

LIEBIG LECTURESHIP

der Liebig-Vereinigung für Organische Chemie
in der Gesellschaft Deutscher Chemiker



January / February 2027

Prof. Dr. Luca Dell'Amico

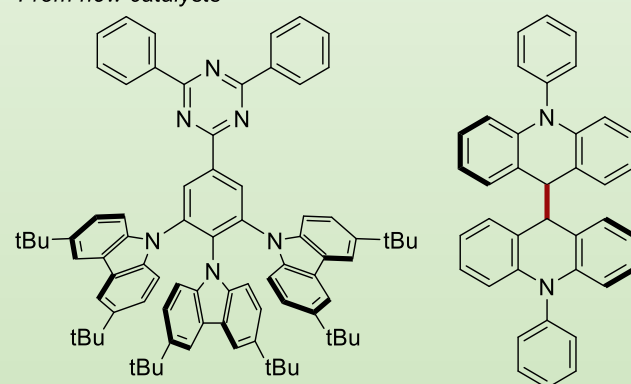
University of Padova/I

Mechanistic Investigations in Photochemistry and Photocatalysis

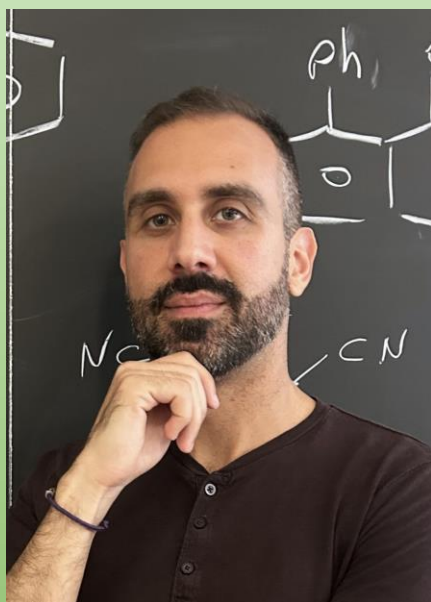
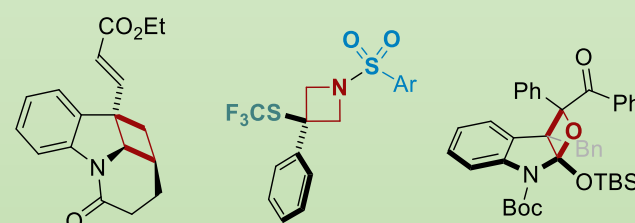
In this presentation, I will focus on two complementary topics from my research group, moving from new photochemical synthetic methods to the design of organic photocatalysts. First, I will discuss how structural modifications of chiral iminium ions unlock their triplet-state reactivity, enabling enantioselective [2+2] photocycloadditions without external photosensitisers.^[1] Second, I will present organic photocatalysts that overcome conventional redox limitations through PCET^[2] or regenerative multiphoton catalysis.^[3] I will also illustrate how tuning organic photosensitisers enables selective radical strain-release reactions, providing densely functionalised azetidines.^[4,5] Throughout, I will highlight how mechanistic investigations guide catalyst design and the discovery of new reactivity.

[1] Nature Chem. 2026, 18, 189–197. [2] J. Am. Chem. Soc. 2023, 145, 1835–1846. [3] Nature Catal. 2026 - ASAP. [4] Nature Catal. 2024, 7, 1223–1231. [5] Angew. Chem. Int. Ed. 2026, 65, e9986925.

From new catalysts



...to new molecules



Location	Day of the week	Date
Freiburg	Monday	January 25 th
Gießen	Tuesday	January 26 th
Göttingen	Wednesday	January 27 th
Darmstadt	Thursday	January 28 th
Aachen	Friday	January 29 th
Wuppertal	Monday	February 1 st
Berlin	Tuesday	February 2 nd
Mainz	Wednesday	February 3 rd

Luca Dell'Amico completed his Ph.D. in 2014 at the University of Parma (Italy) under the supervision of Prof. Zanardi, including a spell with Prof. Jørgensen at Aarhus University (Denmark). In 2014, he was a Marie-Curie COFUND fellow with Prof. Melchiorre at ICIQ (Tarragona, Spain). In 2017, he began his independent career as an assistant professor at the University of Padova. In 2021, he received an ERC St. Grant and in 2022 was promoted associate professor. His research focuses on design and use of novel photocatalysts and elucidating the mechanisms of novel photochemical processes.