

# Renaud NICOLAY

Professor ESPCI Paris – PSL  
[renaud.nicolay@espci.psl.eu](mailto:renaud.nicolay@espci.psl.eu)

ESPCI Paris – PSL  
C3M Laboratory  
10 rue Vauquelin, 75005 Paris, France  
<https://www.c3m.espci.fr>

## Professional Experience

- 2024 – to date **Director** of the *Molecular, Macromolecular Chemistry and Materials* laboratory at ESPCI Paris
- 2019 – 2023 **Group Leader** of the “*Chemistry and Macromolecular Engineering*” team at ESPCI Paris – PSL
- 2018 – to date **Professor** at ESPCI Paris – PSL
- 2010 – 2017 **Assistant/Associate Professor** at ESPCI Paris – PSL
- 2010 **Postdoctoral Researcher** in the group of Prof. Bert (E.W.) Meijer, TU/e, The Netherlands

## Education

- 12/2009 **PhD in Chemistry with Prof. K. Matyjaszewski**, Chemistry Department, Carnegie Mellon University, Pittsburgh, PA, USA
- 10/2008 **PhD in Chemistry and Physical Chemistry of Polymers with Prof. P. Hémero**, Pierre et Marie Curie University, Paris, France

## Research Areas

- Development of synthetic methodologies for macromolecular engineering: thio-polymers, branched polymers, molecular brushes, cyclic and multiblock copolymers, controlled radical polymerization ...
- Development of dynamic covalent reactions
- Vitrimers, responsive and/or self-healing materials
- Rheology modifiers and responsive formulations
- Reactive processing and polymer recycling

## Scientific Production

- 47 publications in peer-reviewed journals (6670 citations, h-index = 31) ; 24 patents  
<https://scholar.google.com/citations?user=KAB-QKoAAAAJ&hl=fr&oi=ao>  
<https://orcid.org/0000-0003-1165-2592>

## 5 Recent Publications

- [Crosslinking Vitrimers after Melt Processing Using Supramolecularly Masked Dynamic Crosslinkers](#) *Macromolecules* **2024**, 57, 8277
- [Improving the Thermomechanical Properties and Processability of Elastomeric Vitrimers Using Thermoreversible Organic Nanofillers](#) *ACS Materials Lett.* **2024**, 6, 877
- [Upcycling Polyolefin Blends into High-Performance Materials by Exploiting Azidotriazine Chemistry Using Reactive Extrusion](#) *J. Am. Chem. Soc.* **2024**, 146, 2673
- [Overcoming the Tradeoff Between Processability and Mechanical Performance of Elastomeric Vitrimers](#) *Adv. Funct. Mater.* **2023**, 33, 2306065
- [High-performance vitrimers from commodity thermoplastics through dioxaborolane metathesis](#) *Science* **2017**, 356, 62

## Award

2014 CNRS Bronze Medal