New Strategies for Molecular Assembly: Unifying Flow, Photoredox Catalysis and Intelligent Synthesis

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Advances in chemical synthesis are increasingly driven by the development of new technologies that expand accessible chemical reactivity while improving the efficiency, safety and scalability of molecular construction. Photocatalysis and continuous-flow chemistry provide a powerful platform for addressing these challenges, offering precise control over reaction conditions, access to otherwise challenging processing environments, and opportunities to integrate reaction discovery with automated optimisation, and scale-up. In this lecture, recent developments from the Polyzos group in photoredox catalysis and continuous-flow methods that enabled the efficient assembly of target molecules will be presented.

