

Dr Pierre-Adrien PAYARD

French, 30 years old

www.icbms.fr/fr/membre/32-pierre-adrien-pavard.html



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French driving license



Mechanisms: Predicting Tools for Reactions Development

My research is dedicated to the understanding and modeling of complex catalytic systems through a multidisciplinary approach: at the interphase between advanced physicochemical characterization and multi-scale computer modeling. I started my independent career as associate professor at the University of Lyon in 2020 and am currently co-directing a team of five PhD students, one postdoc and several master students. I am passionate about comprehending and overcoming catalytic limitations encountered by synthetic chemists, thus we are involved in numerous collaborations at the national and international level, with academic and industrial partners.

Current Position

Since 2020 **Assistant Professor at Université Claude Bernard Lyon 1**
Institut de Chimie et de Biochimie Moléculaires et Supramoléculaires (ICBMS)
www.icbms.fr/fr/equipe/3-itemm-html

Education

2016-2019 **PhD in Physical Organic Chemistry at Ecole Normale Supérieure**
Under the supervision of Dr L. Grimaud and Prof M. Pera-Titus
Mechanistic Studies of Metal-Catalyzed Reactions: Predicting Tools for Reaction Optimization.
Ecole Normale Supérieure / Université PSL, France / UMI E2P2, Solvay-CNRS, China.
laurence.grimaud@ens.fr peratitum@cardiff.ac.uk raphael.wischert@solvay.com

2016 **“Agrégation de Physique-Chimie” / Master’s Degree in Teaching Science**
Major: Chemistry - Minor: Physics
ENS Paris-Saclay, France

2015 **Master’s Degree in Molecular Chemistry with highest honors**
Sorbonne Université, France.

Master’s Degree in Physical and Molecular Chemistry with highest honors
ENS Paris-Saclay / Université Paris Saclay, France.

Work experience

2019-2020 **Postdoctoral Researcher at ETH Zurich,**
Advisor Prof Dr C. Copéret
Rational Design of Well-Defined Polymetallic Catalysts for Fuel and Energy.
ETH Zurich, Inorganic Chemistry Laboratory, Zurich, Switzerland
ccoperet@inorg.chem.ethz.ch

2015 **Five-month Research Project Ni-Catalyzed Suzuki Coupling: Mechanistic Study**
Supervised by Dr L. Grimaud.
Laboratoire PASTEUR, UMR ENS-CNRS-UPMC, Paris, France

2014 **Six-month Research Project, Lewis-Superacid-Catalyzed Amination of Alcohol**
Supervised by Dr M. Corbet and Dr D. Cartigny
E2P2 lab, UMI Solvay-CNRS, Shanghai, China

Professional skills

Languages	English (fluent, C1), German (Intermediate, A2-B1), French (native speaker), Chinese (basic knowledge), Spanish (basic knowledge)
Computational Skills	Office, Latex, <i>Chemical structure drawing</i> : ChemDraw, <i>Data treatment</i> : Origin, Gnuplot, <i>Quantum Chemistry</i> : Gaussian, Turbomol, ORCA, VASP, CP2K, USPEX, Hyperchem, Spartan, Gaussview, Material Studio, <i>Database</i> : Endnote, <i>basic programming knowledge</i> (<i>bash</i> , <i>perl</i> , <i>python</i> , <i>c</i>).
Experimental Skills	From PhD : Electrochemistry, Kinetic, Mechanisms, Catalysis, Organic and Organometallic Synthesis, NMR (¹ H, ¹³ C, ¹⁹ F, ³¹ P, ¹¹ B), GC/HPLC, EPR. From PostDoc : FTIR, Organometallic Synthesis, Surface Chemistry, XAS, Gas-phase catalytic tests (batch and flow), DFT (molecular and periodic), Ab initio Molecular Dynamic, Machine Learning.

Academic Achievements (see Publications List)

Supervision of Students	2022-2023 1 postdoc, 5 PhD students 2021-2022 3 PhD students, 5 master's students. 2019-2020 1 PhD student, 3 master's students. 2016-2019 3 masters students, 5 undergraduate students.
Congress Planning	French-Chinese conference on Green Chemistry (FC2GChem)
Academic Partners	Dr L. Perrin, Dr J. Vantourout, Prof F. Popowycy (ICBMS, Univ. Lyon 1), Dr R. Jazzar (Univ. California), Dr J.-L. Hazemann (ESRF), Prof C. Copéret (ETH Zurich), Prof O. Eisenstein (Univ. Montpellier), Dr O. Safonova (PSI Villigen), Prof E. Hevia (Univ. Bern), Dr V. Monteil (CPE Lyon), Dr I. Ciofini and Prof C. Adamo (ENSCP, PSL), Prof B. Weckhuysen (Univ. Utrecht), Dr L. Grimaud (ENS Paris), Prof M. Pera-Titus (Cardiff Univ), Prof M. Cascella (Univ. Oslo).
Industrial Partners	Shell (Dr van Bavel), IFPEN (Dr R. Huyghe), Michelin (member of the joint laboratory "ChemistLab"), Solvay (Dr R. Wischert), Janssen (Dr S. Magschal, Dr L. Perego), Bayer (Dr D. Bernier), Elkem (Dr J.-M. Frances).
Prices & distinctions	Nominated "young organic researcher to watch" (#NextGenOrgChem); Oral Communication Award (16 ^{ème} RCO, jury: Prof. C. Bolm and Prof. C. Mazet); PhD Fellowship ENS Paris-Saclay; Ranked 13 th at the Agrégation of Chemistry.
Reviewing activities	JACS, JACS Au, ACS Catal., Theor. Chem. Acc., Top. Catal., Molecules.

Research Fundings

2023-2027 Michelin, postdoc fellowship and 50 k€	2021-2022 Univ Lyon 1, 10 k€.
2022 SLS / PSI, SuperXAS, 9 shifts.	2021-2023 Minister for research, PhD Fellowship.
2022-2026 ANR-SNF, Pt-NMR, 70 k€.	2021-2022 GENCI, 5.6 million of CPU h.
2022-2026 Chinese Research Council, PhD Fellowship.	2021-2023 Région ARA, ERC prep. fund, 20 k€
2022-2023 GENCI, 4.5 million of CPU h.	2020-2024 Chinese Research Council, PhD Fellowship
2021-2025 ANR-Michelin, postdoc and 40 k€.	2020-2021 Univ Lyon 1, 10 k€

Teaching Activities (See Teaching Statement)

Since 2020	Lecturer at University of Lyon (Univ Lyon 1 and ENS Lyon)
Since 2021	Member of the jury of the entrance examination to ENS
2019	Member of the Scientific Comity of the IChO 2019
2020-2016	Tutor at Ecole Normale Supérieure

Hobbies

Music: piano, chamber music (piano trio); **Reading**; **Sports**: hiking, biking.