



# Fannie LE FLOCH

Scientific mediator and researcher in biopolymers physico-chemistry

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## PROFILE

**Motivated by new challenges**, I am intensely committed to raising awareness of climatic issues in parallel to my research.

I have organized communication **events in sustainable chemistry** and projects in **scientific mediation** for general public, as chemistry is one of **the keys to the green transition**.

## OBJECTIVES

- ☐ Contributing **R&D projects** in green chemistry **internationally**.
- ☐ Development of scientific **outreach media for general audience**.

## SOFT SKILLS

Rigorous - **Challenger** - Creative

Proactive - **Team Spirit**

## LANGUAGES

French : ●●●●●

English : ●●●●○

German : ●●●●○

## WORK EXPERIENCES

**Oct. 2019 - pres.** - Scientific Mediator - Palais de la découverte – Paris  
Interactive presentation and articles in chemistry for general audience

**Oct. 2018 - Feb. 2022** - PhD student - ICMPE-CNRS – Paris  
Design and physico-chemical characterization of **drug nanocarriers, based on biopolymers**, for controlled delivery

**Feb. - Aug. 2017** - R&D scientist assistant - ADOCIA – Lyon  
**Drug formulation** to improve diabetes treatment

**Feb. - Aug. 2016** - R&D Technician - MERCK – Darmstadt 🇩🇪  
Synthesis of **eco-materials** for superhydrophobic textiles


**May - Nov. 2015** - Prod. Dev. Technician - HENKEL - Düsseldorf 🇩🇪  
Enhancement of washing performance for **innovative degradable detergents**

**Sept. 2012 - Sept. 2013** - Language Assistant – Australia 🇦🇺

## SPORTIVE COMMITMENT

**Athletics in competition** - 14 years  
- national competitions - sponsored

## ASSOCIATIVE COMMITMENT FOR CLIMATE CHANGE


Board member for green chemistry division -  French Chemistry Society

- ✓ **Coordination of scientific events for green chemistry** : webinars with academic and industrial actors (5 events in a year - > 100 participants/event) and job fair for young chemists and engaged start-ups
- ✓ **Management of social media** with news in green chemistry : + 2200 followers in a year on LinkedIn
- ✓ **Writing articles « Chemistry & Society »** for the Young Chemists community (6 articles/year)

Facilitator and instructor -  « The Climate Fresk » and  « The Digital Collage »

- ✓ Facilitation of **collaborative workshops, based on IPCC reports**, to raise awareness about climate challenges and trigger action.
- ✓ **Event coordination** for students in university (up to 150 participants/event) and training new facilitators

**Interactive conferences for green solutions**

- ✓ Classroom intervention in Master degree about **challenges in green chemistry**
- ✓ Expert for  Climate Comity to **support their journalists on technical topics** related to green chemistry
- ✓ Presentation with experiments for general public about **plastics, limits of recycling and new processes**

## REFERENCES

**Dr. Belbekhouche – ICMPE**

belbekhouche@icmpe.cnrs.fr

**Dr. Geissler – ADOCIA**

a.geissler@adocia.com

**Dr. Friedrich – MERCK**

r.friedrich@merckgroup.com

## UNIVERSITY EDUCATION

**2018 – pres.** - PhD diploma in physical chemistry of polymers



Chemistry and Material Science Institute of Eastern Paris (ICMPE-CNRS) - University of Paris-Est Créteil

**2013 - 2017** - Engineering and Master dual diploma in polymer science



European school of Chemistry, Polymers and Material science - University of Strasbourg

**2011 - 2012** - Bachelor in Chemistry and Biology



University of Strasbourg

- Honor student -

## SCIENTIFIC PRODUCTION

### POPULARIZED MEDIAS

(the most recent ones)

□ **Article:** « [Jeunes chimistes et création de startup... Pourquoi pas vous ?](#) », *Actualité Chimique*, n°467, **Nov. 2021**

□ **Comics:** « [L'ADN médicament, le chitosan et moi !](#) », Palais de la Découverte, **Oct. 2021**

□ **Video:** Témoignages de chimistes « [Recherche, vulgarisation et écologie](#) », *SCF*, **Sept. 2021**

□ **Article:** « [Les jeunes chimistes face aux enjeux d'une chimie durable](#) », *Actualité Chimique*, n°465, **Sept. 2021**

□ **Video:** « [L'utilisation des nanomatériaux en médecine](#) », Myscience work, **Jul. 2021**

□ **Article:** « [Les nanoparticules : se méfier des idées reçues?](#) », *Actualité Chimique*, n°463, **Jun. 2021**

□ **Article:** « De la chitine au chitosan : les utilisations insoupçonnées des carapaces de crustacés », *Revue Découverte* - n° 432, **Jan.-Mar. 2021**



### PEER-REVIEWED ARTICLES

□ **Submission in process:** **Fannie Le Floch**, Sabrina Belbekhouche, Benjamin Carbonnier. Thiolated chitosan for the elaboration of redox-responsive particles : a proof of concept for intercellular drug release, *Carbohydrate Polymers*

□ **Submission in process:** **Fannie Le Floch**, Michael Kappl, Billel Metz, Clémence Le Cœur, Samia Mahouche, Benjamin Carbonnier, Sabrina Belbekhouche. Multilayer films with controlled redox-responsiveness and stiffness through chitosan thiolation. *Carbohydrate Polymers*

□ Julie Oniszcuk, **Fannie Le Floch**, Ones Mansour, Michael Alimi, Clémence Le Cœur, et al.. Kidney-Targeted drug delivery systems based on tailor-made nanocapsules. *Chemical Engineering Journal*, **2021**, 404, pp.126475.

□ **Fannie Le Floch**, Sabrina Belbekhouche, Julie Oniszcuk, Benjamin Carbonnier. Smart polyelectrolyte multilayer coatings for drug delivery. *Smart nanocontainers* **2020**, 295-314.

□ Sabrina Belbekhouche, Nouredine Bousserhine, Vanessa Alphonse, **Fannie Le Floch**, Youcef Charif Mechiche, et al.. Chitosan based self-assembled nanocapsules as antibacterial agent. *Colloids and Surfaces B: Biointerfaces*, **2019**, 181, pp.158 – 165



### CONFERENCES (the main ones)

□ **Oral accepted :** **Fannie Le Floch** et al.. Design of nanocapsules with controlled physico-chemical properties for therapeutic DNA delivery : an innovative and versatile strategy for gene therapy. International Colloids Conference, **postponed in Jun. 2022**, Lisbon.

□ **Oral accepted :** **Fannie Le Floch** et al.. Chitosan redox-responsive nanocapsules for innovative kidney-targeted therapy approach. *Polymers New Trends in Polymer Science: Health of the Planet, Health of the People*, **postponed in May 2022**, Turin.

□ **Oral:** **Fannie Le Floch** et al.. Polyelectrolyte thiolation for the elaboration of deformable and stimuli-responsive drug nanocarriers through interactions within multilayer film. Journée scientifique ED SIE, **Jun. 2021**, Paris (online).

- Award : best oral communication -

□ **Oral:** **Fannie Le Floch** et al.. Polyelectrolyte thiolation for the elaboration of deformable and stimuli-responsive drug nanocarriers through interactions within multilayer film. *New Challenges in Polyelectrolyte Science*, **Jun. 2021**, Paris (online).

□ **Oral:** **Fannie Le Floch** et al.. Polyelectrolyte thiolation for the elaboration of deformable and stimuli-responsive drug nanocarriers through interactions within multilayer film. International EPNOE Junior Scientist, **Feb. 2021**, Paris (online).

□ **Poster :** **Fannie Le Floch** et al.. Kidney-Targeted Drug Delivery Systems: From Thiolated Chitosan Polyelectrolyte to Layer-by-Layer Redox-Responsive Self-assembly Capsules. International colloquium of GFP, **Nov. 2019**, Mulhouse.