

Curriculum Vitæ

Agilio Padua

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Name: Agílio A. H. PÁDUA

Civil status: age 51 (born 27/09/1966, Portugal); married, two children; binational Portuguese and French.

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Background and career

2018– Distinguished professor of Chemistry (*prof. cl. ex. 2^e éch.*), École Normale Supérieure de Lyon.

2017–18 Distinguished professor rank 2 (*professeur classe exceptionnelle 2^e échellon*, the highest rank in French academic careers), Université Clermont Auvergne, awarded by the National Universities Council (CNU) in Physical Chemistry.

2013–18 Senior member of the Institut Universitaire de France, an institution that appoints 2% of French academics in research-intensive chairs.

2014–15 Visiting scholar, MIT Dept. of Chem. Eng., with profs. Daniel Blankschtein and Michael Strano.

2014–17 Distinguished professor rank 1 (*professeur classe exceptionnelle 1^{er} échellon*) of Physical Chemistry, Univ. Clermont Auvergne.

2008–14 Full professor (*professeur 1^e classe*) of Physical Chemistry, Univ. Blaise Pascal Clermont-Ferrand.

2008 Invited professor, Univ. Nova Lisbon, Institute of Chem. and Biol. Technol. (ITQB) Oeiras, Portugal.

2003–08 Associate professor (*professeur 2^e classe*) of Physical Chemistry, Univ. Blaise Pascal.

2001 Habilitation (required to supervise PhDs autonomously and to apply to professor positions), Univ. Blaise Pascal.

1996–03 Lecturer (*maitre de conférences*) in Physical Chemistry, Univ. Blaise Pascal, Chemistry Dept.

1994–96 Research associate, Imperial College London, Dept. of Chem. Eng., with Prof. Martin Trusler.

1990–94 PhD in Chem. Eng., Instituto Superior Técnico, Lisbon, with profs. Jorge Calado and João Fareleira. Close collaboration with Prof. Sir William Wakeham, Imperial College London.

1984–89 Chemical Engineering Diploma, Instituto Superior Técnico, Lisbon.

Research subjects

The central concept of my research is that of **designer liquid**: a solvent, a reaction or separation medium, an electrolyte, a lubricant, etc. that is tailored in view of applications in novel processes or devices. My research is driven by the development of sustainable technologies using new classes of liquids, whose properties need to be understood. In order to design liquid media two elements are essential: i) an understanding of the physical chemistry to establish relations between molecular structures and interactions, and the target properties; ii) a configurable and tuneable chemical platform, i.e. compounds that retain the liquid state while tolerating a variety of chemical functions. My research concerns two main topics:

Alternative solvents and reaction media for a greener and more sustainable chemistry, namely separations and recycling of bio-sourced materials. Recent classes of solvents and technological fluids, namely ionic liquids and eutectic solvents, offer enormous variety and have a resilient microscopic structure because they are dense coulombic systems. Many of these phases are stable and are also cleaner and safer alternatives to volatile organic solvents.

Interfaces with 2D nanomaterials , how to design solvents for processing nanomaterials and electrolytes for novel devices using 2D materials, such as sensors, capacitors or transistors.

The unifying aspect of this research is the challenge to measure and model the delicate, non-covalent interactions of liquid media with solutes and materials. I combine computational studies, using accurate electronic structure theories and molecular simulation methods, with experimental techniques (nanocalorimetry) to study and design new technological fluids.

Publications

Output and impact¹

Publications	149	Bibliometrics	Communications
Articles	137	Citations 8746	Plenary/invited 40
Books edited	1	8270	Web of Science Communications 140+
Chapters	5	h-index 46	Scopus Seminars 40+
Proceedings	5	45	Web of Science Outreach 5
Outreach (editorials)	1 (5)	50	Google Scholar

1 paper with >1000 citations, 4 with >500, 7 with >250, 14 papers with >100 citations.

Selection of highly cited articles

Article	Journal	Cit.
Liquid-phase exfoliation of phosphorene: insights from MD	<i>ACS Nano</i> 9, 2015 , 8255	46
Understanding co-solvents in the dissolution of cellulose in ILs	<i>Green Chem</i> 16, 2014 , 2528	88
Solvation and stabilization of metallic nanoparticles in ILs	<i>Angew Chem</i> 20, 2011 , 8863	80
Molecular solutes in ionic liquids: A structural perspective	<i>Acc Chem Res</i> 40, 2007 , 1087	335
Nanostructural organization in ionic liquids	<i>J Phys Chem B</i> 110, 2006 , 3330	1162
Modeling ionic liquids using a systematic all-atom force field	<i>J Phys Chem B</i> 108, 2004 , 2038	718

Online identifiers

- Google Scholar: [Agilio Padua](#) | ORCID: [0000-0002-7641-6526](#) | ResearcherID: [B-5126-2008](#)
- Repository of open-source software GitHub: [agiliopadua](#)

Awards and distinctions

2018 Rossini Award Lecture in Chemical Thermodynamics, *Int. Assoc. of Chem. Thermodyn.* IACT ([iactweb.org](#)), former IUPAC Commission on Thermodynamics. Rossini Lecture to be delivered at the *Int. Conf. on Chem. Thermodyn. ICCT-2018*, Lake Tahoe, California, USA, 5–10 Aug 2018.

2017 Senior Researcher Award of the Division of Physical Chemistry, a joint division of the French Chemical Society and of the French Society of Physics.

2013 Laureate as Senior Member of the Institut Universitaire de France, Chemistry discipline.

2009 Scientific Excellence Award (PES) Universities National Council, France.

2008 Prof. António Xavier Scientific Excellence Fellowship, City of Oeiras, Portugal.

Positions held

2017– Head of the Ionic Liquids group (6 permanent staff) at the Institute of Chemistry of Clermont-Ferrand.

¹Web of Science search term: Padua AAH OR (Padua A* AND (Wakeham W* OR Trusler J* OR Santini C* OR Kurten T))

- 2006–16 Director of the Thermodynamics and Molecular Interactions Laboratory (LTIM) joint research unit (UMR) of the CNRS and the U. Blaise Pascal, 2006–11; part of the Inst. of Chem. of Clermont-Fd, 2012–.
- 2012–14 Founder and coordinator of CNRS network (GDR) on Molecular and Process Thermodynamics.
- 2003–06 Director of studies of the BSc (Licence) in Chemistry, Université Blaise Pascal.
- 2002–03 Elected to the board of the Faculty of Sciences and Technology of the Université Blaise Pascal.

Editorial, reviewing and advisory roles

- 2015– Elected to the Universities National Council (CNU, an evaluation body of the French Ministry of Higher Education and Research), Physical and Theoretical Chemistry.
- 2013– Scientific advisor, Total SA.
- 2005– Editor, *The Journal of Chemical Thermodynamics* (IF 2.7) Elsevier.
- 2018 Head of recruiting committee, Lecturer in Physical Chemistry, U. Clermont Auvergne.
- 2013,2016 Committee member for the AERES/HCERES, French evaluation agency of research and higher education institutions, Ministry of Higher Education and Research.
- 2016 Committee on research and postgraduate studies in Chem. Eng., U. Fed. Ceara, Fortaleza, Brazil.
- 2012–13 Member of scientific committee, Agence Nationale de la Recherche, program SIMI 8 — Solid-state chemistry, colloids, France.
- 2006–11 Member of scientific committee, DFG, Priority Program on Ionic Liquids, SPP 1191, Germany.
- 2003 Consulting expert on intellectual property, LDLKM law firm, New Jersey.
- Reviewer for agencies:** ANR, DFG, NSF, Canada ERC, FOM Netherlands, FRS-FNRS Belgium, Czech Science Foundation, FCT Portugal, ACS Petroleum Res. Fund, U. Rome La Sapienza, U. Libre Brussels.
- Reviewer for journals:** *J. Am. Chem. Soc.*, *Acc. Chem. Res.*, *Chem. Commun.*, *Green Chem.*, *PCCP*, *ChemPhysChem*, *J. Phys. Chem.*, *J. Chem. Phys.*, *New J. Chem.*, *J. Chem. Thermodyn.*, *Fluid Phase Eq.*, *J. Chem. Eng. Data*, *Mol. Phys.*, *Top. Curr. Chem.*, *Nature Sci. Rep.*, etc.

Research projects

Main recent projects as PI [funding for the group]

- 2018–21 EU Project Interreg Sudoe KET4FGas — Reduction of the environmental impact of fluorinated gases (local coordinator) [121 k€].
- 2013–16 Agence Natinale de la Recherche (ANR) project CLINT – Nanocarbons and ionic liquids, international program with FCT Portugal [260 k€].
- 2010–15 CNRS Contrat d’Objectifs Partagés (COP) Molecular Interactions and Thermodynamics, CNRS, Blaise Pascal University, Auvergne Regional Government and Feder European fund [1.3 M€].
- 2008–12 Marie Curie Initial Training Network MINILUBES – Ionic lubricants (local coordinator) [264 k€].
- 2007–10 ANR project CALIST – Nanostructured ionic liquids in catalysis [159 k€].
- 2008–09 Contract with Total SA, Properties of amine solutions loaded with CO₂ [90 k€].

Other projects and contracts

- 2016 Contract with United Caps, Effect of sliding agents on interfacial properties and bubble nucleation.
- 2016 Contract with Bertin Technologies, Ionic liquid absorbents for heat pumps. PI Dr. M. Costa Gomes.
- 2013–14 Contract with Solvay, Understanding the viscosity of ionic liquid mixtures. PI Dr. M. Costa Gomes.
- 2008–11 Inter-ministerial FUI program, Axelera competitiveness cluster, Lyon Rhône-Alpes. ACACIA project Innovative processes for CO₂ capture. Funding of PhD theses.
- 2002–05 Contract Institut Français du Pétrole, Determination of physiscal and chemical properties of non-aqueous ionic solvents. PIs Dr. Vladimir Mayer, Dr. H el ene Olivier-Bourbigou (IFPen).

2002–04 CNRS–DFG bilateral program, Thermophysical properties of ionic liquids and their mixtures with other fluids. Pls Dr. V. Mayer, Dr. H. Olivier-Bourbigou (IFPen), Prof. A. Heintz (U. Rostock), Prof. P. Wassercheid (U. Erlangen).

1997–99 Contract Institut Français du Pétrole, Development of a high-pressure viscometer, with Prof. J.P. Grolier and Dr. Ph. Ungerer (IFPEN).

Main collaboration programs as PI

2018–20 MIT–Inditex Seed Fund, Recycling of textile fibers using ionic solutions, with Prof. Gareth McKinley, MIT Mech. Eng. and Dr. P. Sánchez, U. Vigo.

2018–20 Australian Research Council Discovery Project with Prof. Rob Atkin, U Western Australia, Perth, on ionic liquids at interfaces with nanomaterials.

2018–20 Project USP-COFECUB with le Prof. Mauro Ribeiro, Institute of Chemistry, U São Paulo, on the properties of mixtures of ionic liquids.

2014–17 International thesis cosupervision, Pablo Sánchez, with Prof. J. García (Applied Physics) U. Vigo. Eiffel Excellence Scholarship.

2012–17 International thesis cosupervision, João França, with Prof. C.A. Nieto de Castro, U. Lisbon.

2012–13 FAPESP – Foundation for Science of the State of São Paulo, invited professorship of Prof. Mauro Ribeiro (U São Paulo) in my group for 9 months.

2009–13 International thesis cosupervision, Moisés Rios Currás, with Prof. J. García, U. Vigo.

2008–09 France-Spain Hubert Curien partnership (Picasso), Thermodynamic properties of nanostructured fluids. Prof. Josefa Garcia (Applied Physics) U. Vigo.

1999–04 French-Portuguese bilateral programs, Molecular simulation of ionic liquids, with Prof. J.N. Canon-gia Lopes, IST Lisbon.

1998–2000 CNRS–Royal Society program, Application of integral equation theories to molecular fluids, with Prof. J.P. Martin Trusler, Imperial College London.

Research networks and collaboration programs

2018– CNRS network (GDR) SolvATE — Solvation: Theoretical and Experimental Advances.

2013– CNRS network (GDR) LIPS — Ionic Liquids and Polymers. Member of the board and theme leader.

2012– COST Action CM1206 EXIL — Exchange in Ionic Liquids. Organisation of summer school.

2007–11 CNRS Research Network Optimizing environmentally-friendly processes and synthesis media: towards a new alliance between Chemistry and Engineering, Interdisciplinary program Chemistry for a Sustainable Development.

2005–08 CNRS International Collaboration Program (PICS) with Portugal, Physical-chemistry of simple fluids with distinctive behaviour. Coordinator Dr. M. Costa Gomes.

2005–06 CNRS–Royal Society program Study of gas solubility in nixtures of ionic liquids with milecular solvents. Coordinators Prof. Chris Hardacre (Queen’s U. Belfast), Dr. Pascale Husson.

2004–07 COST D29 Sustainable/Green Chemistry and Chemical Technology, action New fluorous media and processes for cleaner and safer chemistry. Coordinators Dr. Benoît Crousse (CNRS, U Paris Sud), Dr. Pierangelo Metrangolo (Politecnico Milano).

2001–04 NATO Collaborative Linkage Grant, Thermodynamic properties to predict the distribution of pollutants in the environment, Prague Institute of Chemical Technology (VSCHT). Coordinator Dr. V. Mayer.

2000–06 CNRS Network (GDR) Physical Chemistry in Supercritical Media. Director M. Besnard (Bordeaux).

Organisation of meetings

2014 *CECAM Workshop* Multiscale modeling of ionic liquids, EPF Lausanne, organiser.

2013 *5th Congress on Ionic Liquids COIL5*, Portugal, member of scientific committee.

- 2012 *XIII Rencontres de Physique de la Matière Condensée*, Société Physique de France, Montpellier, session on liquid state co-organised with Dr. Aurélien Perera (CNRS Paris).
- 2012 *IUPAC Conference on Chemical Thermodynamics ICCT2012*, Brazil, ionic liquids session.
- 2004 *Matériaux et joints d'étanchéité pour les hautes pressions*, CNRS training workshop co-organised with P. Boissinot and P. Langlois (CNRS Paris) Réseau Hautes Pressions, La-Londe-les-Maures, 6–11 June 2004.

Invitations for academic visits

- 2018 MIT, Prof. Gareth McKinley, Dept. of Mech. Eng.
- 2018 King's College London, Prof. Roger Morris, Dr. Leigh Aldous, Chemistry.
- 2017 U Bonn, Prof. Barbara Kirchner, Mulliken Center for Theoretical Chemistry.
- 2016 École Normale Supérieure Lyon, Dr. David Loffreda, Chemistry Lab.
- 2016 Monash U, Mebourne, Dr. Katya Pas, Chemistry.
- 2016 École Normale Supérieure Paris, Dr. Anne Boutin, Chemistry.
- 2016 Institut Lumière et Matière, Lyon, Dr. Olivier Pierre-Louis.
- 2015 U of Chemistry and Technology (VSCHT) Prague, Dr. Michal Fulem.
- 2015 Arizona State U, Phoenix, Prof. C. Austen Angell, Chemistry.
- 2015 Rutgers U, New Jersey, Prof. Edward Castner, Chemistry.
- 2015 Texas Tech U, Prof. Edward Quitevis, Chemistry.
- 2014 U Notre Dame, Indiana, Prof. Edward Maginn, Chemical and Biochemical Engineering.
- 2013 U Lorraine, Nancy, Dr. Francesca Ingrosso, Institut Jean Barriol.
- 2013 CRPP Bordeaux Centre de Recherches Paul Pascal, UPR CNRS, Dr. Philippe Richetti.
- 2012 U Campinas, Brazil, one-week graduate course, Prof. Watson Loh, Chemistry.
- 2012 U São Paulo, Brazil, Prof. Mauro Ribeiro, Institute of Chemistry.
- 2010 CPE Lyon, Dr. Catherine Santini, LC2P2.
- 2009 École Normale Supérieure Lyon, Dr. Philippe Sautet, Chemistry Laboratory.
- 2006 U Notre Dame, Indiana, 1 week, profs. Edward Maginn et Joan Brennecke, Chem. Eng.
- 2005 Queen's U Belfast, invited professor 2 weeks, Prof. Chris Hardacre, Chemical Engineering.
- 2001 U Delaware, 1 week, Prof. Robert H. Wood, Chemistry.
- 1995 U Oklahoma, 1 week, Prof. Lloyd L. Lee, Chemical Engineering.
- 1994 U Delaware, Prof. Stanley I. Sandler, Chemical Engineering.
- 1993 Imperial College London, 2 months, Prof. Sir William A. Wakeham, Chemical Engineering.

Doctoral and postdoctoral supervision

Supervision of 13 theses and cosupervision of 6 other PhD students who spent 6–12 months in my group.
Supervision of 9 post-doctoral fellows.

Postdoctoral fellows

- 2018– Fernando Lepre, collaboration with U São Paulo.
- 2016 Ctirad Červinka, COST EXIL. Follow-up: post-doc UC Riverside (Fulbright).
- 2015–16 Joanna Szala-Bilnik, ANR CLINT. Follow-up: post-doc Rutherford-Appleton lab, Oxford.
- 2012–13 Jean-Michel Andanson, COP Thermodynamique. Follow-up: CNRS researcher (CR1), Clermont-Ferrand.
- 2011 Yuri Fomin, ITN Marie Curie MINILUBES. Follow-up: researcher Russian Acad. Sciences, Moscow.

- 2009–11 Ajda Podgoršek, ANR CALIST. Follow-up: postdoc Centre of Excellence for Integrated Approaches in Chemistry and Biology of Proteins, Ljubljana; scientist ACIES BIO Ltd. Ljubljana.
- 2009 Olivia Fandiño, Total contract. Follow-up: postdoc IFREMER Brest; postdoc U. Guelph, Ontario, Canada.
- 2008 Theo Kurtén, collaboration with Laboratoire de Météorologie Physique Clermont-Fd and the group of Markku Kulmala, Div. Atmosph. Sci. Univ. Helsinki, project EUCAARI (European Integrated project on Aerosol Cloud Climate and Air Quality interactions) FP6. Nucleation and growth of atmospheric aerosols by molecular simulation.
- 2007–10 Alfonso S. Pensado, funding 2007-08 Auvergne Region Innovapole, 2009-2010 Galicia Region. Follow-up: postdoc Prof. Barbara Kirchner (U Leipzig); works at EnerSys, Leipzig.

PhD students

- 2017– Robin Mom, cosupervision with Dr. Philippe Label of INRA, French Ministry of Higher Education (MESR) scholarship.
- 2014–17 Pablo Sánchez, cosupervision Prof. Josefa Garcia, U. Vigo. Eiffel Excellence Scholarship.
- 2014–17 Émilie Bordes, French Ministry of Higher Education (MESR) scholarship.
- 2013–17 João França, cosupervision Prof. C.A. Nieto de Castro, U. Lisbon, grant from FCT Portugal.
- 2014 Sadiye Velioglu, stay of 1 yr during PhD, cosupervision Prof. G. Ahunbay, Istanbul Tech. U. Follow-up: academic position Istanbul Tech U.
- 2013 Varinia Bernales, stay of 1 yr during PhD, cosupervision Prof. R. Contreras, U. Chile. Follow-up: postdoc Prof. Donald Truhlar, U Minnesota.
- 2010–13 Mickaël Simond, MESR scholarship, cosupervision Dr. J.Y. Coxam. Follow-up: founder and CEO Calnesis start-up.
- 2009–12 Catarina Mendonça, ITN Marie Curie. cosupervisor Prof. P. Malfreyt. Follow-up: postdoc Prof. Dominic Tildesley (EPFL); administrative CECAM Lausanne.
- 2009–13 Moisés Rios Currás, cosupervision Prof. Josefa Garcia, U. Vigo. Follow-up: postdoc U. Vigo.
- 2010 Marina Macchiagodena, stay of 9 months during PhD, U. l'Aquila, Italie. Follow-up: postdoc Prof. Barbara Kirchner (U Bonn).
- 2008–11 Stéphane Stevanovic, cosupervision Dr. M. Costa Gomes, FUI Axelera.
- 2005–07 Alfonso S. Pensado, cosupervision Prof. Josefa Fernández, U. Santiago de Compostela.
- 2003–06 Milan Bernauer, cosupervision Dr. V. Mayer et Prof. V. Dohnal (VSCHT Prague), French Ministry of Foreign Affairs scholarship. Follow-up: academic position VSCHT Prague.
- 2003 Tomas Hujo, stay of 6 months during PhD. Supervisor Prof. Stanislaw Labík (VSCHT Prague).
- 2002–05 Johnny Deschamps, MESR scholarship. Follow-up: post-doc Imperial College London Prof. George Jackson; postdoc LCP Orsay; assistant professor ENSTA ParisTech.
- 1999–2002 Fabrice Audonnet, MESR scholarship. Follow-up: post-doc CNRS au LCP Orsay; assist. Prof. U Paris-Sud Orsay; assist. Prof. U. Blaise Pascal.
- 2000 Rui Bonifácio, stay of 1 yr during PhD. Cosupervisors Dr. M. Costa Gomes and Dr. Eduardo Filipe (IST Lisbon). Follow-up: manager Continental Tyre, Portugal, Brazil, Germany.
- 1999 Hosiberto Batista de Sant'Ana, IFPEN funding. PhD cosupervision for 1 yr. Cosupervisors Prof. J.P. Grolier and Dr. Ph. Ungerer (IFP). Follow-up: Prof. U. Fed. Ceara, Brazil.
- 1997–2000 Sacha Hilic, MESR scholarship, cosupervision Prof. J.P. Grolier. Follow-up: consultant Unilog SA, Paris; management director Laboratoires Pierre Fabre, Castres, France.

Teaching

Most of my teaching has taken place in the Dept. of Chemistry of U. Clermont Auvergne (formerly U. Blaise Pascal) since 1996. I have also taught Chemical Engineering subjects in the School of Chemistry of Clermont-Ferrand (Sigma Clermont, formerly ENSCCF). In 2017–18 I delivered a “Point of view” module at the École Normale Supérieure of Lyon.

In the French system the statutory teaching load is of 192 h of presential classes per year. The diplomas in France follow the Bologna Accord and are structured around a 3-year Licence (L1, L2 and L3), a 2-year Master (M1 and M2) and a 3-year doctorate. I was director of studies of the Licence of Chemistry in 2003 when the Bologna Accord was adopted and led the reforms necessary for its implementation. At that time I also managed the student exchange program with the U. Laval, Québec.

I have taught core subjects in general and physical chemistry and also more specialised subjects (at master level) including courses in chemical engineering. Besides lectures, problem classes and lab sessions (i've always tried to keep a balance), I supervise 5-month M2 research projects in my research group.

I have always been involved in the regular curricular updates and reforms (every 4-5 years in the French system) contributing to the evolution of core courses: setting up new experiments in physical chemistry labs; introducing computational chemistry in modules on spectroscopy, statistical thermodynamics and electronic properties of materials; and creating new modules on complex liquids, colloid and interfacial science. I have proposed a number of optional courses both at L and M levels, often interdisciplinary with environmental sciences and engineering, or in seminar format. I have led the introduction of computational methods in teaching physical and environmental chemistry.

Subjects taught

2017-18 École Normale Supérieure de Lyon

- Point of view on current research: Solvents and sustainable chemistry (M1 and L3 Chemistry and Physics).

2004- Sigma Clermont (formerly École Nationale Supérieure de Chimie de Clermont-Ferrand)

- Applied thermodynamics: property prediction for chemical engineering (M2).

1996- U. Clermont Auvergne (formerly U. Blaise Pascal)

Core subjects:

- General chemistry (L1 Sciences of Matter).
- Chemical thermodynamics (L1 Sciences of Matter).
- Phase equilibria and kinetics (L2 Chemistry).
- Chemical thermodynamics of non-ideal systems (L3 Chemistry).
- Statistical thermodynamics (L3 Chemistry).
- Colloids and interfaces (L3 Chemistry).
- Theoretical chemistry and molecular simulation (M1 Chemistry).

Optional subjects:

- Physical chemistry of everyday life: cosmetics, pharmaceuticals, food, the environment, etc. (L3).
- Molecular interactions and simulation (M1 Chemistry).
- Polymers and organised systems (M1 Materials).
- Introduction to Chemical Engineering, with pilot-scale lab (M1 Sustainable Chemistry).
- Fluids and materials: phase equilibria, nucleation, criticality (M2 Materials).
- Property prediction: from molecular thermodynamics to the environment and the atmosphere (M1 Physics and Chemistry of the Environment).
- Multiscale models of the atmosphere: numerical methods and theoretical chemistry (M2 Physics and Chemistry of the Environment).

1995-96 Imperial College London. MEng in Chemical Engineering, tutorials of Properties of Matter.

Academic societies

2014– American Association for the Advancement of Science, member.

2014– American Chemical Society, member.

2013– Division of Physical Chemistry, joint division of the French Chemical Society (SCF) and the French Physics Society (SPF) member.

2013–15 French Society of Chemical Engineering (SFGP) member.

2001– International Association for Transport Properties, formerly Subcommittee on Transport Properties of the IUPAC Commission I.2: Thermodynamics, member.

1992–94 Association of Graduate Students of IST Lisbon, founding member.

1987-94 Portuguese Chemical Society, member and contributor to the monthly magazine.

Training

2006 Laboratory glass blowing, U. Blaise Pascal and CNRS.

2005– First aid and safety at work, U. Blaise Pascal.

2002– Fire prevention and fighting agent, U. Blaise Pascal.

Languages

- Trilingual Portuguese, English, French.
- Spanish: excellent understanding, very good oral expression.
- German: basic (2 years Goethe Institut Lisbon).

Sports and leisure

- Golf, player in the University/CNRS team, 2012–16.
- Sailing, racing in Laser single-handed dinghy and in offshore one-designs (30 ft, crew of 6–7) 2001–10. Holder of skipper and scuba-diving permits.
- Tennis, player and captain of the U. Blaise Pascal/CNRS team, 1998–01.
- Music, acoustic and electric guitar.