

Monday 12 July 2021 (all timings are British Summer Time)

11:00	Welcome															
Session chair	Serena Cussen															
11:15	PL01	Defect free and water based 2D material inks:from printed electronics to biomedical applications Gibson-Fawcett award winner Cinzia Casiraghi														
12:00	Break Facilitated networking															
	Materials for a changing future			Materials for design and development			Materials for energy			Materials for life						
Session chair	Siddharth Patwardhan			Susan Quinn			David Scanlon			Rachel K. O'Reilly						
12:30	K01	Hot proteins on cool crystals: from crystal growth modulation by ice-binding proteins to bioinspired functional materials Ilja Voets Eindhoven Univeristy, Netherlands			K02	Biomolecule interactions with nanomaterials in the environment John Jeyes award winner Iseult Lynch University of Birmingham, UK			K03	Engineering Electrocatalysts for CO2 Electrolyzers Feng Jiao University of Delaware, USA			K04	Bio-inspired and Sustainable Design: Towards Functional Materials LaShanda Korley University of Delaware, USA		
12:55	O01	Understanding the Role of Parallel Pathways via In Situ Switching of Quantum Interference in Molecular Tunneling Junctions Saurabh Soni University Of Groningen, Netherlands			O05	Antibacterial and Antiviral Chitosan-Based Materials: Chemistry and Biological Activity toward Tackling COVID 19-like Pandemics Zamani Cele Council for Scientific and Industrial Research (CSIR), South Africa			O9	Theory-led design of novel skutterudite thermoelectrics Jonathan Skelton University of Manchester, UK			O13	Glycan-Nanoparticle as Multifunctional Mechanistic Probes for Glycobiology and Virus Infection Dejian Zhou University of Leeds, UK		
13:10	O02	Artificial Synthesis of Conjugated Microporous Polymers: How Solvent Choice Influences Porosity Catherine Mollart Lancaster University, UK			O06	3D printing of photocurable CNTs composites - from the development of initiating system to the production of nanocomposites in bulk and via vat 3D printing Wiktoria Tomal Politechnika Krakowska, Poland			O10	Development of new solid and liquid electrolytes by tailoring the ionic and molecular structure Jenny Pringle Deakin University, Australia			O14	Liquid Phase Electron Microscopy as an Investigative Tool to Probe Pharmaceutical Crystallisation Jennifer Cookman University of Limerick, Ireland		
13:25	O03	Programmed Multiresponsive Hydrogel Assemblies with Light-Tunable Mechanical Properties, Actuation and Fluorescence Brian Saunders University of Manchester, UK			O07	Inspired by Nature: Controlled Condensation of Nucleobases to Functional Materials Janina Kossmann Max Planck Institute of Colloids and Interfaces, Germany			O11	Non-radiative carrier trapping processes at the iodine interstitial in perovskite solar cells Lucy Whalley Northumbria University, UK			O15	Thermal detection of cardiac biomarkers using a molecularly imprinted polymer nanoparticle-based sensor platform Jake McClements Newcastle University, UK		
13:40	O04	Photo-switch Properties of Stilbene and Azobenzene Based Pt(II) Alkynyl complexes Rayya Al Balushi A'Sharqiyah University, Oman			O08	Lignin nanoparticles for sustainable processes and functional materials Mika Sipponen Stockholm University, Sweden			O12	Allovalent substitutions in the sodium superionic conductors Na11+xSn2P1-xMxS12 with M = Sn, Ge Marvin Kraft Department of Inorganic and Analytical Chemistry, University of Münster, Germany			O16	Near-infrared nanotube optical sensors for improved neurochemical sensing Alice Gillen Lawrence Livermore National Laboratory, USA		
13:55	Break Ask the plenary speaker: Goki Eda, Taeghwan Hyeon and Kristina Edström Chairs: Cameron Alexander and Rachel Evans															
Session chair	Cinzia Casiraghi			Ben Pilgrim			Mauro Pasta			Yurii Gun'ko						
14:30					K06	Whither hybrid halide perovskites? Beyond the main group, and beyond optoelectronics Ram Seshadri University of California, USA										
14:55	K05	Reduction of Graphene Oxide: Product and By-product Nirmalya Ballav IISER Pune, India			K07	21st Century Alchemy: making Coinage Metals Look Like Ir and Pt. Stephanie L Kwolek award winner Mark Thompson University of Southern California, USA			K08	Antimony selenide thin film solar cells: current status and challenges Jon Major University of Liverpool, UK			K09	I'm an Influencer- How saRNA Delivery Vehicle Affects Protein Expression and Vaccine Immunogenicity Anna Blakney University of British Columbia, Canada		
15:20	O17	Adsorption of Eu3+ in high-charge micas: Dual functionality as radioactive waste encapsulation and in-situ luminescent sensor Rosa Martín Rodríguez University of Cantabria, Spain			O21	Photocatalytic ZnO Molecular Foams for the degradation of micropollutants. Zachary Warren University of Bath, UK			O25	Development of lead-free metal halide perovskites for photocatalysis Lorenzo Malavasi University of Pavia, Italy			O29	Multivalent Affinity Profiling: Flu Virus Detection on Surface Gradient Sensors Jurriaan Huskens University of Twente, Netherlands		

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10:30	Coffee session for researchers with caring responsibilities - Launching the Recharge Network					
Session chair	Cinzia Casiraghi					
11:00	PL02	Engineering van der Waals semiconductors for photonics Goki Eda National University of Singapore, Singapore				
11:45	Break					
	Materials for a changing future		Materials for design and development		Materials for energy	Materials for life
Session chair	Nirmalya Ballav		Iseult Lynch		Serena Cussen	Cameron Alexander
12:15	K10	High-throughput computational screening for MOF materials discovery: finding a needle in a haystack Peyman Moghadam University of Sheffield, UK	K11	Nanostructure analysis in real space: PDF studies of nanoparticle chemistry Kirsten Jensen University of Copenhagen, Denmark	K12	On the influence of structural disorder in solid ionic conductors and effective transport in solid state batteries Wolfgang Zeier University of Münster, Germany
12:40	O33	Quantum mechanical simulations of 2D materials for unconventional computing and biosensing applications Gabriele Boschetto CNRS-LIRMM/Université de Montpellier, France	O37	Bio-derived carbon dots as the building block for functional composite materials in the application of water purification Zhaoxuan Feng China University of Petroleum (East China), China	O41	α-Bi2Sn2O7: a potential room temperature n-type oxide thermoelectric Warda Rahim University College London, UK
12:55	O34	Effect of pH and Functionalisation of Self-Assembled Naphthalene Diimides for Smart Window Applications Becky Randle University of Glasgow, UK	O38	Designing bioinspired green nanosilicas using statistical and machine learning approaches Siddharth Patwardhan University of Sheffield, UK	O42	Hot-pressed polyelectrolyte complex membranes as monovalent selective alkaline-stable anion-exchange membranes Ameya Krishna B Universiteit Twente, Netherlands
13:10	O35	Computational screening of organic semiconductors: exploring side-group functionalisation and assembly to optimise charge transport in chiral molecules Julia A. Schmidt Imperial College London, UK	O39	Dual Emitting Silica Coated Carbon Dot Probes for DNA Dorottya Krizsan University College Dublin, Ireland	O43	Solvent-free synthesis and electrocatalytic water splitting activity of phosphorus-rich 3d metal phosphides Edward Gillan University of Iowa, USA
13:25	O36	Tetrazines in Stimuli-Responsive Structures Ben Pilgrim University of Nottingham, UK	O40	Antimicrobial Electrospun Nanocomposite Membranes for Water Disinfection. Mark Hunter University of Liverpool, UK	O44	A structural and electrochemical investigation of the framework material Li3Fe(MoO4)3 for application in battery cathodes Jasmin Clough University of Sheffield, UK
13:40	Break Early career activity (30 mins): Careers in chemistry Laura Woodward, Career & Professional Development Adviser RSC					
Session chair	Siddharth Patwardhan					
14:40	PL03	Materials Chemistry in a Refugee Camp Anthony Ryan University of Sheffield, UK				
15:25	Poster session					
16:30	Close of formal sessions					

Wednesday 14 July 2021 (all timings are British Summer Time)						
10:00	Poster session					
Session chair	Susan Quinn					
11:00	PL04	Chemistry for Nano, and Nano for Medicine & Energy Taeghwan Hyeon Seoul National University, South Korea				
11:45	Break Early career activity (30 mins): Transferable skills and how to market yourself effectively Laura Woodward, Career & Professional Development Adviser RSC					
	Materials for a changing future		Materials for design and development		Materials for energy	
Session chair	Cinzia Casiraghi		Gareth Redmond		Rachel Evans	
12:45	K14	Multi-responsive and high-performance 2D materials based opto-electronic devices RSC/SCF Joint Lectureship in Chemical Sciences award winner Paolo Samori Université of Strasbourg and CNRS, France	K15	Materials-related Strategies for Highly Efficient Triboelectric Energy Generators Sohini Kar-Narayan University of Cambridge, UK	K16	Calcium based batteries: lessons learnt and challenges ahead Rosa Palacin Barcelona, CSIC, Spain
13:10	O49	SARA ATRP synthesis of poly(ionic liquid) and weak polyelectrolyte diblock copolymers and their solution properties. Kayla Foley University of Oklahoma, USA	O53	Fractionation of block copolymers for pore size control and reduced dispersity in mesoporous inorganic thin films Alberto Alvarez Fernandez University College London, UK	O57	Classical polymer photocatalysts: a new versatile material class Calum Ferguson Max-Planck Institute for Polymer Research, Germany
13:25	O50	Self-Assembly Around the Clock: A Systems Chemistry Approach to Materials Science Guido Panzarasa ETH Zurich, Switzerland	O54	Melt processing of cellulosic fibres with only water as plasticiser Emile Engel KTH Royal Institute of Technology, Sweden	O58	Oxygen production and storage using hexagonal manganites Alicja Klimkiewicz Shibaura Institute of Technology, Japan
13:40	O51	The Design of Light-Responsive Pickering Emulsions Kieran Richards University of Cambridge, UK	O55	Water catalysed crosslinking in poly(ϵ -caprolactone)/cellulose nanocrystals biocomposites via reactive melt processing Angelica Avella Chalmers University of Technology, Sweden	O59	Metal-Oxo Clusters – Molecular Analogues and Precursors to Photoactive Metal Oxides Sebastian Pike University of Warwick, UK
13:55	O52	Conjugated molecularly imprinted polymers for biological sensing Christina J. Kousseff Queen Mary University of London, UK	O56	How 3D Printed Polymeric Scaffolds Optimize Geometry, Mechanical Stability and Photocatalytic Performance of Nanoparticle-Based Aerogels Murielle Schreck ETH Zurich, Switzerland	O60	Lattice dynamics of Li3N across its superionic transition Gabriel Krenzer Imperial College London, UK
14:10	Break Ask the plenary speaker: Aron Walsh and Molly Shoichet Chairs: Serena Cussen, Susan Quinn and David Scanlon					
Session chair	David Scanlon					
14:45	PL05	Hybrid Halide Perovskites: Semiconductors with a Twist Aron Walsh Imperial College London, UK				
15:30	Poster session					
16:30	Close of formal sessions					
17:00	Quiz and networking (Quiz will be available to download from the menu bar)					

Thursday 15 July 2021 (all timings are British Summer Time)								
	Materials for a changing future		Materials for design and development		Materials for energy	Materials for life		
Session chair	Sohini Kar-Narayan		Rachel Evans		Susan Quinn	Dermot Brougham		
11:00	K18		K19	Molecular Solar Thermal Management Systems Kasper Moth Poulsen <i>Chalmers University of Technology, Sweden</i>	K20	Dye-sensitized photoelectrocatalytic systems for hydrogen evolution and CO2 reduction Elizabeth Gibson <i>Newcastle University, UK</i>	K21	Impairment of Bone Quality by Non-Collagenous Proteins and Strontium Nanomaterials as Potential Osteogenic Therapeutics Alexandra Porter <i>Imperial College London, UK</i>
11:25	O65	A Study of Liquid Crystals formed by Low Molecular Weight Gelators Lisa Thomson <i>University of Glasgow, UK</i>	O69	Temperature-induced liquid crystal microdroplets and templated microparticles in a partially miscible liquid mixture Mehzabin Patel <i>University College London, UK</i>	O73	Supported molten-salt membranes for efficient CO2 separation Greg A. Mutch <i>Newcastle University, UK</i>	O77	Self-shrinking natural polymer-based microgels: assemblage and potential applications Jack Campbell <i>Nottingham Trent University, UK</i>
11:40	O66	Engineering dynamics in porous materials: ultrafast rotational motion at 2K and modulation of porosity by light-triggered molecular switches Jacopo Perego <i>University of Milano-Bicocca, Italy</i>	O70	Porous materials towards CO2 capture and direct calorimetric measurement of adsorption heat. Charl Bezuidenhout <i>University of Milano-Bicocca, Italy</i>	O74	Molecular anodes and cathodes for artificial photosynthesis Roc Matheu <i>Stanford University, USA</i>	O78	Nitric Oxide Releasing Electrospun Nanofiber Membranes for Antimicrobial Skin Tissue Engineering Man Li <i>University of Liverpool, UK</i>
11:55	O67	Metal-Organic Frameworks - Spin Crossover Complexes Hybrid Architectures for Sensing Applications Yuwei Shen <i>ESPCI, France</i>	O71	Ionic Liquid based 3D printable Ionogels for Applications as Electrolytes Alyna Lange <i>University of Potsdam, Germany</i>	O75	Crystal Structures and Local Environments of NASICON-type Na3FeV(PO4)3 and Na4FeV(PO4)3 Positive Electrode Materials for Na-ion Batteries Sunkyu Park <i>University of Picardie Jules Verne, France</i>	O79	Looking behind the scenes - Insights into structure and properties of loaded polymer nanoparticles by (solid-state) NMR spectroscopy Ann-Christin Pöppler <i>University of Würzburg, Germany</i>
12:10	O68	Ammonia capture via an unconventional reversible guest-induced metal-linker bond dynamics in a highly stable Metal-Organic Framework Pengbo Lyu <i>ICGM, Univ. Montpellier, CNRS, ENSCM., France</i>	O72	Colloidal Photonic Crystals: Designed to Yield and Destined to Function Dwaipayan Chakrabarti <i>University of Birmingham, UK</i>	O76	Control of electronic and structural properties through multiple anion enabled superlattice design and synthesis Quinn Gibson <i>University of Liverpool, UK</i>	O80	Nitric oxide donor doped gelatin nanoparticles for the treatment of infections Jenny Aveyard <i>University of Liverpool, UK</i>
12:25	Break Early career activity (30 mins): How to publish with impact Lynn Murphy, Deputy Editor RSC							
Session chair	Peyman Z. Moghadam		Kasper Moth-Poulsen		Aron Walsh	Alexandra Porter		
13:30	K22	Biocompatible Multifunctional Smart Wireless Medical Robots Inside Our Body Metin Sitti <i>Max Planck, Germany</i>	K23	Ionic Conduction in Hexagonal Perovskite Derivatives Abbie McLaughlin <i>University of Aberdeen, UK</i>	K24	Sustainable electrocatalysts based on advanced functional carbons: model systems and bioinspired strategies Paula Colavita <i>Trinity College Dublin, Ireland</i>	K25	Precision polymer nanostructures Corday-Morgan prize winner Rachel O'Reilly <i>University of Birmingham, UK</i>
13:55	O81	Pioneer applications of green-synthesised ZnO using apple derivatives Marta Alves <i>IST, Portugal</i>	O85	Materials Design Concepts for Carbene-Metal-Amides: Planar, Twisted or Tilted Alexander Romanov <i>University of Manchester, UK</i>	O89	Superaerophobic Hydrogels for Gas-Evolving Reactions Jungki Ryu <i>Ulsan National Institute of Science and Technology, South Korea</i>	O93	Bioinspired Nanocomposite Films for Human Comfort Thermal Management George Stiubianu <i>Institute of Macromolecular Chemistry Petru Poni Iasi, Romania</i>
14:10	O82	Hydrothermal synthesis: a green approach toward multifunctional organic and inorganic-organic hybrid materials Hipassia Moura <i>TU Wien, Austria</i>	O86	Reconciling CdSe/ZnS Quantum Dots and Liquid Crystals with Block Copolymer Ligands Miron Bugakov <i>Lomonosov Moscow State University, Russian Federation</i>	O90	Phase stability of the tin monochalcogenides SnS and SnSe: a quasi-harmonic lattice-dynamics study Ioanna Palikara <i>The University of Manchester, UK</i>	O94	Time-programmed release of a drug model from Gelatin based rolled up biocapsules stabilized with Transglutaminase Jihane Mzoughi <i>CNRS IS2M UMR7361, France</i>
14:25	O83	Learning structure-energy relationships for accelerating the prediction of molecular crystal structures Graeme Day <i>University of Southampton, UK</i>	O87	Design and Assembly of Low Dimensional Inorganic Organic Hybrid Lead Halide Perovskites: Novel Semiconductors for Opto-Electronic Applications? Dirk Vanderzande <i>Universiteit Hasselt, Belgium</i>	O91	Pb or not Pb? Control of Structure and Optical Properties in Lead Free Halides for Photovoltaic Applications Robert Palgrave <i>University College London, UK</i>	O95	Polymer particles for biomedical applications Helen Willcock <i>Loughborough University, UK</i>
14:40	O84	Modelling gas diffusion through bioplastics for the advancement of sustainable packaging materials Jasmine Lightfoot <i>University of Bath, UK</i>	O88	Core-shell Nanostructured TiO2-x/CuO for Cyclic Carbonate Photo-generation Jeannie Tan <i>Heriot-Watt University, UK</i>	O92	Computational Modelling of Amorphous Microporous Materials Irene Bechis <i>Imperial College London, UK</i>	O96	Evaluating the Interaction of Nanoparticles with Chemical and Biological Targets Stefan Guldin <i>University College London, UK</i>

14:55	Break Meet the RSC Editors: Join a networking room	
Session chair	Cameron Alexander	
15:30	PL06	Designer Hydrogels Enable Drug Discovery & Delivery Molly Shoichet <i>University of Toronto, Canada</i>
16:15	Closing remarks	