

From water disinfection by UV to UV-based technologies for water remediation

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All the waters employed for drinking water purposes as well as the treated wastewaters have to be properly disinfected. A disinfection technique that is obtaining more and more interest in Italy is the employment of the ultraviolet radiation (UV), normally achieved at 254 nm by a low-pressure mercury lamp. However, such a type of lamp is also employed for the UV-based processes aimed at removing the organic contaminants and the compounds of emerging concern (CECs), such as pharmaceutical and personal care products. The UV-based processes for water treatment are UV/hydrogen peroxide and photocatalysis employing various kinds of catalysts, also including the nano-sized catalysts supported on suitable materials. Accordingly, the on-going application of Biotec is to enlarge the technological portfolio also including the UV-based processes for organic contaminants removal.