



FKKT

UNIVERZA V LJUBLJANI
Fakulteta za kemijo in kemijsko tehnologijo

VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI / INVITATION TO THE
LECTURE WITHIN DOCTORAL PROGRAMME IN
CHEMICAL SCIENCES

Prof. Dr. Bo Weng

*Institute of Urban Environment,
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z naslovom / title:

**Photocatalysts for solar energy conversion
and environmental remediation**

v sredo, 7. 1. 2026 ob 15. uri
v predavalnici 1 v 1. nadstropju Fakultete za kemijo
in kemijsko tehnologijo, Večna pot 113 /
on Wednesday, 7. 1. 2026 at 15.00
in lecture room 1, 1st floor at the Faculty of
Chemistry and Chemical Technology, Večna pot 113

Vljudno vabljeni! / Kindly invited!

Abstract:

The world is currently facing pressing challenges of energy shortages and environmental pollution, highlighting the urgent demand for green, sustainable, and technologically advanced solutions [1]. Photocatalysis has emerged as a promising approach to address these global issues by efficiently utilizing abundant solar energy to drive both energy conversion and environmental remediation processes [2]. This talk will first introduce the fundamental principles of photocatalysis, including light absorption, charge carrier generation and separation, and surface redox reactions. Particular emphasis will be placed on advanced material design strategies, such as cocatalyst modification and heterostructure construction, that markedly enhance photocatalytic efficiency [3-6]. Representative examples will be presented to demonstrate their applications in solar fuel production and environmental remediation [7]. Overall, this presentation aims to provide attendees with a comprehensive understanding of how rational photocatalyst design bridges fundamental science and practical applications toward sustainable energy and environmental solutions.

References:

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- [2] W. Shang, Y. Li, H. Huang, F. Lai, M.B.J. Roeffaers, B. Weng, Synergistic Redox Reaction for Value-Added Organic Transformation via Dual-Functional Photocatalytic Systems, *ACS Catal.*, 11 (2021) 4613-4632.
- [3] J. Lei, H. Yang, B. Weng, Y.-M. Zheng, S. Chen, P.W. Menezes, S. Meng, Optimization of Adsorption Sites for Selective Hydrobenzoin and Syngas Production in a Single Photoredox Cycle, *Adv. Energy Mater.*, 2500950.
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