SCIENTIFIC PROGRAM (first complete version) -- OLDM2023
Palacio Miramar, Donostia-San Sebastian, Basque Country, Spain --- Oct 2-4 (2023)

| TIME / DAY | Monday, Oct 2 | Tuesday, Oct 3 | Wednesday, Oct 4 |
| :---: | :---: | :---: | :---: |
| 8:00-9:00 | Registration \& welcome (krm) |  |  |
| 9:00-10:00 | - Jack Szostak | - Karin Oberg | - Ram Krishnamurthy |
| $\begin{aligned} & 10: 00-10: 30 \\ & 10: 30-11: 00 \end{aligned}$ | - Edoardo Gianni (OC1) <br> - Christof Mast (OC2) | - Grégoire Danger (OC6) <br> - Martina Preiner (OC7) | - Andrés dl Escosura (OC11) <br> - Yannick Geiger (OC12) |
| 11:00-11:30 | Coffee break | Coffee break | Coffee break |
| $\begin{aligned} & 11: 30-12: 15 \\ & 12: 15-12: 45 \\ & 12: 45-13: 00 \end{aligned}$ | - Matthew Powner <br> - Klara Hlouchova (OC3) <br> - Short (2min) poster comm. | - Dora Tang <br> - Anju Tomar (OC8) <br> - Short (2min) poster comm. | - Peter Walde <br> - Nathalie Katsonis (OC13) <br> - Short (2min) poster comm. |
| 13:00-14:30 | Lunch break | Lunch break | Lunch break |
| 14:30-15:30 | - Irene Chen | - Daniel Segré | - Claudia Bonfio |
| $\begin{aligned} & 15: 30-16: 00 \\ & 16: 00-16: 15 \end{aligned}$ | - Antonio Lazcano (OC4) <br> - Short (2min) poster comm. | - Emilie Werner (OC9) <br> - Short (2min) poster comm. | - Nemanja Cvjetan (OC14) <br> - Short (2min) poster comm. |
| 16:15-16:45 | Coffee break | Coffee break | Coffee break |
| $\begin{aligned} & 16: 45-17: 30 \\ & 17: 30-18: 00 \end{aligned}$ | - Joana Xavier <br> - Quoc Phuong Tran (OC5) | - Joseph Moran <br> - Robert Pascal (OC10) | - Sheref Mansy <br> - Alvaro Moreno (OC15) |
| 18:00-18:30 |  |  | Recap \& conclusion (krm) |

KEYNOTES: $45 \mathrm{~min}+15 \mathrm{~min}$ (questions/debate) // Invited: $35 \mathrm{~min}+10 \mathrm{~min}(q / d) / / 0 C: 25 \mathrm{~min}+5 \mathrm{~min}(\mathrm{q} / \mathrm{d})$

## Scientific Program

## Monday, Oct. 2

8:00 - Registration + poster setup (day 1)
8:30 - Welcome by Kepa Ruiz-Mirazo

Early morning session -- Chairperson: Sheref Mansy
9:00- Jack Szostak (Opening Keynote Lecture): Why did biology begin with RNA and not some other genetic material?
10:00 - Edoardo Gianni (Oral Comm. 01): In vitro evolution of ribozymes for selfsynthesis
10:30 - Christof Mast (Oral Comm. 02): Physical non-equilibrium environments as prebiotic selector

## 11:00-Coffee Break

Late morning session -- Chairperson: Joseph Moran
11:30-Matthew Powner (Invited Speaker): On the cyanosulfidic origins of peptides, nucleotides, and metabolism
12:15 - Klara Hlouchova (Oral Comm. 03): Why these amino acids and not others?
12:45 - Short Poster Presentation (7-- 2min each)

13:00 - Lunch Break

Early afternoon session -- Chairperson: Dora Tang
14:30 - Irene Chen (Keynote Lecture): Keeping it together: from protocells to phages
15:30-Antonio Lazcano (Oral Comm. 04): On the nature of cellular genomes before DNA: insights from the RNA virosphere
16:00 - Short Poster Presentation (up to 7 -- 2 min each)

16:15 - Coffee Break

Late afternoon session -- Chairperson: Robert Pascal
16:45 - Joana Xavier (Invited Speaker): The future of autocatalysis in origins research
17:30- Quoc Phuong Tran (Oral Comm. 05): Nonlinear dynamics meet biomolecule synthesis- How feedstocks modulate kinetics and product distributions in a prebiotic autocatalytic reaction
18:00 - Closing + poster pickup (day 1)

## Tuesday, Oct. 3

8:30 - Poster setup (day 2)

## Early morning session -- Chairperson: Peter Walde

9:00 - Karin Oberg (Keynote Lecture): How to make a habitable planet: an astrochemical perspective
10:00 - Grégoire Danger (Oral Comm. 06): Origin and composition of the early Earth's reservoir of exogenous organic matter and its impact on the emergence of prebiotic chemical systems
10:30 - Martina Preiner (Oral Comm. 07): Mineral surfaces as protoenzymes: how to connect cofactors, rock pores and heterogeneous catalysis

## 11:00-Coffee Break

## Late morning session -- Chairperson: Matthew Powner

11:30 - Dora Tang (Invited Speaker): Possible role of coacervates during the origin of life
12:15 - Anju Tomar (Oral Comm. 08): UV-driven reduction of cysteinyl peptides with cyclic disulfide molecules
12:45 - Short Poster Presentation (7-- 2min each)

## 13:00 - Lunch Break

## Early afternoon session -- Chairperson: Daniele De Martino

14:30 - Daniel Segré (Keynote Lecture): Metabolism as memory in the origin of life
15:30 - Emilie Werner (Oral Comm. 09): Metal/ADP complexes promote phosphorylation of ribonucleotides and ribonucleosides
16:00 - Short Poster Presentation (7-- 2min each)

## 16:15 - Coffee Break

Late afternoon session -- Chairperson: Antonio Lazcano
16:45 - Joseph Moran (Invited Speaker): Nonenzymatic metabolic reactions and life's origins
17:30 - Robert Pascal (Oral Comm. 10): On the evolutionary role of metabolism
18:00-Closing + poster pickup (day 2)

## Wednesday, Oct. 4

8:30 - Poster setup (day 3)

## Early morning session -- Chairperson: Juli Peretó

9:00 - Ram Krishnamurthy (Keynote Lecture): Prebiotic Systems Chemistry -Reinventing the chemistries leading to origins of life
10:00-Andrés de la Escosura (Oral Comm. 11): Programming catalytic and replication functions with minimal nucleobase sequences
10:30 - Yannick Geiger (Oral Comm. 12): Chiral selective self-replicators

## 11:00 - Coffee Break

Late morning session -- Chairperson: Rudrarup Bose
11:30 - Peter Walde (Invited Speaker): Iron porphyrins as potentially prebiotic catalysts?
12:15 - Nathalie Katsonis (Oral Comm. 13): Chemical origin of lipids and protocells in the primeval ocean

12:45 - Short Poster Presentation (7-- 2min each)

## 13:00 - Lunch Break

Early afternoon session -- Chairperson: Nino Lauber
14:30 - Claudia Bonfio (ESR Keynote Lecture): Shaping early life: primitive cells, primitive membranes
15:30 - Nemanja Cvjetan (Oral Comm. 14): Investigation of peroxidase-like catalytic activity of ferric heme $b$ in aqueous micellar systems
16:00 - Short Poster Presentation (up to 7 -- 2 min each)

## 16:15 - Coffee Break

Late afternoon session -- Chairperson: Joana Xavier
16:45 - Sheref Mansy (Invited Speaker): Formation, growth, and division of model protocells

17:30-Alvaro Moreno (Oral Comm. 15): On the prebiotic origins of regulation: the problem of minimal metabolic robustness
18:00 - Recapitulation and conclusions -- Kepa Ruiz-Mirazo
18:30-Closure + poster pickup (day 3)

