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**Program
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Book of Abstracts**

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Jute post-industrial waste as carbon nitride support in photocatalytic degradation of textile dyes under simulated solar light illumination

Milica V. Carević¹, Tatjana D. Vulić¹, Zoran V. Šaponjić², Zorica D. Mojović³,
Nadica D. Abazović¹, Mirjana I. Čomor¹

¹*Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia, University of Belgrade, Vinča, Belgrade, Serbia,* ²*Institute of General and Physical Chemistry, Belgrade, Serbia,* ³*Department of Catalysis and Chemical Engineering, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*

Urea-based graphitic carbon nitride ($g\text{-C}_3\text{N}_4$) is thermally exfoliated at 500 °C in the air atmosphere, and nano-carbon nitride ($n\text{-C}_3\text{N}_4$) is obtained. While optical properties are assessed using UV/Vis DR spectroscopy, structural and morphological parameters of two materials are obtained using XRD, TEM, and FTIR. Flat-band potentials were determined from Mott-Schottky plots, and combined with corresponding band-gap energies, to estimate conduction and valence band potentials of both materials. Photocatalytic efficacy of both semiconductors in photocatalytic degradation of three textile dyes under simulated solar light irradiation is compared, with the conclusion that $n\text{-C}_3\text{N}_4$ expressed higher photocatalytic ability in the studied systems. Finally, in order to provide reusability of the semiconductors in multiple consecutive photocatalytic cycles, both photocatalysts were drop-coated on the jute-based post industrial waste. Reusability of jute- $n\text{-C}_3\text{N}_4$ material is probed in three consecutive photocatalytic cycles, and the obtained results showed that this material can have a future in solving real-life environmental problems.

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