

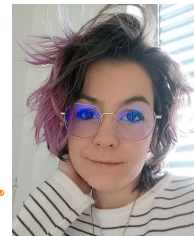
ILARIA OTTONELLI

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PROFESSIONAL EXPERIENCE

Feb 2025: National Scientific Abilitation (**ASN**)

Associate Professor, Sector CHEM-08/a, Technology, Socioeconomics and Regulation of Medicinal and Health and Wellbeing Products

Starting Oct 2023: **Researcher (RUTD-A)**, Te.Far.T.I. / Nanotech Lab, University of Modena and Reggio Emilia (Italy)

PNRR project CN_3 - National Center for Gene Therapy and Drugs based on RNA Technology - Spoke 1 "Genetic Diseases"

Nov 2022 - Sep 2023: **Post-doctoral Research fellow**, University of Modena and Reggio Emilia (Italy)

Investigating Mechanisms and Models Predictive of Accessibility of Therapeutics: development of novel nanomedicines (NMeds) for the delivery of therapeutic molecules to the brain against difficult to treat diseases.

2019 - 2022: **PhD in Nanomedicine**, Clinical and Experimental Medicine PhD School, University of Modena and Reggio Emilia

Co-tutored with the University of Angers, France

Thesis Title: Advanced Nanotechnologies for the Central Nervous System: Design, Optimization, Application, and Scale-up

EDUCATION

2019 - 2022: **PhD** in Clinical and Experimental Medicine - Nanomedicine, University of Modena and Reggio Emilia / double degree w/ University of Angers, FR

2013 - 2018: **Master's degree** in Medicinal

Chemistry, University of Modena and Reggio Emilia: mark: 110/110 with honors

AWARDS AND GRANTS

Travel award (1500 USD) to attend CRS Global 2023 Meeting (Las Vegas, USA)

Grant 2025-1-RD Nanobiotech by Joint Research Center - European Commission - CHANGE: CHolesterol Advanced Nanomedicines for targeted GENE Therapy

RESEARCH FOCUS

Expertise in design and production of lipid and cholesterol-based nanocarriers for central nervous system delivery, with specific focus on blood-brain barrier crossing systems. Extensive experience in cholesterol-mediated brain targeting, relevant to neurodegenerative disorders including Huntington's disease and mitochondrial pathologies. Strong translational orientation toward scalable nanomedicine platforms for neurological diseases.

RECENT RELEVANT PUBLICATIONS

1. Anderlini, A.; Sabelli, M.; et al., **Ottonelli, I.*** Lipidic Nanomedicines Enhance Hinokitiol Activity on Human Primary Macrophages from Ferroportin Disease Patients. *International Journal of Pharmaceutics* 2026, 689, 126487, doi:10.1016/j.ijpharm.2025.126487.
2. **Ottonelli, I.**; et al. Advantages and Challenges of Polymer-Lipid Hybrid Nanoparticles for the Delivery of Biotech Drugs. *Nanomedicine* 2025, doi:10.1080/17435889.2025.2457930.
3. **Ottonelli, I.**; et al. Strategies for Improved pDNA Loading and Protection Using Cationic and Neutral LNPs with Industrial Scalability Potential Using Microfluidic Technology. *IJN* 2024, 19, 4235-4251, doi:10.2147/IJN.S457302.
4. **Ottonelli, I.**; et al. Optimization of an Injectable Hydrogel Depot System for the Controlled Release of Retinal-Targeted Hybrid Nanoparticles. *Pharmaceutics* 2023, 15, 25, doi:10.3390/pharmaceutics15010025.
5. Birolini, G.; Valenza, M.; **Ottonelli, I.**; et al. Chronic Cholesterol Administration to the Brain Supports Complete and Long-Lasting Cognitive and Motor Amelioration in Huntington's Disease. *Pharmacological Research* 2023, 194, doi:10.1016/j.phrs.2023.106823.
6. **Ottonelli, I.**; et al. Microfluidic Technology for the Production of Hybrid Nanomedicines. *Pharmaceutics* 2021, 13, 1495, doi: 10.3390/pharmaceutics13091495
7. Birolini, G.; Valenza, M.; **Ottonelli, I.**; et al. Insights into Kinetics, Release, and Behavioral Effects of Brain-Targeted Hybrid Nanoparticles for Cholesterol Delivery in Huntington's Disease. *Journal of Controlled Release* 2021, 330, 587-598, doi:10.1016/j.jconrel.2020.12.051.

TEACHING AND TUTORING

2025/26 *Preformulation* - Master's Degree in Pharmaceutical Chemistry and Technology

2024/25, 2025/26 *Pharmaceutical Nanotechnology* - Master's Degree in Bioengineering for Innovation in Medicine

2023/24, 2025/26 *Lab of Targeting and Delivery Systems* - Master's Degree in Pharmaceutical Chemistry and Technology

Supervisor for > 10 master's students (thesis)

RESEARCH PRODUCTS

<i>H-Index:</i> 15	>10 Conference talks
<i>Publications:</i> 28	> 15 posters
<i>Citations:</i> > 550	6 first author, 2 corresp.

LANGUAGES

Native Italian, English C1