

Meet Prof. Pu-Sheng Wang, Thieme Chemistry Journals Awardee 2025!



Prof. Pu-Sheng Wang obtained his PhD (2010–2015) from the University of Science and Technology of China (USTC) and remained there for postdoctoral studies (2015–2018) at the Hefei National Laboratory for Physical Sciences at the Microscale, USTC. He was associate professor (2018–2023) at the School of Chemistry and Materials Science, USTC and in 2023 was promoted to his current position as professor.

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

Prof. Wang: I'm really into the catalytic transformation of hydrocarbons, especially inert C–H bond functionalization and asymmetric catalysis. What gets me excited is the challenge of selectively activating inert C–H bonds, which are everywhere but not used much, and turning them into functional groups with high stereocontrol. This way, we can skip pre-functionalization steps, cut down on waste, and align with green chemistry principles.

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

Prof. Wang: Right now, my research is all about using hydrogen atom transfer (HAT) for selective functionalization of alkanes. We're designing a variety of HAT agents or catalysts to fine-tune reactivity and site-selectivity, allowing precise control in C–H activation. The goal is to simplify synthetic routes for selective functionalization of inert C–H bonds without needing directional or proximal functional groups.

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

Prof. Wang: Organic chemistry is still key to tackling global challenges, from drug discovery to renewable energy. Modern tools like AI-driven reaction prediction and automated synthesis platforms are speeding up discovery, letting chemists tackle problems that were once impossible. The future of the field lies in combining traditional synthetic expertise with interdisciplinary approaches—like biocatalysis, machine learning, and flow chemistry—to create sustainable, scalable solutions.

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

Prof. Wang: The biggest challenge for young chemists is balancing fundamental exploration with applied goals, especially when funding focuses on short-term results. My advice? Stay curious, collaborate widely, and embrace failure. These qualities are essential for tackling problems.

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

Prof. Wang: I think the most exciting work I've done is developing the Pd-catalyzed asymmetric allylic C–H functionalization reaction. The key innovation is using a 16-electron Pd(0) complex to form electrophilic π -allylpalladium species through a concerted proton and two-electron transfer mechanism. This method skips pre-functionalization steps and provides a versatile platform for creating a wide range of chemical bonds with various nucleophiles, really advancing sustainable and efficient organic synthesis.

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

Prof. Wang: When I'm not in the lab, I love cooking and going on self-driving trips with my family. These activities help me recharge and keep a creative mindset.
