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VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI

Prof. dr. Giovanni Palmisano

Department of Chemical Engineering, Khalifa University of Science and Technology, Abu Dhabi

z naslovom:

Advanced photocatalysts for water treatment and antifouling/self-cleaning coatings

v sredo, 19. 5. 2021 ob 15. uri,
preko spletnega orodja Zoom
https://uni-lj-si.zoom.us/j/96767440729
(Meeting ID: 967 6744 0729)

Vljudno vabljeni!

Abstract:

The seminar deals with recent advances in the preparation of photocatalysts in the form of powders and thin films and their use in water remediation and functionalization of membranes, fibers and glass to yield antifouling self-cleaning materials, tested in synthetic water and in seawater. The strategies to obtain activity under visible radiation and coatings stability are covered along with details on applications involving functionalization of membranes and treatment of organic pollutants in water. The used catalysts are TiO_2 doped with nitrogen and/or copper, and coupled with graphene, $WO_3/NiWO_4$, and Bi_2WO_6 encapsulated in organosilica. Mechanistic studies by using *in situ* DRIFT-MS are presented on the degradation of pollutants of environmental concern such as EDTA. New CFD models on photocatalytic microreactors applied to wastewater treatment will be also discussed topics. The seminar will eventually deal with coupling photocatalysis with other advanced oxidation techniques, such as ozonation, under UV-free visible radiation, exploring the use/application of these processes in tertiary treatment of wastewater.