


PROF. ANTONIO TROVATO - CURRICULUM VITAE

EDUCATION


Degree in Physics “cum laude”, University of Padua, July 1996.
PhD in Condensed Matter Theory “cum laude”, SISSA (Trieste), October 2000.

PRESENT POSITION (since 2014):

Associate Professor in Condensed Matter Theory, University of Padua, Dept of Physics and Astronomy

PREVIOUS POSITIONS:

2000-2002 PostDoc, Niels Bohr Institute, Copenhagen.
2002-2004 PostDoc, INFN, Padua Unit.
2004-2006 PostDoc, University of Padua.
2006-2008 Researcher (non permanent) CNISM, Padua Unit.
2008-2014 Researcher (permanent), University of Padua.

OTHER STAYS ABROAD AND DISTINCTIONS:

February 2003 Visiting scientist at SISSA (Trieste).
September 2004 and January 2005 Visiting scientist at EPFL (Lausanne).
2017-2026 National Scientific Habilitation for Full Professorship in Condensed Matter Theory (02/B2) and in Applied Physics (02/D1).

RESEARCH TOPICS

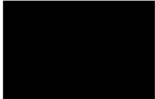
Protein folding and aggregation.
Statistical mechanics of polymers and of disordered systems.
Optimization algorithms.
Phase transitions in DNA physics.
Quorum sensing in bacterial communication.

SHORT SUMMARY OF SCIENTIFIC ACTIVITY

61 PUBLICATIONS on peer reviewed scientific journals, total citations: 1885, H-index: 20 (ISI)
19 INVITED TALKS at international conferences; 4 LECTURES in International Summer Schools.
SUPERVISOR of 4 Postdocs, 4 Ph.D. thesis, 14 master thesis, 29 bachelor thesis.

SCIENTIFIC ORGANIZATION ACTIVITY

Workshop "Protein Physics: Structure, Dynamics, and Function", Bressanone (Italy), held in February every two years (2014, 2016, 2018, 2020);
Workshop “Living Systems: from interaction patterns to critical behaviour”, San Servolo - Venezia (Italy), September 16-19, 2015;
Vice-head of the PhD School in Physics, University of Padova – 2015-2016;
Referee for > 25 international scientific journals.



RESEARCH PROJECTS AND FUNDINGS

Principal Investigator in

- PRAT 2012 (“Progetto di Ricerca di Ateneo”) project CPDA121890/12 “Structure-based coarse-grained model for protein aggregation”, funded by Padua University with 71651 € (24 months);
- BIRD 2019 project BIRD199809 “Protein phase separation into disordered condensates: a statistical mechanics approach”, funded by Padua University with 48660 € (24 months).

TEACHING ACTIVITY

“Structure of Matter” (2009-2011), bachelor degree in Optics and Optometry, Science School, UNIPD;
“Quantum Physics” (2012-2021), bachelor degree in Material Science, Science School, UNIPD;
“Computational Methods in Physics” (2015-2019), bachelor degree in Physics, Science School, UNIPD;
“Physics of Complex Systems” (2019-today), master degree in Physics, Science School, UNIPD
“Computational Biophysics in Protein Science” (2007-2010) and “Stochastic Models and Methods in Soft Matter Physics and Biology” (2012-2014), PhD School in Physics, UNIPD
Galilean tutor (2009-2010), Galilean School, UNIPD

PATENTS AND TECHNOLOGY TRANSFER

The use of the software called PASTA, that I contributed to develop for predicting aggregation propensities of proteins, was licensed for commercial use by Padua University in 2012 to Boehringer Ingelheim and in 2015 to MedImmune.

SELECTED SCIENTIFIC PUBLICATIONS

- A. Maritan, C. Micheletti, A. Trovato, J. R. Banavar (2000). Optimal shapes of compact strings. *NATURE*, vol. 406, p. 287-290
- Hoang TX, Trovato A, Seno F, Banavar JR, Maritan A. (2004). Geometry and symmetry presculpt the free-energy landscape of proteins. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, vol. 101, p. 7960-7964
- Auer S, Trovato A., Vendruscolo M (2009). A Condensation-Ordering Mechanism in Nanoparticle-Catalyzed Peptide Aggregation. *PLOS COMPUTATIONAL BIOLOGY*, vol. 5, p. e1000458
- Walsh I, Seno F, Tosatto SC, Trovato A (2014). PASTA 2.0: an improved server for protein aggregation prediction.. *NUCLEIC ACIDS RESEARCH*, vol. 42, p. W301-W307
- Baiesi M, Orlandini E, Seno F, Trovato A (2019). Sequence and structural patterns detected in entangled proteins reveal the importance of co-translational folding. *SCIENTIFIC REPORTS*, vol. 9, p. 8426-1-8426-12

