

Federica Lo Verso - Publications

BOOK CONTRIBUTIONS

1. **Computer Simulations of Single-Chain Nanoparticles**

A.J. Moreno, **Federica Lo Verso** *Single-Chain Polymer Nanoparticles. Synthesis, Characterization, Simulations, and Applications*. Chapter in press. J.A. Pomposo (Editor), **Wiley**, Germany, 2017

ORIGINAL ARTICLES (PEER REVIEWED)

2. **Federica Lo Verso**, J.A. Pomposo, J. Colmenero, A.J. Moreno *Tunable Slow Dynamics in a New Class of Soft Colloids* **Soft Matter** 12, 9039-9046 (2016)
3. A. Arbe, J.A. Pomposo, A.J. Moreno, **Federica Lo Verso**, M. Gonzalez-Burgos, I. Asenjo-Sanz, A. Iturrospe, A. Radulescu, O. Ivanova, J. Colmenero, *Structure and Dynamics of Single-Chain Nanoparticles in Solution* **Polymer** 105, 532-544 (2016)
4. S. Basasoro, M. Gonzalez-Burgos, A.J. Moreno, **Federica Lo Verso**, A. Arbe, J. Colmenero, J.A. Pomposo, *A Solvent-Based Strategy for Tuning the Internal Structure of Metallo-Folded Single-Chain Nanoparticles* **Macromolecular Rapid Communications** 37, 1060-1065 (2016)
5. Angel J. Moreno, **Federica Lo Verso**, Arantxa Arbe, Jose A. Pomposo and Juan Colmenero, *Concentrated Solutions of Single-Chain Nanoparticles: A Simple Model for Intrinsically Disordered Proteins under Crowding Conditions* **J. Phys. Chem. Lett.** 7, 838-844 (2016)
6. Alejandro Latorre-Sanchez, Angel Alegria, **Federica Lo Verso**, Angel J. Moreno, Arantxa Arbe, Juan Colmenero and Jose A. Pomposo *A Useful Methodology for Determining the Compaction Degree of Single-Chain Nanoparticles by Conventional SEC*, **Particle & Particle Systems Characterization** 33, 373-381 (2016)
7. Christian Koch, Athanassios Z. Panagiotopoulos, **Federica Lo Verso** and Christos N. Likos, *Customizing wormlike mesoscale structures via self-assembly of amphiphilic star polymers* **Soft Matter**, 11, 3530 (2015)
8. **Federica Lo Verso**, J. A. Pomposo, J. Colmenero, A. Moreno, *Simulation Guided Design of Globular Single-Chain Nanoparticles by Tuning the Solvent Quality*, **Soft Matter**, 11 1369-1375 (2015)

9. I. Perez-Baena, I. Asenjo-Sanz, A. Arbe, A. Moreno, **Federica Lo Verso**, J. Colmenero and J. A. Pomposo, *Efficient Route to Compact Single-Chain Nanoparticles: Photoactivated Synthesis via Thiol-Yne Coupling Reaction*, accepted for publication, **Macromolecules**, 47 8270-8280 (2014)
10. J. A. Pomposo, Irma Perez-Baena, **Federica Lo Verso**, Angel J. Moreno, Arantxa Arbe, and Juan Colmenero, *How Far Are Single-Chain Polymer Nanoparticles in Solution from the Globular State?*, **ACS Macro Letters** 3 767-772 (2014) (Viewpoint)
11. **Federica Lo Verso**, J. A. Pomposo, J. Colmenero, A. Moreno, *Multi-orthogonal folding of single polymer chains into soft nanoparticles*, **Soft Matter**, 10 4813-4821 (2014)
Invited paper for the web-theme of ISMC (International Soft Matter Conference) 2013
12. A. J. Moreno, **Federica Lo Verso**, A. Sanchez-Sanchez, A. Arbe, J. Colmenero, and J. A. Pomposo, *Advantages of Orthogonal Folding of Single Polymer Chains to Soft Nanoparticles*, **Macromolecules** 46, 9748-9759 (2013)
13. A. Sanchez-Sanchez, S. Akbari, A. J. Moreno, **Federica Lo Verso**, A. Arbe, J. Colmenero, and J. A. Pomposo, *Design and preparation of single-chain nano carriers mimicking disordered proteins for combined delivery of dermal bioactive cargos*, **Macromolecular Rapid Communications** 34, 1681-1686 (2013)
14. B. Capone, I. Coluzza, R. Blaak, **Federica Lo Verso** and C. N. Likos, *Hierarchical self-assembling of telechelic star polymers: from soft patchy particles to diamond crystals*, **New Journal of Physics** 15, 095002, 23pp (2013)
Invited paper to the focus issue of New Journal of Physics on the topic of "Novel Materials Discovery"
15. C. Koch, **Federica Lo Verso**, A. Z. Panagiotopoulos, C. N. Likos, *Phase behavior of rigid, amphiphilic star polymers*, **Soft Matter**, 9, 7424-7436 (2013)
16. **Federica Lo Verso**, Leonid Yelash and Kurt Binder, *Dynamics of macromolecules grafted in spherical brushes under good solvent conditions*, **Macromolecules**, 46, 4716-4722, (2013)
17. **Federica Lo Verso**, S. E. Egorov, K. Binder, *Interaction Between Polymer Brush-Coated Spherical Nanoparticles: Effect of Solvent Quality*, **Macromolecules** 45, 8893-8902 (2012)
18. **Federica Lo Verso**, L. Yelash, S. A. Egorov, K. Binder *Effect of the solvent quality on the structural rearrangement of spherical brushes: Coarse-grained models*, **Soft Matter** 8, 4185-4196 (2012)

19. B. Capone, I. Coluzza, **Federica Lo Verso**, C. N. Likos, R. Blaak, *Telechelic star polymers as self-assembling units from the molecular to the macroscopic scale*, **Physical Review Letters** 109, 238301-238306 (2012)
20. C. Koch, C. N. Likos, A. Z. Panagiotopoulos, **Federica Lo Verso** *Self-assembling scenarios of block-copolymer stars*, **Molecular Physics** 109, 3049-3060 (2011)
21. **Federica Lo Verso**, L. Yelash, S. A. Egorov, K. Binder, *Interactions between polymer brush-coated spherical nanoparticles: The good solvent case*, **Journal of Chemical Physics** 135, 214902/1-214902/10 (2011)
Selected for publication in the Virtual Journal of Biological Physics Research, issue of December 15 (2011)
22. **Federica Lo Verso**, A. Z. Panagiotopoulos, C. N. Likos *Phase behavior of low-functionality, telechelic star block copolymers*, **Faraday Discussions** 144, 143-157 (2010)
23. **Federica Lo Verso**, S. A. Egorov, A. Milchev, K. Binder, *Spherical Polymer Brushes Under Good Solvent Conditions: Molecular Dynamics Results Compared to Density Functional Theory*, **Journal of Chemical Physics** 133, 184901/1-184901/10, (2010)
24. **Federica Lo Verso**, C. N. Likos, A. Z. Panagiotopoulos, *Aggregation phenomena in telechelic star polymer solutions*, **Physical Review E Rapid Communications** 69, 010401-010404 (2009)
Selected for publication in the Virtual Journal of Biological Physics Research, issue 1 of February 1 (2009)
25. T. Tückmantel, **Federica Lo Verso**, C. N. Likos, *Ground states of ultrasoft particles with attractions: a genetic algorithm approach* **Molecular Physics** 107, 523-534 (2009)
26. J. Fornleitner, **Federica Lo Verso**, G. Kahl, C. N. Likos, *Ordering in two-dimensional dipolar mixtures* **Langmuir** 25, 7836 - 7846 (2009)
27. J. Fornleitner, **Federica Lo Verso**, G. Kahl and C. N. Likos, *Genetic algorithms predict formation of exotic ordered phases for two-component dipolar monolayers*, **Soft Matter** 4, 480-484 (2008), **(see Press Releases)**
28. D. Pini, A. Parola, L. Reatto, **Federica Lo Verso**, M. Tau, *An investigation of critical and noncritical correlations in model colloidal suspensions*, **Journal of Physics: Condensed Matter** 20, 494246-494252 (2008)
Feature Article Highlighted at the cover page of the Journal

29. **Federica Lo Verso** C. N. Likos, H. Loewen, *Computer simulation of thermally sensitive telechelic star polymers*, **Journal of Physical Chemistry C** 111, 15803-15810 (2007)
30. J.-M. Caillol, **Federica Lo Verso**, E. Schöll-Paschinger, J.- J. Weis, *Liquid-vapour transition of the long range Yukawa fluid*, **Molecular Physics** 105, 1813-1826 (2007)
31. D. Pini, **Federica Lo Verso** M. Tau, A. Parola, L. Reatto, *Nonuniversal routes to universality: Critical phenomena in colloidal dispersions*, **Physical Review Letters** 100, 055703/1-055703/4 (2007)
32. **Federica Lo Verso** R. L. C. Vink; D. Pini, L. Reatto, *Critical behavior in colloid-polymer mixtures: Theory and simulation*, **Physical Review E** 73, 061407-061418 (2006)
33. **Federica Lo Verso** C. N. Likos, C. Mayer, H. Löwen, *Collapse of telechelic star polymers to water-melon structures* **Physical Review Letters** 96, 187802/1-187802/4 (2006)
 Selected for publication in the Virtual Journal of Biological Physics Research, issue of May 15, 2006. See also the PRL-Highlight in: The Biological Physicist , The Newsletter of the Division of Biological Physics of the American Physical Society, Vol. 6, No. 2, June 2006
34. **Federica Lo Verso** C. N. Likos, L. Reatto, *Star polymers with tunable attractions: cluster formation, phase separation, reentrant crystallization*, **Progress in Colloid and Polymer Science** 133, 78-87 (2006)
35. **Federica Lo Verso** D. Pini, L. Reatto, *Fluid-fluid and fluid-solid phase separation in non-additive asymmetric binary hard- spheres mixtures* **Journal of Physics: Condensed Matter** 17, 771-796 (2005)
36. **Federica Lo Verso**, L. Reatto, G. Foffi, P. Tartaglia, K. A. Dawson, *Star polymers: A study of the structural arrest in presence of attractive interactions*, **Physical Review E** 70, 061409-061422 (2004)
 Selected for publication in the Virtual Journal of Biological Physics Research, issue of January 1, 2005
37. G. Foffi, F. Sciortino, P. Tartaglia, E. Zaccarelli, **Federica Lo Verso**, L. Reatto, K. A. Dawson, C. N. Likos, *Structural arrest in dense star polymer solutions*, **Physical Review Letters** 90, 230181/1-230181/4 (2003)
38. Lo Verso, Maria Tau, Luciano Reatto, *Study of fluid-fluid transitions in a system with a repulsive ultrasoft-core* **Journal of Physics: Condensed Matter** 15, 1505-1520 (2003)

REVIEW ARTICLES (PEER REVIEWED)

39. **Federica Lo Verso**, C. N. Likos, *End-functionalized polymers: versatile blocks for soft materials*, **Polymer** 49, 1425-1434 (2008) (Review Article)

Feature Article Highlighted at the cover page of the Journal

PRESS RELEASES (IN GERMAN)

- 29/09/2008 **Schallschlukende Gitterstrukturen** (link); Press report on this article at the Austrian newspaper: Die Presse
- 17/01/2013 Press releases by *Innovations Report*:
Weiche Legosteine am Computer konstruiert (link)
- 17/01/2013 Press releases by *Pressrelations*:
Weiche Legosteine am Computer konstruiert (link)
- 17/01/2013 Press releases by *Informationsdienst Wissenschaft*:
Weiche Legosteine am Computer konstruiert (link)
- 17/01/2013 Press releases by *Uni-Online*:
Simulationsschnappschuss eines kubischen Kristallgitters aus weichen Di-Block Kopolymer-Sternen. (link)

Press releases by the University of Vienna:

- 17/01/2013 **Soft Lego built in the computer** – (link)
- 17/01/2013 **Weiche Legosteine am Computer konstruiert** – (link)
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PRESS RELEASES (IN ENGLISH)

- 17/01/2013 Press releases by *ScienceDaily*:
Soft Nanoscale 'Lego' Built in the Computer (link)

- 17/01/2013 Press releases by *Nanowerk news*:
Designing soft, self-assembling, nanoscale Lego ([link](#))
- 17/01/2013 Press releases by *R&D Magazine*:
Self-assembled “soft Legos” create complex crystal shapes ([link](#))
- 17/01/2013 Press releases by *RedOrbit*:
New Method Developed For The Construction Of Building Blocks At The Nanoscale ([link](#))
- 17/01/2013 Press releases by *EurekAlert*:
Soft Lego built in the computer ([link](#))