

Meet Dr. Emma K. Davison, Thieme Chemistry Journals Awardee 2025!



Dr. Emma K. Davison is a Lecturer at the Auckland University of Technology (New Zealand) since 2024. After completing her PhD studies at the University of Auckland in 2018, she continued there for postdoctoral studies until 2021. She then moved to Simon Fraser University (Canada) for additional postdoctoral studies lasting until 2022. She was Co-founder and Director at Cloudburst Biotech from 2023 to 2024 prior to taking up her current position.

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

Dr. Davison: Natural products chemistry. Natural molecules are powerful sources of inspiration for new drugs, but their complex structures can also necessitate the development of new chemical methodologies. I'm frequently in awe of the elegant syntheses developed to access these formidable synthetic targets.

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

Dr. Davison: The medicinal chemistry of (oligo)nucleotides. This field is so exciting since it is not only expected to advance fundamental knowledge across organic and medicinal chemistry and biomedical science, but it also holds incredible promise in advancing human health.

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

Dr. Davison: Organic chemistry has immense potential to revolutionize disease treatments. Innovations like RNA-based therapeutics will require significant advancements in their synthesis and medicinal chemistry strategies, as well as changes to regulatory processes to reach their full potential.

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

Dr. Davison: Young chemists presently face huge competition for funding and job opportunities. Moreover, there is a lot of pressure to balance innovative research with practical applications. My advice is to focus on building a strong network of supportive researchers across several disciplines. Try to seek mentors who can guide you in both your research and career development. In many situations, your network can be your most valuable asset.

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

Dr. Davison: During my postdoctoral position at Simon Fraser University, I worked on developing a scalable protocol for the concise synthesis of nucleoside analogues (*Nature Protocols* **2022**, 17, 2008). The protocol described the three-to-four step synthesis of nucleoside analogues from achiral building blocks. This work was built on a process developed within Prof. Britton's laboratory but aimed at improving the reproducibility and practical utility of the procedures for chemists in both research and industry labs. This process should enable the population of previously inaccessible chemical space for nucleosides, providing opportunity for the development of novel nucleosides as stand-alone therapeutic candidates or as monomers for oligonucleotide therapeutics.

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

Dr. Davison: I love to exercise! During my down time on the weekends and holidays, I really love outdoor activities like hiking, camping and snowboarding. When I'm pushed for time during the week, running and the gym are also great ways to blow off some steam.
