PROF. ULLRICH STEINER

CURRICULUM VITAE, 9. JANUAR 2024

1. Personal information

Position:	Chair in Soft Matter Physics, Adolphe Merkle Institute, Fribourg; web: ami.swiss/physics
Identifiers:	ORCID: 0000-0001-5936-339X; Google Scholar: Ullrich Steiner (user=uTjdToAAAAAJ)
Publications:	365 publications; >26'000 citations; h-index: 88; current citation rate: ca. 2000 per year

2. Education

1998	Habilitation in experimental physics, Konstanz University, Germany
1993	Dr. Rer. Nat. (doctorate in Physics), with distinction, Konstanz University.
1989:	Dip. Phys. (Physics diploma), Konstanz University, Germany

3. Employment history

2014–	Soft Matter Physics Chair, Adolphe Merkle Institute, Fribourg
2004–14	John Humphrey Plummer Professor of the Physics of Materials Cavendish Laboratory, University of Cambridge
1999–04	Professor of Polymer Chemistry, Department of Polymer Chemistry, University of Groningen, NL
1996–99	Head of Polymers at Interfaces group, Physics Department, Konstanz University, Germany
1995–96	Postdoctoral Research Assistant, Institut Charles Sadron, Strasbourg, France
1993–95	Postdoctoral Research Assistant, Department of Physics of Complex Systems, Weizmann Institute
1989–93	Research Assistant, Department of Materials and Interfaces, Weizmann Institute, Israel
1988–89	Research Assistant, Polymer Department, Weizmann Institute, Israel

4. Leadership positions and institutional responsibilities

2020–	Director of the Adolphe Merkle Insistute
2021–	Chairman of the CORE Materials/Physics Panel of the Luxembourg National Research Fund (FNR)
2020–	Director of the National Competence Center in Research "Bioinspired Materials"
2019–2021	Member of the CORE Materials/Physics Panel of the Luxembourg National Research Fund (FNR)
2018–2022	Deputy-director of the Adolphe Merkle Institute
2018–	Member of the PRIMA Evaluation Commission Mathematics, Natural and Engineering Sciences
2017–2020	Member of the Research Promotion Committee of the University of Fribourg
2017–2020	Member of the local SNF committee of the University of Fribourg
2015–2019	Organization and lead: "Specialized Master of Science in the Chemistry and Physics of Soft Materials"
2014–	Member of several faculty appointment committees in the Faculty of Science, University of Fribourg
2014–	Member of executive board of the Adolphe Merkle Institute
2014–2020	Member of the scientific advisory board of the Doctoral Training Centre NanoDTC, Cambridge
2009–2014	Member of the executive board of the Doctoral Training Centre NanoDTC, Cambridge
2004–2014	Departmental and faculty committee memberships, Department of Physics, University of Cambridge
2004–2006	Head of the Biological and Soft Systems sector of the Department of Physics, University of Cambridge

5. Currently funded research projects

2023–28	SNSF Sinergia: "Strong Localization of Light through the Controlled Assembly of Amorphous Patchy Colloid Networks"
2022–26	SNSF NCCR Bioinspired Materials: "Complete photonic band gap materials made by self-assembly of bottlebrush block terpolymers"
2022–26	SNSF NCCR Bioinspired Materials: "Enhancing structural colour through absorption"
2019–24	ERC Advanced Grant: "Photonic Structural Materials with Controlled Disorder" (PrISMoID)

6. Supervision of junior researchers

Advancement of former group members into academic positions.

2023	Silvia Vignolini, Max Planck Institute of Colloids and Interfaces, Director
2022	Antonio Abate: University of Bielefeld, Professor
2022	Xiao Hua: Lancaster Univerisity, Lecturer
2021	Ahu Gumrah Parry: University of Manchester, Senior Lecturer
2021	Bodo Wilts: University of Salzburg, Professor
2021	Jovana Milic: Adolphe Merkle Institute, University of Fribourg, Assistant Professor
2020	Tobias Wenzel: Pontificia Universidad Catolica de Chile, Assistant Professor
2020	Michel Saliba: University of Stuttgart, Professor & Director of the Institute for Photovoltaics

2018 Alessandro Sepe: Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Professor
2016 Sandeep Pathak: Indian Institute of Technology Delhi, Associate Professor
2015 Stefan Guldin, University College London, Professor in Chemical Engineering
2014 Silvia Vignolini, University of Cambridge, Professor in Chemistry
2014 Li Li, East China Normal University, Assistant Professor in Chemistry
2013 Mathias Kolle, MIT, Associate Professor in Mechanical Engineering
2013 Pola Goldberg Oppenheimer, University of Birmingham, Professor
2012 Urbasi Sinha, Raman Research Institute, Bangalore, Professor
2012 Erik Schäffer, University of Tübingen, Professor for Cellular Nanoscience
2010 Sabine Ludwigs, University of Stuttgart, Full Professor (Chair) in Chemistry
2000 Elías Pérez, Universidad Autonóma de San Luis Potosí, Mexico, Profesor-Investigador

Supervised post-docs (3 current, 29 past): Viola Vogler Neuling, Andrea Dodero, Matthias Saba, Ilja Gunkel (Qcells), Wenhui Wang, Efrain Ochoa Martinez (U. Fribourg), Antonio Günzler (Sensirion), Cédric Kilchoer (CPAutomatation), Bodo Wilts (U. Salzburg), Esteban Bermudez (University of Costa Rica), Guillaume Moriceau, Reza Ghanbari (Chalmers University), Somayyeh Gholipour, Michael Saliba (University of Stuttgart), Xio Hua (University of Oxford), Alessandro Sepe (Chinese Academy of Science), James Dolan (University of Cambridge), Silvia Vignolini (University of Cambridge), Gen Kamita (GMO Internet), Alex Finnemore (Theorm), Maik Scherrer(Papierfabrik Lousienthal), Sandeep Pathak (IIT Dehli), Sven Hüttner (U. Bayreuth), Katherine Thomas (APS, Physical Review), Peter Kohn (Bosch), Urbasi Sinha (RRI, India), Sabine Ludwigs (U. Stuttgart), Jakob Heier (EMPA), Frank Terjung, Elías Pérez (U. San Luis)

Supervised PhD students (13 current, 48 past): Nicolas Bruder, Victoire Cabannes de Cauna, Florin Hemman, Niklas Schwarz, Thomas Kainz, Bilel Abdennadher, Weifan Luo, Viola Bauernfeind, Cédric Schumacher, Réne Isli, Martino Airoldi, Christina Prado, Alessandro Parisotto, Kenza Djeghdi (Qcells), Minh Tri Nguyen (Vinfast/VinES Energy Solution), Parnian Ferdowsi (EPFL), Doha Abdelrahman (Impossible Materials), Andrea Palumbo (Metrohm Autolab), Antonio Günzler (Sensirion), Narjes Abdollahi (U. Basel), Johannes Bergmann (Lonza), Alexandre Redondo (PMI), Cédric Kilchoer (CPAutomatation), Mirela Malekovic, Xioayuan Sheng, Preston Sutton (U Deakin), Sandy Sanchez (EPFL), Karolina Korzeb (Zimmer Biomet), Michael Fischer (WSAudiology), Tobias Wenzel (UC de Chile), Bart Roose (U. Cambridge), Karl Gödel (Bosch) Jonathan Lim (DSO Singapore), James Dolan (U. Cambridge), Harry Beeson (British Parliament), Raphael Dehmel (Lidl Stiftung), Zhuxia Rong , Stefano Salvatore (ASML), Gen Kamita (GMO Internet), Pedro Cunha (Base4), Alex Finnemore (Theorem), Stefan Guldin (UCL), Ellie Kim (Mc Kinsey), Li Li (East China Normal U.) , Maik Scherrer (P. Louisenthal), Katherine Thomas (APS), Pola Goldberg Oppenheimer (U. Birmingham), Sven Hüttner (U. Bayreuth), Mathias Kolle (MIT), Rosa Poetes (Mc Kinsey), Nicoleta Voicu (DSM), David Barbero (U. Umea), Mihaela Nedelcu (Continental), Ed Crossland (Oxford PV), Pieter vd Wal (Merit Coatings), Stephan Harkma TNO), Ole Göbel (Bruker), Mihai Morairu (DSM), Erik Schäffer (U. Tübingen), Stefan Walheim (KIT), Martin Böltau (VDI)

7. Teaching Activities

Responsible for Soft Matter Physics. Teaching since 1999 at 3 universities. *Current courses:* Soft Matter Physics, Polymer Engineering, Energy Materials, Functional Materials, Physics of every Day Life.

8. Memberships in panels, boards, etc.

2005–09 Founding Chairman of the Editorial Board of "Soft Matter" (RSC)
2012– Member of the Editorial Board of "Advanced Optical Materials" (Wiley)
Review panel meberships of the Swiss (SNSF), (DFG) and Luxembourg (FNR) science foundations

9. Fellowships and memberships in academic societies

2005– Fellow of the Royal Society of Chemistry
2007–2014 Fellow of St. Edmunds College
1991– Member of the American Physical Society
1989– Member of the German Physical Society

10. Organization of conferences

2024 Gordon Conference , 16-21 June 2024, Les Diablerets, Switzerland
2016 Fall Meeting of the MRS, Symposium Biomineralization, 27 Nov.-2 Dec. 2016, Boston
2013 EMRS Symposium Organic & hybrid interfaces in excitonic solar cells, Strasbourg, France
2011 10th International Conference on Materials Chemistry (MC10), 4-7 July 2011, Manchester
2009 Faraday Discussion 143: Soft Nanotechnology, 15-17 June 2009, London
2008 International conference on Self-assembly and Self-organisation 10-12 Dec 2008, Cambridge.

11. Prizes, awards, fellowships

2019	Recipient of an ERC Advanced Grant
2016	Peabody visiting Professor at MIT
2014	Macro Group UK Medal of the Royal Society of Chemistry
2014	Selby Traveling Fellowship by Australian Academy of Science
2008–2010	Fellow of the Freiburg Institute of Advanced Studies (FRIAS)
2002	Raymond and Beverly Sackler Prize for Physical Sciences
1998–99	Heisenberg Fellow, German Science Foundation
1996–98	Fellow (Habilitationsfelloship), German Science Foundation
1995–96	Fellow, Alfred Kastler Foundation, France
1994–95	Fellow, Weizmann Foundation, Israel
1993–94	Postdoctoral Fellow, German Science Foundation
1990–92	Scholar, Minerva Foundation, Germany

Ten Most Important Publications

[1] Silvia Vignolini, Paula J. Rudall, Alice V. Rowland, Alison Reed, Edwige Moyroud, Robert B. Faden, Jeremy J. Baumberg, Beverley J. Glover, and Ullrich Steiner. Pointillist structural color in pollia fruit. *Proceedings of the National Academy of Sciences*, 109(39):15712–15715, **2012**, doi:10.1073/pnas.1210105109.

[2] Mathias Kolle, Pedro M Salgard-Cunha, Maik RJ Scherer, Fumin Huang, Pete Vukusic, Sumeet Mahajan, Jeremy J Baumberg, and Ullrich Steiner. Mimicking the colourful wing scale structure of the papilio blumei butterfly. *Nature nanotechnology*, 5(7):511–515, **2010**.

[3] Erik Schäffer, Thomas Thurn-Albrecht, Thomas P Russell, and Ullrich Steiner. Electrically induced structure formation and pattern transfer. *Nature*, 403(6772):874–877, **2000**.

[4] Stefan Walheim, Erik Schäffer, Jürgen Mlynek, and Ullrich Steiner. Nanophase-separated polymer films as high-performance antireflection coatings. *Science*, 283(5401):520–522, **1999**.

[5] Martin Böltau, Stefan Walheim, Jürgen Mlynek, Georg Krausch, and Ullrich Steiner. Surface-induced structure formation of polymer blends on patterned substrates. *Nature*, 391(6670):877–879, **1998**.

[6] Heather M Whitney, Mathias Kolle, Piers Andrew, Lars Chittka, Ullrich Steiner, and Beverley J Glover. Floral iridescence, produced by diffractive optics, acts as a cue for animal pollinators. *Science*, 323(5910):130–133, **2009**.

[7] Edwige Moyroud, Tobias Wenzel, Rox Middleton, Paula J Rudall, Hannah Banks, Alison Reed, Greg Mellers, Patrick Killoran, M Murphy Westwood, Ullrich Steiner, Silvia Vignolini, and Beverley J. Glover. Disorder in convergent floral nanostructures enhances signalling to bees. *Nature*, 550(7677):469–474, **2017**.

[8] Matteo Burresi, Lorenzo Cortese, Lorenzo Pattelli, Mathias Kolle, Peter Vukusic, Diederik S. Wiersma, Ullrich Steiner, and Silvia Vignolini. Bright-white beetle scales optimise multiple scattering of light. *Scientific Reports*, 4(1):6075, **2014**, doi:10.1038/srep06075.

[9] Alexander Finnemore, Pedro Cunha, Tamaryn Shean, Silvia Vignolini, Stefan Guldin, Michelle Oyen, and Ullrich Steiner. Biomimetic layer-by-layer assembly of artificial nacre. *Nature Communications*, 3(1):966, **2012**, doi:10.1038/ncomms1970.

[10] Ahu Gümrah Dumanli, Hanne M. van der Kooij, Gen Kamita, Erwin Reisner, Jeremy J. Baumberg, Ullrich Steiner, and Silvia Vignolini. Digital color in cellulose nanocrystal films. *ACS Applied Materials & Interfaces*, **2014**, doi:10.1021/am501995e.