

Meet Dr. Stephen D. P. Fielden, Thieme Chemistry Journals Awardee 2025!



Dr. Stephen D. P. Fielden is a Royal Society Dorothy Hodgkin Fellow within the School of Chemistry at the University of Birmingham, UK. He completed his PhD in 2019 at the University of Manchester, UK. He undertook postdoctoral stints at the University of Manchester and the University of Birmingham in the UK from 2019 to 2021 and held a Leverhulme Early Career Fellowship at the University of Birmingham from 2021 to 2025 prior to starting his research group in February 2025.

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

Dr. Fielden: I'm interested in advancing the interface of supramolecular chemistry and polymer nanotechnology. In other words, I like using organic chemistry in unusual settings, for example to control the behavior of nanoparticles.

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

Dr. Fielden: My current research focuses on how to make and control complex networks of nanoparticles using polymers. I plan to make nanoparticle systems that can perform complex tasks by working together.

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

Dr. Fielden: Mastery of organic chemistry gives unlimited creativity. Therefore, organic chemistry is always going to play a central role to developing technologies that require bespoke molecules. I think my research shows that the influence of organic chemistry goes far beyond traditional areas, such as medicinal chemistry or total synthesis. However, research in the core discipline remains incredibly important both for the development of new methodology and for providing an excellent environment for training synthetic chemists.

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

Dr. Fielden: I think the most important attribute for a young chemist is to be interested in the research they do from a fundamental point of view. The funding landscape means we as chemists have to always justify what we do in terms of future impact, usually as an application in sustainability or healthcare. However, history shows such applications tend to be erratic and unpredictable. Therefore, in my opinion, a fascination in learning and discovering new science for its own sake is essential; unexpected uses for this knowledge will follow.

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

Dr. Fielden: During my PhD, I discovered that rotaxanes can be made under kinetic control by performing simple organic transformations in the presence of a crown ether (see *ChemSystemsChem* **2023**, 6, e202300048). This discovery means that previously ‘impossible’ rotaxanes can be made, which in turn has enabled the development of novel molecular machine mechanisms and routes to mechanically chiral systems. This work also inspired me to work with kinetically controlled polymer assemblies (see *J. Am. Chem. Soc.* **2024**, 146, 18781–18796).

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

Dr. Fielden: My partner is about to give birth to our second son. This means that life outside the lab is largely dominated by changing nappies and playing with wooden train sets. I also have a badly behaved poochon dog who occupies any spare moments. Otherwise, I like to drink whisky, cook and attend to the garden. I do dream of being an amateur storm chaser one day, but tornados aren’t very impressive in the UK...
