

Curriculum Vitae

Andela Šarić

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Nationality: Croatian

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Education:

- 2009 - 2013 Ph.D. in Chemical Physics (*with distinction*), Columbia University, New York
- 2008 - 2009 M.A. in Chemical Physics, Columbia University, New York
- 2004 - 2008 Diploma in Chemistry (*summa cum laude*), University of Zagreb, Croatia

Academic Appointments:

- 2014 - 2017 Emmanuel College Research Fellow, University of Cambridge
- 2013 - 2016 HFSP Cross-disciplinary Postdoctoral Fellow, "Pathways of amyloid formation explored using coarse-grained simulations", Department of Chemistry, University of Cambridge
Advisor: Prof. Daan Frenkel
- 2009 - 2013 PhD student, Thesis: "Self-assembly of nanoparticles on fluid and elastic membranes", Department of Chemistry, Columbia University, New York, Advisor: Prof. Angelo Cacciuto

Teaching Experience:

- Supervisor for the course "Statistical Mechanics", University of Cambridge (2014 - 2016)
- Supervisor for the course "Soft Matter", University of Cambridge (2013 - 2016)
- Physical chemistry tutor, Columbia University (2009 - 2013)
- Teaching assistant, Columbia University (2008 - 2010)
"Physical Chemistry II: Thermodynamics and Statistical Mechanics" (2009, 2010)
"General Chemistry" (2009), "General Chemistry Laboratory" (2008)

Student mentoring:

- 2016 - 2019 PhD student Alexandru Paraschiv, UCL
- 2016 Visiting research student Tine Curk, UCL
- 2016 - 2017 4th year project (M. Sci) students Jessica McQuade and Calvin Lau, UCL
- 2016 Summer Students Jessica McQuade and Lucie Liu, UCL
- 2016 Erasmus Placement student Samo Curk, University of Cambridge
- 2015 - 2016 M.Phil student Timothy Burd, University of Cambridge
- 2015 - 2016 M.Phil student Alexandru Paraschiv, University of Cambridge
- 2014 - 2015 Erasmus Placement student Domagoj Fijan, University of Cambridge
- 2012 - 2013 Graduate research student Joe Napoli, Columbia University
- 2012 - 2013 Graduate student Stewart Mallory, Columbia University
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Grant and awards:

- IPLS Collaborative Seed Grant, "Biophysics of host-pathogen interactions", UCL (£15K)
- Sir Alan Wilson Research Fellowship in biological and medicinal sciences, Emmanuel College, Cambridge (2014 - 2017)
- Human Frontier Science Program Cross-disciplinary Postdoctoral Fellowship (2013 - 2016)
- The Hammett Award to the outstanding Ph.D. Student, Columbia University (2013)

- Rutgers Fellowship for exemplifying academic excellence, Columbia University (2009)
- Medal of Department of Chemistry for recognition of achievements in studies, Zagreb (2008)
- Rectors's award, University of Zagreb (2008)
- Fellowship of the Rotary Club Zagreb (2007 - 2008)
- Fellowship of the City of Zagreb (2006, 2008)
- Fellowship of the Croatian Ministry of Science (2004, 2006)
- Bronze medal at the International Chemistry Olympiad, Kiel (2004)

Publications:

19. P. Wirnsberger, D. Fijan, R. A. Lightwood, A. Šarić, C. Delago and D. Frenkel, Numerical evidence for thermally induced monopoles, arXiv: 1610.06840 (2016).
18. A. Šarić[§], T. C. T. Michaels[§], A. Zaccone, T. P. J. Knowles and D. Frenkel, Kinetics of spontaneous filament nucleation via oligomers: insights from theory and simulations, *J. Chem. Phys.* 145, 211926 (2016). (Cover paper of the special issue “Nucleation: New concepts and discoveries”. Highlights in the AIP Research News)
17. S. J. Bachmann, J. Kotar, L. Parolini, A. Šarić, P. Cicuta, L. Di Michele[§] and B. M. Mognetti[§], *Melting transition in lipid vesicles functionalised by mobile DNA linkers*, *Soft Matter* 12, 7804 (2016).
16. C. van der Wel, A. Vahid, A. Šarić, T. Idema, D. Heinrich, D. J. Kraft, *Lipid membrane-mediated attraction between curvature inducing object*, *Scientific Reports* 6, 32825 (2016).
15. A. Šarić^{*}, A. K. Buell, G. Meisl, T. C. T. Michaels, C. M. Dobson, S. Linse, T. P. J. Knowles and D. Frenkel, *Physical determinants of the self-replication of protein fibrils*, *Nature Physics* 12, 874 (2016). (Highlighted in the media, and the University of Cambridge and UCL research news).
14. P. Wirnsberger, D. Fijan, A. Šarić, M. Neumann, C. Dellago and D. Frenkel, *Non-equilibrium simulations of thermally induced electric fields in water*, *J. Chem. Phys.* 144, 224102 (2016).
13. A. Šarić, Y. C. Chebaro, T. P. J. Knowles and D. Frenkel, *Crucial role of non-specific interactions in amyloid nucleation*. *Proc. Natl. Acad. Sci. U.S.A.* 111, 17869 (2014). (Highlighted on the HFSP website).
12. S. A. Mallory, A. Šarić, C. Valeriani and A. Cacciuto, *Anomalous thermomechanical properties of fluids of self-propelled particles*. *Phys. Rev. E* 89, 052303 (2014).
11. B. M. Mognetti[§], A. Šarić[§], S. Angioletti-Uberti, A. Cacciuto, C. Valeriani and D. Frenkel, *Living clusters and crystals from low densities suspensions of active colloids*. *Phys. Rev. Lett.* 111, 245702 (2013). (Editor's suggestion, highlighted in P. Ball, *Physics* 6, 134 (2013)).
10. J. A. Napoli, A. Šarić and A. Cacciuto, *Collapsing nanoparticle-laden nanotubes*, *Soft Matter* 9, 8881 (2013).
9. A. Šarić and A. Cacciuto, *Self-assembly of nanoparticles on fluid and elastic membranes*, *Soft Matter* 9, 6677 (2013). (Review article, part of themed collection “Emerging Investigators”).
8. A. Šarić and A. Cacciuto, *Mechanism of membrane tube formation induced by adhering nanocomponents*, *Phys. Rev. Lett.* 109, 188101 (2012). (Cover paper of the weekly issue, highlighted in APS Physics Synopsis.)
7. A. Šarić and A. Cacciuto, *Fluid membranes can drive linear aggregation of adsorbed spherical nanoparticles*, *Phys. Rev. Lett.* 108, 118101 (2012). (Editor's suggestion.)
6. A. Šarić and A. Cacciuto, *Soft elastic surfaces as a platform for particle self-assembly*. *Soft Matter* 7, 7552 (2011).

5. A. Šarić and A. Cacciuto, *Particle self-assembly on soft elastic shells*, *Soft Matter* 7, 1874 (2011).
4. A. Šarić[§], B. Bozorgui[§], and A. Cacciuto, *Packing of soft asymmetric dumbbells*, *J. Phys. Chem. B* 115, 7182 (2011).
(On the cover of the special issue “Clusters in Complex Fluids”.)
3. A. Šarić, J. C. Pàmies, and A. Cacciuto, *Effective elasticity of a flexible filament bound to a deformable cylindrical surface*, *Phys. Rev. Lett.* 104, 226101 (2010).
2. A. Šarić, T. Hrenar, M. Mališ, and N. Došlić, *Quantum mechanical study of secondary structure formation in protected dipeptides*, *Phys. Chem. Chem. Phys.* 12, 4678 (2010).
1. A. Šarić, V. Vrček and M. Bühl, *Density Functional Study of Protonated Formylmetallocenes*, *Organometallics* 27, 394 (2008).

(* corresponding authorship § shared authorship)

Invited talks:

- APS Invited Session: Biological Materials Self-Assembly, New Orleans, USA (2017): Invited talk
- Computational Molecular Science Conference, Warwick, UK (2017): Invited talk
- University College London LMCB Seminar, London, UK (2016): Invited talk
- Biomaterials and their Interactions with Biological and Model Membranes, Salou, Spain (2016): Invited talk
- Royal Society Meeting on Nucleation, Chicheley Hall, UK (2016): Invited talk
- Innovative Surfaces and Materials, Primosten, Croatia (2016): Invited talk
- From Solid State to Biophysics, Dubrovnik, Croatia (2016): Invited talk
- Recent Appointees in Materials Modelling Conference, London (2016): Invited talk
- BP Institute Seminar Series, University of Cambridge (2015): Invited talk
- Gordon Research Seminar, New London, USA (2015): Invited talk
- University of Dundee, The Division of Computational Biology (2015): Invited talk
- Ludwig Maximilian University Munich, Department of Physics (2014): Invited talk
- CECAM workshop, “Understanding the interaction of nano-sized synthetic materials with biological membranes”, Lausanne, Switzerland (2014): Invited talk
- Brandeis Materials Research Science and Engineering Center Seminar, Boston, USA (2012): Invited talk

Professional activities:

- Referee: *Soft Matter*, *Phys. Rev. E*, *PLOS One*, *J. Polym. Sci. Part B Polym. Phys.*, *J. Phys. Chem. Lett.*, *J. Chem. Phys.*, *ACS Chem. Neurosci.*, *J. Phys. Chem.*

Outreach Activities:

- Society for Out of Frame Education, Croatia: co-founder, board member (2010-2011), fundraising chair (2010-2012), honorary member (2015-Present)
- Summer School of Science, Croatia: project leader, lecturer, organiser (2005-2013)
- Girls’ Science Day at Columbia University (2009-2013)
- Open day of Chemistry Department, University of Zagreb (2008, 2009)
- Festival of Science, Zagreb (2007, 2008)
- Preparing Croatian team for the International Chemistry Olympiad (2004-2008)