A Diagonal Approach to the Catalytic Chemical Recycling of CO₂

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Professional career

Thibault Cantat was born in Paris in 1981. He studied chemistry at the École Normale Superieure in Paris, where he worked in the group of Prof. Christian Amatore and Dr. Anny Jutand on studying the mechanism of palladium-catalyzed allylation reactions. He obtained his Ph.D. in Chemistry in 2007, under the supervision of Dr. Nicolas Mézailles and Prof. Pascal Le Floch, at the Ecole Polytechnique, France. Using synergy between theory and experiment, Cantat’s work focused on establishing new routes to carbene complexes for transition metals and lanthanides, using stable geminal dianions and carbenoides. From 2007, he became interested in the unique chemical behaviors of the early actinides and he held a joint Director’s Postdoctoral position at Los Alamos National Laboratory (USA) in the groups of Dr. Jaqueline Kiplinger (experiments) and Dr. P. Jeffrey Hay (theory). He came back to France in 2009 where he started a research group focused on the activation and recycling of CO₂, at CEA Saclay. He was awarded with the Grand Prix Scientifique of the Louis D. Foundation by the Institut de France (2013) and was granted a Starting Grant by the ERC in 2013.

Research Interests

The general topic of his research is the development of novel catalytic reactions for the efficient reduction of CO₂ and biomass. His research interests therefore span organometallic chemistry of the transition metals and the f-elements to homogenous catalysis and computational chemistry.