

Unit Name

Chemistry and Chemical Bioengineering Unit
Professor Fujie Tanaka

Unit Members

Dr. Suvam Bhattacharjee, Postdoctoral Scholar
Dr. Ashvin Gangani, Postdoctoral Scholar
Dr. Dashrath Jangid, Postdoctoral Scholar
Dr. Kamal, Postdoctoral Scholar
Dr. Bapurao Dattatray Rupanawar, Postdoctoral Scholar
Dr. Jyoti Shukla, Postdoctoral Scholar
Dr. Tavinder Singh, Postdoctoral Scholar
Dr. Muhammad Sohail, Staff Scientist
Dr. Kuan-Lin Chen, PhD Student
Dr. James Miloslav Colin Osborne, PhD Student
Ms. Anjali Gupta, PhD Student
Mr. Muhammad Azeem, PhD Student (Rotation)
Ms. Holly Gill, PhD Student (Rotation)
Ms. Hina Shinjo, PhD Student (Rotation)
Ms. Anila Ghulam, Research Intern
Ms. Shiho Chinen, Research Unit Administrator

Scholarly Contributions

Journal Article

1. Chen, K.-L.; Tanaka, F.
Use of Enantioselective Retro-Mannich Reaction with Enantioselective Mannich or Retro-Mannich Reaction to Afford Enantiopure α -Tetrasubstituted α -Amino Acid Derivatives. *Tetrahedron* 2026, 195, : 135230.
<https://doi.org/10.1016/j.tet.2026.135230>
2. Tanaka, F.
Selective reactions of β -ketocarbonyl derivatives at γ -positions: Control of reaction sites and product stereochemistries through aminocatalysis. *Journal of Synthetic Organic Chemistry Japan* 2025, 83, 985-994. (invited paper)
https://www.jstage.jst.go.jp/article/yukigoseikyokaishi/83/11/83_985/article/-char/ja

Book Chapter

1. Tanaka, F.
The Bimolecular and Intramolecular Mannich and Related Reactions. In *Comprehensive Organic Synthesis*; Elsevier, 2025, vol. 2, pp 682–719.

<https://www.sciencedirect.com/science/article/abs/pii/B9780323960250000168?via=ihub>

2. Tanaka, F.
Aminocatalysis. In *Enantioselective Organocatalysis III: Catalysts, Reactions and Applications*; Dalko, P. Ed.; Wiley-VCH, 2025, vol. 1, pp 355–414.
<https://doi.org/10.1002/9783527845552.ch10>. (invited)

Presentation at Conference (Presenter underlined)

1. Mondal S.; Tanaka, F.
Catalytic asymmetric cross-aldol reactions of pyruvates as nucleophiles with aldehydes and ketones. In 23rd European Symposium on Organic Chemistry (ESOC 2025), Denmark (2025), 2025.06.29-2025.07.03.
2. Tanaka, F.
Amine Derivatives as Catalysts for Stereocontrolled Bond Formation Reactions. In Organocatalysts for advanced molecular transformations (ORG022) in Pacifchem 2025, Hawaii, USA, 2025.12.15-2025.12.20 (invited talk, 4307845)
3. Sohail, M.; Tanaka, F.
Control of Chemical Reactions in Non-aqueous Solutions Using Buffering Molecules. In The OIST-I2CNER Joint Symposium on Bridging Energy Research for a Sustainable Future, OIST, Onna, Okinawa, Japan (2026), 2026.01.21-2026.01.22. (poster)
4. Sohail, M.; Tanaka, F.
Dynamic Kinetic Asymmetric Transformation of Racemic Diastereomer Mixtures: Diastereo- and Enantioselective Synthesis of Spirooxindoles. In The OIST-I2CNER Joint Symposium on Bridging Energy Research for a Sustainable Future, OIST, Onna, Okinawa, Japan (2026), 2026.01.21-2026.01.22. (poster)
5. Sohail, M.; Tanaka, F.
Catalytic enantioconvergent alkylations for the construction of chiral quaternary carbon centers and control of C(sp³)-C(sp²) bond rotation. In The 146th Annual Meeting of the Pharmaceutical Society of Japan, Osaka, Japan (2026), 2026.03.26-2026.03.29 (poster No. 28-61-pm2-11)

External Service

Term 1 2023 - Ongoing Advisory Board Member, Tetrahedron Chem (Elsevier)

Seminars [Organized and Hosted by Faculty/Units]

1. Prof. Takuya Kumamoto, Hiroshima University
Synthetic studies toward aromatic polyketide antibiotics. L5D23, Lab5, OIST, 2026.01.30