**Session** of Focus Materialchemie – Wednesday, **08.05.2024** 16:00 – @ Seminarraum Lehar 01 (TU-Wien, Getreidemarkt 9, BC, OG. 02, room A46) – join us on ZOOM (ID: 983 0066 2349)

# Metal-organic hybrid photocatalysts for energy and environmental applications

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In the current energy economy, the overuse of fossil fuels as the main energy source has led to major health and environmental damage. Therefore, the need for a facile renewable source is desperately needed. Photocatalysis offers an attractive solution since it can utilize the ample amount of sunlight for the production of solar fuels, such as H2, while also generating pathways for (simultaneous) wastewater treatment. In order to maximize the photocatalytic efficiency, hybrid materials composed of inorganic and organic components linked either electrostatically or covalently, offer an advantageous combination of excellent sunlight absorption (organic part) and charge mobility (inorganic part). In this presentation, I will share my results on using two hybrid materials, namely, metal-organic frameworks (MOFs) and metal-organic chalcogenolate assemblies (MOCHAs) as excellent photocatalysts and discuss their role in photocatalytic wastewater treatment and solar fuel (H2) production, respectively.