

CURRICULUM VITAE Chantal Valeriani

Researcher ID B-5224-2009

Orcid 0000-0002-0502-4648

Universidad Complutense de Madrid (UCM)
Dpto. de Estructura de la Materia, Facultad de Ciencias Físicas
Avda. Complutense, s/n
913944459 cvaleriani@ucm.es

Profesor Titular de Universidad (Associate Professor)

KEYWORDS

Condensed Matter Physics, Soft and Active Matter Physics, Numerical simulations, Phase transitions, Colloidal glasses, Nucleation, Water anomalies, Self-assembly, Biofilms

EDUCATION

Master (Laurea) in Physics, by the Università La Sapienza in Roma (2002)
PhD in Chemistry by the University of Amsterdam (2007)

SHORT SUMMARY

05/2002:

Master Thesis (Laurea) in Physics at the Università La Sapienza (Roma) in the group of Prof. [REDACTED] on molecular glasses studied by means of numerical simulations. My thesis was published in a Phys.Rev.Lett.

10/2002 - 10/2007:

PhD at the University of Amsterdam (PhD in Chemistry)
Doctoral thesis carried out at the AMOLF Institute (Director: Prof.D.Frenkel) whose first year has been funded by the European Training Network "Nucleus".
Thesis project: "Study by means of computer simulations of nucleation of crystals from supercooled liquids in simple fluids, ionic systems and covalent. "Study of bubble formation in overheated liquids. Development of advanced numerical techniques for rare events. My doctoral thesis was published in 11 articles (3 Phys. Rev. Lett., one cover).

10/2007 - 01/2008:

Postdoctoral researcher at the University of Utrecht, in the group of Prof. [REDACTED] and van Blaaderen. I studied charged colloids in collaboration with the experimental group. My work has been published in 2 articles.

01/2008 - 05/2009:

Postdoctoral researcher at the University of Edinburgh, in the group of Prof. Cates, Poon and Pusey funded by the European Training Network "Arrested Matter" to study the crystallization of a glass by simulations. My work has been published in 8 articles, including 2 Phys. Rev. Lett., 1 PNAS, 1 Nature Communication and 1 News & Views in Nature Materials.

05/2009 - 05/2011:

"Marie Curie Individual" Researcher at the University of Edinburgh. I studied self-assembly of self-propelled colloids, publishing 11 articles, including 1 Phys.Rev.Lett. (in 2013, cited 91 times) and 1 PNAS (in 2012, cited 194 times).

05/2011 - 05/2014:

Researcher "Juan de la Cierva" and "Marie Curie Career Integration" (05/2012-05/2014) at the Physical Chemistry Department at the Complutense University of Madrid in the group of Prof. Vega and Abascal to study ice and bubble nucleation in metastable water. The project has led to the publication of 12 articles, including 1 JACS and 2 PNAS. The work on the anomalous properties of water has been performed in collaboration with the experimental group of Prof. Caupin of the Univ Lion, whereas the bubble nucleation with Prof. Delago from the Univ.Viena. The Marie Curie CIG grant has allowed me to fund half of the thesis of a doctoral student (thesis defended in 2014). I have also participated in the teaching tasks of the Physical Chemistry Department.

05/2014 - 03/2015:

Researcher hired by the UCM and Maternity Leave
I have been hired for 4 months in the group of Prof. [REDACTED], with whom I collaborate in studies of ice nucleation and anomalous properties of water.

03/2015 - 10/2020:

"Ramon y Cajal" (Assistant Professor) in the Faculty of Physical Sciences, UCM. Being Ramon y Cajal has allowed me to develop my lines of research: ice nucleation, cavitation and anomalous properties of water (in collaboration with Physical Chemistry group), leading to 11 articles (including 1 J.Phys.Chem.Lett. and 1 Phys.Rev.Lett.); nanoconfined water transport (with Dr. [REDACTED] from the University of Guanajuato, Mexico, with whom I co-directed one PhD student), devitrification (with Prof [REDACTED] from the Physical Chemistry group and Prof. [REDACTED] from the Univ.Edinburgh); active matter (with Prof [REDACTED] from Columbia University (NY) and Prof. [REDACTED] of the Univ. Barcelona).
I have always participated in the teaching tasks of the Physics Department.

10/2020 - Present:

Associate Professor in the Physics Department.
In 2020 I have applied to the ERC-Consolidator grant, and I have obtained the maximum evaluation (A) at the interview stage, even though I have not obtained funds.

PUBLICATIONS

83 papers in peer-reviewed Physics/Chemical Physics journals, cited : 3416 (WOS, September 2021). H index: 34 (WOS, September 2021).

TEACHING EXPERIENCE

Teaching at undergraduate and Master level in Chemistry and Physics Department, with an excellent evaluation from the students.

Advisor of several Bachelor and Master thesis in Madrid, Edinburgh and Amsterdam.

Member of several Bachelor, Master and PhD defense committees (in Lyon, Aalto, Montpellier, UCM).

PhD Thesis at UCM

3 PhD Thesis defended

[REDACTED], 2014 [REDACTED], 2019; [REDACTED], 2020

4 PhD Thesis to be defended ([REDACTED], 2022; [REDACTED] 2022; [REDACTED] 2023; [REDACTED], 2024).

FUNDINGS

- 1) MINECO (Accion excelencia 2021, 100.000 €)
- 2) ERC-CONSOLIDATOR (2020) maximum score at the interview stage(A)/no fundings available
- 3) MINECO (PID2019-105343GB-I00, 2019-2022, 38.000 €)
- 4) MINECO (FIS2016-78847-P, 2016-2019, 50.000 €)
- 5) UCM-Santander (PR26/16-10B-1, 2016-2018, 30.000 €)
- 6) PICS-CNRS collaboration grant Univ.Lion(France)-UCM(Spain) (25.000 €)
- 7) Marie Curie Career Integration Grant (Ares(2012)124572-ANISOKINEQ 50.000 €)

CONFERENCES

- 2021: "Grand view of soft and liquid matter physics", Tokyo, invited speaker
2020: "Motile Active Matter", Bonn (Germany), invited speakers
2019: "Optimal design of new materials, Newton Institute", Cambridge keynote speaker
2018: "GOMD", San Antonio (USA), invited speaker.
2017: "Liquid Matter conference", Ljubliana (Eslovenia), keynote speaker.
2016: "Theo Murphy Royal Society Meetings", United Kingdom, invited speaker.
2016: "WaterX, StatPhys satellite meeting", Nice (Francia), invited speaker.
2015: "Active Matter workshop", Lorentz center, Leiden, invited senior speaker.
2014: "Les Houches workshop on water", Les Houches (Francia), invited speaker
2014: "Kavli Institute conference on Active Matter", Santa Barbara, invited speaker
2013: "Soft Matter conference", Universita' La Sapienza di Roma, invited speaker
2007: "StatPhys 23", Genova (Italia), invited speaker
2007: "Gordon conference on Nucleation", Mount Holyoke college (USA), invited speaker.

LANGUAGES

Italian (mother tongue), English (fluent), Spanish (fluent), French (basic), Dutch (basic)

OTHER MERITS

- 1-Organizer of workshop "Emergent phenomena in driven soft, active and biological matter", 29Th general conference of the condensed matter division, Manchester, 2022
- 2-Organizer of "Current and Future Thems in Soft and Biological Active Matter", Nordita woskshops, Stockholm, July 2022
- 3-Organizer of "GISC workshop", Univ.Complutense Madrid, January 2019
- 4-Organizer of "Molecular simulations at the Daan scale", Bajona, July 2018
- 5-Invited Keynote speaker award "Liquids" (2017) de la European Physical Society
- 6-"Italian student abroad" award, Universita' La Sapienza di Roma, Italia (2003)
- 7-Referre of research grants (ERC, CECAM, NSF, ANEP, ANECA) and of Physics/Chemical Physics journals (Nature, PNAS, Scientific Report, Physical Review Letters, Langmuir, Journal of Chemical Physics, Soft Matter)
- 8-member of the Physics Department and tof he Research committee council, UCM