

Homogeneous Metal Catalysis: from Sustainable Transformations to Supramolecular Approaches

Prof. Rafael Gramage-Doria

Institut des Sciences Chimiques de Rennes in the Université of Rennes
(France)

Jueves, 20 de febrero de 2025

12:00 h

Salón de Actos, Edificio Matemáticas (Facultad de
Ciencias)

Conferencia Invitada del Grupo HOCA



Instituto de Síntesis Química y Catálisis Homogénea

Facultad de Ciencias, Universidad de Zaragoza - CSIC
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RAFAEL GRAMAGE-DORIA - CV

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PROFESSIONAL and ACADEMIC CAREER

2019 **Habilitation** for Direction of Research (HDR), University of Rennes.
2015 **CNRS senior researcher** (Chargé de Recherche), University of Rennes.
2014-2015 **Postdoctoral researcher** with Prof. T. Ooi, ITbM-Nagoya University.
2011-2014 **Postdoctoral researcher** with Prof. J. N. H. Reek, University of Amsterdam.
2008-2012 **PhD** in Chemistry, University of Strasbourg
Advisors: Prof. D. Armspach and Dr. D. Matt.
2008 **MSc** in Molecular and Supramolecular Chemistry, University of Strasbourg.
Advisors: Prof. F. Colobert and Dr. F. R. Leroux.
2006-2008 **Ingénieur**, Ecole Européenne de Chimie, Polymères et Matériaux de Strasbourg.
2003-2008 **BSc** in Chemistry, University of Valencia.

MANAGEMENT RESPONSABILITIES

2025 **Facilitator** of the Environmental Footprint Reduction Plan (PREE) at ISCR-UMR6226.
2022 **Nominated member** of the user's council of CRMPO platform from the UAR2025 ScanMAT.
2022 **Nominated member** of the user's council of the Centre de Diffractométrie X (CDIFX) de l'Institut des Sciences Chimiques de Rennes UMR6226.
2021 **Elected member** of the interdisciplinary committee “Gestion de la recherche (CID50)” of the scientific research national committee.
2021 **Elected handicap and work-life balance correspondent** of the scientific research national committee, section 14.
2021 **Elected scientific secretary** of the scientific research national committee, section 14.
2021 **Elected member** of the scientific research national committee, section 14.
2021 **Elected member** for the French Chemical Society – Bretagne & Pays Loire office.
2016 **Group leader** at Organometallic Sustainable Catalysis department of ISCR-UMR6226.

EDITORIAL ACTIVITIES

2025 **Advisory board member** of *ChemCatChem*
2021 **Advisory board member** of *SynOpen* Thieme Chemistry Journals

RESEARCH INTERESTS

Homogeneous, transition metal and supramolecular catalysis, green chemistry: atom- and step-economy, weak interactions, reaction mechanism studies.

KEY NUMBERS

63 articles (8 *Angewandte*, 1 *JACS*, 1 *Chem. Sci.*, 3 *ACS Catal.*, 9 *Chem. Eur. J.*, 3 *Chem. Commun.*, 5 *Catal. Sci. Technol.*, 3 *ChemCatChem*, 2 *Coord. Chem. Rev.*, 2 *Chem. Soc. Rev.*), 4 book chapters (Elsevier, Wiley), 2 proceedings and 2 patents (both European and International extension).
H-index 20, average citation/publication 28, total citations +1,800.
11 keynote and invited lectures, 13 seminars at universities, 20 oral communications and 6 posters.
Current supervision of 2 PhD students, 1 postdoc, 2 MSc and 1 BSc student.
Previous supervision of 3 PhD students, 2 postdocs, 2 research engineers, 17 MSc and 13 BSc students, and 3 visiting (PhD, postdoc, professor).

AWARDS

- SCF junior distinguished member 2025.
- CNRS PEDR award (bonus for excellence in research and training/supervision), 2024-2027.
- GEQO-RSEQ young investigators award, 2024
- SCF-DivCat young researcher award, 2024.
- *Jean-Pierre Sauvage* SCF-DCO young researcher award, 2022
- Emerging Investigator recognition by the RSC journal *Catal. Sci. Technol.* 2021.
- CNRS PEDR award (bonus for excellence in research and training/supervision), 2020-2023.
- Junior Scientists Participation Fellowship 55th Bürgenstock Conference, 2020/2021.

- Young Chemist recognition by *Chem. Eur. J.* 2020.
- European Young Chemist award finalist, 2018.
- Societe Chimique de France young researcher travel award, 2018.
- Division Chimie Coordination young researcher travel award, 2018.
- CNRS PEDR award (bonus for excellence in research and training/supervision), 2016-2019.
- PhD SAUAS award, 2013.
- Bourse Docteur Ingénieur, CNRS - Région Alsace, 2008.
- Erasmus Fellowship, 2006-2008.

FUNDING

- Region Bretagne -Allocations de Recherche Doctorale (60 keur), 2024-2027.
- PhD Ordinary Doctoral Contract Universite Bretagne Occidental (60 keur), 2024-2027.
- Agence Nationale de la Recherche ANR-PRC (500 keur), 2024-2028.
- CNRS innovation projet pré-maturation (150 keur), 2024-2025.
- CNRS Émergence@International (5 keur), 2023.
- MSCA Bienvenu Region Bretagne (hosting postdoc), 2023-2025.
- PhD Ordinary Doctoral Contract College Bretagne (120 keur), 2022-2025.
- Boost-Europe Région Bretagne grant (20 keur), 2022.
- Janssen, research collaboration (7 keur), 2020-2021.
- ISCR Projet inter-équipe local grant (5 keur), 2020.
- College de France, Paris – Programme PAUSE (60 keur, hosting PI), 2020-2023.
- Region Bretagne -Allocations de Recherche Doctorale (45 keur), 2020-2023
- University of Rennes - Défis scientifiques grant (10 keur) 2020.
- Agence Nationale de la Recherche ANR-JCJC (180 keur), 2019-2023.
- Boost-Europe Région Bretagne grant (25 keur), 2018.
- Aide à l'installation scientifique - AIS Rennes Métropole grant (40 keur), 2018.
- Prestige Marie Curie program (15 keur, hosting PI), 2017.
- Stratégie d'attractivité durable - SAD Région Bretagne grant (50 keur), 2017.
- ISCR Projet inter-équipe local grant (4 keur), 2017.
- China Scholarship Council (PhD funding, hosting co-PI with Dr. C. Bruneau), 2016-2019.
- NWO Rubicon Postdoctoral Fellowship (120 keur), 2012-2014.

CONGRESS ORGANIZATION

- Topic Chair and chairman T32 “Chemicals and Fine Chemistry”, 18th International Congress on Catalysis, 14-19 July 2024, Lyon, France (+2000 participants).
- Chairman of session T1 “Molecular catalysis: metal-based catalysts”, 18th International Congress on Catalysis, 19 July 2024, Lyon, France.
- Chairman of session T4, 30th International Conference on Organometallic Chemistry, Agra, India, 15 July, 2024.
- Scientific Days SCF Bretagne Loire, 10-12 June 2024, Logonna-Daoulas, France (+100 participants).
- 1st scientific day, SFP-SCF Bretagne & Loire, 24 May 2023, Rennes, France (+100 participants).
- 4th International GreenCat Symposium, 19-22 April 2022, Rennes, France (+200 participants).
- 3rd International GreenCat Symposium, 23-24 March 2017, Rennes, France (+200 participants).

EVALUATOR

- Reviewer for Nature PG, ACS, RSC, Chemistry Europe, Wiley-VCH, Elsevier.
- Reviewer for call of projects: ACS Petroleum Research Fund, UK RI, ANR, National Science Centre Poland NCN, LabEx "Chimie des Systèmes Complexes", ECOS-NORD, LabEx CHARM3AT, Austrian FWF Funding Agency, CIFRE.
- 20 PhD thesis board (France, Spain, India), regular jury for MSc oral examination at Rennes.

TEACHING

- Cours Magistraux (6 h), Supramolecular Catalysis (M2), University of Rennes, 2023-present
- Travaux Dirigés (36 h) Chemical equilibria (L1 Life Sciences), University of Rennes, 2018-2022.
- Travaux Pratiques (12 h), Chromatography, Ecole Nationale Supérieure de Chimie de Rennes, 2019.
- Travaux Dirigés (12 h) Industrial Chemistry (L2 ChemPhysGeo), University of Rennes, 2018.
- Travaux Pratiques, Chimie General, IUT, University of Strasbourg, 2009-2011.

MEMBERSHIPS & NETWORKS

- Société Chimique de France, SCF.
- Real Sociedad Espanola de Quimica, RSEQ.
- American Chemical Society ACS.
- International Consortium on Eco-conception and renewable resources (INCREASE)
- Laboratoire International Associé (LIA) ChemSusCat with Leibniz-Institut für Katalyse, 2015-2020.
- COST Action CA15106: C-H Activation in Organic Synthesis CHAOS, 2015-2020.

COLLABORATIONS (in brackets number of publications as co-authors)

- Thierry Roisnel (19), Vincent Dorcet (4), Olivier Jeannin (2): X-ray diffraction studies.
- Franck Camerel (2): metal bis-dithiolene complexes for catalysis.
- Jean-François Halet (1), Samia Khalal (2), Albert Poater (5), Rosa Maria Gomila (1), Antonio Frontera (2), Bas de Bruin (1), Andreas W. Ehlers (1), Lonfei Li (1): DFT calculations.
- Mathieu Achard (1): asymmetric catalysis.
- Marielle Blot (1): HPLC analysis.
- Bruno Fabre (1), Gabriel Loget (1), Zakaria Halime (2): electrochemistry and electrocatalysis.
- Sylvain Achelle (1): heterochemistry.
- Thierry Labasque (1): GC gas analysis.
- Sébastien Richeter (1): functionalized metallo-carbene-porphyrins.
- Matthieu Jouffroy (2): Janssen Pharmaceutica, Belgium.

OUTREACH

- Participation in a report news at the Chemical & Engineering News magazine November 2022:
<https://cen.acs.org/synthesis/medicinal-chemistry/2-new-syntheses-lead-elusive/100/i41>
- General public interview at RSC Catalysis Science & Technology Blog:
<https://blogs.rsc.org/cy/2021/09/17/emerging-investigator-series-rafael-gramage-doria/>
- For a general public interview at EuCheMS Liverpool organized by the EYCN European Young Chemist Award, see:
<https://www.youtube.com/watch?v=yVaC84OhqKM> at 0:48 timing.
<https://www.youtube.com/watch?v=maLLElafzYo> at 2:44 timing.
- General public interview on our contribution related to hydrogen evolution with iron catalysts, see:
<https://www.espace-sciences.org/sciences-ouest/359/dossier/de-l-hydrogene-grace-au-soleil>.
- Together with the "Espace communication" of the INC of CNRS we build up a press release for four of our contributions, see:
http://www.cnrs.fr/inc/communication/direct_labos/gramage.htm
<https://inc.cnrs.fr/fr/cnrsinfo/des-catalyseurs-artificiels-qui-imitent-de-mieux-en-mieux-les-enzymes>
<https://www.inc.cnrs.fr/fr/cnrsinfo/vers-une-production-electrolytique-dhydrogene-vert>
<https://www.inc.cnrs.fr/fr/cnrsinfo/catalyse-comment-remplacer-le-palladium-par-des-systemes-plus-verts>