

Corinna L. Kufner - Photochemistry in the Origins of Life

The chemical assembly of essential biomolecules, such as DNA, RNA, lipids or peptides from simple starting materials in realistic early Earth environments is one of the key challenges in answering the question of how life originated. Solar radiation is often missing from these considerations, even though it was abundant on the surface of the early Earth. In particular, ultraviolet (UV) radiation has the ability to disrupt chemical reactions, but also to open up new reaction pathways. Recent evidence suggests that solar radiation probably played a key role as a selection pressure in the origin of life.

This talk will provide a broad overview of the current challenges in the interdisciplinary field of *origins of life* research and outline the potential of photochemistry in this endeavor.

Short CV

Corinna L. Kufner has been leading the department *Photonic Abiogenesis* at the Leibniz Institute of Photonic Technology in Jena since February 2025. After completing her PhD in physics at LMU Munich in 2018, she worked as a postdoc at Harvard University. Her research focuses on the



influence of sunlight on the origin of life in the universe. In 2025, she was awarded the CZS Nexus and the Leibniz Best Minds Programme.