IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

2022 Starting and Consolidator Laureate Awards Programme

Physical Sciences and Engineering - Panel Member Biographies

CHAIR

PROFESSOR LESLEY YELLOWLEES CBE, HONFRSC, FRSE, PROFESSOR EMERITA IN INORGANIC ELECTROCHEMISTRY, UNIVERSITY OF EDINBURGH

THE UNIVERSITY of EDINBURGH

Professor Lesley Yellowlees completed both her BSc in Chemical Physics and her PhD in Inorganic Electrochemistry at the University of Edinburgh. After completing research positions in Brisbane, Australia and Glasgow she returned to an academic position in Edinburgh in 1986 and gained a personal chair in Inorganic Electrochemistry in 2005. Lesley was Head of the School of Chemistry and then Vice Principal and Head of the College of Science and Engineering at the University of Edinburgh.

Lesley was President of the Royal Society of Chemistry from 2012-14, their first woman President in 175 years. Lesley was awarded an MBE in 2005 for services to science and a CBE for services to Chemistry in 2014. She is a Fellow of the Royal Society of Edinburgh.

PROFESSOR LUIS MIGUEL NUNES PEREIRA, ALMASCIENCE ASSOCIATION, CELLULOSE RESEARCH AND DEVELOPMENT FOR SMART AND SIMPLE APPLICATIONS

ALMASCIENCE
beyond paper

Professor Luis Pereira was born in Lisbon, Portugal, in 1977. He received the Engineering degree in Materials Science in 2001 and has finished the Ph.D. in Microelectronics and Optoelectronics in 2008 at Universidade NOVA de Lisboa. His Ph.D. work was focused on polycrystalline silicon and high k dielectrics for thin film transistors application. This work contributed to the first fully transparent oxide semiconductor-based transistors entirely produced at room temperature. The expertise gained on oxide materials for electronics allowed focusing the pos-doc activities on the development of printed inorganic nanostructured materials for chromogenic, electronic and electrochemical devices on paper and plastic substrates. He was involved in the team that demonstrated for the first time transistors made of oxides with paper as dielectric. In 2012 he got a merit position as Assistant Professor (then Associate Professor in 2015) at Universidade NOVA de Lisboa, settling his research team on printed and paper electronics. Since then, he has been exploring cellulose-based materials both as substrate and constituent of electronic devices, including the use of printing techniques. In 2015 he got the ERC-Starting Grant on the development of new cellulose/oxide nanocomposites towards a new paradigm in printed electronics. The research activities in the last years were focused on the design and synthesis of 1D, 2D and 3D inorganic and hybrid nanostructures, chiral cellulose nanocomposites, functional micro and nanofibers and its integration on chromogenic, electronic and electrochemical devices. He has authored and co-authored more than 200 publications in peer-reviewed journals and proceedings of the ISI with more than 8000 citations and has a H factor of 44 on Web of Science (more than 11000 citations in and h-factor of 50 in Google Scholar). In 2020

he assumed the position of Scientific and Technical Director of AlmaScience Colab, Nowadays he is also member of the board of Portuguese Professional Engineer Association – South Region, Vice-president of the TCM-Net (Transparent Conductive Materials Network), and member of the board of the Portuguese Materials Society (SPM).

PROFESSOR SUSAN SINNOTT, PENNSYLVANIA STATE UNIVERSITY

Professor Susan Sinnott received her B.S. degree with honors in Chemistry from the University of Texas in 1987 and her doctoral degree in Physical Chemistry from Iowa State University in 1993. From there, she joined the Naval Research Laboratory, Surface Chemical Branch, in Washington D.C. as a National Research Council Post Doctoral Associate until 1995. Afterwards, Dr. Sinnott became an Assistant Professor in the Department of Chemical & Materials Engineering at the University of Kentucky through 2000. She then began her tenure at the University of Florida, where she was an Associate Professor of Materials Science and Engineering until her promotion in 2005 to the rank of Professor of Materials Science and Engineering. In 2007 she became an Affiliate Professor in the Department of Mechanical and Aerospace Engineering, and in 2012 she was named the Alumni Professor of Materials Science. Dr. Sinnott also became a member of the Quantum Theory Project in 2011 and the Director of the Cyberinfrastructure for Atomistic Simulation (CAMS) in 2012. In 2015 Dr. Sinnott joined the Pennsylvania State University as Professor and Department Head of Materials Science and Engineering.

PROFESSOR RICHARD HOOGENBOOM, GHENT UNIVERSITY

Professor Richard Hoogenboom is heading the Supramolecular Chemistry (SC) group at Ghent University that was founded based on his appointment as associate professor in 2010 (full professor since 2014). He obtained a PhD from Eindhoven University of Technology under supervision of Prof. Ulrich S. Schubert and performed postdoctoral research with Prof. Martin Möller (RWTH Aachen) and Prof. Roeland Nolte (Radboud University Nijmegen). Prof. Hoogenboom has published more than 450 refereed scientific articles that received 23,500+ citations (h-index 70) and he is listed as inventor on 23 patent families. He is currently editor-in-chief for European Polymer Journal and associate editor for Australian Journal of Chemistry. Prof. Hoogenboom is the recipient of the inaugural RSC Polymer Chemistry award (2015), the PI IUPAC young investigator award (2016), the ACS Macromolecules/Biomacromolecules Young Investigator award (2017) and the ACS Carl S. Marvel Creative Polymer Chemistry Award (2021). Since January 2018, Prof. Hoogenboom is also cofounder of Avroxa BVBA that commercializes poly(2-oxazoline)s as Ultroxa®.

DR ELISA MELE, UNIVERSITY OF LOUGHBOROUGH

Dr Elisa Mele completed her Masters degree in Physics at the University of Lecce (Italy) in 2003. She obtained the PhD in Innovative Materials and Technologies in 2007 at the Superior Institute of Interdisciplinary Education of the University of Salento (Italy) under the supervision of Prof R. Cingolani, working on nanofabrication strategies for organic optoelectronic devices. In 2005, Elisa won a Marie Curie fellowship at the Foundation for Research and Technology Hellas (FORTH), Heraklion (Greece) for developing surfaces with optically switchable wettability. In 2008, she became

a Post-doc Research Associate in the group of Prof. D. A. Weitz at the Department of Physics of Harvard University, where she acquired expertise on microfluidic devices for the production of hydrogel micro-particles and for investigating the biophysical properties of normal and diseased renal glomeruli. During the appointments as Post-doc Research Associate at the National Nanotechnology Laboratory and at the Centre for Biomolecular Nanotechnologies (Lecce, Italy), Elisa worked on microfluidic platforms integrating functional elements for DNA amplification, food safety and for studying the growth and differentiation of human renal stem cells. From 2012 to 2015, Elisa was Research Group Leader at the Nanophysics Department of the Italian Institute of Technology (IIT), Genoa (Italy), conducting research on biopolymers derived from natural sources, such as plants and marine environment, with application in tissue engineering for skin regeneration and in drug delivery systems. In April 2015, she joined the Department of Materials of Loughborough University as Senior Lecturer in Polymer Science and became a Reader in Biomaterials with the same Department in 2021.

DR JIANYU LI, MCGILL UNIVERSITY

Dr Jianyu Li: Assistant Professor in the Department of Mechanical Engineering at McGill University

My research is interdisciplinary in nature, focusing on the interface between Mechanics, Chemistry and Biomaterials. My group synergizes mechanics, materials chemistry, bioinspiration principles to develop multifunctional soft biomaterials to solve critical challenges in engineering and medicine, including tissue repair, surgical glues, hemostats, biomedical devices, etc. We also study the fundamental mechanical behaviours of soft materials, including adhesion, fracture, fatigue and stimuli-responsive behaviour.

PROFESSOR PAUL SUTCLIFFE, DURHAM UNIVERSITY

Professor Paul Sutcliffe obtained a BSc in Mathematics in 1989 and a PhD in 1992, both from Durham University. Following research positions in Edinburgh and Paris, he held a fellowship at Cambridge University. In 1995 he was appointed as a Lecturer at the University of Kent, where he also held an advanced fellowship from 1998 until 2003 and was promoted to Professor in 2004. He returned to Durham in 2006, as Professor of Mathematical Physics. Paul's main topic of research is topological solitons, having published a book and over a hundred research papers on this subject. In 2006 he was awarded the Whitehead Prize by the London Mathematical Society for his work in this area.

DR SILVIA GAZZOLA, UNIVERSITY OF BATH

Dr Silvia Gazzola: Lecturer in the Department of Mathematical Sciences at the University of Bath.

My research mainly focuses on the numerical treatment of inverse problems. In particular, I am keen on devising accurate, reliable, and efficient solvers that exploit advanced numerical linear algebra tools. I am interested in applications arising in astronomical and medical imaging, such as image restoration and image reconstruction (tomography).

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DR MARTIN TURNER, UNIVERSITY OF MANCHESTER

MANCHESTER 1824
The University of Manchester

Dr. Martin Turner is a Research Relationship Manager at the University of Manchester and recently been seconded as the Visualisation Director for the Harwell Imaging Partnership (HIP) as well as Group Leader for Visualisation within the SCD (Scientific Computing Department) at STFC. He initially gained his PhD in the Computer Laboratory, at Cambridge University, on Image Coding and now research interests cover a broad background, specialising in many Visualisation Themes, Computer Graphics and Mathematical topics associated with image and signal creation, analysis, processing and presentation. Teaching has covered all academic levels from undergraduate to postgraduate as well as within external courses, involving the RAF and British Gas; and currently he is an Honorary Lecturer in Computer Science emphasising at the MSc and PhD level. Research in these fields has resulted in a short-term Fellowship with British Telecom, a published book Fractal Geometry in Digital Imaging by Academic Press as well as over 100 other publications, and he has supervised or co-supervised to completion seventeen successful MPhil/PhD students. Key activities and grants cover both local and nationally funded high-end visualization services as well as commercial contracts. He is a member of the BCS, IMA (CMath MIMA), EG and an Executive Member and Treasurer of the Eurographics UK Chapter, as well as one of the founding members of the Manchester ACM SIGGRAPH Professional Chapter.

PROFESSOR ALEX KOT CHICHUNG, NANYANG TECHNOLOGY UNIVERSITY

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

Professor Alex Kot Chichung has been with the Nanyang Technological University (NTU), Singapore since 1991. He headed the Division of Information Engineering at the School of Electrical and Electronic Engineering (EEE) for eight years. He was the Vice Dean Research and Associate Chair (Research) for the School of EEE for three years, overseeing the research activities for the School with over 200 faculty members. He was the Associate Dean (Graduate Studies) for the College of Engineering (COE) for eight years. He is currently the Director of ROSE Lab [Rapid(Rich) Object SEearch Lab) and the Director of NTU-PKU Joint Research Institute . He has published extensively with over 300 technical papers in the areas of signal processing for communication, biometrics recognition, authentication, image forensics, machine learning and AI. He has two USA and one Singapore patents granted.

Dr. Kot served as Associate Editor for a number of IEEE transactions, including IEEE TSP, IMM, TCSVT, TCAS-I, TCAS-II, TIP, SPM, SPL, JSTSP, JASP, TIFS, etc. He was a TC member for several IEEE Technical Committee in SPS and CASS. He has served the IEEE in various capacities such as the General Co-Chair for the 2004 IEEE International Conference on Image Processing (ICIP) and area/track chairs for several IEEE flagship conferences. He also served as the IEEE Signal Processing Society Distinguished Lecturer Program Coordinator and the Chapters Chair for IEEE Signal Processing Chapters worldwide. He received the Best Teacher of The Year Award at NTU, the Microsoft MSRA Award and as a co-author for several award papers. He was elected as the IEEE CAS Distinguished Lecturer in 2005. He was a Vice President in the Signal Processing Society and IEEE Signal Processing Society Distinguished Lecturer. He is now a Fellow of the Academy of Engineering, Singapore, a Fellow of IEEE and a Fellow of IES.

PROFESSOR ELENA GAURA, COVENTRY UNIVERSITY

Professor Elena Gaura is a Senior Research Leader at Coventry University. Presently Elena's research is on robust end-to-end multi-sensor cyber-physical systems design and community focused technologies integration processes. She applies and validates most of her innovations in complex socio-technical energy systems. Elena brings together multi-disciplinary international teams, across the cyber-physical, energy engineering and social sciences academic and practice domains. She is very active in the Energy arena, through Humanitarian Engineering projects worldwide, in grid and off grid settings, working towards viable and sustainable end-to-end designs for energy eco-systems. She is currently leading the EPSRC HEED GCRF (EP/P029531/1 heed-), and is the Cyber-Physical Infrastructure theme lead for UK's PFER programme, Energy Revolution (EP/S031863/1). She works with communities in the UK, Amazon, Philippines, Nepal and Rwanda on energy-for-all solutions enabled by sensing and the Internet. Elena has graduated 20 PhD students to date.

DR MARTHA GLEDHILL, GEOMAR Helmholtz Centre for Ocean Research Kiel

Dr. Martha Gledhill is a Senior Scientist at the Helmholtz Centre for Ocean Research in Kiel, Germany. She works on the biogeochemistry of trace elements in the ocean and how they influence and interact with the global biogeochemical cycles of other elements such as carbon, nitrogen and phosphorus. Her work addresses critical issues facing the ocean today, including climate change and ocean acidification. She also has an interest in organic contaminants, such as munition compounds and plastics in the ocean. She initially gained her PhD in Marine Biogeochemistry at the University of Liverpool. She was a Senior Lecturer at the University of Plymouth, before moving to the University of Southampton, School of Ocean and Earth Science as a Royal Society and then a Natural Environment Research Council Fellow. She has published more than eighty peer reviewed research papers, supervised students at Masters and PhD level, had been a PI and Co-I on research grants funded by the UK Natural Environment Research Council and the German Research Foundation (DFG).

DR LINDSAY CATHERINE BEEVERS, UNIVERSITY OF EDINBURGH

Lindsay Beevers is a Professor of Environmental Engineering at the University of Edinburgh and her research focuses on the impacts of hydrological extremes (floods and droughts – hydro-hazards) on society. It explores the interactions between flow, river form, societal vulnerability and resilience as well as ecosystem services and the issue of climate related uncertainty. She has worked both in industry as an engineer (Jacobs 2003-2007) as well as in academia. From 2007-2010 she worked in the Netherlands at UNESCO-IHE Institute for Water Education (now known as IHE Delft) where she was involved in education, capacity building and research projects in river systems across the world. Most of her work was focussed in Africa on the Nile and the Zambezi basins, and Asia on the Mekong river. In 2010 she joined Heriot-Watt University

and in 2016 was awarded an EPSRC LWEC Challenge Fellowship to focus on Water Resilient Cities, focussing on climate change uncertainty and how we can adapt to its impacts for UK cities. She continued her international work, working on a NERC funded project in the Indian Himalayas looking at the upstream part of the Indus river basin and how climate change may impact the water resources in the future. As of 2022 she moved to the University of Edinburgh, where she continues to explore the impact of climate change on hydrological extremes. Prof Beevers has published over 50 articles and book chapters in high impact journals, and currently supervises a research team of 8 PDRAs and PhD students.

DR EUAN KAY, UNIVERSITY OF ST. ANDREWS

Dr Euan Kay is a Lecturer in Chemistry at the University of St Andrews. His research lie at the interface of supramolecular chemistry and nanomaterials, with a major focus on translating dynamic (supra)molecular systems into the nanoworld so as to control structure and function across several size scales. Euan received an MChem degree from the University of Edinburgh in 2002. He was awarded a Carnegie Scholarship and remained in Edinburgh to work under the supervision Prof. David A. Leigh FRS, receiving his Ph.D. in 2006. His doctoral work focused on developing and demonstrating mechanisms for controlling molecular-level motion, introducing the first examples of 'compartmentalized' synthetic molecular machines in the form of hydrogen-bond assembled catenanes and rotaxanes. For this work, Euan was awarded a 2007 IUPAC Prize for Young Chemists. Following a period of post-doctoral work in Edinburgh, Euan was awarded an 1851 Research Fellowship in 2008 and joined the laboratory of Prof. Moungi Bawendi at the Massachusetts Institute of Technology. There he worked on interfacing molecular machines with semiconductor quantum dots to develop new strategies for the design of nanocrystal-based fluorescent sensors. In 2011, Euan was awarded a Royal Society of Edinburgh / Scottish Government Fellowship and moved to the University of St Andrews.

PROFESSOR SANDRA VAN VLIERBERGHE, GHENT UNIVERSITY

Professor Sandra Van Vlierberghe is the principal investigator and group leader of Polymer Chemistry & Biomaterials Group (Centre of Macromolecular Chemistry, UGent). Sandra Van Vlierberghe's research focusses on the development of photo-crosslinkable (bio)polymers and their processing capabilities using (laser-based) 3D printing techniques. She has acquired expertise related to the synthesis, the modification and the processing of a variety of (bio)polymers including thermoplasts and hydrogels in the field of regenerative medicine during the last 15 years.
She received her PhD in Sciences in 2008 at UGent. She authored more than 115 Web of Science cited papers and 11 full papers in international conference proceedings. In addition, she also authored more than 80 conference abstracts. She has a h-index of 24 (WoS) and is promoter of 16 PhD's (in addition to 7 defended PhD's), she edited two books, authored 7 chapters in books of which 5 invited and was invited speaker at 10 international conferences and keynote as well as plenary speaker at four international conferences. She is treasurer of the Belgian Polymer Group (BPG) and spokesperson of the YSF which is affiliated to the ESB. Sandra is also editorial board member of the Biomaterials

Network, associate editor of Journal of Materials Science: Materials in Medicine. In 2017, she received the Jean Leray Award from the European Society for Biomaterials. This award is established to recognize outstanding research in the field of biomaterials by scientists not older than 40 years.

PROFESSOR ARMAND SOLDERA, UNIVERSITY OF SHERBROOKE

Professor Armand Soldera is currently a professor at the Université de Sherbrooke (Quebec, Canada), and vice-dean development-partnerships of the Faculty of sciences. He has been head of the department of chemistry (2010-2016), director of the Quebec Centre for Functional Materials (2015-2018). He received a Ph.D. in Molecular Physical Chemistry for his work on liquid crystals from the Université de Strasbourg in France. He was a postdoctoral fellow, first at the Université Laval in Québec, Canada, working in polymer and liquid crystal science, and at RUG in Groningen, Netherlands working on scattering of polymers. In 1994, he was hired by the French Commissariat à l'Énergie Atomique (CEA) as a research engineer in the military division, where he began to work on molecular simulations of polymers. He joined the Université de Sherbrooke in 2002 as an assistant professor in the chemistry department, became associate professor in 2005, full professor in 2009, and department chair from 2010 to 2016. He was adjunct professor at ISMANS (Le Mans, F.) since 1996. His research focusses on the study of the intimate link between micro and macroscopic scales in soft matter (polymers, liquid crystals, and organic glasses). To help him in this complex task, he merges together simulations and experiments following a multi-scale approach. He coedited a book entitled Advanced Materials, published in 2020 by de Gruyter.

PROFESSOR ARASH YAVARI, GEORGIA INSTITUTE OF TECHNOLOGY

Professor Arash Yavari joined the School of Civil and Environmental Engineering at the Georgia Institute of Technology in January 2005. He received his B.S. in Civil Engineering from Sharif University of Technology, Tehran, Iran in 1997. He continued his studies at The George Washington University where he obtained an M.S. in Mechanical Engineering in 2000. He then moved to Pasadena, CA and obtained his Ph.D. in Mechanical Engineering (Applied Mechanics option with minor in Mathematics) from the California Institute of Technology in 2005. Professor Yavari is a Fellow of the Society of Engineering Science and a member of the American Academy of Mechanics. Professor Yavari's interests are in developing systematic theories of discrete mechanics for crystalline solids with defects. Defects play a crucial role in determining the properties of materials. The development of atomistic methods including density functional theory, bond-order potentials and embedded atom potentials has enabled a detailed study of such defects. However, much of the work is numerical and often with ad hoc boundary/far-field conditions. Specifically, a systematic method for studying these discrete yet non-local problems is lacking. Design in small scales requires solving inverse problems and this is not possible with purely numerical techniques. From a mechanics point of view, defective crystals are modeled as discrete boundary-value problems. The challenging issues are extending the existing techniques from solid state physics for non-periodic systems, new developments in the theory of vector-valued partial difference equations, existence and uniqueness of solutions of discrete boundary-value problems and

their symmetries, etc. The other efforts in this direction are understanding the geometric structure of discrete mechanics and its link with similar attempts in the physics and computational mechanics literatures and investigating the rigorous continuum limits of defective crystals.

DR JUDITH CROSTON, THE OPEN UNIVERSITY

The Open University

Dr Judith Croston is currently a Senior Lecturer in the School of Physical Sciences at the Open University, UK. She obtained her PhD in the astrophysics of relativistic jets and their galaxy environments from the University of Bristol (UK) in 2004, and has previously held positions at the University of Cambridge, Southampton and Hertfordshire in the UK, as well as with the Commission d'Energie Atomique, France. Her research interests include the physics of extragalactic jets, galaxy evolution and large-scale structure, high-energy astrophysics, and next-generation observational facilities at radio and X-ray wavelengths, and she has published over 100 articles in the primary astrophysics literature. Dr Croston is a member of the science team for the European Space Agency's future Athena X-ray Observatory, and currently leads a research group funded by the UKRI STFC with two main strands of work focusing on exploitation of the LOFAR extragalactic surveys and preparations for the Athena mission.

PROFESSOR SERENA VITI, LEIDEN UNIVERSITY

Universiteit Leiden

Professor Serena Viti is a Professor of Molecular Astrophysics at Leiden Observatory.

I moved to Leiden in 2020 from the Department of Physics and Astronomy at University College London in UK (UCL), where I am also still a member of staff. I obtained my PhD in 1997 from UCL in the area of molecular astrophysics applied to low mass stars. After my PhD I started working in the field of star formation and astrochemistry. After a couple of postdoctoral fellowships in UK and abroad, I went back to UCL with an STFC Advanced Fellowship in 2003; I then became a lecturer and in 2012 a full Professor. From 2016 to 2020 I was the Head of the Astrophysics Group. My research interests span a very wide range of topics but they are all centred around the role of molecules in space, especially in the dense gas of the interstellar medium and star forming regions (see e.g. Holdship & Viti, 2022, A&A, 658, 103). My most recent work concentrates on the interpretation of molecular observations in nearby galaxies, and on devising novel techniques for astrochemistry involving machine learning (see e.g. Holdship et al. 2021, A&A, 653, 76; Viti et al. 2020, MNRAS, 497, 4333). These are the topics of my Advanced ERC which I obtained in 2019. Since 2004 I have supervised over 20 PhD students and over 10 postdoctoral fellows. I have published over 300 refereed articles.

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PROFESSOR VERONICA SANZ, UNIVERSITY OF SUSSEX

Veronica Sanz is Professor of Physics at Sussex as well as visiting researcher at the University of Valencia in Spain.

Particle Physics is the study of the laws governing the smallest building blocks of Nature. It is an exciting and challenging area of Physics, more so thanks to experiments like the LHC which explores the energy frontier in Particle Physics. Particle Physics' aim is to answer questions such as the genesis of our Universe, and what is it made of. To pursue these research goals, theoretical (mathematical) models need to be developed and contrasted with Nature's behaviour in experiments. This comparison often involves the use of sophisticated numerical techniques, such as deep learning (to extract features in complex environments) and Bayesian analyses (to assign probabilities to different hypothesis). Originally from Valencia, Spain, Veronica Sanz has worked at MIT, Harvard, Yale, Boston and Durham universities, besides her hometown university in Valencia. She was a Fulbright fellow at Harvard and Marie Curie fellow at Yale. She has been awarded a Large Hadron Collider-Theory initiative prize for her work on LHC physics. She obtained her first faculty position at York University (Toronto, Canada) in 2008 as Assistant Professor and moved to Sussex in 2013. Prof Sanz is currently engaged in writing a textbook on Beyond the Standard Model, to be published by Cambridge University Press in 2018.

PROFESSOR JOACHIM RADLER, LUDWIG-MAXIMILIANS-UNIVERSITAT MUNCHEN

Joachim O. Rädler is a professor for experimental physics at the Ludwig-Maximilians-University (LMU), and holds the Chair for Soft Condensed Matter. He studied physics at the Friedrich Wilhelms University Bonn, at Cambridge University (UK) and at the Technical University of Munich. In 1993, he received his doctoral degree in biophysics for his work on vesicle adhesion under the guidance of Erich Sackmann. As a post-doctoral fellow during 1993-1996, he studied cationic lipid-DNA complexes with Cyrus Safinya at UC Santa Barbara. Rädler received his habilitation in experimental physics at the Technical University of Munich, where he worked on supported membranes. In 2000, he was appointed senior group leader at the Max Planck Institute for Polymer Research. He was named full professor at LMU in 2001 and became a member of the Center for NanoScience in the same year. From 2008-2011 he held a temporary consulting and teaching position for experimental NanoBio physics at the University College Dublin. He served as spokesperson of the Center for NanoScience at LMU, of the collaborative research center "Nanoagents" (SFB1032) and of various graduate programs. He is author or co-author of over 186 publications on research topics in soft matter and biophysics, physical chemistry, chemical physics, bioengineering and bionanotechnology. His current research focuses on the self-assembly of siRNA and mRNA lipid nanoparticles, the interaction of nanomaterials with living cells, time resolved studies of single cell gene expression and the physics of cell migration.

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DR HELEN WILLCOCK, UNIVERSITY OF LOUGHBOROUGH

Loughborough University

Dr Helen Willcock is a senior lecturer at Loughborough University whose research focusses on the controlled synthesis of well-defined functional polymer particles, for use in biomedical applications including magnetic resonance imaging (MRI) and wound dressings, as well as functional coatings and viscosity modifiers. Her work encompasses smart materials, in which the properties can be controlled by changing an external stimulus and her research demonstrates that the properties of polymeric particles can be tuned using controlled polymerisation techniques. She has published 36 peer reviewed journal articles, 2 patents, and has a H Index of 16. Her research is internationally recognised, and she has been invited to speak at 18 conferences and departmental symposia. https://willcockgroup.wixsite.com/willcock-group/copy-of-current-members