Session of "Fokus Materialchemie" **–** Wednesday, **17.12.2025** 14:00
@ Seminarraum BA 05 (TU-Wien, Getreidemarkt 9, BA, OG. 05, BA05G02)
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From Molecular Design to Function: Vitamin B2–Inspired Photosensitisers for Artificial Photosynthesis

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Artificial photosynthesis offers a sustainable route for solar energy conversion into chemical fuels, relying on the development of efficient and tunable functional materials. Presented research is focused on the rational design and synthesis of vitamin B2–inspired photosensitisers as key components of artificial photosynthetic systems. Synthetic chemistry enables precise modification of molecular structures, providing a powerful approach to tailor optical, electronic, and photochemical properties. Understanding the structure–property relationships of these bio-inspired molecules is essential, as subtle structural changes strongly influence light absorption, charge transfer, and overall photosensitiser performance. This design–synthesis–property approach offers valuable guidelines for the development of next-generation materials.