



**Monday 28 March**

11:00	Registration, tea and coffee
11:45	Lunch and online poster session
12:45	<b>Welcome and introductions</b> Fiona Meldrum, <i>Chair of Scientific Committee</i>
12:55	<b>Outline of Discussion format</b> <i>Royal Society of Chemistry Publishing Editors</i>
13:00	<b>Introductory Lecture</b> (Chairs: Fiona Meldrum and Matteo Salvalaglio) Jim de Yoreo <i>Pacific Northwest National Laboratory PNNL, USA</i>
14:00	Break
14:15	<b>Session 1: Understanding crystal nucleation mechanisms: where do we stand?</b> (Session Chairs: Mike Anderson and David Quigley)
14:15	<b>Solvent-mediated isotope effects strongly influence the early stages of calcium carbonate formation: exploring D2O vs H2O in a combined computational and experimental approach</b> Denis Gebauer, Michael King, Jonathan Avaro, Christine Peter, Karin Hauser, <i>Leibniz Universität Hannover, Germany</i>
14:20	<b>Multiple pathways in NaCl homogeneous crystal nucleation</b> Aaron Finney, Matteo Salvalaglio, <i>UCL, UK</i>
14:25	<b>Possible embryo and precursor of crystalline nuclei of calcium carbonate observed by LC-TEM</b> Yuki Kimura*, Hiroyasu Katsuno, Tomoya Yamazaki, <i>Institute of Low Temperature Science, Hokkaido University, Japan</i>
14:30	Discussion
15:45	Afternoon break
16:15	<b>Session 1 cont.: Understanding crystal nucleation mechanisms: where do we stand?</b> (Session Chairs: Mike Anderson and Ghazala Sadiq)
16:15	<b>Nucleation precursors compatible with a single energy barrier: catching the nonclassical culprit</b> Alexander Van Driessche*, Andrew Lauer, Miguel A. Duran-Olivencia, Alejandro Fernandez-Martinez, <i>CNRS - Univ. Grenoble-Alpes, France</i>
16:20	<b>The unexpected dominance of secondary over primary nucleation</b> Joop ter Horst*, Johannes Hoffmann, James Flannigan, Andrew Cashmore, Maria Lucia Briuglia, René Steendam, Charline Gerard, Mark Haw, Jan Sefcik, <i>University of Rouen, France</i>
16:25	<b>Influence of anisotropy on heterogeneous nucleation of gold nanorod assemblies</b> Helmut Cölfen, Ann-Kathrin Göppert, Guillermo Gonzalez, <i>University of Konstanz, Switzerland</i>
16:30	Discussion
17:45	Invited lightning presentations
18:00	Poster session and wine reception
19:30	Close



**Tuesday 29 March**

09:00	<b>Session 1 cont.: Understanding crystal nucleation mechanisms: where do we stand?</b> (Session Chairs: David Quigley and Ghazala Sadiq)
09:00	<b>Mechanism of ice nucleation in liquid water on alkali feldspars</b> <u>Alexei Kiselev</u> , Alice Keinert, Kathrin Deck, Tilia Gädeke, Thomas Leisner, <i>Karlsruhe Institute of Technology, Germany</i>
09:05	<b>A zeolite crystallisation model confirmed by in-situ observation</b> <u>Nick Pellens</u> , Nikolaus Doppelhammer, Karel Asselman, Barbara Thijs, Bernhard Jakoby, Reichel, Erwin K Reichel, Francis Taulelle, Johan Martens, Eric Breynaert, Christine Kirschhock, <i>KU Leuven, Belgium</i>
09:10	<b>Nucleation in sessile saline microdroplets: induction time measurement via deliquescence-recrystallization cycling</b> Romain Grossier, Stephane Veesler, Ruel Cedeno, Mehdi Lagaize, David Nerini, Nadine Candoni, Adrian Flood, <i>CINaM-CNRS Aix-Marseille Université, France</i>
09:15	<b>Studying the impact of pre-exponential factor on templated nucleation</b> <u>Vivek Verma</u> , Hamish Mitchell, Mingxia Guo, B Hodnett, Jerry Heng, <i>University of Limerick, Republic of Ireland</i>
09:20	Discussion
11:00	Morning break
11:30	<b>Session 2: Growing crystals by design</b> (Session Chairs: David Quigley and Ghazala Sadiq)
11:30	<b>The influence of iodide on the solution-phase growth of Cu microplates: a multi-scale theoretical analysis from first principles</b> <u>Kristen Fichthorn</u> , Junseok Kim, <i>Penn State University, USA</i>
11:35	<b>Significance of atomic-scale defects in flexible surfaces on local solvent and ion behaviour</b> Colin Freeman, John Harding, <i>University of Sheffield, UK</i>
11:40	<b>Precrystallization solute assemblies and crystal symmetry</b> Peter Vekilov, Monika Warzecha, Verma Lakshmanji, Rajshree Chakrabarti, Viktor Hadjiev, Alastair Florence, Jeremy Palmer, <i>University of Houston, USA</i>
11:45	Discussion
13:00	Lunch and online poster session
14:30	<b>Session 2 cont.: Growing crystals by design</b> (Session Chairs: Fiona Meldrum and Matteo Salvalaglio)
14:30	<b>Manipulation of amorphous precursors to enhance zeolite nucleation</b> <u>Jeffrey Rimer</u> , Deependra Parmar, Zhiyin Niu, Yu Liang, Heng Dai, <i>University of Houston, USA</i>
14:35	<b>Simulating intergrowth formation in zeolite crystals: impact on habit and functionality</b> <u>Mollie Trueman</u> , Duncan Akporiaye, Michael Anderson, <i>University of Manchester, UK</i>
14:40	Discussion
15:30	Afternoon break



16:00	<b>Session 3: Controlling polymorphism</b> (Session Chairs: Fiona Meldrum and Matteo Salvalaglio)
16:00	<b>Interplay of structural and dynamical heterogeneity in the nucleation mechanism in Ni</b> <i>Jutta Rogal*</i> , Grisell Díaz Leines, Angelos Michaelides, <i>New York University, USA</i>
16:05	<b>Superlattice ordering transitions driven by short-range structure in barium calcium carbonates</b> <i>Michael Whittaker*</i> , Efrat Pri-gal, Asher Schmidt, Derk Joester, <i>Lawrence Berkeley National Laboratory, USA</i>
16:10	<b>On the mechanism of calcium carbonate polymorph selection via confinement</b> <i>Boaz Pokroy</i> , A Katsman, Iryna Polishchuk, <i>Israel Institute of Technology, Israel</i>
16:15	Discussion
17:30	Close of sessions
18:30	Pre-dinner drinks
19:00	Conference dinner



**Wednesday 30 March**

09:00	<b>Session 3 cont.: Controlling polymorphism</b> (Session Chairs: David Quigley and Ghazala Sadiq)
09:00	<b>The role of solvation in proton transfer reactions: implications for predicting salt/co-crystal formation using the <math>\Delta pK_a</math> rule</b> <u>Aurora Cruz-Cabeza</u> , Matteo Lusi, Helen Wheatcroft, Andrew Bond, <i>University of Manchester, UK</i>
09:05	<b>The structural pathway from its solvated molecular state to the solution crystallisation of the polymorphic forms of para amino benzoic acid</b> <u>Kevin Roberts*</u> , Ian Rosbottom, Thomas Turner, Cai Ma, Robert Hammond, Chin Yong, Ilian Todorov, <i>University of Leeds, UK</i>
09:10	<b>On the crystal forms of NDI-C6: annealing and deposition procedures to access elusive polymorphs</b> <u>Lucia Maini</u> , Ines de Oliveira Martins, Enrico Modena, Francesco Marin, <i>Università di Bologna Dipartimenti di Chimica "G. Ciamician", Italy</i>
09:15	Discussion
10:30	Morning break
11:00	<b>Session 4: Learning lessons from nature – the future of biomimetics</b> (Session Chairs: Mike Anderson and Matteo Salvalaglio)
11:00	<b>Occlusion of micron-sized algae cells and synthetic hollow mineral spheres within single crystals</b> <u>Fabio Nudelman</u> , Bartosz Marzec, Jessica Walker, Yasmeen Jhons, Fiona Meldrum, Michael Shaver, <i>University of Edinburgh, UK</i>
11:05	<b>Atomic-scale structures and dynamics at the growing calcite step edges investigated by high-speed frequency modulation atomic force microscopy</b> <u>Takeshi Fukuma*</u> , Kazuki Miyata, Yuta Kawagoe, Naoyuki Miyashita, Tomoki Nakagawa, <i>Kanazawa University, Japan</i>
11:10	Discussion
12:00	<b>Concluding Remarks Lecture</b> (Chairs: Fiona Meldrum and Matteo Salvalaglio) Sally Price <i>University College London, UK</i>
12:40	<b>Presentation of poster prizes and acknowledgements</b> Fiona Meldrum, <i>Chair of Scientific Committee</i>
12:45	Close of meeting and lunch

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author. If the presenting author of your paper has changed since abstract selection please email [events@rsc.org](mailto:events@rsc.org).

Speakers presenting virtually are denoted with an asterisk.