"BRILIANCE" - BRinging Inorganic carbon to LIfe with Artificial CO2-fixation in a minimal CEll

Initiative: "Leben?" - Ein neuer Blick der Naturwissenschaften auf die grundlegenden Prinzipien des Lebens

(beendet)

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Life is the constant conversion of non-living to the living. In this project the research team aims at re-inventing this fundamental process in life. The group will re-program designer cells (so called 'minimal cells') to use a completely novel, artificial way for the capture and conversion of the inanimate gas CO2. This human-made pathway will serve as an alternative to the natural evolved solutions, such as photosynthesis, that also use CO2 and virtually feed all life on earth. The project will explore new ways of harnessing CO2 as sustainable source for the generation of organic compounds present in our everyday life as food, fuels and pharmaceuticals. Thus, these efforts might open new ways of satisfying future human needs by learning from, copying and re-inventing the fundamental ability of life of transforming inorganic carbon into organic matter.

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