# RNA DELIVERY PRATO 2026

## TUESDAY 1st September

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| **10am** | **Welcome** | | |
| **10.30 am -12.30 pm** | **OPENING SESSION** (Chair: Colin Pouton) | | |
| | 10.30 am | Opening lecture: Norbert Pardi (UPenn, Philadelphia) | mRNA technology: vaccines, therapeutics, barriers and opportunities |
| | 11.30 am | Poster Flash Talks (20 x 3 mins) | |
| **12.30 pm -1.30 pm** | **lunch** | | |
| **1.30 pm - 3.30 pm** | **SESSION 2** (Chair: Gaurav Sahay) | | |
| | 1.30 pm | Robin Shattock (Imperial College, London) | Self-Amplifying RNA: From Molecular Promise to Clinical Performance |
| | 2.10 pm | Sabrina Leslie (University of British Columbia, Vancouver) | Following the arrow of time: single-molecule to single-cell microscopy enables nanomedicine optimization |
| | 2.50 pm | Thomas Preiss (Australian National University, Canberra) | Self Activating mRNA for cell-selective expression |
| **3.30 pm - 4.00 pm** | **afternoon break** | | |
| **4.00 pm - 6.00 pm** | **SESSION 3** (Chair: Yvonne Perrie) | | |
| | 4.00 pm | Zoltan Kis (University of Sheffield, UK) | Continuous RNA production platform process-in-a-box |
| | 4.20 pm | Miffy Cheng (University of British Columbia, Vancouver) | Opportunities and Challenges for Spatiotemporal Regulation of Gene Expression |
| | 4.40 pm | Tim Mercer (University of Queensland, Brisbane) | Single-step synthesis of mRNA medicines |
| | 5.00 pm | Discussion panel: RNA design for durable and selective activity (1hr) | Moderator: Colin Pouton<br>Panel: Robin Shattock, Thomas Preiss, Miffy Cheng, Tim Mercer |
| **6.00 pm - 8.00 pm** | **Welcome reception** | | |

## WEDNESDAY 2nd September

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| **8.00 am -10.00 am** | **SESSION 4** (Chair: Michelle McIntosh) | | |
| | 8.00 am | Audrey Gallud (Astra Zeneca, Sweden) | From Lab to Life: Current Trends and Future Directions in Engineering Scalable LNP Success |
| | 8.30 am | Yvonne Perrie (University of Strathclyde, UK) | From Single Payload to Platform: Broadening the Scope of LNP Delivery |
| | 9.00 am | Owen Fenton (University of North Carolina, Chapel Hill) | Advancing the Design Logic of mRNA Nanomedicines |
| | 9.30 am | Ruifeng Wang (University of Macau) | Artificial intelligence-driven rational design of ionizable lipids for mRNA delivery |
| **10.00 am -10.30 am** | **morning break** | | |
| **10.30 am -12.30 pm** | **SESSION 5** (Chair: Norbert Pardi) | | |
| | 10.30 am | Heinrich Haas (Neovac, UK) | Next generation mRNA nanoparticles for application in vaccination and therapy |
| | 11.10 am | Roy van der Meel (Eindhoven University of Technology) | Apolipoprotein nanoparticle platform technology for RNA delivery to immune cells |
| | 11.50 am | Paula Cevaal (University of Melbourne) | Applications of RNA delivery for therapy of infectious diseases |
| | 12.10 pm | Tony Kelleher (University of New South Wales) | Delivery of antiviral RNA therapeutics to the respiratory tract |
| **12.30 pm -1.30 pm** | **lunch** | | |

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| **1.30 pm - 3.30 pm** | **SESSION 6** (Chair: Pall Thordarson) | | |
| | 1.30 pm | Gaurav Sahay (Oregon State University, USA) | Chasing the Elusive: Rapid Measurement of Endosomal Escape In Vivo |
| | 2.10 pm | Angus Johnston (Monash University, Melbourne) | Investigating the influence of ionisable lipid properties on endosome escape |
| | 2.40 pm | Enrico Mastrobattista (Utrecht University, The Netherlands) | Development of an AI model for predicting endosomal escape and transfection efficiencies of mRNA-LNPs |
| | 3.10 pm | Yuxin Yao (Monash University, Melbourne) | LNP-lipoprotein interactions and their potential impact on biodistribution and PK of mRNA-LNPs |
| **3.30 pm - 4.00 pm** | **afternoon break** | | |
| **4.00 pm - 6.00 pm** | **SESSION 7** (Chair: Ine Lentacker) | | |
| | 4.00 pm | Rein Verbeke (Ghent University, Belgium) | An update on the adjuvant activity in mRNA vaccines |
| | 4.20 pm | Germán Abel Islan (Johannes Gutenberg University, Mainz, Germany) | From Structure to Immunity: Adjuvant-Integrated LNPs for Next-Generation mRNA Vaccines |
| | 4.40 pm | Chantal Pichon (University of Orleans, France) | Innate immune adaptation to mRNA medicines and repeat-dosing constraints |
| | 5.00 pm | Discussion panel: innate immunity, vaccine design, safety and toxicity (1hr) | Moderator: Colin Pouton<br>Panel: Rein Verbeke, German Islan, Chantal Pichon, Dan Peer |
| **7.00 pm - 10.00 pm** | **Conference Dinner at the Cloisters of San Domenico** | | |

## THURSDAY 3rd September

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| **8.00 am -10.00 am** | **SESSION 8** (Chair: Robin Shattock) | | |
| | 8.00 am | Robert Hofmeister (Create Medicines, Boston, USA) | In vivo Programming of the Immune System - Directly in the Body |
| | 8. 40 am | Ine Lentacker (Ghent University, Belgium) | Harnessing Innate Myeloid Cells: Transport Mechanisms and Therapeutic Opportunities in Chronically Inflamed conditions |
| | 9.00 am | Erica Quagliarini (Sapienza University of Rome) | Engineering stealth bionanoarchitectures for efficient nucleic acid delivery |
| | 9.20 am | Jie Tang (Monash University, Melbourne) | Nanoparticle Engineering for Mucosal mRNA Delivery |
| | 9.40 am | Shadabul Haque (Monash University, Melbourne) | Developing clinically relevant pulmonary delivery platforms for antiviral RNA therapeutics |
| **10.00 am -10.30 am** | **morning break** | | |
| **10.30 am -12.30 pm** | **SESSION 9** (Chair: Chantal Pichon) | | |
| | 10.30 am | Lucrezia Caselli (University of Florence) | Lipoprotein Corona Reshapes the Internal Structure of Lipid Nanoparticles |
| | 10.50 am | Miffy Cheng (University of British Columbia, Vancouver) | LNP Phase Separation and Functional Impacts in Gene Delivery |
| | 11.10 am | Markéta Paloncýová (Czech Advanced Technology and Research Institute) | Insight into Lipid Nanoparticle Structure and Function from the Perspective of molecular dynamics simulations |
| | 11.30 am | Ofer Cohen (IIBR, Israel) | mRNA Vaccines Against Bacterial Pathogens: The Role of Antigen Design |
| | 11.50 am | Rongjun Chen (Imperial College London) | A Virus-Inspired Strategy for Enhanced RNA Delivery and Long-Term Room-Temperature Stability |
| | 12.10 am | Piotr Kowalski (University College Cork) | Engineering polymeric nanocarriers for oral and systemic mRNA delivery |
| **12.30 pm -1.30 pm** | **lunch** | | |

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| **1.30 pm - 3.30 pm** | **SESSION 10** (Chair: Sabrina Leslie) | | |
| | 1.30 pm | Brandon Dixon (Georgia Tech, USA) | Lymphatic vessels as a therapeutic target for mRNA delivery with lipid nanoparticles |
| | 2.00 pm | Dan Peer (Tel Aviv University, Israel) | Therapeutic genome editing in cancer: the next frontier |
| | 2.30 pm | Gavin Painter (Victoria University of Wellington, New Zealand) | Next-Generation Malaria Vaccines: Harnessing Intramuscular mRNA–LNPs to Drive Liver Trm Responses |
| | 3.00 pm | Simone Carneiro (LMU Munich) | Optimization of lipid nanoparticles for CRISPR/Cas9 delivery: a strategy for enhanced gene editing in a lung tumor model |
| **3.30 pm - 4.00 pm** | **afternoon break** | | |
| **4.00 pm - 6.00 pm** | **SESSION 11** (Chair: Dan Peer) | | |
| | 4.00 pm | Frank Caruso (University of Melbourne) | Engineering Sticky Nanoparticles for Therapeutic Transport |
| | 4.20 pm | Francesca Baldelli (Politecnico di Milano) | Bio–Nano interactions of fluorinated gene delivery carriers: From Protein Corona Formation to Cellular and Membrane Responses |
| | 4.40 pm | Zahra Rattray (Univerity of Strathclyde, UK) | Shaping the Bio–Nano Interface: Protein Corona Dynamics and Next-Generation Formulation Approaches |
| | 5.00pm | Discussion panel: intracellular trafficking, biodistribution and protein corona (1hr) | Moderator: Dan Peer<br>Panel: Gaurav Sahay, Enrico Mastrobattista, Zahra Rattray, Yuxin Yao |
| **7.00 pm -10.00 pm** | **Networking Dinner at Interludio Il Ristorante** | | |

## FRIDAY 4th September

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| **8.00 am -10.00 am** | **SESSION 12** (Chair: Frank Caruso) | | |
| | 8.00 am | Kieu Lam (Genevant, Vancouver) | Engineering Targeted mRNA Lipid Nanoparticles for Delivery to T Cells and HSPCs for Therapeutic Applications |
| | 8.40 am | Yi Yan Yang (A*STAR, Singapore) | Active cellular targeting of RNA payloads: chemistry, biology, scale-up, and reality |
| | 9.20 am | Pall Thordarson (University of New South Wales, Sydney) | Functionalizing LNP's: What have we learned and what can we (not) learn from other bioconjugation chemistry adventures? |
| | 9.40 am | Moore Chen (Monash University, Melbourne) | Optimisation of LNP targeting by control of ligand orientation |
| **10.00 am -10.30 am** | **morning break** | | |
| **10.30 am -12.30 pm** | **CLOSING SESSION** | | |
| | 10.30am | Discussion panel: targeted LNPs, mechanisms and applications (1hr) | Moderator: Angus Johnston<br>Panel: Yi Yan Yang, Kieu Lam, Moore Chen, Pall Thordarson |
| | 11.30am | Concluding Discussion (1hr) | Moderator: Colin Pouton |
| **12.30 pm -1.30pm** | **lunch and close** | | |

| | RNA Delivery Prato - Poster Blitz - Tuesday 1st September 2026 | | | |
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| 1 | Sanjeevini Babu Reddiar | Monash University | Australia | Development of a Robust LC–MS/MS Method for Quantifying SM-102 in Plasma and Tissues to Support LNP Biodistribution Studies |
| 2 | Baihao Huang | Ghent University | Belgium | Light-Activated Lipid Nanoparticles for Spatially Controlled Nucleic Acid Delivery |
| 3 | Juan Calderon de la Rosa | University of Orléans | France | Optimization and comparative evaluation of the production of targeted lipid nanoparticles using click chemistry and one-pot conjugation approaches |
| 4 | Ofer Cohen | IIBR | Israel | A Single-Dose mRNA-LNP Vaccine Encoding Membrane-Anchored Antigens Provides Robust Protection Against Pneumonic Plague |
| 5 | Anna El-Kalaani | AMC Amsterdam | The Netherlands | Lipid nanoparticles with enhanced endosomal escape improve mRNA delivery to retinal cells |
| 6 | Harriet Graham | University of Strathclyde | UK | Design Rules for Endosomal Escape: How Peptide Sequence Shapes Suitability for Next-Generation Targeted RNA Delivery |
| 7 | Peeter Graham-Vilo | University of New South Wales | Australia | Harnessing Memory T Cells Through Dendritic Cells Via Functionalised Lipid Nanoparticles |
| 8 | Olivia Gray | University of Strathclyde | UK | Investigating the Impact of Biological Interactions on Lipid Nanoparticle Function and RNA delivery efficiency |
| 9 | Celine Hung | Monash University | Australia | Developing Clinically Relevant Pulmonary Delivery Platforms for Antiviral RNA Therapeutics |
| 10 | Bojan Kopilovic | University of Sheffield | UK | Towards real-time quality monitoring of RNA–lipid nanoparticle assembly using soft sensors |
| 11 | Nabila Laroui | University of Orléans | France | Next-generation lipid nanoparticles with mucolytic lipids for mRNAnasal delivery: Toward mucosal vaccination |
| 12 | Sabrina Leslie | University of British Columbia | Canada | Following the arrow of time: single-molecule to single-cell microscopy enables in-depth characterization and optimization of nanomedicines |
| 13 | Erik Olsén | University of British Columbia | Canada | Simultaneous confocal fluorescence and label-free imaging for accessible and quantitative characterization of lipid nanoparticles and structures inside live cells |
| 14 | Markéta Paloncýová | CATRIN | Czech Republic | Insight into Lipid Nanoparticle Structure and Function from the Perspective of molecular dynamics simulations |
| 15 | Panagiota Papadopoulou | NHRF | Greece | Intracellular structural evolution and fate of mRNA-LNPs as observed by Cryo-Electron Microscopy |
| 16 | Tom Payne | Monash University | Australia | Sustained Analgesia by Modulation of Synaptic Vesicle Endocytosis in Nociceptors Using a dCas9 Repression Strategy |
| 17 | Emily Pilkington | Monash University | Australia | Exploring formation and clearance dynamics of clinical and novel mRNA-LNPs |
| 18 | Qing Sun | Ghent University | Belgium | Respiratory delivery of self-amplifying RNA for vaccination against RSV |
| 19 | Serena Renzi | Sapienza University of Rome | Italy | Protein Corona-Driven Design of Lipid Nanoparticles Enables Functional Gene Silencing in the Liver |
| 20 | Rekha Shandre-Mugan | Monash University | Australia | The use of AAV and LNP to achieve highly efficient genome editing in the liver |
| 21 | Ales Strancar | BIA Separations | Slovenia | Surface Effects on mcDNA-LNP Characterization: Implications for Analytical Reliability |