. Capaccioli, G. Levita, P.A. Rolla, S. Corezzi, 'Dielectric Analysis of the linear Polymerization of an Epoxy Resin' *Polym. Int.*, **50**, 545 (2001)
16. S.C. Santucci, S. Corezzi, D. Fioretto, S. Capaccioli, R. Casalini, M. Lucchesi, S. Presto, P.A. Rolla, 'Glass transition of an epoxy resin: a wideband dielectric investigation' *IEEE Trans. Diel. El. Ins.*, **8**, 373 (2001)
17. R. Casalini, S. Corezzi, S. Capaccioli, S. Presto, M. Paluch, M. Lucchesi, P.A. Rolla, 'Influence of temperature and pressure on the dynamics of glass formers explored by dielectric spectroscopy' *IEEE Trans. Diel. El. Ins.*, **8**, 395 (2001)
18. S. Corezzi, S. Capaccioli, R. Casalini, P.A. Rolla, G. Gallone, 'Influence of temperature, pressure and connectivity on the dynamics of a glass-forming system investigated by dielectric spectroscopy' *Macromol. Symp.*, **171**, 253 (2001)
19. R. Casalini, S. Capaccioli, M. Lucchesi, P.A. Rolla, M. Paluch, S. Corezzi, D. Fioretto, 'Effect of pressure on the dynamics of glass formers' *Phys. Rev. E*, **64**, 041504 (2001)
20. S. Capaccioli, M. Lucchesi, R. Casalini, S. Presto, P.A. Rolla, M.T. Viciosa, S. Corezzi, D. Fioretto, 'Pressure and temperature dependence of the dynamics of glass formers studied by broadband dielectric spectroscopy' *Philos. Mag. B* **82**, 651 (2002)
21. S. Corezzi, D. Fioretto, S.C. Santucci, S. Capaccioli, R. Casalini, M. Lucchesi, E. Hempel, M. Beiner, 'Relation between structural relaxation time and configurational entropy: a test of the Adam-Gibbs model on epoxy resins' *Philos. Mag. B*, **82**, 339 (2002)
22. S. Corezzi, M. Beiner, H. Huth, K. Schröter, S. Capaccioli, R. Casalini, D. Fioretto, E. Donth, 'Two crossover regions in the dynamics of glass forming epoxy resins' *J. Chem. Phys.*, **117**, 2435 (2002)

23. S. Corezzi, D. Fioretto, R. Casalini, P.A. Rolla, 'Glass transition of an epoxy resin induced by temperature, pressure and chemical conversion: a rationale based on configurational entropy' *J. Non-Cryst. Solids*, **307-310**,281 (2002)
24. R.Casalini, S.Capaccioli, M.Lucchesi, M.Paluch, S.Corezzi, PA.Rolla, 'Temperature and pressure behavior of the structural relaxation time in glass formers' *J. Non-Cryst. Solids*, **307-310**, 264 (2002)
25. S. Corezzi, D. Fioretto, P.A. Rolla, 'Bond-controlled configurational entropy reduction in chemical vitrification', *Nature* **420**, 653-656 (2002)
26. S. Corezzi, D. Fioretto, D. Puglia, J.M. Kenny, 'Light scattering study of vitrification during the polymerization of model epoxy resins' *Macromolecules* **36** (14), 5271-5278 (2003)
27. S. Corezzi, L. Comez, D. Fioretto, 'Configurational entropy and dynamics in chemical vitrification' *Philos. Mag.*, **84**, 1529 (2004)
28. L. Comez, S. Corezzi, D. Fioretto, 'Configurational and excess entropies of supercooled liquids and their relation with the structural relaxation' *Philos. Mag.*, **84**, 1521 (2004)
29. S. Corezzi 'The role of configurational entropy in chemical vitrification' *AIP Conf. Proc.*, **708**, 604 (2004)
30. L. Comez, S. Corezzi, D. Fioretto, H. Kriegs, A. Best, W. Steffen, 'Slow dynamics of salol: a pressure and temperature dependent light scattering study' *Phys. Rev. E*, **70**, 011504 (2004)
31. S. Corezzi, L. Comez, D. Fioretto, 'Can experiments select the configurational component of excess entropy?' *Eur. Phys. J. E*, **14**, 143-147 (2004)
32. S. Corezzi, L. Comez, D. Fioretto, 'Physical and chemical vitrification: the role of configurational entropy' *J. Non-Cryst. Solids*, **345-346**, 537 (2004)
33. S. Corezzi, D. Fioretto, J.M. Kenny, 'Clustering and cooperative dynamics in a reactive system' *Phys. Rev. Lett.*, **94**, 065702 (2005)
34. L. Comez, S. Corezzi, G. Monaco, R. Verbeni, D. Fioretto, 'Ergodic to nonergodic transition in liquids with a local order: the case of *m*-toluidine' *Phys. Rev. Lett.*, **94**, 155702 (2005)
35. S. Corezzi, L. Palmieri, J.M. Kenny, D. Fioretto, 'Clustering, glass transition and gelation in a reactive fluid' *J. Phys.: Condens. Matter*, **17**, S3557-S3563 (2005)
36. S. Corezzi, D. Fioretto, P.A. Rolla, 'Comment on 'Decrease in the configurational entropy during a melt's polymerization' [Chem. Phys. 305(2004) 231]' *Chem. Phys.*, **323**, 622 (2006)
37. L. Comez, S. Corezzi, G. Monaco, R. Verbeni, D. Fioretto, 'Non-ergodicity in a locally ordered fragile glass former' *J. Non-Cryst. Solids.*, **352**, 4531-4535 (2006)
38. S. Corezzi, L. Comez, D. Fioretto, G. Monaco, R. Verbeni, 'Bond-induced Ergodicity Breakdown in Chemically Reactive Mixtures' *Phys. Rev. Lett.*, **96**, 255702 (2006)
39. R. Volponi, S. Corezzi, D. Fioretto, 'Correlation between structural relaxation and distribution of particle clusters in glass-forming epoxy-amine mixtures undergoing step polymerization' *Macromolecules*, **40**, 3450 (2007)
40. S. Corezzi, C. De Michele, E. Zaccarelli, D. Fioretto, F. Sciortino, 'A molecular dynamics study of chemical gelation in a patchy particle model', *Soft Matter*, **4**, 1173-1177 (2008)
41. D. Fioretto, S. Corezzi, S. Caponi, F. Scarponi, G. Monaco, A. Fontana, L. Palmieri, 'Cauchy relation in relaxing liquids', *J. Chem. Phys.*, **128**, 214502 (2008)
42. S. Caponi, S. Corezzi, D. Fioretto, A. Fontana, G. Monaco, F. Rossi, *Raman-Scattering Measurements of the Vibrational Density of States of a Reactive Mixture During Polymerization: Effect on the Boson Peak*, *Phys. Rev. Lett.*, **102**, 027402 (2009)
43. S. Corezzi, C. De Michele, E. Zaccarelli, D. Fioretto, P. Tartaglia, F. Sciortino, *Connecting Reversible to Irreversible Aggregation: Time and Temperature*, *J. Phys. Chem. B*, **113**, 1233 (2009)
44. S. Corezzi, L. Urbanelli, P. Cloetens, C. Emiliani, L. Helfen, S. Bohic, F. Elisei, D. Fioretto, *Synchrotron-based X-ray fluorescence imaging of human cells labeled with CdSe quantum dots*, *Anal. Biochem.*, **388**, 33 (2009)
45. F. Sciortino, C. De Michele, S. Corezzi, J. Russo, E. Zaccarelli, P. Tartaglia, *A parameter-free description of the kinetics of formation of loop-less branched structures and gels*, *Soft Matter*, **5**, 2571-2575 (2009)
46. S. Corezzi, D. Fioretto, C. De Michele, E. Zaccarelli, F. Sciortino, *Modeling the crossover between chemically and diffusion-controlled irreversible aggregation in a small-functionality gel-forming system*, *J. Phys. Chem. B*, **114**, 3769-3775 (2010)
47. S. Caponi, S. Corezzi, D. Fioretto, A. Fontana, G. Monaco, F. Rossi, *Vibrational properties of a reactive mixture investigated during a chemical vitrification process*, *AIP Conf. Proc.*, **1255**, 221-223 (2010)

48. S. Corezzi, G. Santucci, J. M. Kenny, D. Fioretto, *Modeling diffusion-control in the cure kinetics of epoxy-amine thermoset resins: an approach based on configurational entropy*, *Polymer*, **51**, 5833-5845 (2010)
49. S. Caponi, S. Corezzi, D. Fioretto, A. Fontana, G. Monaco, F. Rossi, *Effect of polymerization on the Boson Peak, from liquid to glass*, *J. Non-Cryst. Solids*, **357** (2), 530-533 (2011)
50. S. Caponi, S. Corezzi, D. Fioretto, A. Fontana, F. Rossi, *Effect of the elastic properties modification on the vibrational density of states: a joint Brillouin and Raman scattering study*, *J. Appl. Polym. Sci.*, **122** (6), 3672–3676 (2011)
51. B. Rossi, S. Caponi, F. Castiglione, S. Corezzi, A. Fontana, M. Giarola, G. Mariotto, A. Mele, C. Petrillo, F. Trotta, G. Viliani, *Networking Properties of Cyclodextrin-based Cross-linked Polymers Probed by Inelastic Light Scattering Experiment*, *J. Phys. Chem. B*, **116**, 5323-5327 (2012)
52. S. Caponi, S. Corezzi, *Different routes to the glass transition: A comparison between chemical and physical vitrification*, *AIP Conf. Proc.*, **1459**, 33-35 (2012)
53. L. Comez, S. Corezzi, A. Orecchini, A. Paciaroni, C. Petrillo, S.C. Santucci, F. Sacchetti, D. Fioretto, *Comparison between Acoustic Compliance and Self-Particle Susceptibility in Associated Liquids: The case of Water and Glycerol*, *J. Mol. Liq.* **176**, 76-78 (2012)
54. S. Corezzi, D. Fioretto, F. Sciortino, *Chemical and physical aggregation of small-functionality particles*, *Soft Matter*, **8**, 11207-11216 (2012) – Highlight Article
55. D. Fioretto, L. Comez, S. Corezzi, M. Paolantoni, P. Sassi, A. Morresi, *Solvent sharing models for non-interacting solute molecules: The case of glucose and trehalose water solutions*, *Food Biophysics*, **8**, 177-182 (2013)
56. S. Corezzi, S. Caponi, F. Rossi, D. Fioretto, *Stress-induced modification of the boson peak scaling behavior*, *J. Phys. Chem. B*, **117**, 14477-14485 (2013)
57. L. Comez, S. Perticaroli, M. Paolantoni, P. Sassi, S. Corezzi, A. Morresi, D. Fioretto, *Concentration dependence of hydration water in a model peptide*, *Phys. Chem. Chem. Phys.* **16**, 12433--12440 (2014).
58. S. Corezzi, P. Sassi, M. Paolantoni, L. Comez, A. Morresi, D. Fioretto, *Hydration and Rotational Diffusion of Levoglucosan in Aqueous Solutions*, *J. Chem. Phys.* **140**, 184505 (2014)
59. S. Caponi, S. Corezzi, M. Mattarelli, D. Fioretto, *The effect of long range stresses on the elastic properties of amorphous polymeric materials*, *J. Chem. Phys.* **141**, 214901 (2014)
60. L. Comez, M. Paolantoni, L. Lupi, P. Sassi, S. Corezzi, A. Morresi, D. Fioretto, *Hydrophobic hydration in water-tert-butyl alcohol solutions by extended depolarized light scattering*, *J. Phys. Chem. B* **119**, 9236–9243 (2015)
61. S. Perticaroli, L. Comez, P. Sassi, M. Paolantoni, S. Corezzi, S. Caponi, A. Morresi, D. Fioretto, *Hydration and Aggregation of Lysozyme by Extended Frequency Range Depolarized Light Scattering*, *J. Non-Cryst. Solids* **407**, 472-477 (2015)
62. I. Mereu, A. Liotta, L. Comez, S. Corezzi, *On the interplay between the slowdown of dynamics and the kinetics of aggregation: The case study of a reactive binary mixture*, *J. Chem. Phys.* **142**, 154905 (2015)
63. L. Comez, M. Paolantoni, S. Corezzi, L. Lupi, P. Sassi, A. Morresi, and D. Fioretto, *Aqueous solvation of amphiphilic molecules by extended depolarized light scattering: The case of trimethylamine-N-oxide*, *Phys. Chem. Chem. Phys.* **18** (13), 8881-8889 (2016)
64. L. Comez, M. Paolantoni, P. Sassi, S. Corezzi, A. Morresi, D. Fioretto, *Molecular properties of aqueous solutions: a focus on the collective dynamics of hydration water*, *Soft Matter* **12**, 5501-5514 (2016) - Review Article
65. F. Scarponi, S. Mattana, S. Corezzi, S. Caponi, L. Comez, P. Sassi, A. Morresi, M. Paolantoni, L. Urbanelli, C. Emiliani, F. Palombo, J. Sandercock, D. Fioretto, *High-performance versatile setup for simultaneous Brillouin-Raman micro-spectroscopy*, *Phys. Rev. X* **7**, 031015 (2017)
66. C. Bottari, L. Comez, S. Corezzi, F. D'Amico, A. Gessini, A. Mele, C. Punta, L. Melone, A. Pugliese, C. Masciovecchio, B. Rossi, *Correlation between collective and molecular dynamics in pH-responsive cyclodextrin-based hydrogels*, *Phys. Chem. Chem. Phys.*, 2017, DOI: 10.1039/C7CP04190J
67. C. Bottari, L. Comez, M. Paolantoni, S. Corezzi, F. D'Amico, A. Gessini, C. Masciovecchio, B. Rossi, *Hydration properties and water structure in aqueous solutions of native and modified*

cyclodextrins by UV Raman and Brillouin scattering, J. Raman Spectrosc. 1-10 (2018) DOI: 10.1002/jrs.5372

68. B. Rossi, C. Bottari, Comez, S. Corezzi, M. Paolantoni, A. Gessini, C. Masciovecchio, A. Mele, C. Punta, L. Melone, A. Fiorati, A. Radulescu, G. Mangiapia, A. Paciaroni, *Structural and molecular response in cyclodextrin-based pH-sensitive hydrogels by the joint use of Brillouin, UV Raman and Small Angle Neutron Scattering techniques*, Journal of Molecular Liquids 271, 738-746 (2018) – DOI: 10.1016/j.molliq.2018.08.141
69. S. Corezzi, L. Comez and M. Zanatta, *A simple analysis of Brillouin spectra from opaque liquids and its application to aqueous suspensions of poly-N-isopropylacrylamide microgel particles*, Journal of Molecular Liquids 266, 460-466 (2018) – DOI: 10.1016/j.molliq.2018.06.072
70. S. Corezzi, F. Sciortino, C. De Michele, *Exploiting limited valence patchy particles to understand autocatalytic kinetics*, Nature Communications 9, 2647 (2018) – DOI: 10.1038/s41467-018-04977-0

Other publications

71. L. Comez, S. Corezzi, G. Monaco, R. Verbeni, D. Fioretto, 'Nonergodicity in a locally ordered liquid in proximity of the glass transition' *ESRF Highlights 2005*
72. L. Comez, S. Corezzi, G. Monaco, R. Verbeni, D. Fioretto, 'Non-ergodicity in locally ordered systems' *CNR-SOFT Scientific Report 2004-2006*, 66 (2007)
73. S. Corezzi, D. Fioretto, J.M. Kenny, 'Clustering and cooperative dynamics in reactive mixtures' *CNR-SOFT Scientific Report 2004-2006*, 89 (2007)

BIBLIOMETRIC INDICATORS (source ISI-WOS 2/2019)

ORCID: orcid.org/0000-0002-3437-5949

ResearcherID: B-9035-2016

h_index=23

N° of all referred papers: 70

N° of all citations: 1273

Average citations per year: 55.35

Average citations per item: 18.19