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8 **October**
Thursday **2026**

11:00
Seminar Room A+B
Sunstone

Radical intermediates are often considered incompatible with the preservation of stereochemical information because of their high reactivity, conformational freedom, and rapid stereochemical scrambling. This lecture will discuss strategies to impose “memory of chirality” in radical chemistry by using excited-state catalytic intermediates and confined reaction environments. Engineered photoenzymes use the confined space of an active site to control excited-state radical intermediates and preserve stereochemical information during bond formation.¹ This concept provides a blueprint for developing stereospecific radical strategies outside biological systems, where molecular organization, confinement, and direct photoexcitation can impose memory of chirality in radical chemistry.²

(1) Tseliou, V.; Kqiku, L.; Berger, M.; Schiel, F.; Poelarends, G. J.; Melchiorre, P. *Nature* **2024**, 634, 848–854.

(2) This research is supported by the European Research Council (ERC-2023-AdG 101141690 – PHOTOZYME).

Prof. Paolo Melchiorre was born in 1973 in Italy. He studied Chemistry at the University of Bologna (UNIBO, Italy), where he graduated in 1999. He received his PhD in Chemistry in 2003 at UNIBO under the direction of Achille Umani-Ronchi and PG Cozzi.

In 2002, he worked in Denmark with Professor Karl Anker Jørgensen. In 2003, Paolo worked as a postdoctoral associate with Giuseppe Bartoli, at the Industrial Chemistry Faculty at UNIBO. In October 2007, he took a permanent position as an Assistant Professor at UNIBO. In September 2009, Paolo joined the Institute of Chemical Research of Catalonia (ICIQ) in Tarragona as an ICREA Professor and ICIQ Group Leader. In October 2022, Paolo moved back to his Alma Mater, the University of Bologna, where he is presently Professor of Chemistry.

