

CURRICULUM VITÆ

BIO

Clément is currently a CNRS researcher in the Laboratoire de Catalysis, Polymerization, Processes and Materials (CP2M – UMR 5128), in Lyon (France). He earned the Agrégation of Science Physiques in 2009 and graduated in 2010 from the École Normale Supérieure de Lyon (France). He received his Ph.D. degree in 2013 from the University of Grenoble (France) for his work on the coordination chemistry and reactivity of low-valent *f*-element compounds, performed under the supervision of Dr. Marinella Mazzanti. He then joined Prof. John Arnold's group at the University of California, Berkeley (USA) for postdoctoral training where he studied the activation of small molecules by transition metal complexes. His current research interests deal with surface organometallic chemistry and cooperative effects in catalysis. Clément has authored more than 70 scientific papers, tackling problems in inorganic and organometallic chemistry with elements from across the periodic table. He has been laureate of several prestigious research grants, such as the CNRS MOMENTUM in 2017 and the ERC Starting Grant in 2021 and was the recipient of the CNRS bronze medal in 2022 and the French Chemical Society Junior Researcher Award (Coordination Chemistry Division) in 2023.



Main scientific achievements & research lines:

- Design and characterization of highly sensitive heterobimetallic complexes under inert atmosphere.
- Expert in surface organometallic chemistry for the development of well-defined dual-atom catalytic materials.
- Metal–metal cooperative effects in catalysis, including C–H, C–F, CO₂ and Si–H bond activation through original reaction mechanisms.
- Methane valorization under non-oxidative conditions
- Deuterium-labeling strategies for a broad range of organic substrates, including arenes, fluoroarenes, ethers, heterocycles, and alkanes.
- Sustainable hydrosilylation catalysts based on earth-abundant metals such as cobalt and manganese as alternatives to platinum.

Contact:

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CURRENT POSITION

CNRS Permanent Research Scientist – since october 2015

Laboratory of Catalysis, Polymerization, Processes and Material (CP2M)

UMR 5128 CNRS / UCBL / CPE-Lyon, Université de Lyon (France).

ACADEMIC TRAINING

- **2013-2015** **Post-doctoral training** – group of **Pr. J. Arnold**
University of California – Berkeley (USA).
Synthesis of metal complexes involving early and late transition metals aiming at discovering new modes of reactivity with small molecules.
- **2010-2013** **PhD in Inorganic and Bio-Inorganic Chemistry** – supervisor **Dr M. Mazzanti**
Laboratory of Ions Recognition and Coordination Chemistry,
INAC, CEA-Grenoble / Université Joseph Fourier (France).
Design and reactivity of mono and polymetallic complexes of low-valent f-elements
- **2010** **Master of Science**
Summa cum laude – rank = 1st/22
École Normale Supérieure de Lyon (France).
- **2009** **Agrégation in Physical Sciences**
Rank: 2nd/579
- **2008** **Research internship (3 months)** – supervisor **Pr. S. Otto**
Department of Chemistry, University of Cambridge (United Kingdom).
Thermodynamically controlled self-replication of a macrocycle in a dynamic combinatorial library.
- **2007** **Bachelor of Science**
École Normale Supérieure de Lyon (France).

Research internship (2 months) – supervisor **Pr. E. Benoist**
Laboratoire de Synthèse et Physico-Chimie de Molécules d'Intérêt Biologique
UMR 5068 – Université Paul Sabatier, Toulouse (France).
Synthesis of bifunctional chelating agents by Click Chemistry.