# Daniela Imperio

## PERSONAL DATA

Born in Biella, Italy, on June 11, 1982

## CURRICULUM VITAE ET STUDIORUM

Daniela Imperio graduated in Pharmaceutical Chemistry and Technology (110/110 *cum laude*) in 2007 at the University of Eastern Piedmont (Novara). In 2011 she obtained her PhD in Pharmaceutical and Food Biotechnology under the supervision of Professor Giovenzana G.B. As part of her PhD program, from April 2009 to September 2009 she attended the laboratories of Prof. David Parker at the Department of Chemistry, Durham University, UK. In her experience as an organic chemist, she carried out research activities in the pharmaceutical industry for two years as a Researcher in Chemical Research and Development. She worked as a postdoctoral researcher from 2016 to 2024 at the Organic Chemistry Lab of Professor Panza L. (DSF UPO). Today she is a Tenure-track researcher in organic chemistry at the Dipartimento per lo Sviluppo Sostenibile e la Transizione Ecologica (UPO). She is the author of 33 publications, patents, and a book chapter in the fields of organic and pharmaceutical chemistry.

| **UNIVERSITY CAREER** | |
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| From October 2024 | Researcher RTT in organic chemistry |
| 2016-2024 | Post-doc, DSF-UPO |
| 2007-2010 | PhD student, DSF-UPO |

## FIELDS OF RESEARCH INVESTIGATION

-Organic synthesis and organocatalysis
-Carbohydrates and glycoconjugates
-Boron Neutron Capture Therapy
-Boronic sugar derivatives
-Compounds with immunomodulatory properties

## CURRENT RESEARCH TOPICS

1. Synthesis of oligosaccharides of biological interest, immunogenic glycolipids, synthetic vaccines
2. Novel methods for glycosylation reactions
3. Synthesis of organocatalysts for asymmetric epoxidation
4. Synthesis of sugar analogs containing boron atoms for neutron capture antitumor therapy able to accumulate in cancer cells with different strategies including the use of nanotechnologies and theranostics.

## THE FIVE MOST SIGNIFICANT PUBLICATIONS OF THE CAREER

1. Imperio D, Casali E, Del Grosso E, Caprioglio D, Minassi A, Panza L. “Trifluoromethyl Ketone Galactose Catalyst for Asymmetric Epoxidation: Experimental and Theoretical Model”. *EurJOC*, **2024**, 27, e202301163

2. Confalonieri L, Imperio D, Erhard A, Fallarini S, Compostella F, Del Grosso E, Balcerzyk M, Panza L. “Organotrifluoroborate Sugar Conjugates for a Guided Boron Neutron Capture Therapy: From Synthesis to Positron Emission Tomography”. *ACS Omega*, **2022**, 7(51), 48340-48348

3. Imperio D, Campo F, Panza L. “Exploring glycosyl sulphates as donors for chemical glycosylation” *Org Biomol Chem*. **2021**, *19*, 4930-4936

4. Villani S, Imperio D, Panza L, Confalonieri L, Fallarini S, Aprile S, Del Grosso E. “Exploring the pharmaceutical potential of ammonium organotrifluoroborate functional group: Comprehensive chemical, metabolic, and plasma stability evaluation” *Eur J Med Chem*. **2024** *279*, 116844

5. Imperio D, Del Grosso E, Fallarini S, Lombardi G, Panza L. “Synthesis of Sugar-Boronic-Acid Derivatives. A Class of Potential Agents for Boron Neutron Capture Therapy” *Org. Lett.* **2017**, *19*,