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 / University of Angers

2013 – 2018: **Master's degree** in Medicinal
Chemistry, University of Modena and Reggio Emilia: mark: 110/110 with honors

Mar - Sep 2018: **Erasmus+** project Award
University of Ulm (Germany), 6 month thesis, Department of Anatomy and Cell Pathology

AWARDS

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

RECENT RELEVANT PUBLICATIONS

1. **Ottonelli, I.**; Adani, E.; Bighinati, A.; Cuoghi, S.; Tosi, G.; Vandelli, M.A.; Ruozi, B.; Marigo, V.; Duskey, J.T. 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.
2. **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. IF 5.4
3. **Ottonelli, I.**; et al. Quantitative Comparison of the Protein Corona of Nanoparticles with Different Matrices. International Journal of Pharmaceutics: X 2022, 4, 100136, doi:10.1016/j.ijpx.2022.100136. IF 5.7
4. **Ottonelli, I.**; et al. Tunneling Nanotubes: A New Target for Nanomedicine? International Journal of Molecular Sciences 2022, 23, 2237, doi:10.3390/ijms23042237. IF 5.6
5. **Ottonelli, I.**; et al. Microfluidic Technology for the Production of Hybrid Nanomedicines. Pharmaceutics 2021, 13, 1495, doi: 10.3390/pharmaceutics13091495. IF 5.4
6. 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. IF 10.8

RESEARCH PRODUCTS

H-Index: 14
Publications: 28
Citations: > 450

>10 Conference talks
> 15 poster presentations
6 first author publications

TEACHING AND TUTORING

Supervisor for > 10 master's students
Tutor for > 5 young research fellows

OTHER DISSEMINATION ACTIVITIES

2023 Orientation with laboratories for high school students
2022 Web interviews for the general public (IMI2 and Leadwire)
2018 Mentor for Erasmus+ students

LANGUAGES

Native Italian, English C1

SKILLS AND KNOWLEDGE

- Drug Delivery Systems: Polymeric, hybrid, lipidic nano- and micro-particles for delivery of small molecules, peptides, proteins, enzymes, and genetic material (pDNA, mRNA, siRNA).
- Techniques: nanoprecipitation, single and double emulsion, spray drying, solvent injection, thin layer rehydration, microfluidics
- Multi-component hydrogels. Rheological analysis
- Synthesis: drug-polymer conjugates and surface modification techniques for targeted NMeds.
- Spectroscopy: UV-Vis, Fluorescence
- Separation Techniques: RP-HPLC, Size Exclusion Chromatography; Gel electrophoresis
- Biological Sample Processing Microtome and Cryostat for fixed animal tissues. Floating and on-slide immunohistological staining
- Microscopy: Optic, Atomic Force, Electron, Fluorescence, and Confocal Microscope