

<i>Title:</i>	<b>Research Seminar: Origin of Life</b>
<i>Offered by:</i>	<b>International Max Planck Research School for Cell, Developmental and Systems Biology (IMPRS-CellDevoSys)</b>
<i>Lecturer:</i>	<b>Dr. Moritz Kreysing (kreysing@mpi-cbg.de)</b>
<i>Date:</i>	<b>Fortnightly Tuesdays 4:30pm, start 11<sup>th</sup> October 2016</b>
<i>Time:</i>	<b>4:30pm</b>
<i>Location:</i>	<b>SR3, MPI CBG, Pfotenhauer Str. 108, DD</b>
<i>Target audience:</i>	<b>MSc and PhD Students with a background in (bio)physics, mathematics, chemistry, biology and other life sciences, and computer science (we also welcome postdocs, staff and occasional visitors)</b>
<i>No of participants:</i>	<b>15</b>
<i>Registration deadline:</i>	<b>Register beginning of semester</b>
<i>Pre-course work:</i>	<b>none</b>
<i>Course requirements:</i>	<b>Enthusiasm for basic science</b>

**COURSE AIM:**

We are trying to understand the origin of life as a physicochemical problem. For this, will review the idea of a pre-biological world in which spontaneously formed RNA molecules possessed both information coding abilities and enzymatic activity. Specifically, we will discuss requirements of molecular systems to propagate information by replication in a sustainable manner. Relevant to this are kinetics and the thermodynamic fingerprint of RNA reactions in specific physical environments. An interesting, yet not fully understood point here is the relation between thermodynamics and evolution.

**COURSE CONTENT:**

We read classic and current research papers related to the origin of life. This term there will particularly emphasis on peptide RNA interactions.

**COURSE STRUCTURE:**

Participants are expected to contribute to seminar with a presentation.

**METHODS ENCOUNTERED DURING THE COURSE:**

The course in not thought to provide hands-on lab skills. The emphasis will lie on theoretical aspects of classic and cutting-edge research in the field, not on practical methods.

**BACKGROUND LITERATURE FOR ENTHUSIASTS:**

[1] Eigen, M. *From strange simplicity to complex familiarity: A treatise on matter, information, life and thought*. 768 pages, Oxford university press (2013)