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The contribution of photochemistry and photocatalysis to Green Chemistry

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In his pioneering work at the beginning of the 20th Century, Giacomo Ciamician pointed to the contrast between the harsh conditions under which chemicals were synthesized in the lab and the mild conditions under which the same compounds were synthesized by green plants, with no show of “brute force”. What made the difference was of course solar light and Ciamician devoted 25 years of research to the study of reactions caused by exposing to the sun a variety of compounds. Thus, he can be considered the Father of Green Chemistry and Photochemistry at the same time. A century afterwards a variety of photochemical and photocatalytic methods (including solar and visible light) are available to practitioners of synthesis. The actual “green” character of such reactions is discussed in a number of significant cases, highlighting underrated opportunities and possibly encountered pitfalls. The role of photochemical approach in the future development of chemical industry is briefly outlined.

Biography

Angelo Albini studied chemistry at the University of Pavia, and after Postdoctoral studies in Germany, Canada and Denmark and a period as Professor in Torino University, he returned to Pavia. His research always centered on photochemistry and green chemistry. He published more than 400 papers in reputed journals and is serving as an Editorial Board Member of reputed journals.

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