



Larissa Hammer

PhD Candidate

PhD

06/18–today **ITN Marie Skłodowska-Curie project DoDyNet (Double Dynamics for design of new responsive polymer Networks and gels)**, *École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris (ESPCI) and Paris Sciences et Lettres (PSL), France.*

Supervisor: Renaud Nicolaÿ

Subject: "Design and characterization of novel Double Dynamic Networks based on dynamic covalent bonds."

Developing polymeric systems (IPNs, TPEs) that contain two different kinds of cross-links of which at least one is based on a covalent dynamic exchange mechanism, leading to 'vitrimeric' materials. Characterizing material properties such as responsiveness, self-healing ability, shape memory, creep resistance, fatigue resistance, and mechanical strength.

University Education

10/15–11/17 **Master of Science in Chemistry**, *Karlsruhe Institute of Technology (KIT), Germany.*

Grade: 1.3 (highest grade 1.0, lowest grade 5.0), Specialization: Polymer Chemistry

Master's Thesis: "Spirothiopyrans as a Platform for Potential STED Lithography and the Preparation of SCNPs" in the group of Prof. Barner-Kowollik.

Synthesized small molecules and polymers containing spirothiopyran as a photoswitchable moiety. Applied onto surfaces and in photoresists for STED inspired high resolution direct laser writing. Employed spirothiopyran functionalized polymers in the formation of single-chain nano particles.

10/16–01/17 **Research Internship during Master's Course**, *Queensland University of Technology (QUT), Brisbane, Australia.*

"Synthesis of a Profluorescent Nitroxide for Self-Reporting Photorelease from Pyreneacetyl Sulfides". Research in the field of polymeric drug delivery systems. Developed a small molecule approach for a polymeric drug delivery system that is able to report a successful light induced drug release *via* fluorescence.

10/12–10/15 **Bachelor of Science in Chemistry**, *KIT, Germany.*

Grade: 1.1, with distinction

Bachelor's Thesis: Developed new "Debonding on Demand" concepts in polymeric materials in the group of Prof. Barner-Kowollik in cooperation with Ivoclar Vivadent, Liechtenstein.

Synthesized a polymer network that is able to degrade upon external trigger signals such as light or heat.

ESPCI Paris

Laboratoire Chimie Moléculaire, Macromoléculaire, et Matériaux (C3M)

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Publications

- 2019 Patrick Müller, Rouven Müller, **Larissa Hammer**, Christopher Barner-Kowollik, Martin Wegener, and Eva Blasco. STED-Inspired Laser Lithography Based on Photoswitchable Spirothiopyran Moieties. *Chemistry of Materials* **2019**, 31, 6, 1966-1972.

Scholarships

- 2018–today **Member of the Talent Pool of BASF SE.**
- 2014–2017 **Konrad-Adenauer-Foundation**, *prestigious scholarship program for intellectually gifted youth accompanied with a comprehensive seminar program.*
Since 2018: Alumna
- 2013–2014 **Deutschlandstipendium "Scholarship of Germany"**, *in cooperation with BASF SE, accompanied with a membership of the European Talent Pool.*

Internships

- 01/18–04/18 **Industrial Internship**, *BASF SE, Ludwigshafen, Germany.*
Department "Functional Intermediate Polymers & Polyurethanes".
Synthesized novel isocyanate prepolymers for the application in wood binders. Molecular analytics employing methods like NMR, IR, GPC, and TGA. Prepolymer characterization *via* DSC and rheometry. Applied prepolymers as wood binder by test manufacturing of hot pressed wood pellets.
- 07/11 **Industrial Internship**, *Chemetall GmbH, Frankfurt, Germany.*
Insight into research in the departments "Surface Innovation/Organic Coatings" and "Analytic Procedures". Synthesized, prepared and evaluated polymeric coatings.

Language Skills

German	Native Speaker	C2
English	Fluent	C1/C2
French	Good Command	B2

IT Skills

Office	Microsoft Office	Math	OriginPro
Document Preparation	L ^A T _E X	Molecule Editor	Chemdraw

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