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WORK EXPERIENCE

- Since 08/2024 **Technical University of Munich**, Weihenstephan
Professor (Chair) of Complex Soft Matter
Department of Life Science Engineering
- Since 08/2024 **TUMCREATE Ltd**, Singapore
Scientific Co-Director Proteins4Singapore | Resident PI
- Since 10/2024 **University College London**, London, UK
Professor (Hon.) in the Department of Chemical Engineering
Head of Adaptive and Responsive Nanomaterials Group.
- 10/2022 - 09/2024 **University College London**, London, UK
Full Professor in the Department of Chemical Engineering
Head of Adaptive and Responsive Nanomaterials Group.
- 10/2021 - 06/2024 **University College London**, London, UK
Deputy Head (Enterprise) in the Department of Chemical Engineering.
- 03/2019 - 01/2022 **Vesynta Ltd**, London, UK
Co-Founder & Chief Scientific Officer (since 01/2022 in advisory role).
- 10/2018 - 09/2022 **University College London**, London, UK
Associate Professor in the Department of Chemical Engineering
Head of Adaptive and Responsive Nanomaterials Group.
- 09/2014 - 09/2018 **University College London**, London, UK
University Lecturer at the Department of Chemical Engineering
Head of Adaptive and Responsive Nanomaterials Group.
- 09/2012 - 04/2015 **École Polytechnique Fédérale de Lausanne**, Lausanne, Switzerland
Experimental research in the field of nanoparticles and soft matter self-assembly.
- 08/2007 - 07/2012 **University of Cambridge**, Cambridge, UK
Experimental research in the field of soft matter physics and functional materials.
- 06/2009 - 08/2009 **Cornell University**, Ithaca, NY, USA
Academic visitor in the Department of Materials Science & Engineering
Research focus on assembly and characterisation of porous inorganic bulk architectures.

EDUCATION

- 10/2008 - 07/2012 **University of Cambridge - PhD in Physics**
Supervisor: Prof. Ullrich Steiner, Cavendish Laboratory
Thesis title: "Inorganic nanoarchitectures by organic self-assembly".

- 04/2005 - 09/2008 **Technical University Munich - Diploma in Physics**
Specialising in semiconductor and soft matter physics
Graduated with distinction (average grade 1.1, *summa cum laude*)
- 05/2003 - 04/2005 **University of Karlsruhe - Prediploma in Physics**
Theoretical and experimental physics
Prediploma with distinction (average grade 1.1).
- 09/1992 - 06/2001 **Bildungszentrum Markdorf - University Qualification**
Main subjects: mathematics and politics
Best student in district with an average grade of 1.0 on a scale of 1-6.

HONORS AND AWARDS

- 07/2023 **Fellow of Royal Society of Chemistry (FRSC)**
Award to acknowledge outstanding contribution to the advancement of the chemical sciences.
- 07/2023 **Lead Exhibitor at Royal Society Summer Science Exhibition**
Selection of "ChromaDose: improving chemotherapy for children" as one of only nine research projects to be showcased at the oldest (245 years) and one of the most prestigious popular science event in the world.
- 06/2023 **Royal Society of Chemistry Materials Chemistry Horizon Prize: Stephanie L Kwolek Award**
"For the development of ion-conducting polymers of intrinsic microporosity and applications as next-generation membranes." Prize awarded to consortium led by Dr. Qilei Song (Imperial College London).
- 04/2023 **UCL Student Choice Awards - Roll of Honour**
Recognition in the category "Outstanding Research Supervision".
- 03/2022 **Soft Matter Emerging Investigator 2022**
Selected by Editorial Board of Soft Matter (Royal Society of Chemistry).
- 09/2021 **Fellow of Institute of Physics (FInstP)**
Award to acknowledge a very high level of achievement in physics and an outstanding contribution to the profession.
- 05/2021 **Chartered Engineer (CEng)**
Attainment of highest level of professional competencies in engineering through training and monitored professional practice (awarded by Institute of Physics).
- 05/2020 **UCL Student Choice Awards - Roll of Honour**
Recognition in the category "Brilliant Research-Based Education".
- 02/2020 **ACS AMI Young Investigator Forum 2020**
Selected by Editorial Board of ACS Applied Materials & Interfaces (American Chemical Society).
- 01/2020 **MDSE Emerging Investigators 2020**
Selected by Editorial Board of Molecular Systems Design & Engineering (Royal Society of Chemistry).
- 11/2016 **Fellow of the Higher Education Academy (FHEA)**
Recognition of attainment against the UK Professional Standards Framework for teaching and learning support in higher education (Ref: PR116644).

12/2012	Postdoctoral Fellowship - German Academy of Sciences (Leopoldina) Early career fellowship for outstanding postdoctoral scientists to develop their own independent research.
11/2012	Springer Outstanding Thesis Award Publication award by Springer Science + Business Media for outstanding PhD research.
05/2011	Best Student Poster Award Fifth International Conference on Nanophotonics, Fudan University, Shanghai, China.
11/2010	NanoDTC Associate Student Grant Travel grant for outstanding doctoral candidates to promote cross-disciplinary research within the centre's themes of self-assembling functional nano-materials and devices.
05/2010	Associate Fellow of Higher Education Academy (AFHEA) Completion of nine-month programme on teaching and learning in higher education.
06/2009	EMRS Young Scientist Award In recognition of the outstanding paper contributed to the 2009 spring meeting of the European Materials Research Society.
06/2007	Hölderlin Scholarship Stipend for a research year abroad funded by the Studienstiftung des deutschen Volkes and Siemens.
04/2004 - 09/2008	Fellow of the "Studienstiftung des deutschen Volkes" Program of the German government to support highly talented and socially committed students (top 0.5%, enabling fully funded undergraduate studies).
03/1999	Markdorfer Wirtschaftspreis Scholarship for a three month stay at Columbus East High School, Indiana/USA (regional award for highly talented students).

RESEARCH GRANTS ¹

08/2024	National Research Foundation - S\$1,800,000 (co-PI) "Proteins4Singapore - Urban Food Solutions." Multidisciplinary, multinational project dedicated to sustainable protein solutions, aimed at developing plant-based and alternative proteins with authentic textures at the nano- and micro-scale. (total value S\$25,000,000).
04/2023	Royal Society Summer Science Exhibition - £2,000 (PI) "Exhibitor Support Fund."
03/2023	EPSRC Impact Acceleration Account Discovery-to-Use - £10,000 (PI) "Mesoporous nanoarchitectures from BCP co-assembly: hybridisation in nanochannels for rapid electrochemical detection of DNA". Device development and integration award.
10/2022	UKRI DTP PhD Studentship (Intl.) - £169,000 (PI) "Biomimetic colloid science". Doctoral studentship (incl. overseas fees) funded by the UKRI Doctoral Training Partnership.

¹Budget awarded to SG unless otherwise stated; total value since PI (05/2015): €4,500,000.

- 12/2021 **UCL Global Engagement Fund - £4,700 (co-I)**
 “Fabrication of mesoporous architectures for chronic wound diagnosis and monitoring”. In collaboration with the University of Oviedo.
- 08/2021 **Impact PhD Studentship - £69,000 (PI)**
 “Ellipsometry-based advanced nanomaterials characterisation”. Doctoral studentship co-funded by Semilab, manufacturer of metrology equipment.
- 01/2021 **NIHR i4i Product Development Award - £368,000 (PI)**
 “ChromaDose: In-vitro diagnostic device development and validation, enabling point-of-care therapeutic drug monitoring for dose optimisation of anthracycline chemotherapy in paediatric cancer settings”. Product development grant to fund prototype development with academic, commercial and clinical partners within regulatory framework. Overall funded budget: £978,000.
- 09/2020 **PhD Studentship - £90,500 (PI)**
 “Characterising competitive interactions and binding selectivity at bio-nano interfaces”. Doctoral studentship within EPSRC Centre for Doctoral Training in the Advanced Characterisation of Materials.
- 07/2020 **EPSRC Impact Acceleration Account Discovery-to-Use - £132,230 (PI)**
 “Prototyping and validation of an in-vitro diagnostic device enabling point-of-care therapeutic drug monitoring of anthracycline chemotherapies to support dose personalisation in cancer settings”. Device development and integration award co-funded by Vesynta Ltd.
- 08/2019 **Inspiration Grant within EPSRC Centre for Nature Inspired Engineering - £38,000 (PI)**
 “Electrolytes in regulating protein-mimetic amphiphilic nanoparticles”. Research grant to study complex colloidal interactions.
- 02/2019 **EPSRC Centre for Doctoral Training in Transformative Pharmaceutical Technologies - £10,000,000 for centre**
 Co-Investigator (total 10) in joint initiative between University College London, University of Nottingham and Science Foundation Ireland.
- 10/2018 **KQ Labs accelerator programme - £40,000 (PI)**
 “Vesynta - therapeutic drug monitoring”. 16-week incubator programme for data-driven health start-ups funded through Innovate UK and run by the Francis Crick Institute.
- 04/2018 **PhD Studentship - £77,705 (PI)**
 “Nanoparticle-based micro-assemblies for encapsulation and precision release of target compounds”. Doctoral studentship within EPSRC Centre for Doctoral Training in Advanced Therapeutics and Nanomedicines.
- 04/2018 **EPSRC New Investigator Award - £464,000 (PI)**
 “Block copolymer enabled mesopore sensing”. Research grant to study applicability of block copolymer directed mesoporous architectures towards humidity and biosensing.
- 05/2017 **PhD Studentship - £77,705 (co-PI)**
 “Isolation, purification and formulation of extracellular vesicles”. Doctoral studentship within EPSRC Centre for Doctoral Training in Advanced Therapeutics and Nanomedicines.

05/2017	UCL Knowledge Exchange And Innovation Fund - £15,000 (PI) Innovation grant to fund market analysis and feasibility study of recent invention.
07/2016	EPSRC/UCL Future Leaders in Engineering and Physical Sciences - £30,000 (co-I) Pump-priming and feasibility study on “Development of a user-friendly platform for simplified design of experiments in gold nanoparticle synthesis” in collaboration with Dr Federico Galvanin, UCL Chemical Engineering.
05/2016	EPSRC Centre for Doctoral Training in Molecular Modelling and Materials Science - £115,000 (PI) Doctoral studentship on “Emulsion droplet templates for functional percolating structures in films” in collaboration with BASF.
05/2015	EU H2020 grant - €1,060,000 (co-I) Research grant in programme on personalised healthcare for project “Point-of-care microfluidic device for quantification of chemotherapeutic drugs in small body fluid samples by highly selective nanoparticle extraction and liquid crystal detection”.
05/2015	EPSRC Case Award Studentship - £100,000 (PI) Doctoral studentship on “Inorganic thin film architectures” in collaboration with BASF.

RESEARCH SUPERVISION

Current (co)supervision	8 PhD students. See page 20 for completed supervision (9 PDRAs, 9 PhD, 13 postgraduate (PG) & 30 undergraduate (UG) researchers).
Since 02/2025	Natan Abelian - “High internal phase emulsions (HIPEs) for novel food textures”, PhD project.
Since 03/2023	Ruiyan Gao - “Bio-derived carbon electrodes for sustainable sensors”, PhD project co-supervised with Dr Diego Barreiro.
Since 03/2023	Ruslan Shayakhnyuly - “Mesoporous gold for biosensing applications”, PhD project co-supervised with Dr Tom Miller.
Since 09/2022	Kelvin Wong - “Elucidating complex colloidal interactions in nature”, PhD project co-supervised with Dr Keith Butler.
Since 09/2022	Yueyang Gao - “Automation and data-driven optimisation of nanoparticle synthesis”, PhD project co-supervised with Dr Max Besenhard.
Since 07/2022	Jialin Gu - “Block copolymer-based mesoporous architectures for supercapacitors”, PhD project co-supervised with Dr Tom Miller.
Since 10/2021	Nisha Naeem - “Monolithic integrated electrochemical sensing systems for diagnostic and monitoring applications”, PhD project co-supervised with Dr Sara Ghoreishizadeh.
Since 09/2020	Esther Mensah - “Characterising competitive interactions and binding selectivity at bio-nano interfaces”, PhD project.

TEACHING

2019 - 2024	Co-Lead Teaching & Member of Senior Management Board “EPSRC Centre for Doctoral Training in Transformative Pharmaceutical Technologies”, University College London, UK.
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2018 - 2024	Lecturer “From Molecules to Molecular Engineering” , 3 rd year engineering, Department of Chemical Engineering, University College London, UK.
2017 - 2024	Module Coordinator “Minor in Applied Chemistry & Molecular Engineering” , 2 nd & 3 rd year engineering, Department of Chemical Engineering, University College London, UK.
2017 - 2024	Lecturer “Soft Nanotechnology” , Advanced Materials Processes and Nanotechnology, 4 th year chemical engineering, Department of Chemical Engineering, University College London, UK.
2020 - 2022	Programme Development Co-Lead “MSc in Digital Manufacturing of Advanced Materials” , Manufacturing Futures Lab, University College London, UK.
2016 - 2017	Tutor “Mathematical Modelling and Analysis I” , 1 st year engineering, Department of Chemical Engineering, University College London, UK.
2015 - 2017	Lecturer “Integrated Engineering Programme” , 1 st year engineering, Department of Chemical Engineering, University College London, UK.
2015/16	Lecturer “Soft Nanotechnology” , Advanced Materials Processes and Product Engineering, 3 rd year chemical engineering, Department of Chemical Engineering, University College London, UK.
2009 - 2011	Supervisor “Introduction to Experimental and Theoretical Physics” , 1 st year physics, Physics Department, University of Cambridge, UK.
2010/11	Supervisor “Soft Matter & Biophysics” , 4 th year physics, Physics Department, University of Cambridge, UK.
2009/10	Lab demonstrator “Systems & Measurements” , 2 nd year physics, Physics Department, University of Cambridge, UK.
2008/09	Lab demonstrator “Waves & Optics” , 2 nd year physics, Physics Department, University of Cambridge, UK.

SCIENTIFIC SKILLS OF RESEARCH GROUP

Material Fabrication ²	Block copolymer templating ^A , bioseparation & purification ^A , colloidal templating ^A , emulsion formulation ^A , Langmuir deposition ^A , nanoparticle synthesis ^A , organic synthesis ^B , reactive ion etching ^A , sol-gel chemistry ^A , solution processing ^A .
Microscopy	Atomic force microscopy ^B , optical (light) microscopy ^A , scanning electron microscopy ^A , transmission electron microscopy. ^B
Scattering	Dynamic light scattering ^A , small-angle neutron scattering ^B , small-angle X-ray scattering ^A , wide-angle X-ray scattering. ^A
Other Techniques	Contact angle characterisation ^A , differential scanning calorimetry ^B , centrifugation-based nanoparticle characterisation ^B , design of experiment ^B , ellipsometric porosimetry ^A , FTIR spectroscopy ^B , high-performance liquid chromatography ^A liquid waveguide-based spectroscopy ^A , micro-spectroscopy ^A , nanoparticle tracking analysis ^B , nuclear magnetic resonance spectroscopy ^B , principal component analysis ^B , quartz crystal microbalance with dissipation monitoring ^A , spectroscopic ellipsometry ^A , thermogravimetric analysis ^B , UV-Vis spectroscopy. ^A

^{2A} advanced, ^B basic

Languages German (mother language), English (fluent), French^A, Spanish^A

COMMISSIONS OF TRUST

Funding Reviewer	Engineering and Physical Sciences Research Council UK, European Research Council, European Commission, Finnish Academy of Sciences, German Research Foundation, Hungarian National Research, Latvian Government - Development and Innovation Office, Leverhulme Trust, Polish Academy of Sciences, Rosetree Trust, Royal Academy of Engineering, UK Research and Innovation.
Journal Referee	ACS Applied Materials & Interfaces, ACS Nano, ACS Applied Nano Materials, ACS Applied Polymer Materials, ACS Omega, ACS Sensors, Advanced Engineering Materials, Advanced Intelligent Systems, Advanced Materials, Advanced Materials Interfaces, Advanced Materials Technologies, Advanced Optical Materials, Advanced Sensor Research, Analytical Chemistry, APL Photonics, Biosensors & Bioelectronics, ChemSusChem, Chemical Communications, Chemical Science, Chemistry of Materials, Electrochemistry Communications, Energy & Environmental Science, Interfaces, Journal of Chemical Education, Journal of the American Chemical Society, Journal of Materials Chemistry B, Journal of Materials Chemistry C, Journal of Physics D: Applied Physics, Journal of Physical Chemistry, Journal of Physical Chemistry C, Langmuir, Materials Advances, Materials Chemistry Frontiers, Matter, Microporous and Mesoporous Materials, Molecular Liquids, Nano Letters, Nanoscale, Nanoscale Advances, Nanotechnology, Nature Communications, NPG Asia Materials, Particle and Particle Systems, Physical Chemistry Chemical Physics, RSC Advances, Small, Small Methods, Science, Sensors and Actuators B: Chemical, Surfaces and Interfaces.
Meeting Organiser	Main conference organiser of the “Soft Nanophotonics Winterschool” in 2009, 2010 and 2011 (University of Cambridge, 40-60 participants per year). Co-organiser of workshop “Design of Experiments for Experimentalists” in 2017 (University College London, 45 participants). Co-organiser of the “Soft Materials Network” at University College London with events in 06/2017 (135 participants), 06/2018 (145 participants), 06/2019 (120 participants), 06/2021 (175 participants), 06/2022 (140 participants). Local committee member of “ECI Conference on Nature Inspired Engineering”, 09/2019.
Memberships	Fellow of Royal Society of Chemistry (FRSC), Fellow of Institute of Physics (FloP), Member of German Physical Society.
PhD Examiner	12 to-date (Imperial College, University College Dublin, University College London (6x), University of Cambridge, University of Oxford, Lancaster University, University of Fribourg, University of Trieste).
External Examiner	University of Cambridge, Materials Science MPhil in Micro and Nanotechnology Enterprise (2022/23).
Scientific Committee	“Fall Meeting of European Materials Research Society”, 2018, Warsaw, Poland; “Fall Meeting of European Materials Research Society”, 2021, Warsaw.
Other Roles	Co-Founder of UCL Soft Materials Network with 150 members and 50 participating groups, Mentor for Fellowship Programme of the Higher Education Academy.

DISSEMINATION AND EXTERNAL ENGAGEMENT

- Development of educational platform that allows for the quantification of chemical compounds via TLC plate and smartphone - [qtlc.app](#). To-date, the webapp has been accessed by users from 47 countries across six continents. The initiative was featured by Nature Research and the Royal Society of Chemistry and recognised with an UCL Education Award 2020.
- Lead exhibitor at Bloomsbury Festival 2022 (>1,000 visitors) with topic: Become a scientist and analyse unknown substances using your smartphone. (see video production: [link](#)).
- Lead exhibitor at Royal Society Summer Science Exhibition 2023 (>10,000 visitors) with topic: ChromaDose: improving chemotherapy for children. (see video production: [link](#)).
- [Youtube channel](#) with tutorials on flagship scientific techniques (to-date over 106,000 views).
- Patient & Public Involvement activities with patients, families and the general public as part of our device prototyping for the NIHR ChromaDose project. Our work on implementing novel digital tools for remote engagement was recognised with a case study on best practice featured in NIHR annual report 2021 ([link](#)).
- Co-creation of digital learning platform to support and empower paediatric patients in chemotherapy. The app is currently used in trial settings with support for further roll-out ([link](#)).
- Regular provision of work experiences and career advice for school children from under-privileged backgrounds through In2Science and Future Frontiers.
- Participation in outreach activities, such as ChemEng Open Day, ChemEng Summer Challenge, Royal Institution Masterclass and It's All Academic Festival.
- Development and release of open-source tools for scientific research, e.g. software for colloidal ordering analysis ([CORDEPLY](#)) and nanoparticle dispersity determination ([Nanoparticle Entropy](#)) as well as hardware and device prototyping, such as position-sensitive centrifuge ([link](#)), liquid handling robot ([link](#)) and dip coater ([link](#)).

PATENTS & PATENT APPLICATIONS

- *A nanoporous electrode for electrochemical detection of nucleic acids* - M.J. Fornerod, **S. Guldin**, GB2400709.8. Priority date: 18th January 2024.
- *Thin-layer chromatography system and method for assessing analyte concentrations in samples* - S. Ibsen, A. Taylor, S. Dawes, L.A. Serrano Gonzalez, **S. Guldin**, PCT/EP2018/083050. Priority date: 30th November 2017. European Patent No. 3717897. In national phase in GER, FR, UK and USA.
- *Phase transfer-based chemical sensing* - **S. Guldin**, Y. Yang, FS. Krol, F. Stellacci, WO2016026916. Priority date: 19th August 2014.
- *Mesoporous inorganic coatings with photocatalytic particles in its pores* - **S. Guldin**, U. Steiner, WO2013GB51841. Priority date: 11th July 2012.

EXPLOITATION AND COMMERCIAL ACTIVITIES

- Co-founder of start-up Vesynta Ltd, which is devoted to the development of companion drug monitoring solutions for personalised medicine with currently 11 full-time employees (with primary personal contributions in period 2019-2021). Total grant funding over £1.75M from 7 successful awards.
- Three patent applications and one patent, see above.
- To-date four PhD studentships funded by industry (BASF, Quotient Sciences, Semilab) and one funded collaboration with Pilkington NSG.
- Technology ambassador for Semilab (ellipsometry), Biolin (surface science), Inheco (lab automation). Delivery of webinars and feedback of novel tools and techniques for their product development.

PUBLICATIONS

† Authors contributed equally to this work, * corresponding author.

Preprints

2. *Self-contained cartridge for thin layer chromatography based quantification of chemotherapy concentration in human clinical plasma samples* - S. Ibsen, A. Taylor, L.A. Serrano, C. Siebel, E. Marangon, G. Toffoli, J. Boos, **S. Guldin**,* under review. Available as preprint on ChemRxiv, DOI: 10.26434/chemrxiv-2025-m6dzz.
1. *DoE-It-Yourself: A case study for implementing design of experiments into nanoparticle synthesis* - N. Mac Fhionnlaoich, Y. Yang, R. Qi, F. Galvanin, **S. Guldin**,* under review. Available as preprint on ChemRxiv, DOI: 10.26434/chemrxiv-2022-j7gb1-v2.

Journal Articles

90. *Predicting aggregation behavior of nanoparticles in liquid crystals via automated data-driven workflows* - Y. Gao, N. Mac Fhionnlaoich, M. Besenhard, A. Pankajakshan, F. Galvanin, **S. Guldin***, *Advanced Functional Materials*, in print, DOI: 10.1002/adfm.202501657, 2025.
89. *Effect of composition on the thermo-induced aggregation of poloxamer-analogue triblock terpolymers* - S. Wang, A. Alvarez-Fernandez, X. Liu, S. Miron-Barroso, K. Wong, **S. Guldin***, T.K. Georgiou, *Macromolecules*, DOI: 10.1021/acs.macromol.4c02217.
88. *Structural evolution of silicon nitride anodes during electrochemical lithiation* - A.J. Lovett, M. Füredi, L. Bird, S. Said, B. Frost, P. Shearing, **S. Guldin**, T. Miller, *ACS Electrochemistry*, DOI: 10.1021/acselectrochem.4c00230, 2025.
87. *A versatile fabrication route for screening block copolymer membranes for bioprocessing* - K. Meng, A. Alvarez-Fernandez, **S. Guldin**,* D.G. Bracewell,* *ACS Omega*, DOI: 10.1021/acsomega.4c11269, 2025.
86. *Block copolymer-assembled nanopores enable ultra-sensitive label-free DNA detection* - M. Jara Fornerod, A. Alvarez-Fernandez, M. Füredi, A.A. Rajendran, B. Prieto-Simon, N.H. Voelcker,* **S. Guldin**,* *Nanoscale Horizons*, DOI: 10.1039/D4NH00466C, 2025.
85. *Sulfonated poly(ether-ether-ketone) membranes with intrinsic microporosity enable efficient redox flow batteries for energy storage* - T. Wong, Y. Yang, R. Tan, A. Wang, Z. Zhou, Z. Yuan, Jiaxi Li, D. Liu, A. Alvarez-Fernandez, Ye, M., Sankey, D. Ainsworth, **S. Guldin**, F. Foglia, N.B. McKeown, K.E. Jelfs, X. Li, Q. Song, *Joule*, DOI: 10.1016/j.joule.2024.11.012, 2025

84. *Selective ion transport through hydrated micropores in polymer membranes* - A. Wang, C. Breakwell, F. Foglia, R. Tan, L. Lovell, X. Wei, T. Wong, N. Meng, H. Li, A. Seel, M. Sarter, K. Smith, A. Alvarez-Fernandez, M. Furedi, **S. Guldin**, M. M. Britton, N. B. McKeown, K. E. Jelfs, Q. Song, *Nature*, vol. 635, pp. 353–358, 2024.
83. *A smart centrifuge for automated sample processing with liquid handling robots* - Y. Gao, A. Redfearn, S. Dawes, J. Shi, A. Taylor, H. Wurdemann, **S. Guldin**,* *Journal of Open Hardware*, vol. 8, no. 1, 2024.
82. *Interfacial engineering of polymer membranes with intrinsic microporosity for dendrite-free zinc metal batteries* - R. Tan, H. He, A. Wang, T. Wong, Y. Yang, S. Iguodala, C. Ye, D. Liu, Z. Fan, M. Furedi, G. He, **S. Guldin**, D. Brett, N. McKeown, Q. Song, *Advanced Chemie*, DOI: 10.1002/anie.202409322, 2024.
81. *Predicting colloidal interaction parameters from small angle X-ray scattering curves using artificial neural networks and Markov Chain Monte Carlo sampling* - K. Wong, R. Qi, Y. Ye, Z. Luo, **S. Guldin**,* K.T. Butler,* *JACS AU*, vol. 4, pp. 3492 – 3500, 2024
80. *Beyond the meso-/macroporous boundary: extending capillary condensation-based pore size characterization in thin films through tailored adsorptives* - M. Furedi, C. Vicente Manzano, A. Marton, B. Fodor, A. Alvarez-Fernandez, **S. Guldin**,* *Journal of Physical Chemistry Letters*, vol. 15, pp. 1420 – 1427, 2024.
79. *A new class of porous silicon electrochemical transducers built from pyrolyzed polyfurfuryl alcohol* - A.A. Rajendran, K. Guo, A. Alvarez-Fernandez, T.R. Gengenbach, M.B. Velasco, M.J. Fornerod, K. Shafique, M. Furedi, P. Formentin, H. Haji-Hashemi, **S. Guldin**, N.H. Voelcker, X. Cetó, B. Prieto-Simón, vol. 21, art. no. 100464, 2024.
78. *Electrochemical sensing of cortisol: a review* - A.N. Naeem, **S. Guldin**, and S.S. Ghor-eishizadeh, *IEEE Sensors*, vol. 24, pp. 5746 – 5758, 2024
77. *Glucose oxidase loading in ordered porous aluminosilicates: exploring the potential of surface modification for electrochemical glucose sensing* - M.J. Fornerod, A. Alvarez-Fernandez, M. Michalska, I. Papakonstantinou, **S. Guldin**,* *Chemistry of Materials*, vol. 35, pp. 7577 – 7587, 2023.
76. *Opportunities for isoporous membranes in the manufacture of genomic medicines* - K. Meng, T.F. Johnson, A. Alvarez-Fernandez, **S. Guldin**, D.G. Bracewell, *Journal of Membrane Science Letters*, vol. 3, art. no. 100052, 2023.
75. *Water-induced separation of polymers from high nanoparticle-content nanocomposite films* - B.Q. Kim, M. Furedi, R.B. Venkatesh, **S. Guldin**, Daeyeon Lee, *Small*, vol. 19, art. no. 2302676, 2023.
74. *Thin film composite membranes with regulated crossover and water migration for long-life aqueous redox flow batteries* - R. Tan, A. Wang, C. Ye, J. Li, D. Liu, B. Primera Darwich, L. Petit, Z. Fan, T. Wong, A. Alvarez-Fernandez, M. Furedi, **S. Guldin**, C.E. Breakwell, P.A.A. Klusener, A.R. Kucernak, K.E. Jelfs, N.B. McKeown, Q. Song, *Advanced Science*, vol. 10, art. no. 2206888, 2023.
73. *Liquid crystal-templated porous microparticles via photopolymerisation of temperature-induced droplets in a binary liquid mixture* - M. Patel, A. Alvarez-Fernandez, M. Jara Fornerod, A.P.N. Radhakrishnan, A. Taylor, S.T. Chua, S. Vignolini, B. Schmidt-Hansberg, A. Iles, **S. Guldin**,* *ACS Omega*, vol. 8, pp. 20404 – 20411, 2023.
72. *Reversible microscale assembly of nanoparticles driven by the phase transition of a thermotropic liquid crystal* - N. Mac Fhionnlaoich, S. Schrettl, N.B. Tito, Y. Yang, M. Nair, L.A. Serrano, K. Harkness, P.C. Silva, H. Frauenrath, F. Serra, W.C. Carter, F. Stellacci, **S. Guldin**,* *ACS Nano*, vol. 17, pp. 9906 – 9918, 2023.

71. *Tailoring the surface chemistry of PEDOT:PSS to promote supported lipid bilayer formation* - K. Kallitsis, A.-M. Papa, Z. Lu, A. Alvarez-Fernandez, I. Charalambous, S. Schack, W.C. Traberg, Q. Thiburce, K. Bali, G. Christie, **S. Guldin**, S. Daniel, A. Salleod, R.M. Owens, *Macromolecular Materials and Engineering*, vol. 308, art. no. 2300038, 2023.
70. *Amplified EQCM-D detection of extracellular vesicles using 2D gold nanostructure arrays fabricated by block copolymer self-assembly* - J. Suthar, A. Alvarez-Fernandez, E. Osarfo-Mensah, S. Angioletti-Uberti, G.R. Williams, **S. Guldin**,* *Nanoscale Horizons*, vol. 8, pp. 460 – 472, 2023.
69. *On the rational design of mesoporous silica humidity sensors* - M. Füredi, A. Alvarez-Fernandez, M.J. Fornerod, B. Fodor, **S. Guldin**,* *Advanced Sensor Research*, vol. 2, art. no. 2200077, 2023.
68. *Internal wettability investigation of mesoporous silica materials by ellipsometric porosimetry* - M. Füredi, B. Fodor, A. Marton, A. Alvarez-Fernandez, A.A. Riaz, C. Kalha, A. Regoutz, **S. Guldin**, P. Basa, *Thin Solid Films*, vol. 768, art. no. 139683, 2023.
67. *Li-ion-selective microporous polymer membranes with hydrogen-bond and salt-bridge networks for aqueous organic redox flow batteries* - A. Wang, R. Tan, D. Liu, J. Lu, X. Wei, A. Alvarez-Fernandez, C. Ye, **S. Guldin**, A.R. Kucernak, K.E. Jelfs, N.P. Brandon, N.B. McKeown and Q. Song, *Advanced Materials*, vol. 35, art. no. 2210098, 2023.
66. *Long term phase separation dynamics in liquid crystal-enriched microdroplets obtained from binary fluid mixtures* - M. Patel, S. Shimizu, M. Bates, A. Fernandez-Nieves, **S. Guldin**,* *Soft Matter*, vol. 19, pp. 1017 – 1024, 2023.
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34. *Tuning pore dimensions of mesoporous inorganic films by homopolymer swelling* - B. Reid, A. Alvarez-Fernandez, B. Schmidt-Hansberg, **S. Guldin**,* *Langmuir*, vol. 35, pp. 14074 – 14082, 2019.
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2. *Monolithic route to efficient dye-sensitized solar cells employing diblock copolymers for mesoporous TiO₂* - M. Nedelcu,[†] **S. Guldin**,[†] M.C. Orilall, J. Lee, S. Hüttner, E.J.W. Crossland, S.C. Warren, C. Ducati, P.R. Laity, D. Eder, U. Wiesner, U. Steiner, H.J. Snaith, *Journal of Materials Chemistry*, vol. 7, no. 20, pp. 1261 – 1268, 2010.
1. *Block-copolymer directed synthesis of mesoporous TiO₂ for dye-sensitized solar cells* - M. Nedelcu, J. Lee, E.J.W. Crossland, S.C. Warren, M.C. Orilall, **S. Guldin**, S. Hüttner, C. Ducati, D. Eder, U. Wiesner, U. Steiner, H.J. Snaith, *Soft Matter*, vol. 1, no. 5, pp. 134 – 139, 2009.

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6. *Extended DLVO interactions of a metal-organic framework: Implications on colloidal dispersion* - E. Butler, B. Reid, C. Petit, P. Luckham, A. Livingston, **S. Guldin**, 256th National Meeting and Exposition of the American-Chemical-Society (ACS) - Nanoscience, Nanotechnology and Beyond, vol. 256, no. 241, 2018.
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2. *Noble metal nanoparticles with anisotropy in shape and surface functionality for biomedical applications* - D. Marson, Y. Yang, **S. Guldin**, P. Posocco, In *Anisotropic particle assemblies: synthesis, assembly, modeling, and applications*, Elsevier, 2018.
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TALKS AND CONFERENCE PARTICIPATION

100. *Addressing chemical biosensing with molecular self-assembly* - Invited Talk, Translational Materials Innovation Group (Prof N.-J. Cho), Nanyang Technological University, December 2024, Singapore.

99. *Elucidating complex soft matter with molecular self-assembly* - Invited Talk, National University of Singapore, Department of Food Science and Technology, December 2024, Singapore.
98. *Mesoporous thin film architectures for nanopore-enabled applications* - Invited Impulse Talk, Nanoconfinement in Chemistry - Scoping Workshop, Volkswagen Foundation, November 2024, Hannover.
97. *Addressing chemical biosensing with molecular self-assembly* - Invited Talk, Singapore-Hebrew University Alliance for Research and Enterprise, November 2024, Singapore.
96. *Addressing chemical biosensing with molecular self-assembly* - Invited Talk, National University of Singapore, Department of Pharmacy and Pharmaceutical Sciences, November 2024, Singapore.
95. *Studying complex colloidal phenomena with novel characterization tools* - Invited Talk, TFoodS 2024, November 2024, Singapore.
94. *Addressing chemical biosensing with molecular self-assembly* - Invited Talk, Singapore-MIT Alliance for Research and Technology, October 2024, Singapore.
93. *Block copolymer assembled mesoporous materials architectures for biosensing applications* - Invited Talk (delivered by Máté Füredi), SolGel 2024, September 2024, Berlin, Germany.
92. *Evaluating complex colloidal interactions with artificial intelligence* - Invited Talk, Workshop AI in Food, Dieter Schwarz Foundation, August 2024, Heilbronn, Germany
91. *Elucidating complex soft matter with molecular self-assembly* - Invited Talk, Langmu Bio, August 2024, Hangzhou, China.
90. *Elucidating complex soft matter with molecular self-assembly* - Invited Departmental Seminar, Technical University of Munich, Department of Life Science Engineering, April 2024, Freising, Germany.
89. *Lessons learned from the Royal Society Summer Science Exhibition 2023* - Invited Talk, Royal Society, January 2024, London, UK.
88. *Novel approaches to acoustic immunosensing of extracellular vesicles* - Invited Talk, QSense User Days, November 2023, London, UK.
87. *Novel approaches to acoustic immunosensing of extracellular vesicles* - Invited Talk, IEEE Nanotechnology Materials and Devices Conference, October 2023, Paestum, Italy.
86. *Molecular soft matter engineering of edible bio-nano interfaces* - Invited Seminar, TUM-CREATE, September 2023, Singapore.
85. *Novel approaches to acoustic immunosensing of extracellular vesicles* - Talk, UK Colloids, July 2023, Liverpool, UK.
84. *Addressing chemo- & biosensing with molecular self-assembly* - Invited Departmental Seminar, University of Lancaster, Department of Physics, April 2023, Lancaster, UK.
83. *Block copolymer assembled materials architectures for biosensing applications* - Invited Talk, Qiagen, April 2023, Hilden, Germany.
82. *Novel tools for colloidal characterisation* - Invited Talk, Jialin University, January 2023, online delivery.

81. *Addressing chemo- & biosensing with molecular self-assembly* - Invited Departmental Seminar, University of Glasgow, Department of Chemistry, November 2022, Glasgow, UK.
80. *Using QCM-D and EQCM-D to develop new biosensor assays* - Invited Webinar, Biolin Scientific, October 2022, online delivery.
79. *Elucidating biomimetic colloidal interactions with novel characterisation tools* - Talk at CONFIT 2022 Conference, October 2022, Grenoble, France.
78. *Elucidating biomimetic colloidal interactions with novel characterisation tools* - Invited Talk at Bioinspired Materials Conference 2022, August 2022, Andermatt, Switzerland.
77. *Addressing chemical & biosensing with molecular self-assembly* - Invited Departmental Seminar, University of Stuttgart, Institute for Sanitary Engineering, Water Quality and Waste Management, July 2022, Stuttgart, Germany.
76. *Self-assembled materials architectures for biosensing applications* - Invited Talk at Annual Meeting of British Society for Nanomedicine, June 2022, online delivery.
75. *Block copolymer assembled materials architectures for biosensing applications* - Talk at Bordeaux Polymer Conference, June 2022, Bordeaux, France.
74. *Advanced characterisation of mesoporous coatings* - Invited Talk at SURFEX 2022, June 2022, Coventry, UK.
73. *Using Chemical Engineering to help children with cancer* - Spring into STEM outreach seminar, University College London, Department of Chemical Engineering, May 2022, online delivery.
72. *Addressing the bio-nano interface with molecular self-assembly* - Invited Departmental Seminar, Imperial College, Department of Chemical Engineering, May 2022, London, UK.
71. *Addressing the bio-nano interface with molecular self-assembly* - Invited Departmental Seminar, Oregon Health & Science University, Department of Biomedical Engineering, December 2021, online delivery.
70. *Addressing the bio-nano interface with molecular self-assembly* - Invited Departmental Seminar, University College London, Division of Surgery & Interventional Science, November 2021, online delivery.
69. *Evaluating the interaction of nanoparticles with chemical and biological targets* - Talk at MC15 meeting of Royal Society of Chemistry, July 2021, online delivery.
68. *Novel tools for colloidal characterisation* - Invited seminar, June 2021, Unilever, online delivery.
67. *Addressing the bio-nano interface with molecular self-assembly* - Invited Departmental Seminar, June 2021, University of Konstanz, Department of Physics, online delivery.
66. *Evaluating the interaction of nanoparticles with chemical and biological targets* - Talk in invited session at Spring Meeting of European Materials Research Society, Symposium O: Bioinspired and biointegrated materials as new frontiers nanomaterials, June 2021, online delivery.
65. *Novel Tools for Colloidal Characterisation* - Talk at Spring Meeting of Materials Research Society, Session NM5: Functional Nanoparticle Materials - Synthesis, Property and Applications, April 2021, online delivery.

64. *Novel Tools for Colloidal Characterisation* - Invited Talk in Goldsmith' Company Materials Science Seminar Series, October 2020, University of Cambridge, Department of Materials Science, online delivery.
63. *Mesoporous Coatings for Self-cleaning, Antireflection and Sensing Applications* - Invited Talk at SURFEX 2020, October 2020, online delivery.
62. *qTLC.app - an Educational Platform to Perform Analytical Chemistry with your Smartphone* - Poster presentation at VICEPHEC2020 (Variety in Chemistry Education/Physics Higher Education), August 2020, online delivery.
61. *Novel tools for colloidal characterisation* - Invited Masterclass organised by the International Polymer Colloids Group, April 2020, online delivery.
60. *Block copolymer-directed assembly of mesoporous inorganic architectures* - Invited talk at BASF, February 2020, Ludwigshafen, GER.
59. *Characterisation of adaptive & responsive nanomaterials* - Invited talk at National Physics Laboratory, December 2019, Teddington, UK.
58. *Advanced ellipsometric characterisation of adaptive & responsive nanomaterials* - Invited talk at Semilab, November 2019, Budapest, HUN.
57. *Optical coatings created by soft matter self-assembly* - Invited talk at Louisenthal, October 2019, Gmund, GER.
56. *Modulating the colloidal behaviour of amphiphilic nanoparticles* - Invited talk at University of York, September 2019, York, UK.
55. *Of droplets and particles* - Invited talk at Department of Physics, University of Luxembourg, September 2019, Luxembourg, LUX.
54. *Of nanoparticles and therapeutic drug monitoring: The Adaptive & Responsive Nanomaterials Group* - Invited talk at Quotient Sciences, July 2019, Nottingham, UK.
53. *Data-Centric Materials Science And Engineering* - UCL delegate for invited workshop by Henry Royce and Alan Turing Institutes, May 2019, Manchester, UK.
52. *Of droplets, micelles and particles* - Invited talk at Soft Nanophotonics Winterschool of Adolphe Merkle Institute & University of Cambridge, March 2019, Alagna Valsesia, Italy.
51. *Adaptive and responsive nanomaterials by molecular self-assembly* - Invited talk at Workshop for Defect Functionalized Sustainable Energy Materials: From Design to Device Applications, Tokyo Tech, November 2018, Tokyo, Japan.
50. *Tuning gold nanoparticle size and ligand shell architectures for self-organised collective phenomena and stimuli-responsive interactions* - Invited talk at CSIRO, November 2018, Melbourne, Australia.
49. *Inorganic porous photonic nanoarchitectures by block copolymer self-assembly* - Invited talk at Swinburne University, November 2018, Melbourne, Australia.
48. *Inorganic porous nanoarchitectures by block copolymer self-assembly* - Invited talk at Melbourne Centre for Nanofabrication, November 2018, Melbourne, Australia.
47. *Inorganic porous nanoarchitectures by block copolymer self-assembly* - Invited talk at Monash University, November 2018, Melbourne, Australia.
46. *Inorganic porous nanoarchitectures by block copolymer self-assembly* - Invited talk at UCL-PKU Symposium on Materials, Energy and Catalysis, September 2018, London, UK.

45. *Tuning gold nanoparticle size and ligand shell architectures for self-organised collective phenomena and stimuli-responsive interactions* - Invited talk at Italian Institute of Technology, October 2017, Lecce, Italy.
44. *The Adaptive & Responsive Nanomaterials Group* - Invited talk at Unilever R&D, July 2017, Birkenhead, UK.
43. *Connecting Higher Education - international perspectives on research-based education* - Conference participation, June 2017, London, UK.
42. *Self-cleaning antireflective optical coatings* - Invited talk at Thin Film Technology Forum, June 2017, Karlsruhe, Germany.
41. *Block copolymer directed assembly of inorganic thin films with controllable pore architecture* - Invited talk at 3rd London Polymer Group Symposium, April 2017, London, UK.
40. *Point-of-care diagnostics for chemotherapeutic drug dose monitoring* - Invited talk in Departmental Seminar Series, UCL School of Pharmacy, March 2017, London, UK.
39. *Tuning gold nanoparticle size and ligand shell architectures for self-organised collective phenomena and stimuli-responsive interactions* - Invited talk in MAFuMa seminar series, University College London, October 2016, London, UK.
38. *Inorganic photonic nanoarchitectures by block copolymer self-assembly* - Invited talk at Fall Meeting of European Materials Research Society, September 2016, Warsaw, Poland.
37. *Molecular self-assembly at liquid crystal interfaces* - Talk in workshop "Results of Leopoldina funding period X", German Academy of Sciences, February 2016, Halle, Germany.
36. *Soft matter self-assembly for responsive & adaptive nanomaterials* - Invited talk in departmental seminar, London Centre of Nanotechnology, November 2015, London, UK.
35. *Small molecule sensors for common drugs in blood - biochemical sensing by nanoparticle phase transfer* - Poster presentation at Technology Apéro NCCR Molecular Systems and Engineering, November 2014, Basel, CH.
34. *Nanoparticle phase transfer-based biochemical sensing - a case study for the quantitative detection of the chemotherapeutic drug doxorubicin in body fluids* - Poster presentation at Gordon Research Conference on "Noble Metal Nanoparticles", June 2014, South Hadley, USA.
33. *Inorganic inverse opal nanoarchitectures by block copolymer co-assembly* - Invited talk at BASF internal seminar, May 2014, Ludwigshafen, Germany.
32. *Soft matter design principles for inorganic photonic nanoarchitectures in photovoltaics, colorimetric sensing and self-cleaning antireflective coatings* - Invited talk at SPIE DSS Conference, May 2014, Baltimore, USA.
31. *Soft matter self-assembly for adaptive and responsive nanomaterials* - Invited talk in Chemical Engineering Seminar, University College London, February 2014, London, UK.
30. *Soft matter self-assembly as a design tool for inorganic photonic nanoarchitectures* - Invited talk in Functional Materials Seminar, Technical University Munich, December 2013, Munich, Germany.
29. *Soft matter self-assembly as a design tool for inorganic photonic nanoarchitectures* - Invited talk in Soft Matter & Photonics Group Seminar, October 2013, Fribourg, CH.

28. *On the self-assembly interplay of liquid crystals with patchy nanoparticles* - Poster presentation at Fall Meeting of the Swiss Chemical Society, September 2013, Lausanne, CH.
27. *Photonic nanoarchitectures designed by soft matter self-assembly* - Invited talk at Department of Chemistry, University of Munich (LMU), July 2012, Munich, Germany
26. *Self-assembly as a design tool for the integration of photonic structures into excitonic solar cells* - Talk at Excitonic Solar Cells Workshop, SANS EU FP7, March 2012, Les Diablerets, CH.
25. *Inorganic nanoarchitectures by organic self-assembly* - Invited talk in Forro Group Seminar, Department of Physics, École Fédérale Polytechnique de Lausanne, March 2012, Lausanne, CH.
24. *Tunable mesoporous Bragg reflectors (and other photonic structures) based on block-copolymer self-assembly* - Talk in Biological & Soft Systems Informal Seminar, Department of Physics, November 2011, Cambridge, UK.
23. *Photonic structures designed by self-assembly* - Invited talk in Seeman Group Seminar, Department of Chemistry, New York University, September 2011, New York City, USA.
22. *Photonic structures designed by self-assembly* - Invited talk in Dufresne Group Seminar, Soft Matter Lab, Department of Engineering, Yale University, August 2011, New Haven, USA.
21. *Self-assembly as a design tool for the integration of photonic structures into excitonic solar cells* - Talk at SPIE Optics & Photonics, August 2011, San Diego, USA.
20. *Mesoporous Bragg reflectors - block-copolymer self-assembly leads to building blocks with well defined continuous pores and high control over optical properties* - Talk at SPIE Optics & Photonics, August 2011, San Diego, USA.
19. *Tunable mesoporous Bragg reflectors based on block-copolymer self-assembly* - Poster at 5th International Conference on Nanophotonics (presented by Dr. Silvia Vignolini), May 2011, Shanghai, China.
18. *Photonic sensing with tunable mesoporous Bragg reflectors based on block-copolymer self-assembly* - Talk in Invited Session on Bio-inspired Nanophotonics, Conference of the European Materials Research Society, May 2011, Nice, France.
17. *Antireflective coatings based on block-copolymer directed silica synthesis* - Poster presentation at Conference of the European Materials Research Society, May 2011, Nice, France.
16. *Integration of self-assembled photonic structures into excitonic solar cells* - Poster presentation at Conference of the European Materials Research Society, May 2011, Nice, France.
15. *A self-assembly route to mesoporous TiO₂ Bragg reflectors* - Talk at Conference of the German Physical Society, March 2011, Dresden, Germany.
14. *Integration of self-assembled photonic structures into excitonic solar cells* - Poster presentation at Conference of the German Physical Society, March 2011, Dresden, Germany.
13. *Self-assembly as a design tool for the integration of photonic structures into excitonic solar cells* - Invited talk at Symposium on Nanophotonics and Renewable Energy, Chinese Academy of Sciences, January 2011, Beijing, China.

12. *Mesoporous Bragg reflectors designed by self-assembly* - Poster presentation at Meeting of the Cambridge Philosophical Society: Making light work, December 2011, Cambridge, UK.
11. *Self-assembled TiO₂ nanostructures in a double layer dye-sensitized solar cell* - Poster presentation at Summer School on "Advances in Nanophotonics III: Plasmonics and Energy Efficiency", July 2010, Ettore Majorana Foundation, Erice, Italy.
10. *Nanocharacterisation - an overview* - Talk at Soft Nanophotonics Winter School, March 2010, Arosa, Switzerland.
9. *Absorption enhancement in excitonic solar cells by a photonic crystal top layer* - Talk at Conference of the European Materials Research Society (EMRS), June 2009, Strasbourg, France.
8. *Absorption enhancement in excitonic solar cells by a photonic crystal top layer* - Talk at Conference of the German Physical Society, March 2009, Dresden, Germany.
7. *Optically active nanostructures in dye-sensitized solar cells* - Talk at Soft Nanophotonics Winter School, March 2009, Hirschegg, Kleinwalsertal, Austria.
6. *Catching the light - self-assembled TiO₂ nanostructures in a double layer dye-sensitized solar cell* - Poster presentation at Conference on Self-Assembly and Self-Organization at Surfaces and Interfaces, EU Patterns network, December 2008, Selwyn College, Cambridge, UK.
5. *Catching the light - polymer-derived nanostructures and their multifunctional use for dye-sensitized solar cells*, Talk in Seminar Series "Structure and Dynamics of Condensed Matter", July 2008, Physics Department E13, TU Munich, Germany.
4. *Polymer-derived nanostructures and their multifunctional use for dye-sensitized solar cells* - Talk at International Graduate Conference, June 2008, Wolfson College, Cambridge, UK.
3. *Polymer-derived nanostructures and their multifunctional use for dye-sensitized solar cells* - Talk at Nanophotonics Workshop, April 2008, Jesus College, Cambridge, UK.
2. *Nanostructuring inorganic material through polymer assisted self-assembly and its multifunctional use for dye-sensitized solar cells* - Poster presentation at Conference of the German Physical Society, February 2008, Berlin, Germany.
1. UNIDO seminar on energy efficiency projects in the CDM and JI agenda, Delegate of Bosch and Siemens Home Appliances, March 2007, Vienna, Austria.

COMPLETED RESEARCH SUPERVISION

71. Máté Füredi (2021-2024) - "Ellipsometry-based in-situ and in-operando characterisation of nanoscale electrode and sensor materials", PhD project.
70. Javier Cortina Ortiz (2023-2024) - "On the role of nanoscale wetting for the 2D assembly of functional material architectures", MEng project.
69. Sasha Green (2023-2024) - "On the role of nanoscale wetting for the 2D assembly of functional material architectures", MEng project.
68. Klara Burdova (2023-2024) - "Ellipsometric characterisation of microporous thin film coatings", MEng project.

67. Natan Abelian (2023-2024) - "Characterisation of microporous thin-film coatings via ellipsometric porosimetry towards high-precision sensory applications", MEng project.
66. Dr Ke Meng (09/2019-01/2024) - "Block copolymer-enabled mesopore biosensing", PhD project with Prof Dan Bracewell.
65. Dr Jugal Suthar (01/2021-12/2023) - "ChromaDose: In-vitro diagnostic device development and validation, enabling point-of-care therapeutic drug monitoring for dose optimisation of anthracycline chemotherapy in paediatric cancer settings", project management and postdoctoral research project.
64. Juzheng Zhang (2022-2023) - "Impact of Langmuir-Blodgett deposition conditions on the formation of supported lipid bilayers", MSc project.
63. Guo Li (2022-2023) - "Solubility engineering of gold nanoparticles using automation and machine learning", MSc project.
62. Izzul Yusoff (2022-2023) - "Study of Permeability of different types of membranes", MEng project.
61. Poppy Hobbs (2022-2023) - "Performance characterisation of three polyethersulfone membranes", MEng project.
60. Kaicheng Huang (2022-2023) - "Strategies for tuning pore size, interconnection, and porosity parameters of humidity sensitive BCP/SiO₂ thin films", MEng project.
59. Zifan Zhou (2022-2023) - "Engineering pore and interconnection size for mesoporous silica full-range humidity sensors", MEng project.
58. Maximiliano Jara Fornerod (2023) - "Mesoporous nanoarchitectures from BCP co-assembly: hybridisation in nanochannels for rapid electrochemical detection of DNA", postdoctoral research project.
57. Maximiliano Jara Fornerod (2017-2023) - "Mesoporous nanoarchitectures for electrochemical biosensors", PhD project.
56. Dr Alberto Alvarez Fernandez (2018-2022) - "Block copolymer enabled mesopore sensing", postdoctoral research project.
55. Clarissa Harman (2018-2022) - "Systematic design of magnetophoretic pickering emulsions", PhD project.
54. Mehzabin Patel (2016-2022) - "Liquid crystal microdroplets from complex binary liquid mixtures", PhD project.
53. Cem Yirik (2021-2022) - "3D nanostructures based on block copolymer iterative self-assembly for surface enhanced Raman scattering", MEng project.
52. Isha Mane (2021-2022) - "Improving the mechanical stability and scratch resistance of mesoporous thin films", MEng project.
51. Faizah Ahmed (2021-2022) - "Improving the mechanical stability and scratch resistance of mesoporous thin films", MEng project.
50. Jialin Gu (2021) - "3D nanostructures based on block copolymer iterative self-assembly for surface enhanced Raman scattering", MSc research project
49. Miao Lyu (2021) - "Solution-processed nanoarchitectures for virucidal action", MSc research project

48. Yann Mamie (2020-2021) - "Prototyping and validation of an in-vitro diagnostic device for therapeutic drug monitoring", product development project.
47. Tobias de Mendonca (2020-2021) - "Analytical techniques for the quantification of chemotherapeutic drugs in small body fluid samples", research project.
46. Jugal Suthar (2016-2021) - "Novel biosensing approaches for detection of exosomal protein", PhD project.
45. Niamh Mac Fhionnlaoich (2015-2020) - "Stimuli responsive liquid crystal-nanoparticle composites", PhD project.
44. Faik Fazeen, Kim de Leon (2020-2021) - "Novel ultrafiltration membranes for large scale purification of viral vectors", MEng research project.
43. Dr Alaric Taylor (2016-2020) - "2018-2020: Prototyping for miniature microfluidics enabling therapeutic drug monitoring at the point of care; 2016-2018: Low-cost, up-scalable strategies for nanostructuring functional materials via lithographic nanosphere self assembly", postdoctoral research project(s).
42. Nurazza Aysha Binti Badrol Hisham, Muhammad Abdul Majid (2019-2020) - "Acoustic immunosensing using supported lipid bilayers from extracellular vesicles", MEng research project.
41. Celina Basa, Eva Unyat (2019-2020) - "Automated processing of biosamples for therapeutic drug monitoring". MEng research project.
40. Dr Ye Yang (2019-2020) - "Electrolytes in regulating protein-mimetic amphiphilic nanoparticles". Postdoctoral research project.
39. Dr Lixu Yang (2018-2020) - "Nature-inspired self-healing materials from plastic waste". Postdoctoral research project.
38. Barry Reid (2015-2020) - "Block copolymer-directed assembly of mesoporous inorganic architectures". PhD project. Now: Research technician at University College London.
37. Ye Yang (2015-2019) - "On the interaction of nanoparticles and small molecules". PhD project. Now: Postdoctoral research associate at University College London.
36. Rafael Pascal Bilger (2019) - "Block copolymer based material architectures for electrochemical biosensing", MSc research project (exchange student from RWTH Aachen).
35. Alero Omatsone (2018/2019) - "Investiating the effect of particle properties on Pickering emulsions", MSci research project.
34. Iro Papavasiliou (2018/2019) - "Investigating the effect of particle properties on binary liquid mixtures", MSci research project.
33. Yee Ting, Gary Wang (2018/2019) - "Microfluidic ligand exchange of gold nanoparticles", MEng research project.
32. Adilah Binti Ashari, Runzhang Qi (2018/2019) - "Selective fluorophore conjugation for quantitative thin layer chromatography of non-fluorescent drugs", MEng research project.
31. Stefano Peressutti (2018/2019) - "Towards stretchable plasmonic mats: creating 2D arrays of gold nanoparticles on silanised surfaces via Langmuir-Blodgett deposition", MSci research project.
30. Dr Jakub Trzcinski (2017/2018) - "Quantitative sensing of chemotherapeutic drugs from small body fluid samples by highly selective nanoparticle extraction and liquid crystal detection", postdoctoral research project.

29. Andrew Redfearn (2018) - "Prototype development for point-of-care device based on quantitative thin layer chromatography", research assistant.
28. Aneeq Farooq (2018) - "Robotic processing of patient samples for automated therapeutic drug monitoring", summer student.
27. Silvia Boccardo (2018) - "Molecular dynamics simulations on the interaction of gold nanoparticles with doxorubicin and crystal violet.", exchange PhD student.
26. Ruslan Shayakhynuly (2017/2018) - "Nanoparticle-based molecular recognition in aqueous solutions", MSci research project.
25. Wei Lik Gan, Jin Hao Hew (2017/2018) - "Quantification of chemotherapeutic drugs using thin layer chromatography with design of experiment and optical imaging", undergraduate research project.
24. Shatakshi Sharma, Muhamad Hafiz Ismail (2017/2018) - "Low temperature removal of organic templates for mesoporous inorganic architectures", undergraduate research project.
23. Dr Luis Antonio Serrano Gonzalez (2015-2017) - "Quantitative sensing of chemotherapeutic drugs from small body fluid samples by highly selective nanoparticle extraction and liquid crystal detection", postdoctoral research project.
22. Dr Stuart Ibsen (2016/2017) - "A microfluidic platform for point of care diagnostics", postdoctoral research project.
21. Yini Weng (2017) - "Characterisation of nanoparticle adsorption phenomena by quartz crystal microbalance with dissipation monitoring", undergraduate summer research internship.
20. Runzhang Qi (2017) - "Stretchable plasmonic mats", undergraduate summer research project.
19. Ludovic Bescher (2016/2017) - "Fundamental aspects of microfluidic phase transfer and extraction", MSci project.
18. Chinedu Okeke, Thomas Hughes (2016/2017) - "Characterisation of anisotropic porous inorganic nanoarchitectures by environmental ellipsometric porosimetry", undergraduate research project.
17. Anmol Jnawali, Bilaal Ali Tariq (2016/2017) - "Emulsion templating of inorganic nanoarchitectures through assembly at the air-water interface", undergraduate research project.
16. Anastasia Kislyak, Aina Vidal Lorente (2016/2017) - "Gold nanoparticle assembly for stretchable plasmonic mats", undergraduate research project.
15. Hanrui Zheng (2015/2016) - "Molecular recognition and surface adsorption", postgraduate research project.
14. Elwin Hunter Sellars (2016) - "Phase Separation and the Physics of Droplet Formation in a Microfluidic System", undergraduate summer research project.
13. Anastasia Kislyak (2016) - "Large scale self-assembly of monolayer colloidal crystals", undergraduate summer research project.
12. Melvin Ting (2016) - "Stretchable plasmonic mats", Undergraduate summer research project.
11. Maximiliano Jara Fornerod (2015/16) - "Liquid crystal microfluidics", MSci project.

10. Yinong Cheng (2015/16) - "Effect of humidity on the performance of anti-reflective coatings", MSci project.
9. Eu Jin (2015/16) - "Solvent vapour annealing of block copolymer composites", MEng project.
8. Swan Choy (2015/16) - "Mesoporous thin film architectures using block copolymer self-assembly", MEng project.
7. Saja Muwaffak (2015) - "Supramolecular recognition and stimuli-induced interaction between nanoparticles and small molecules", PhD mini-project.
6. Jehan Joel Ghislain Moingeon (2014/15) - "Morphology-induced dipole moment in monolayer protected gold nanoparticles", MSci project, École Polytechnique Fédérale de Lausanne, CH.
5. Maximiliano Jara Fornerod (2014/15) - "Gold nanoparticle assembly for stretchable plasmonic mats", MSci project, École Polytechnique Fédérale de Lausanne, CH.
4. Ye Yang (2013-15) - "Nanoparticle probes as supramolecular receptors for doxorubicin", MSci project, École Polytechnique Fédérale de Lausanne, CH.
3. Malavika Nair (2014) - "Designer NPs by ligand exchange", Materials Science summer project, École Polytechnique Fédérale de Lausanne, CH.
2. Edward Jones (2013) - "Self-assembly at liquid crystal interfaces", Materials Science summer project, École Polytechnique Fédérale de Lausanne, CH.
1. Tjonnie G.F. Li (2009) - "Plasmonic Enhancement of Dye-Sensitized Solar Cells", physics 4th year project, University of Cambridge, UK.