



ELENA RIGO

Material Scientist specialized in
Polymers Chemistry



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29 years old

With four years of experience in applied research focused on **dispersed media polymerization for coating and adhesive applications, biobased polymers** for two big groups as **Synthomer and Essilor-Luxottica**, I am eager to join an innovation project where I can utilize my **skills in synthesis, formulation, characterization in material and polymer chemistry**.

PROFESSIONAL EXPERIENCES

2025 – Now R&D researcher – post doctoral

CNRS, Lyon (FR) and Essilor-Luxottica, Créteil (FR)

Missions

- Synthesis of a new platform of **PSA adhesive polymers by emulsion radical polymerization**
- **Rheological, mechanical and optical characterization** of adhesive materials respecting international standards

EssilorLuxottica 

2022 – 2025 PhD thesis

ICGM-CNRS, Montpellier (FR) and Synthomer company, Harlow (UK) and Marl (GE)

Missions

- Synthesis and characterization of novel **biobased monomers from new natural raw materials**
- Study of monomers' performance in **solution radical polymerization**
- Formulation of novel biobased polymers by **emulsion polymerization**
- Macromolecular and material characterization of polymers and materials: **reactivity, thermal and physical-chemical properties**
- Industrial study for **coatings applicative tests**: study of material performance respecting international parameters

 

Achievements

- **Industrialization** of three biobased monomers and emulsion polymerization processes to commercial scale and study of their performance in applicative tests

2021 Research Internship

Softmat-CNRS, Toulouse, France



Missions

- Synthesis and formulation of thermosetting materials and recyclable polymers (vitrimers)
- Study of the properties of the material: recycling, reactivity, thermal stability, swelling rate, stress relaxation

2019 Quality Control Technician of olive oil

Olio Carly company, Imperia, Italy



OTHER PROFESSIONAL EXPERIENCES

2025 – 1 month

Monkey-Bay, Malawi
International Volunteering for AfricaAthletics sportive onlus

2021 – 3 months

Vasatokka youth center, Inari, Finland
International Volunteering for European Solidarity Corps

2018- 3 months

London, United Kingdom
Au pair for a family of three children

2014 – 2017

Imperia, Italy
Sportive Coach for track and field club

EDUCATION

2022 – 2025 University of Montpellier

PhD in material chemistry, Montpellier, France

2019 – 2021 University Paul Sabatier

Master of Science in Green Chemistry, Toulouse, France

2016 – 2019 University Nice Sophia- Antipolis

Bachelor of Science in Chemistry, Nice, France

SKILLS

Research

- Material development, synthesis and characterization
 - Proposition and development of innovative, sustainable and **industrial-applicable** formulations
 - Development of **scale-up** procedures for industrial implementation
- Polymer synthesis in **homogeneous** and **heterogeneous** media
 - Kinetic studies
 - Free and Controlled (RAFT) radical polymerizations
 - Respect of industrial specifications
 - Stabilization study and reformulation of industrial procedures
- Polymer and material qualitative-quantitative characterization
 - Molecular characterization: **NMR, FTIR and GC-MS**
 - Macromolecular characterization: **SEC, DSC, ATG**
 - Material characterization: **rheology, viscosity, MFFT, DLS, Zeta-potential, TEM, contact angle, DMA, optical microscopy, surface tension**
- Biobased content, green metrics calculation, LCA, Carbon Footprint

Management

- Direct industrial collaboration with Sustainability Team, HSE, Process Technology, and Manufacturing Functions
- Local Organizer of IPCG-GRS 2025 international congress
 - Schedule, international communication, budget, leadership
- Organize laboratory activities, supervision of teams and trainees
 - Communication skills, manage multiple tasks at the same time

Collective Responsibilities

- PhD student representative in the academic Unit Council
- In charge of the maintenance and monthly training of GC-MS and DLS for the department

Communications

Oral Communications

BPC, Bordeaux (FR), 2026
GRS-IPCG Sète (FR), 2025
APME Catania (IT), 2025
IUPAC-MACRO Warwick (UK), 2024

Posters

IPCG Sète (FR), 2025 
IPCG Kingston (CA), 2023
Club emulsion Paris (FR), 2023 

Publications

E. Rigo, V. Ladmira, S. Caillol, P. Lacroix-Desmazes, Recent advances in radical polymerization of biobased monomers in aqueous dispersed media, *RSC Sustainability*, **2023**, 1, 788-813.

Rigo, E., Totée, C., Ladmira, V., Caillol, S., & Lacroix-Desmazes, P., 4-Vinyl Guaiacol: A Key Intermediate for Biobased Polymers, *Molecules*, **2024**, 29(11), 2507.

A. Stasiuk, A. Millan, **E. Rigo**, M. Destarac, M. Guerre, Enhancing the robustness of thiol-thioester covalent adaptable networks through reversible thiol-Michael masking, *Polym. Chem.*, **2026**, 17, 633-641.

Rigo, E., Semsalira M., Laurent E., Ladmira, V., Caillol, S., & Lacroix-Desmazes, P., PISA-RAFT Emulsion Polymerization of Aromatic Biobased Monomers from 4-Vinyl Guaiacol *Ind. Eng. Chem. Res.* **2026**, 65, 14, 7483-7491.

Patent

(ongoing draft) "Synthesis of biobased polymers in aqueous dispersed media for industrial applications"

SOFT SKILLS

- International collaboration & communication
- Industrial and academia collaboration and communication
- Adaptability
- Autonomy & responsiveness
- Curiosity & creativity
- Resilience
- Flexibility
- IT skills

LANGUAGES

Italian: mother tongue

French: fluent

English: professional

INTERESTS

Sport

Athletics (participation in national and international pole vault competitions), ski, bike, trails, hikes

Nature

Active member of **Surfrider Community**

Cook Italian patisseries

REFERENCES

Damien Montarnal

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