

Curriculum Vitae

Christophe Boisson

Research Director at CNRS
Date of birth: 7 april 1969

Laboratory Catalysis, Polymerization, Processes and Materials

CP2M - UMR 5128 (CNRS - UCBL - CPE Lyon)
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<https://www.cp2m.org/>

Education

2006	Habilitation à Diriger des Recherches from the University Claude Bernard Lyon 1
1993-1996	Ph.D. in Organic Chemistry from the University Paris-Sud (Paris-Saclay)
1992	Master in Molecular Chemistry from the University Montpellier II. First class Honours
1992	Chemical engineer from the "Ecole Nationale Supérieure de Chimie de Montpellier"

Professional Experience

- Since 2019 Director of the joint laboratory **ChemistLab (Michelin/CNRS)**
ChemistLab is a joint laboratory between academic institutions (CNRS, UCBL, CPE, INSA) and the Manufacture Française des Pneumatiques Michelin.
The laboratory of Catalysis, Polymerization, Processes and Materials (UMR 5128), the Institute for Molecular and Supramolecular Chemistry and Biochemistry (UMR 5246) and Michelin have federated via the creation of a joint laboratory, around a research program oriented towards the design of advanced elastomers by polymerization catalysis and meeting the criteria of the Michelin Group's circular economy strategy (Renew, Reduce, Recycle, Reuse).
This interdisciplinary laboratory masters a global chain of competences combining chemistry and reaction engineering to design, synthesize and evaluate the physicochemical and mechanical properties of new elastomers.
- 2016-2019 Director of the Laboratory of Innovation, Scale-up, and Intensification of Polymerization processes (**LabCom CP2M/Activation**)
- 2013-2017 **Group leader** of the team Chemistry and Polymerization Processes at the CP2M (14 researchers and engineers)
- 2008 Research Director (**DR2**), CNRS
- 1996 Researcher (**CRCN**), CNRS
Laboratory for Chemistry and Polymerization Processes (LCPP – now CP2M)

Expert activities and committee member

- Member of Comité National de la Recherche Scientifique (CoNRS 2014-2021)
- Reviewer: Angewandte Chemie International Edition, ACS Catalysis, Macromolecules, Polymer Chemistry, Macromolecular Rapid Communications, Macromolecular Chemistry and Physics
- Expertise: ANRT, ANR, FNRS, ACS Petroleum Research Fund, Qatar National Research Fund, Carnot MICA
- External member of juries: 21 juries of PhDs and 1 jury of HDR

Research collaboration contracts

Contracts with industry

- Management of 40 collaboration contracts with industrial partners
- Main partners: Arkema, Braskem, Ineos, Michelin, Rhodia/Solvay, Total Marketing & Services, Total Petrochemicals Feluy

Valorization of research results

- Sub-licensing agreement with the society Activation
- Assignments of five patents to industrial partners

Public contracts

- *80PRIME2021* of CNRS (PI -TPOelfin - 2021-2024)
- ANR Program (ThermoPESO - PI: N. Duguet at ICBMS - 2019-2023)
- ANR JCJC Program (AEROLEFIN - PI: D. Montarnal – 2017-2020)
- ANR LabCom Program (PI - LISIP 2016-2019)
- FUI REPEAT (<http://www.repeat2.fr/> - 2015-2019)
Partners: Addiplast – Lotus Synthesis – Activation – Hutchinson
- Collaboration with IFPEN (Co-PI -2016-2019)
- ANR Program (Supra PE - PI: F. D'Agosto - 2014-2017)
- ANR jeune chercheur (TRICKY - PI: F. D'Agosto - 2009-2012)
- **Dutch Polymer Institute** (Industry-driven international collaboration platform for pre-competitive research in the field of polymers - <https://www.polymers.eu/>)
- Geocat project (2012-2016) - T. McKenna, V. Monteil, C. Boisson et T. Taniike (JAIST - Japon)
- Site Count Project (2008-2012) - C. Boisson et V. Busico (University of Naples)
- ANR Materials and Processes Program (Sherpa - PI: Eric Roche (Rhodia) - 2008-2012).
Partners: Rhodia, Arkema

Supervision and teaching report

Supervision of students and PhDs

- 31 PhD students have defended their thesis and 3 projects are in progress. Of the 31 PhDs, 22 are working in the world of industrial research, 5 in academic research and 2 in the field of industrial property
- Supervision of 26 researchers and research engineers (post-doctoral students). One in progress
- Supervision of 24 Master students

Participation in teaching

- Responsible for "Polymers" practical work at CPE-Lyon in 4th year - 32h/year
- Courses at the ESCPI at the Master level (2h/an)
- Courses for employees of the petrochemical industry at Master and PhD level: Polyolefin Reaction Engineering (<http://polyolefins.org/people/guest-instructors/dr-christophe-boisson/>)

Scientific Production

Source Web of Science (04/2022): 2878 citations, h-index = 31 (ResearcherID: H-3970-2014). Source Google Scholar : 3763 citations, h = 34.

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- **112 articles** in peer review journals including 3 reviews.
Macromolecules (15), Polym. Chem. (15), Macromol. Chem. Phys. (12), Angew. Chem. Int. Ed. (8), Chem. Commun (5), Progress in Polymer Science (1), J. Am. Chem. Soc (1)

- **3** book chapters
- **3** papers in « **l'Actualité Chimique** », **13** press articles
- **47** patents
- **21** invited international conferences, **11 seminars** in academia and **9** in industry. 60 oral communication and 65 posters

Strengths of the research activities

My main expertise concerns the polymerization catalysis of olefins and conjugated dienes. My three major achievements during my career at CNRS have been:

- The design of activator supports for the preparation of supported molecular catalysts for suspension and gas phase polymerization processes
- The development of functional polyethylenes at the end of chains and the transfer of technology for their production on a kilogram scale by the company Activation
- The discovery of a new family of elastomers called EBR (ethylene butadiene rubber) and the transfer of technology to the Manufacture Française des Pneumatiques Michelin

I also have strong skills in coordination chemistry, olefin oligomerization, radical polymerization of ethylene, ring-opening polymerization of oxiranes and cyclic esters, polycondensation and cationic polymerization in dispersing media.

A rare feature of my research is to combine reaction engineering in my work in chemistry.