Meet Dr. Allegra Franchino, Thieme Chemistry Journals Awardee 2025!

Dr. Allegra Franchino *was trained in asymmetric catalysis during her BSc and MSc degrees at the University of Milan (Italy) and RWTH Aachen (Germany) and her MSCA PhD studies at the University of Oxford (UK). After a brief stint in industry, she conducted postdoctoral work at ICIQ (Spain) and ETH Zurich (Switzerland). Since September 2022, Allegra has been Assistant Professor in Organic Chemistry at Durham University (UK), where her team is supported by a UKRI Future Leaders Fellowship.*

Thieme: Which field of organic chemistry are you interested in the most and why?

Dr. Franchino: I am most interested in transition-metal catalysis, in particular the development of enantioselective catalytic methods for organic synthesis. I like the variety and complexity of reactions enabled by metals, the creativity that comes from designing new catalysts, and the detective work associated with mechanistic studies. Moreover, transition-metal catalysis is a very powerful tool. Already recognised by a string of Nobel prizes, this field still holds great potential to deliver new modalities for synthesis, especially when combined with recent developments in photo- and electrochemistry. It is also exciting to see the flurry of new research on main-group systems mimicking or complementing the catalytic behaviour of transition metals.

Thieme: Following that, what is the focus of your current research activity?

Dr. Franchino: In my group we merge in original ways organocatalysis and transition-metal catalysis, to create new strategies for site-, diastereo- and enantioselective reactions. We leverage non-covalent interactions in the design of our catalytic systems, especially H-bonding, and investigate their mode of action using kinetic studies, spectroscopic analysis and physical organic chemistry tools. A further research line involves the synthesis of novel phosphine ligands for transition-metal catalysts, to enable new reactivity.

Thieme: What do you think about the modern role and prospects of organic chemistry?

Dr. Franchino: In my opinion, organic chemistry continues to be in a very solid position at present. Our discipline remains essential in the development of medicines, tailored molecules, materials and commodities that underpin our modern life. Tools such as sophisticated computational analysis, data science and automation are becoming increasingly more accessible, and are going to speed up discovery and innovation in the field. I reckon that organic chemists are uniquely positioned to contribute, with their skills and creativity, to interdisciplinary solutions to pressing global challenges such as sustainability, pollution, renewable energies and health research.

Thieme

Thieme: Which difficulties are there for young upcoming chemists in your field? Do you have any tips?

Dr. Franchino: Geographical mobility and parental leave can surely be difficult to navigate for many, especially at a time when researchers are typically starting a family. As long as one is willing to relocate, there are quite a few funding schemes that support early career researchers in organic chemistry (with the level of funding varying greatly from one country to another). After establishing a group, there are new challenges to face, such as recruiting group members and finding one's scientific niche. The first tip I would give is to seek the right mentors. I had the privilege of having excellent mentors at all stages of my education and research career. They have been instrumental in my professional growth, and by experiencing their different styles I learnt a great deal about managing a group. The second tip is to keep following one's passion, in terms of scientific interests. This enables one to remain motivated and focused, despite all challenges (and rejections!) along the way.

Thieme: What is your most important scientific achievement to date and why?

Dr. Franchino: The scientific contribution I am most proud of is the combination of gold catalysts with H-bond donors, such as ureas and squaramides, to achieve enantioselective or silver-free reactions of alkynes. That work, which I led during my time in the Echavarren group, has elicited a great interest in the organic chemistry community, by describing new modalities at the intersection of organo- and transition-metal catalysis. This is where a large part of my group's research also sits.

Thieme: Could you tell us something about yourself outside the lab, such as your hobbies or extra-work interests?

Dr. Franchino: Outside the lab I spend time with my family, read (novels and essays), and do word games, such as crosswords. I have always loved words, literature and languages, which led me to study Latin and ancient Greek in high school. Part of what drew me to chemistry was indeed the use of formulas to represent compounds: an entirely new alphabet I wanted to master, with its grammar of curly arrows. In my free time, I also like playing volleyball. It allows me to disconnect my mind, by focusing completely on the game, and enjoy the magic of teamwork also outside the lab.