

Curriculum Vitae et Studiorum

Domenico Truzzolillo

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Personal data :

- Place and date of birth: Soveria Mannelli (Italy) - 22/01/1983.
- Civil status: Married.
- Address (Office): Laboratoire Charles Coulomb, Place E. Bataillon, Campus Triolet Bât 11 CC026, F-34095, Montpellier Cedex 5, France.
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Education and scientific career:

- 2001 - High school diploma, Liceo Scientifico "G.Galilei", Lamezia Terme (Italy). Main subjects: latin, math. Grade: 100/100.
- 2004 - Bachelor Degree on Physics, University of Rome "La Sapienza". Grade: 110/110 cum laude. Title of the thesis: "Elementary excitations in covalent and ionic crystals".
- 2006 - Master Degree on Physics, University of Rome "La Sapienza". Grade: 110/110 cum laude. Title of the thesis: "Polyelectrolyte adsorption on lipid monolayers: thermodynamic properties"
- 2010 - PhD in Physics at University of Rome "La Sapienza" supervised by Prof. F. Bordi and Prof C. Cametti. Grade: Excellent. Title of the thesis: "Polyion-induced liposome aggregation: specific interactions, kinetic arrest and structural properties".
- 2010 ↔ 2012: Marie Curie postdoc fellowship granted at Foundation for research & technology - Hellas, Crete, Greece.
- 2012 ↔ 2014: CNRS Postdoc position at Laboratoire Charles Coulomb, Montpellier, France.
- 2014 - Qualified to teach in France (Section 28: Dense matter and materials)
- 2014 ↔ 2015: Attachè temporaire d'enseignement et de recherche (ATER) at University of Montpellier, France.
- 2015 : CNRS Researcher (CRCN) at Laboratoire Charles Coulomb, Montpellier, France (Actual position).

- 2019 Habilitation à diriger des recherches (HDR). Title of the thesis: "Different facets of non-equilibrium in soft matter: from arrested states to miscible interfaces".

He co-authored 44 peer-reviewed scientific publications ([†] corresp. author):

1. F.Bordi, C.Cametti, S.Sennato, D.Truzzolillo.
Strong repulsive interactions in polyelectrolyte-liposome clusters close to the isoelectric point: a print for an arrested state.
Phys. Rev. E, **76**, 061403 (2007).
2. D.Truzzolillo, F.Bordi, C.Cametti, S.Sennato.
Phenomenological surface characterization of cationic-lipid monolayers in the presence of oppositely charged polyions.
Colloids Surf. A, **319**, 51 (2008).
3. S. Sennato, D.Truzzolillo, F. Bordi, C. Cametti.
Effect of Temperature on the Reentrant Condensation in Polyelectrolyte-Liposome complexation.
Langmuir, **24** (21), 12181-12188 (2008)
4. D.Truzzolillo, F.Bordi, F.Sciortino, C.Cametti.
Kinetic arrest in inhomogeneously-charged particle aggregation.
Eur. Phys. J. E **29** 2, 229-237 (2009).
5. D. Truzzolillo, F. Bordi, C. Cametti, S. Sennato.
The counterion condensation of differently flexible polyelectrolyte aqueous solutions in the dilute and semidilute regime.
Phys. Rev. E, **79** 011804 (2009)
6. D.Truzzolillo, C.Cametti, S.Sennato.
Dielectric properties of differently flexible polyions: a scaling approach.
Phys. Chem. Chem. Phys., **11**, 1780 (2009).
7. S.Sennato, D.Truzzolillo, F.Bordi, F.Sciortino, C.Cametti.
Colloidal particle aggregates induced by particle surface charge heterogeneity.
Colloids Surf. A, **343**, 34 (2009).
8. F. Bordi, S. Sennato, D. Truzzolillo.
Polyelectrolyte induced aggregation of liposomes: a new cluster phase with interesting applications.
J. Phys: Condensed Matter, **21**, 203102, (2009).
9. C. Cametti, S. Sennato, D. Truzzolillo.
Deviations from a simple Debye relaxation in aqueous solutions of differently flexible polyions induced by polymer concentration.
J. Chem. Phys. **131**, 034901 (2009).

10. D. Truzzolillo[†], F. Bordi, F. Sciortino, S. Sennato.
Interaction between like-charged polyelectrolyte-colloid complexes in electrolyte solutions: a Monte Carlo simulation study in the Debye-Hückel approximation.
J. Chem. Phys. **133**, 024901 (2010).
11. C. Cametti, D. Truzzolillo.
The Many Facets of the Polyelectrolyte and Oppositely Charged Colloidal Particle Complexation: Counterion Release and Electrical Conductivity Behavior.
J. Phys. Chem. B, **115** (22), 7248 (2011).
12. D. Truzzolillo[†], D. Vlassopoulos, M. Gauthier.
Osmotic interactions, rheology and arrested phase separation of star-linear polymer mixtures.
Macromolecules, **44**, 5043 (2011).
13. S. Sarti, D. Truzzolillo, F. Bordi.
Hydrogen bond network relaxation in aqueous polyelectrolyte solutions: the effect of temperature.
J. Phys: Condensed Matter, **24**(28),284102, (2012).
14. S. Sennato, D. Truzzolillo, F. Bordi.
Aggregation and stability of polyelectrolyte-decorated liposome complexes in water-salt media.
Soft Matter, **8**(36), 9384 (2012).
15. D. Truzzolillo, D. Vlassopoulos, M. Gauthier.
Rheological detection of caging and solid-liquid transitions in soft colloid - polymer mixtures.
J. Non-Newtonian Fluid Mech., **193**, 11 (2013).
16. D. Truzzolillo, D. Vlassopoulos, M. Gauthier, A. Munam.
Thermal melting in depletion gels of hairy nanoparticles
Soft Matter, **9**, 9088 (2013).
17. D. Truzzolillo[†], D. Marzi, J. Marakis, B. Capone, M. Camargo, A. Munam, M. Gauthier, C.N. Likos, D. Vlassopoulos.
Glassy states in asymmetric mixtures of soft and hard colloids.
Phys. Rev. Lett. **111**, 208301 (2013)
18. D. Truzzolillo, D. Vlassopoulos, M. Gauthier. *Depletion gels from dense soft colloids: rheology and thermoreversible melting.*
J. Rheol. **58**, 1441 (2014).

19. D. Truzzolillo[†], S. Mora, C. Dupas, L. Cipelletti.
Off-equilibrium surface tension in colloidal suspensions.
Phys. Rev. Lett. **112**, 128303 (2014).
20. D. Truzzolillo[†], V. Roger, C. Dupas, S. Mora, L. Cipelletti.
Bulk and Interfacial stresses in suspensions of soft and hard colloids.
J. Phys.: Condens. Matter, **27**, 194103 (2015).
21. D. Marzi, B. Capone, J. Marakis, M. C. Merola, D. Truzzolillo, L. Cipelletti, F. Moingeon, M. Gauthier, D. Vlassopoulos, C. N. Likos and M. Camargo.
Depletion, melting and reentrant solidification in mixtures of soft and hard colloids.
Soft Matter, **11**, 8296 (2015).
22. S. Sennato, C. Carlini, D. Truzzolillo, F. Bordi.
Salt-induced reentrant stability of polyion-decorated particles with tunable surface charge density.
Colloids Surf. B, **137**, 109-120 (2016).
23. D. Truzzolillo[†], H. Sharaf, U. Jonas, B. Loppinet, D. Vlassopoulos.
Tuning the structure and rheology of polystyrene particles at the air-water interface by varying the pH.
Langmuir **32** (27), 6956-6966 (2016).
24. D. Truzzolillo[†], S. Mora, C. Dupas, L. Cipelletti.
Non-equilibrium interfacial tension in simple and complex fluids.
Phys. Rev. X, **6**, 041057 (2016).
25. D. Truzzolillo[†], L. Cipelletti.
Off-equilibrium surface tension in miscible fluids. (Mini-review).
Soft Matter, **13**, 13-21 (2017).
26. M. C. Merola, D. Parisi, D. Truzzolillo, D. Vlassopoulos.
Asymmetric soft-hard colloidal mixtures: Osmotic effects, glassy states and rheology.
J. Rheol. **62**, 63 (2018).
27. D. Truzzolillo[†], L. Cipelletti
Hydrodynamic instabilities in miscible fluids. (Review)
J. Phys: Condensed Matter, **30**, 033001 (2018).
28. A. M. Philippe, D. Truzzolillo, Julian Galvan-Myoshi, P. Dieudonne-George, V. Trappe, L. Berthier and L. Cipelletti.
Glass transition of soft colloids.
Phys. Rev. E, **97**, 040601(R) (2018) - Editor's suggestion.

29. D. Truzzolillo[†], S. Sennato, S. Sarti, S. Casciardi, C. Bazzoni, F. Bordi.
Overcharging and reentrant condensation of thermoresponsive ionic microgels.
Soft Matter, **14**, 4110 (2018).
30. D. Parisi, D. Truzzolillo[†], V. D. Deepak, M. Gauthier, D. Vlassopoulos.
Transition from confined to bulk dynamics in symmetric star-linear polymer mixtures.
Macromolecules, **52** (15), 5872-5883 (2019).
31. A. Carbonaro, L. Cipelletti, D. Truzzolillo[†].
Spinning drop dynamics in miscible and immiscible environments.
Langmuir, **35** (35), 11330-11339 (2019).
32. A. Carbonaro, L. Cipelletti, D. Truzzolillo.
Ultra-low effective interfacial tension between miscible molecular fluids.
Phys. Rev. Fluids, **5**, 074001 (2020) - Editor's suggestion.
33. A. Carbonaro, K-N. Chagua-Encarnacion, C-A Charles, T. Phou, C. Liguore, S. Mora, D. Truzzolillo[†]. *Spinning elastic beads: a route for simultaneous measurements of the shear modulus and the interfacial energy of soft materials.*
Soft Matter, **16**, 8412-8421 (2020)
34. S. Sennato, E. Chauveau, S. Casciardi, F. Bordi, D. Truzzolillo[†].
The Double-Faced Electrostatic Behavior of PNIPAm Microgels.
Polymers **13**, 1153 (2021)
35. G. Del Monte, D. Truzzolillo[†], F. Camerin, A. Ninarello, E. Chauveau, L. Tavagnacco, N. Gnan, L. Rovigatti, S. Sennato, E. Zaccarelli.
Two-step deswelling in the Volume Phase Transition of thermoresponsive microgels.
Proc. Natl. Acad. Sci. USA, **118** (37), e2109560118 (2021)
36. F. Sciolla, D. Truzzolillo[†], E. Chauveau, S. Trabalzini, L. Di Marzio, M. Carafa, C. Marianecchi, A. Sarra, F. Bordi, S. Sennato.
Influence of drug/lipid interaction on the entrapment efficiency of isoniazid in liposomes for antitubercular therapy: a multi-faced investigation.
Colloids Surf. B, **208**, 112054 (2021)
37. D. Truzzolillo[†]
Mixing-demixing transition and void formation in quasi-2D binary mixtures on a sphere
J. Chem. Phys. **156**, 034904 (2022)

38. J.S. Behra, A. Thiriez, D. Truzzolillo, L. Ramos, L. Cipelletti
Controlling the volume fraction of glass-forming colloidal suspensions using thermosensitive host "mesogels"
J. Chem. Phys. **156**, 134901 (2022) - Editor's pick
 39. R. Elanchelian, G. Del Monte, E. Chauveau, S. Sennato, E. Zaccarelli, D. Truzzolillo[†]
Role of charge content in the two-step deswelling of Poly(N-isopropylacrylamide)-based microgels
Macromolecules, **55** (17), 7526-7539 (2022)
 40. D. Parisi, D. Truzzolillo[†], A. H. Slim, P. Dieudonné-George, S. Narayanan, J. C. Conrad, V. D. Deepak, M. Gauthier, and D. Vlassopoulos
Gelation and Re-entrance in Mixtures of Soft Colloids and Linear Polymers of Equal Size
Macromolecules, **56** (5), 1818-1827 (2023)
 41. S.Aime, D. Truzzolillo, D.J. Pine, L. Ramos and L. Cipelletti
A unified state diagram for the yielding transition of soft colloids
Nat. Phys. **19**, 1673-1679 (2023)
 42. R. Elanchelian, E. Chauveau, D. Truzzolillo[†]
Impact of polyelectrolyte adsorption on the rheology of concentrated Poly(N-Isopropylacrylamide) microgel suspensions.
Soft Matter, **19**, 4794-4807 (2023)
 43. F. Brasili, G. Del Monte, A. Capocéfalo, E. Chauveau, E. Buratti, S. Casciardi, D. Truzzolillo, S. Sennato, and E. Zaccarelli.
Towards a unified description of the electrostatic assembly of microgels and nanoparticles.
ACS Appl. Mater. Interfaces, **15** (50), 58770-58783 (2023)
 44. S. Uredat, A. Gujare, J. Runge, D. Truzzolillo, J. Oberdisse, T. Hellweg
A review of stimuli-responsive polymer-based gating membranes
Phys. Chem. Chem. Phys., Accepted (2024)
- Other publications
 1. Book review: *Mathematics of pattern growth in condensed matter. Interfacial wave theory of pattern formation in solidification: Dendrites, fingers, cells and free boundaries.* Jian-Jun Xu, Springer, 2017 (2nd ed.). **Physics Today**, **71**, (3), pp. 56-57 (2018).

INTERNATIONAL AND NATIONAL SCHOOLS ATTENDED

1. **Soft Matter - From Synthetic to Biological Materials** (Forschungszentrum, Jülich - Germany, since 03-03-08 to 14-03-08)
2. **MolSim 2009** (University of Amsterdam - Netherlands, since 5-01-09 to 16-01-09)
3. **Colloidal Dispersion Rheology** (FO.R.T.H. - Heraklion, Greece, since 18-11-10 to 24-11-10)

4. **Colloid Imaging, Glasses and Flow** (University of Edinburgh - United Kingdom, since 30-05-11 to 03-06-11)
 5. **HemPhys, 1st International school on HemoPhysics** (Montpellier - France, since 15-05-18 to 18-05-18)
 6. **Training week: Python 3 - Bases du langage et programmation objet** (DR13-CNRS, Montpellier - France, since 06-11-23 to 10-11-23)
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INTERNATIONAL CONFERENCE CONTRIBUTIONS

1. **SOCOBIM 2007** (Terrasini - Palermo - Italy) - Presented poster: *Kinetic arrest in inhomogeneously - charged colloidal particle aggregation.*
2. **22nd General Conference of the Condensed Matter Division of EPS** (Rome - Italy) - Presented poster: *Kinetic arrest in inhomogeneously - charged colloidal particle aggregation.*
3. **European Colloid and Interface Society conference - ECIS 2008** (Krakow - Poland) - Contributed Talk : *Kinetic arrest in polyion induced inhomogeneously-charged colloidal particle aggregation - A simple aggregation model.*
4. **ESC 2009 - European student conference 2009** (Almeria - Spain) - Contributed Talk : *Effective interaction between polyelectrolyte/colloid complexes: double layer theory and detailed MC simulations.*
5. **IDMRCS 2009 - 6th International Discussion Meeting on Relaxations in Complex Systems** (Rome - Italy) - Presented poster : *Effective interaction between polyelectrolyte-colloid complexes: double layer theory and detailed MC simulations.*
6. **European Colloid and Interface Society conference - ECIS 2010** (Prague - Czech Republic) Contributed Talk: *Interaction between like-charged polyelectrolyte-colloid complexes in electrolyte solutions: a Monte Carlo simulation study in the Debye-Huckel approximation.*
7. **First annual meeting of COMPLOIDS network (Physics of Complex Colloids) - 2010** (Heraklion - Crete, Greece) Contributed Talk: *Linear and non-linear rheology of star/linear polymer mixtures.*

8. **International Workshop on Dynamics in Viscous Liquids - 2011** (Rome - Italy) Presented Poster: *Star-linear polymer mixtures: a subtle balance between depletion and osmotic shrinkage.*
9. **Annual SoftComp Meeting - 2011** (Heraklion, Crete - Greece) Contributed Talk: *Osmotic interactions, Rheology and Arrested Phase Separation in Star-Linear polymer mixtures.*
10. **Second annual meeting of COMPLOIDS network (Physics of Complex Colloids) - 2011** (Vienna, Austria) Contributed Talk: *Osmotic interactions, Rheology and Arrested Phase Separation in Star-Linear polymer mixtures.*
11. **6th Hellenic Society of Rheology conference - 2011** (Athens, Greece) Contributed Talk: *Star-Linear polymer mixtures: a subtle balance between depletion and osmotic shrinkage.*
12. **8th Liquid Matter Conference - 2011** (Vienna, Austria) Contributed Talk: *Osmotic interactions and arrested phase separation in star-linear polymer mixtures.* Presented poster: *Dielectric relaxations in aqueous polyelectrolyte solutions: the effect of temperature.*
13. **Annual SoftComp Meeting - 2012** (Heraklion, Crete - Greece) Contributed Talk: *Thermal melting of a depletion gel.*
14. **XVIth International Congress on Rheology - 2012** (Lisbon - Portugal) Contributed Talk: *Reentrant phase diagram of star-linear polymer mixtures: from repulsive glass to gel.*
15. **International Soft Matter Conference 2013** (Rome - Italy) Contributed Talk: *Tailoring metastable states in soft colloidal mixtures.*
Presented Poster: *Onset of viscous fingering in Newtonian and non-Newtonian fluids.*
16. **Michelin Workshop: Flow, Fracture, Interfaces, in Soft Heterogeneous Materials - 2013** (Paris - France) Presented Poster: *Effective surface tension between a colloidal solution and its solvent.*
17. **IOP Conference: The Physics of Soft and Biological Matter - 2014** (Cambridge - England) Contributed Talk: *Off-equilibrium surface tension in colloidal suspensions.*

18. **7th International Meeting of the Hellenic Rheology Society and focused Meeting " Attractive Colloids and Gels" - 2014** (Heraklion - Greece) Contributed Talk: *Depletion gels from dense soft colloids: rheology and thermoreversible melting.*

19. **9th Liquid Matter Conference - 2014** (Lisbon - Portugal) Contributed Talk: *Off-equilibrium surface tension in driven colloidal suspensions.*

20. **Fracture of Soft Materials: from Soft Solids to Complex Fluids - 2014** (Palavas-les-Flots - France) Contributed Talk (sound-bite session): *Off-equilibrium surface tension in colloidal suspensions.*

21. **International Workshop on Dynamics in Viscous Liquids - 2015** (Montpellier - France) Presented Poster: *Off-equilibrium surface tension in driven colloidal suspensions.*

22. **European Colloid and Interface Society conference - ECIS 2015** (Bordeaux - France) Contributed Talk: *Off-equilibrium surface tension in colloidal and polymer suspensions.*

23. **XVIIth International Congress on Rheology - 2016** (Kyoto - Japan) Contributed Talk: *Off-equilibrium surface tension in driven colloidal and polymer suspensions.*

24. **Micromast, 1st International Conference on Multiscale Applications of Surface Tension - 2016** (Brussels - Belgium) Contributed Talk: *Off-equilibrium surface tension in driven colloidal and polymer suspensions.*

25. **European Colloid and Interface Society conference - ECIS 2016** (Rome - Italy) Presented poster: *Structure and rheology of particles with tunable charge density at the air-water interface.*

26. **SoftComp Workshop - Functional Polymers - 2018** (San Sebastian - Spain) Contributed talk: *Overcharging and reentrant condensation of thermoresponsive ionic microgels.*

27. **Annual European Rheology Conference - AERC 2018** (Sorrento - Italy) Contributed talk: *The glass transition of soft colloids.*
Presented Poster: *Interfacial tension in miscible fluids: insights from fluid dynamic instabilities.*

28. **International symposium on supramolecular systems - SUPRABIO 2019** (Barcelona - Spain) Contributed talk: *Overcharging and reentrant condensation of thermoresponsive ionic microgels.*

29. **Annual SoftComp meeting - 2019** (Portonovo - Italy) Contributed talk:
Spinning drop dynamics in miscible and immiscible environments

30. **Annual congress of the french rheology group - 2019** (Montpellier - France) Contributed talk: *Transition from confined to bulk dynamics in symmetric star-linear polymer mixtures*

31. **CNRS GdR, Micropesanteur fondamentale et appliqué - Workshop 2020** (Video conference) Contributed talk: *Effective interfacial tension in miscible molecular fluids.*

32. **Annual European Rheology Conference - AERC 2021** (Video conference) Contributed talk: *Spinning elastic beads: a route for simultaneous measurements of the shear modulus and the interfacial energy of soft materials.*

33. **New Challenges in Polyelectrolyte Science - NAPS workshop 2021** (Video conference) Contributed talk: *The Double-Faced Electrostatic Behavior of PNIPAm Microgels*

34. **11th Liquid Matter Conference 2021** (Video conference)
Contributed talk: *The yielding transition of soft glasses*
Presented Poster: *Effective interfacial tension in miscible molecular fluids*
Presented Poster: *Spinning elastic beads: a route for simultaneous measurements of the shear modulus and the interfacial energy of soft materials*

35. **Annual European Rheology Conference - AERC 2022** (Seville - Spain) Contributed talk: *A cusp catastrophe model with disorder for the yielding transition of soft glasses*

36. **XIXth International Congress on Rheology - 2023** (Athens - Greece) Contributed Talk: *Microscopic yielding of glassy materials under oscillatory shear*

37. **Fluids and Complexity III - 2023** (Nice - France) Contributed Talk: *Yielding of soft glasses under oscillatory shear: New insights from intra cycle response and microscopic dynamics*

CONFERENCE CONTRIBUTIONS AS INVITED SPEAKER

- 21-02-2017, **Soft matter at interfaces 2017** (Ringberg Castle, Germany).
Talk title: *Non-equilibrium interfacial tension in simple and complex fluids*

- 14-04-2021, **Interdisciplinary Challenges in Nonequilibrium Physics 2021** (Virtual meeting - Organized by the Erwin Schrödinger International Institute for Mathematics and Physics (ESI)). Talk title: *Vitrification and yielding of soft colloids*
- 24-05-2022, **International Meet on Condensed Matter Physics (CMP-MEET 2022)** (Munich, Germany). Talk title: *The Microscopic Yielding of Soft Materials: from Experiments to Catastrophe Theory*.

INVITED SEMINARS AND ONE DAY-WORKSHOPS

1. 28-04-2015, FO.R.T.H. (Heraklion, Greece): *Off-equilibrium interfacial tension in colloidal suspensions*
2. 25-11-2015, Laboratoire Polymères et Matériaux Avancés (Lyon, France): *Off-equilibrium surface tension in colloidal and polymer suspensions*.
3. 20-01-2016, FO.R.T.H. (Heraklion, Greece): *Dynamical and structural signature of jamming of soft repulsive colloids*.
4. 17-05-2016, Faculty of Physics, University of Vienna (Austria): *Effective surface tension in miscible fluids*
5. 30-09-2016, Chemical Engineering Department, Politecnico di Milano (Italy): *Off-equilibrium interfacial tension in colloidal and polymer suspensions*
6. 07-10-2016, Physics Department, Sapienza-Università di Roma (Italy): *Off-equilibrium interfacial tension in colloidal and polymer suspensions*
7. 05-02-2019, Réunion technique du GDR Micropesanteur fondamentale et appliquée (MFA), l'expérimentation à bord de l'A310 Zéro-G (Bordeaux, France): *Interfacial tension in miscible fluids*
8. 09-07-2019, GDR Liquids @ interfaces (Grenoble, France): *Capillary phenomena in miscible fluids*
9. 18/19-01-2021, Journées des Chargés de Recherche - Promotion 2015 de l'Institut de Chimie du CNRS (Paris): *Interfacial tension in miscible fluids*.
10. 10-02-2022, Plenary lecture for high school students @ Lycée Joffre (Montpellier) : *Discovering surface tension*.
11. 25-03-2022, Université de Rennes 1: *The microscopic yielding of soft materials: from experiments to catastrophe theory*.
12. 18/19-01-2023, Journées des Chargés de Recherche de l'institut de chimie - Promotion 2015 et 2018 de l'Institut de Chimie du CNRS (Paris): *Driven and responsive soft matter. Flowing glasses, tunable gels, and unstable interfaces*.

AWARDS AND DISTINCTIONS

- *Young Investigator Training Program Award 2016* (Assigned by European Colloid and Interface Society, 3000 €)
- *2018 - Best poster presentation at Annual European Rheology Conference (AERC 2018, Sorrento, Italy)*. Sponsored by Soft Matter
- *Visiting scientist fellowship 2018 - Sapienza, University of Rome* (Assigned and funded by Sapienza-University of Rome, 9000 €)

GRANTS (Project PI)

- CNES grant in space research.
Name of Funding Organization: Centre national d'études spatiales (CNES)
Amount Awarded: 20 k€
Period of Grant Award: (01/2020-12/2020)
Title of Project: INTEMIS (**I**nterfacial **T**ension in **M**iscible Fluids)
Role on Project: PI
- ANR grant "Jeunes Chercheuses et Jeunes Chercheurs" (JCJC).
Name of Funding Organization: Agence nationale de la recherche (ANR)
Amount Awarded: 213 606,72 €
Period of Grant Award: (01/2021-06/2024)
Title of Project: THELECTRA (**T**hermoreponsive **E**lectroadsorption)
Role on Project: PI
- CNRS EMERGENCE@INC 2024 grant
Name of Funding Organization: CNRS
Amount Awarded: 1 funded Postdoc + 15000€
Period of Grant Award: (04/2024-10/2025)
Title of Project: ELASTOSPIN (Gelation and **e**lastocapillarity in **s**pinning beads)
Role on Project: PI

TEACHING ACTIVITY:

- (2007 → 2009) Assistant position (100 hours - Lab work). Course of Laboratory of Mechanics - Dept. of Physics, University of Rome "La Sapienza" (Language: Italian).
- (2014 → 2015) 1/2-ATER at University of Montpellier (96 hours: 83 hours of "travaux dirigés" and 13 hours of "travaux pratiques"). Courses of General Physics and Physics for Biology (Language: French).
- **Supervision activity including PhD thesis direction (temporal order)**

1. *Giovanni Savorana* - **Master student** (M2) @ Physics Department, University of Milan. (January → July 2017). Thesis: "Microfluidic flow instabilities in miscible fluids"
2. *Francesca Sciolla* - **Master student** (M2) @ Physics Department, Sapienza-University of Rome. (February → April 2018). Thesis: "Drug encapsulation in complex liposomes"
3. *Caroline Kopecz-Muller* - **Master student** (M1) @ ENS-Paris (March → July 2019). Thesis (Rapport de stage): "On the effect of colloids in spinning drops"
4. *Alessandro Carbonaro* - **PhD student** @ Laboratoire Charles Coulomb, University of Montpellier (École Doctorale Information Structures Systèmes - I2S). Thesis: Interfacial tension in miscible fluids (September 2017 → September 2020)
5. *Juliette Behra* - **Postdoc** @ Laboratoire Charles Coulomb, University of Montpellier. Project: Microscopic dynamics and rheology of soft colloids at glass transition (April 2019 → August 2021).
6. *Rajam Elancheliyan* **Postdoc** @ Laboratoire Charles Coulomb, University of Montpellier. Project: Thermosensitive electroadsorption in polyelectrolyte microgels mixtures (since March 2021).
7. *Arthur Allen* **Master student** (M1) @ University of Montpellier (April → June 2023). Thesis (Rapport de stage): Gelation of beads under rotation
8. *Chaimaa Redouane* **Master student** (M1) @ University of Montpellier (April → June 2023). Thesis (Rapport de stage): Characterization of ultrasoft microgels via light scattering and electrophoresis.
9. *Aditi Ashok Gujare* - **PhD student** @ Laboratoire Charles Coulomb, University of Montpellier (École Doctorale Information Structures Systèmes - I2S). Thesis: Smart Microgel-Based Membranes for Enhanced Electrochemical Cells (May 2023 → May 2026)
10. *Antonio Chopin* - **PhD student** @ Laboratoire Charles Coulomb, University of Montpellier (École Doctorale Information Structures Systèmes - I2S). Thesis: Impact of pollutants on the aggregation of beta-amyloid peptides: analytical methods and advanced modeling (Expected, October 2023 → October 2026)

• Tutoring Activity

1. *Gerasimos Kastrinakis* - Master student (M1) @ the Material Science Department, University of Crete. Project: "On the relaxation processes of linear chains in star-linear polymer mixtures and nanocomposites" (October 2011 → March 2012). Supervised by Prof. D. Vlassopoulos.
2. *Giannis Marakis* - PhD student in Material Science @ FO.R.T.H and University of Crete. Project: "Linear and non linear rheology of HS-Star polymer mixtures" (March 2012 → July 2012). Supervised by Prof. D. Vlassopoulos.
3. *Giovanni Del Monte* - PhD student in Physics @ Sapienza-University of Rome. Project: "Structure and volume phase transition of PniPam

microgels" (September 2019 → October 2019). Supervised by Dr. E. Zaccarelli.

REFeree ACTIVITY FOR INTERNATIONAL JOURNALS:

PNAS, Nature Communications, Advanced Science, ACS Applied Materials and Interfaces, The Journal of Chemical Physics, Langmuir, Progress in Colloid and Polymer Science, Rheologica Acta, Journal of Colloid and Interface Science, Macromolecular Chemistry and Physics, Soft Matter, The Journal of Physical Chemistry, Industrial & Engineering Chemistry Research, AiChE Journal, Journal of Mechanical Engineering Research, Colloids and Surfaces A, Journal of Fluid Mechanics, Physics of Fluids, Molecules, Journal of Polymer Science.

ACTIVE INTERNATIONAL COLLABORATIONS:

- Polyelectrolyte-colloid complexation, microgels and thermoresponsive adsorption: Soft Matter and Biophysics group - Dept. of Physics, Sapienza - Università di Roma: Prof. F. Bordi, Dr. S. Sennato, Dr. E. Zaccarelli.
- Linear and non linear rheology of complex fluids: Polymer Group - FO.R.T.H, Institute of Electronic Structure and Laser (Crete): Prof. D. Vlassopoulos. Engineering and Technology institute Groningen (ENTEG): D. Parisi.
- Vitrification and gelation in soft mixtures: Soft Matter Theory & Simulation Group - Universität Wien: Prof. C.N. Likos.

CURRENT RESEARCH INTERESTS

- Rheology of soft colloidal glasses. Electrical transport properties of polymer solutions and colloidal particles. Polymer-colloid interactions. Modeling and simulation of equilibrium/non equilibrium structure and dynamics of liquids. Hydrodynamic instabilities and tensiometry in miscible fluids.
- Experimental Methods: Rheometry; Photocorrelation techniques; Langmuir-Blodgett techniques; Spinning drop tensiometry; Dielectric spectroscopy, electrophoresis and conductimetry.
- Simulation Methods: Monte Carlo and NVT-Molecular dynamics.

COLLABORATIONS WITH INDUSTRIES

- Particle characterization via dynamic light scattering for "*Formulation-SA*" (January 2015 - September 2015)
- Particle characterization via dynamic light scattering for "*Amatsigroup*" (March 2015 - September 2015)
- Density and viscosity measurements for "*BioInspir*" (July 2023, ongoing).

SCIENTIFIC ACTIVITIES AND DUTIES

- Member of the local organizing committee of the workshop "Fracture of Soft Materials: from soft solids to complex fluids", Palavas-les-Flots (France), 15-18 October 2014.
- Member of Doctoral committees:
 - i) 19-01-2016 *Dr. Giannis Marakis* (Metastability transitions in colloidal supramolecular systems of varying softness and shape - University of Crete, Department of Materials Science and Technology)
 - ii) 12-06-2023 *Dr. Bruno Flavio Di Dio* (Time dependent rheology of soft particle glasses - ESPCI-Paris).
- October 2015 → October 2020: Organizer of all seminars of the Soft Matter group @ L2C.
- Since October 2021: Member of the scientific evaluation committee CE06 for the Agence Nationale de la Recherche (ANR) - Axe B.2 Polymères, composites, physique et chimie de la matière molle, procédés
- External referee of PhD theses: Dr José Ruiz-Franco (2018, Sapienza-University of Rome), Dr. Silvia Franco (2022, Sapienza-University of Rome).
- Regularly involved in PhD programme's monitoring committees (Comités de suivi de thèse) at the national level.
- Regularly involved in scientific committees for the evaluation of Master thesis (Rapports de stage) (University of Montpellier).
- Since September 2022 Associate Editor of *Frontiers in Soft Matter*
- Member of the Scientific Committee of the XVI International Workshop on COMPLEX SYSTEMS 13-17 March, 2023 Andalo (Trento, Italy)

COMPLEMENTARY SKILLS

- Known languages: Italian (Native Language), English (Working proficiency), French (Working proficiency), Modern Greek (Basic).
- Informatics: Unix/Windows platforms. Programming: C. Text Editors: Latex, MS-Office/Open Office.
- Hobbies: Greek and Roman history, ancient Greek philosophy, playing acoustic guitar.