

**METHODS OF SCIENTIFIC
REPRESENTATION (MSR) SEMINAR**

SEMINARIO SOBRE MÉTODOS DE
REPRESENTACIÓN CIENTÍFICA (MRC)

MONDAY 17 DECEMBER 2018

Seminar Room A-25

11:30 – 13:30 Kepa Ruiz-Mirazo (IAS-Research Group, EHU/UPV): “**Major Prebiotic Transitions as Stages of protocellular development**”

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Location: Facultad de Filosofía, Universidad Complutense de Madrid
Metro: Ciudad Universitaria
Google map: <https://goo.gl/Kc8kqH>

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ABSTRACT: Major Prebiotic Transitions as Stages of Proto-cellular Development

Kepa Ruiz-Mirazo (IAS-Research Group, EHU/UPV)

The origin of life has been traditionally approached as an evolutionary process in which populations of autocatalytic or template replicating molecules would bring about, via natural selection, the first biological systems. I will present an alternative conception, according to which autocatalysis, self-organization and self-assembly of diverse bio-molecular precursors would be the key to put together integrated prebiotic systems (protocells) that would show open-ended evolution capacities only at the final steps of the whole process.

Major prebiotic transitions will be therefore regarded, all the way from the beginning of chemical biogenesis, as different stages in the development of protocell organization and interactions. From this perspective, complex biopolymers (like RNA, DNA or proteins) should be taken as the end result of the process of origins of life, rather than its promoters. Experimental and theoretical work supporting this general hypothesis for the field will be discussed, highlighting several open questions to be addressed in future investigations.