

Joakim Stenhammar

Curriculum Vitae

Contact information

Lund University
Physical Chemistry
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Personal information

Full name: Per **Joakim** Alexander Stenhammar
Date of Birth: 22nd December 1983
Place of Birth: Norrköping, Sweden
Citizenship: Swedish
Languages: Swedish (mother tongue),
English (fluent), French (basic)

Academic positions

- ◇ 6/2016– Associate senior lecturer (Biträdande Universitetslektor), Division of Physical Chemistry, Lund University
- ◇ 2/2015–5/2016 Researcher, Division of Physical Chemistry, Lund University
- ◇ 4/2012–1/2015 Postdoctoral Research Associate with Prof. Michael E. Cates, School of Physics and Astronomy, University of Edinburgh, UK
- ◇ 9/2007–2/2012 PhD student, Division of Physical Chemistry, Lund University

Academic degrees

- ◇ 2018 Docent (Associate Professor) in Physical Chemistry, Lund University
- ◇ 2012 PhD in Physical Chemistry, Lund University
Award date: February 3rd 2012
Thesis: “Theoretical Studies of Simple Polar Fluids”
- ◇ 2007 Master of Science (4 years) with specialization in Chemistry, Lund University
- ◇ 2007 University Diploma (2 years) in Musicology, Lund University

Grants and Awards

- ◇ 2017–2019 The Crafoord Foundation, 2-year project grant (1.2 MSEK)
- ◇ 2016–2020 Co-PI on grant AniForce from the Knut and Alice Wallenberg Foundation
- ◇ 2016–2019 Swedish Research Council, 4-year project grant for young researchers (3.34 MSEK)
- ◇ 2015 Akzo Nobel Nordic Prize in Surface Chemistry (20000 SEK)

- ◇ 2013 Inga Fischer-Hjalmars Award for outstanding PhD thesis in theoretical chemistry, awarded by the Swedish Chemical Society
- ◇ 2012–2015 Swedish Research Council, 3-year international postdoc grant (3.15 MSEK)
- ◇ 2011 Royal Physiographic Society, travel grant (9000 SEK)
- ◇ 2011 “Bokelunds Resestipendiefond”, travel grant (5530 SEK)
- ◇ 2008 Royal Physiographic Society, travel grant (8500 SEK)
- ◇ 2008 “Stiftelsen Landshövding Per Westlings Minnesfond”, travel grant (5000 SEK)
- ◇ 2005–2007 Lund University Scholarship Funds, four awards for outstanding study achievements (in total 33600 SEK)
- ◇ 2006–2007 Akademiska Föreningen Scholarship Funds, two awards for outstanding study achievements (in total 6000 SEK)

Commissions of trust *etc.*

- ◇ 2018– Advisory board member of *Soft Matter* (RSC Publishing)
- ◇ 2017–2018 Guest editor for special issue of *Soft Matter* on *Electrostatics and Soft Matter* (together with Christos Likos)
- ◇ 2017 Member of PhD committee for Natasha Kamerlin, Uppsala University
- ◇ 2017– Member of steering group for the research school QDETAILSS, Lund University

Oral Conference Presentations and Invited Seminars

- ◇ 1/2018 Invited speaker, “From Active Matter to Complex Fluids”, Nice
- ◇ 10/2017 Invited seminar, Centre for Interdisciplinary Mathematics, Uppsala
- ◇ 9/2017 Invited seminar, Department of Physics, Gothenburg University
- ◇ 7/2017 10th Liquid Matter Conference, Ljubljana
- ◇ 3/2017 Invited speaker, 8th Nordic Workshop on Statistical Physics, Stockholm
- ◇ 1/2017 Invited seminar, NORDITA, Stockholm
- ◇ 9/2016 4th International Soft Matter Conference, Grenoble
- ◇ 8/2016 Invited speaker, Swedish Theoretical Chemistry meeting, Lund
- ◇ 6/2016 Invited speaker, “Organizing Molecular Matter – A Soft Matter Symposium”, Lund
- ◇ 1/2016 Physical Principles of active and biological systems, Edinburgh
- ◇ 11/2015 Invited seminar, Technical University of Vienna

- ◇ 11/2015 Invited speaker, ASMCS 2015, Uppsala
- ◇ 7/2015 24th Conference on Discrete Simulation of Fluid Dynamics, Edinburgh
- ◇ 6/2015 Invited speaker, eSENCE conference on Multiscale Materials Modelling, Uppsala
- ◇ 4/2015 “Microswimmers – from bulk to interfaces”, Bordeaux
- ◇ 12/2014 British Society of Rheology’s Midwinter Meeting, Durham
- ◇ 11/2014 67th Meeting of the APS Division of Fluid Dynamics, San Francisco
- ◇ 10/2014 Invited seminar, Warwick University
- ◇ 7/2014 9th Liquid Matter conference, Lisbon
- ◇ 11/2011 Invited seminar, Helmholtz-Zentrum, Potsdam
- ◇ 9/2010 8th European Conference on Computational Chemistry, Lund

Graduate student supervision

- ◇ 2019 MSc student Shan Anjum (main supervisor)
- ◇ 2018– PhD student Aykut Argun (main supervisor: Giovanni Volpe, Gothenburg University)
- ◇ 2017– PhD student Henrik Nordanger (main supervisor)
- ◇ 2017– PhD student Tobias Nitschke (main supervisor: Raphael Wittkowski, WWU Münster)
- ◇ 2016– PhD student Dóra Bárdfalvy (main supervisor)
- ◇ 2016– PhD student Jasper Immink (main supervisor: Peter Schurtenberger)
- ◇ 2016– PhD student Junhao Dong (main supervisor: Martin Trulsson)
- ◇ 2016–2017 MSc student Erik Maris (main supervisor: Peter Schurtenberger)

Postdoc supervision

- ◇ 2017– Mehdi Shafei (Bilkent University)
- ◇ 2016–2017 Arash Azari

Formal teaching training

- ◇ 2016 Completed a three-week doctoral supervision training course at the Faculty of Science, Lund University
- ◇ 2009 Completed the two-week course Learning and Teaching in Higher Education: An Introduction at the Centre for Educational Development, Lund University
- ◇ 2005 2-day course to qualify as Supplemental Instruction (SI) leader

Teaching experience

- ◇ 2016– Tutor, introductory level course in general chemistry
- ◇ 2010, 2016– Lecturer, advanced level course in surface and colloid chemistry
- ◇ 2009, 2010 Tutor, intermediate level course in physical chemistry
- ◇ 2008 Tutor and lab assistant, intermediate level course in surface and colloid chemistry
- ◇ 2008 Lab assistant, introductory level course in general and inorganic chemistry
- ◇ 2005–2006 SI leader, introductory level courses in organic and inorganic chemistry

Reviewing assignments

Recurring reviewing assignments for international chemistry and physics journals such as *Physical Review Letters*, *Reviews of Modern Physics*, *Physical Review E*, *Soft Matter*, *Journal of Chemical Theory and Computation*, *New Journal of Physics*, *EPL*, and *Journal of Chemical Physics*

Peer-reviewed publications and submitted manuscripts

Total number of citations (Google Scholar, August 3rd 2018): 824

25. Reversible Formation of Thermoresponsive Binary Particle Gels with Tunable Structural and Mechanical Properties
J. Immink, E. Maris, J. J. Crassous, **J. Stenhammar**, and P. Schurtenberger (Submitted)
24. Generalized thermodynamics of Motility-Induced Phase Separation: Phase equilibria, Laplace pressure, and change of ensembles
A. P. Solon, **J. Stenhammar**, M. E. Cates, Y. Kafri, and J. Tailleur, *New J. Phys.* **20**, 075001 (2018)
23. Generalized Thermodynamics of Phase Equilibria in Scalar Active Matter
A. P. Solon, **J. Stenhammar**, M. E. Cates, Y. Kafri, and J. Tailleur, *Phys. Rev. E* **97**, 020602(R) (2018)
22. Directed Self-Assembly of Polarizable Ellipsoids in an External Electric Field
A. Azari, J. Crassous, A. M. Mihut, E. Bialik, P. Schurtenberger, **J. Stenhammar** and P. Linse, *Langmuir* **33**, 13834 (2017)
21. Nonequilibrium dynamics of mixtures of active and passive colloidal particles
R. Wittkowski, **J. Stenhammar**, and M. E. Cates, *New J. Phys.* **19**, 105003 (2017)
20. Role of correlations in the collective behavior of microswimmer suspensions
J. Stenhammar, C. Nardini, R. W. Nash, D. Marenduzzo, and A. Morozov, *Phys. Rev. Lett.* **119**, 028005 (2017)
19. Stirring by periodic arrays of microswimmers
J. de Graaf and **J. Stenhammar**, *J. Fluid. Mech.* **811**, 487-498 (2017)

18. Lattice-Boltzmann simulations of microswimmer-tracer interactions
J. de Graaf and **J. Stenhammar**, *Phys. Rev. E* **95**, 023302 (2016)
17. Light-induced self-assembly of active rectification devices
J. Stenhammar, R. Wittkowski, D. Marenduzzo, and M. E. Cates, *Sci. Adv.* **2**, e1501850 (2016).
16. Pressure and phase equilibria in interacting active brownian spheres
A. Solon, **J. Stenhammar**, R. Wittkowski, M. Kardar, Y. Kafri, M. E. Cates, and J. Tailleur, *Phys. Rev. Lett.*, **114**, 198301 (2015)
15. Activity-induced phase separation and self-assembly in mixtures of active and passive particles
J. Stenhammar, R. Wittkowski, D. Marenduzzo, and M. E. Cates, *Phys. Rev. Lett.* **114**, 018301 (2015)
14. Scalar ϕ^4 field theory for active-particle phase separation
R. Wittkowski, A. Tiribocchi, **J. Stenhammar**, R. J. Allen, D. Marenduzzo, and M. E. Cates, *Nature Commun.* **5**, 4351 (2014)
13. Phase behaviour of active Brownian particles: the role of dimensionality
J. Stenhammar, D. Marenduzzo, R. J. Allen, and M. E. Cates, *Soft Matter* **10**, 1489-1499 (2014)
12. Continuum Theory of Phase Separation Kinetics for Active Brownian Particles
J. Stenhammar, A. Tiribocchi, R. J. Allen, D. Marenduzzo, and M. E. Cates, *Phys. Rev. Lett.* **111**, 145702 (2013)
11. Structural anisotropy in polar fluids subjected to periodic boundary conditions
J. Stenhammar, P. Linse, and G. Karlström, *J. Chem. Theor. Comput.* **7**, 4165–4174 (2011)
10. Classical van der Waals interactions between spherical bodies of dipolar fluid
J. Stenhammar and M. Trulsson, *Phys. Rev. E*, **84**, 011117 (2011)
9. Some comments and corrections regarding the calculation of electrostatic potential derivatives using the Ewald summation technique
J. Stenhammar, M. Trulsson, and P. Linse, *J. Chem. Phys.*, **134**, 224104 (2011)
8. Anisotropic electric fluctuations in polar liquids under spherical confinement
J. Stenhammar, P. Linse, and G. Karlström, *Mol. Phys.* **109**, 11–20 (2011)
7. A unified treatment of polar solvation using electrostatic fluctuations
J. Stenhammar, P. Linse, and G. Karlström, *Chem. Phys. Lett.* **501**, 364-368 (2011)
6. An Exact Calculation of the van der Waals Interaction between Two Spheres of Classical Dipolar Fluid
J. Stenhammar, P. Linse, H. Wennerström, and G. Karlström, *J. Phys. Chem. B* **114**, 13372–13380 (2010)
5. Bulk simulation of polar liquids in spherical symmetry
J. Stenhammar, P. Linse, and G. Karlström, *J. Chem. Phys.* **132**, 104507 (2010)
4. Nondielectric long-range solvation of polar liquids in cubic symmetry
J. Stenhammar, P. Linse, and G. Karlström, *J. Chem. Phys.* **131**, 164507 (2009)

3. Electric multipole moment fluctuations in polar liquids
J. Stenhammar, P. Linse, P.-Å. Malmqvist, and G. Karlström, *J. Chem. Phys.* **130**, 124521 (2009)
2. Effects of different boundary conditions on the long-range structure of polar liquids
G. Karlström, **J. Stenhammar**, and P. Linse, *J. Phys.: Condens. Matter* **20**, 494204 (2008)
1. Packaging of a flexible polyelectrolyte inside a viral capsid: Effect of salt concentration and salt valence
D. Angelescu, **J. Stenhammar**, and P. Linse, *J. Phys. Chem. B* **111**, 8477 (2007)

Popular science articles, editorials

3. Electrostatics and Soft Matter: a Themed Collection in memory of Per Linse
C. N. Likos and **J. Stenhammar**, *Soft Matter* **14**, 4019 (2018)
2. En bakterie simmar aldrig ensam
J. Stenhammar, *Kemivärlden Biotech* 5/2017
1. Aktiva kolloider bygger programmerbara material
J. Stenhammar, *Kemivärlden Biotech* 3/2016