Meet Dr. Anupam Bandyopadhyay, Thieme Chemistry Journals Awardee 2026!



Dr. Anupam Bandyopadhyay *is an assistant professor at the Indian Institute of Technology Ropar. He obtained his PhD from the Indian Institute of Science Education and Research (IISER) Pune (India), and was a postdoctoral researcher at Boston College (USA), the Massachusetts Institute of Technology (USA), and the National Centre for Biological Sciences, part of the Tata Institute of Fundamental Research (India).*

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

Dr. Bandyopadhyay: Sustainable approaches to peptide and protein engineering for drug discovery.
A sustainable, chemoselective platform for peptide and protein modification can revolutionize drug discovery by enabling precise, scalable, and environmentally responsible synthesis of next-generation therapeutics. This approach accelerates translation from bench to bedside, reduces waste, and unlocks tailored biologics to combat antimicrobial resistance, cancer, and complex diseases globally.

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

Dr. Bandyopadhyay: My research group is mainly focusing on the chemoselective preparation of new-generation boronopeptides (linear and cyclic) for the development of antibacterial and anticancer agents. Besides, we are also developing various organic synthetic methods in water that modulate the peptide properties for next-generation catalysis and drug development.

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

Dr. Bandyopadhyay: Of course, organic chemistry has changed the lifestyle of the whole world, from morning toothpaste to before-bed mouthwash. Organic chemistry remains central to innovation, driving advances in drug discovery, sustainable materials, and energy solutions. Future prospects include enabling personalized medicine, circular chemical economies, and scalable solutions to global challenges in health, environment, and technology.

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

Dr. Bandyopadhyay: I personally feel that the upcoming generation lacks strong fundamentals, largely due to insufficiently focused perception, learning, and education. More likely running towards a translational job, finding quick feathers on a cap during courses, in general. There must be an exception.
Young chemistry students often perceive topics such as amino acids, peptides, proteins, and nucleic acids as “biology,” which can lead to hesitation or even anxiety. In many master’s cohorts, over half the students worry about course difficulty and potential impacts on their GPA.
The peptide field, given India's population, is still in a very early phase. In other words, the community is very small, although the industry continues demanding new-generation peptide drug discovery.
In my view, strengthening this field requires a shift from the very beginning of chemical education. Organic chemistry, starting at the +2 and early undergraduate levels, should integrate biological molecules (amino acids, nucleic acids, lipids, and carbohydrates) alongside traditional non-biological examples, giving them equal emphasis in teaching and problem-solving.
However, we still follow a decades-old curriculum that divides biomolecules into separate chapters or courses. Instead, the fundamentals of organic chemistry should be taught through diverse molecular structures and their connections to nature. This integrated perspective can inspire and equip the next generation to compete globally in this field.

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

Dr. Bandyopadhyay: The simplest way to install boronic acid on peptides and proteins, which an undergrad or a novice can learn and do instantly. Further, the development of a completely new concept of capturing bacterial membranes using boron-installed peptides.

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

Dr. Bandyopadhyay: I am deeply passionate about singing and enjoy playing the harmonica and guitar. Being a foodie, I also love cooking. Wherever I go – even to restaurants or conferences – I find a stage to sing. At my institute, which has multiple student clubs, I serve as a faculty advisor to the Board of Cultural Affairs and actively engage with students through music and performances.