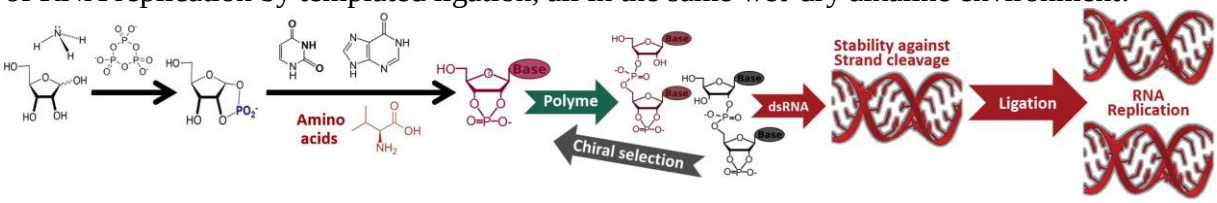
Discover the Origin of RNA and Life on early Earth

Doctoral student (PhD) position in biophysics/biochemistry at AG Braun
LMU Physics Ludwig Maximilian University of Munich

We are looking for a doctoral student (PhD) who wants to join our group to study the synergic effect of phase-separation processes and non-equilibrium physical phenomena at the selective accumulation of the first biopolymers and their constituents in a geochemical environment likely present on our planet at the times when life emerged. In particular, we will be interested in reconstructing a geologically plausible scenario that enables separation of the hydrophilic and hydrophobic nucleotide and oligopeptide components of the prebiotic brine. The selected candidate will investigate the role of phase-separation processes in the emergence of homochirality and the selection of canonical nucleotides from a complex pool containing canonical and non-canonical nucleotides.

The ultimate aim is to construct a series of experiments giving raise from the emergence of activated 2‘,3‘-cyclic phosphate nucleotides towards its polymerization and the establishment of RNA replication by templated ligation, all in the same wet-dry alkaline environment:



The PhD project addresses a highly interdisciplinary topic that allows the selected student to deepen his/her knowledge in various areas, starting from biochemistry through geochemistry up to biophysics. Our laboratory is fully equipped with state-of-the-art instrumentation for RNA and peptide analysis and internationally connected with leading Labs in the field. Funding is provided by Synergy ERC and the SFB Molecular evolution in probiotic environments.

The position is for three years starting from April 1, 2025. We offer a ¾ E13 position.

We require:

- a Master's degree or equivalent in (bio)physics or (bio)chemistry
- good laboratory skills in chemistry and biochemistry
- creative thinking and attention to details
- a high level of proficiency in written and spoken English

We offer:

- innovative research tasks requiring genuine solutions
- excellent professional background
- state-of-the-art instrumentation
- a stimulating environment for professional growth in downtown Munich.

Please, send your application (including a CV, Master’s diploma or equivalent) to Prof. Dieter Braun to the e-mail address dieter.braun@lmu.de.