

# MOM 2023 SCHEDULE

## Tuesday, June 20<sup>th</sup>

10:50 *Welcome Note*

### SESSION I Chair: **Petra Schwille**

Tomoaki Matsuura (*ELSI, JP*)

11:00 Constructing artificial cells that can evolve based on the function of membrane proteins

Miho Yanagisawa (*U Tokyo, JP*)

11:25 From cell-size confinement effects on polymer solutions to the physical significance of cell size

11:50 *Session I - Q&A*

### SESSION II Chair: **Andres Jäschke**

Hannes Mutschler (*TU Dortmund, DE*)

Towards a protein-free biology

Philippe Nghe (*ESPCI-PSL, FR*)

12:25 Assessing the probability of autocatalytic RNAs using generative models and high-throughput screening

12:50 *Session II - Q&A*

13:00 Meet the Speakers – Session I & II

13:45 Poster Session I

### SESSION III Chair: **Job Boekhoven**

Filipa L. Sousa (*U Vienna, AT*)

15:00 Retracing the modular evolution of Life by exploring extant genomes

Evan Spruijt (*Radboud U, NL*)

When coacervates meet membranes

15:50 *Session III - Q&A*

### SESSION IV Chair: **Oliver Trapp**

Matthew W. Powner (*UCL, UK*)

16:00 On the unified roots of biological peptides and their spontaneous differentiation

Zoe R. Todd (*U Washington, USA*)

16:25 Growth of prebiotically plausible fatty acid vesicles proceeds in the presence of prebiotic amino acids, dipeptides, sugars, and nucleic acid components

16:50 *Session IV - Q&A*

17:00 Meet the Speakers – Session III & IV

17:45 Poster Session II

18:30 *End*

## Wednesday, June 21<sup>st</sup>

10:55 *Zoom Room Opens*

### SESSION V Chair: **Hannes Mutschler**

Norikazu Ichihashi (*U Tokyo, JP*)

11:00 Development of diversity and ecological complexity in the experimental evolution of an RNA-protein replicator

T-Y. Dora Tang (*MPI-CBG, DE*)

11:25 Peptide-nucleic acid coacervation as a route to primitive compartmentalisation

Tim Lichtenberg (*U Groningen, NL*)

Molten Exoplanets as a Window into the Earliest Earth

12:15 *Session V - Q&A*

### SESSION VI Chair: **Christoph Weber**

Golo Storch (*TU Munich, DE*)

12:30 Molecular Flavins: Catalytic Activity outside Enzymes

Sudha Rajamani (*IISER Pune, IN*)

Tales of select protocellular systems

13:20 *Session VI - Q&A*

13:30 Meet the Speakers – Session V & VI

14:15 Poster Session III

### SESSION VII Chair: **Clemens Richert**

Meng Su (*MRC LMB, UK*)

15:30 The Origin of Genetic Code

Claudia Höbartner (*U Würzburg, DE*)

15:55 RNA catalysis beyond phosphodiester chemistry: RNA methylation catalyzed by a methyltransferase ribozyme

16:20 *Session VII - Q&A*

### SESSION VIII Chair: **Ulrich Gerland**

Jack W. Szostak (*U Chicago, USA*)

16:30 From RNA Copying Chemistry to RNA Replication

Nita Sahai (*U Akron, USA*)

16:55 MuSeCOL: Mineral-Catalyzed Mutualism and Selection from a Complicated Broth in the Origins of Life

17:20 *Session VIII - Q&A*

17:30 Meet the Speakers – Session VII & VIII

18:15 *End*

## INFO

Time zone: UTC+02:00, CEST, CEDT, MEST

Talk slots: 20 min talk + 5 min discussion

Meet the Speaker: Each speaker will be hosted in a separate breakout room

## Thursday, June 22<sup>nd</sup>

10:50 *Zoom Room Opens*

### SESSION IX Chair: **Karen Alim**

Hikaru Yabuta (*Hiroshima U, JP*)

11:00 Organic Matter in the Samples of Asteroid Ryugu

Paul B. Rimmer (*U Cambridge, UK*)

Krebs cycle intermediates as tracers of prebiotic chemistry

11:50 *Session IX - Q&A*

### SESSION X Chair: **Christof Mast**

Philippe Schmitt-Kopplin (*HZM & TU Munich, DE*)

12:00 The molecular atlas of soluble organic matter of meteorites and of Ryugu C-type asteroid parent body

James Attwater (*UCL, UK*)

Open-ended amplification of RNA by a ribozyme

12:50 *Session X - Q&A*

13:00 Meet the Speakers – Session IX & X

13:45 Poster Session IV

### SESSION XI Chair: **William Orsi**

Karen Alim (*TU Munich, DE*)

15:00 Alkaline Vents Recreated in Two Dimensions to Study pH Gradients, Precipitation Morphology and Molecule Accumulation

15:25 Thomas E. Ouldrige (*Imperial College London, UK*)  
Chemically-driven molecular templating

15:50 *Session XI - Q&A*

### SESSION XII Chair: **Bettina Scheu**

David Catling (*U Washington, USA*)

16:00 Expected composition of the atmosphere and surface waters on the early Earth that favored the origin of life

Zachary Cohen (*U Washington, USA*)

16:25 Nonenzymatic RNA assembly, ribozyme activity, and encapsulation by protocell membranes within natural carbonate lakes

Emmanuelle J. Javaux (*U Liège, BE*)

Early traces of life

17:15 *Session XII - Q&A*

17:30 Meet the Speakers – Session XI & XII

18:15 *Goodbye Note*