

## *Unit Name*

Chemistry and Chemical Bioengineering Unit

## *Research Personnel*

Dr. Suvam Bhattacharjee, Postdoctoral Scholar  
Dr. Santosh Chavan, Postdoctoral Scholar/ Visiting Researcher  
Dr. Akash Jana, Postdoctoral Scholar  
Dr. Kamal, Postdoctoral Scholar  
Dr. Nandkishor Khot, Postdoctoral Scholar  
Dr. Bapurao Dattatray Rupanawar, Postdoctoral Scholar  
Dr. Jyoti Shukla, Postdoctoral Scholar  
Dr. Muhammad Sohail, Staff Scientist  
Dr. Prakash Warghude, Postdoctoral Scholar  
Kuan-Lin Chen, OIST Student  
Anjali Gupta, OIST Student  
Santanu Mondal, OIST Student  
James Osborne, OIST Student  
Holly Gill, OIST Student (Rotation)  
Po-Chou Chen, Research Intern  
Anika Rachel Claxton, Research Intern  
Rina Tokuyama, Research Intern/Visiting Research Student  
Shiho Chinen, Research Unit Administrator

## *Scholarly Contributions and Creative Productions (by Faculty)*

### *Journal Article*

1. Mondal, S.; Tanaka, F.  
Catalytic Enantioselective Aldol Reactions of Pyruvates as Nucleophiles with Chlorinated and Fluorinated Aldehydes and Ketones  
The Journal of Organic Chemistry 2024, 89, 15972–15978.
2. Sohail, M.; Kobayashi, K.; Tomoda, H.; Ohshiro, T.; Tanaka, F.  
Catalytic Enantioconvergent Alkylation Reactions That Construct Chiral Quaternary Carbon Centers and Tune C(sp<sup>3</sup>)-C(sp<sup>2</sup>) Bond Rotation  
Chemistry A European Journal 2025, 31, e202500140.
3. Mondal, S.; Tanaka, F.  
Asymmetric Mannich Reactions of  $\alpha$ -Ketoesters Catalyzed through Noncovalent Interactions: Differences between Pyruvates and Substituted Pyruvates in the Formation of Nucleophilic Species  
Tetrahedron Letters 2025, 159, 155514.
4. Osborne, J.; Tanaka, F.

Catalytic  $\gamma$ -Position-Selective Reactions of (2-Oxopropyl)phosphonates with Aldehydes to Afford  $\gamma,\delta$ -Unsaturated  $\beta$ -Ketophosphonates

Advanced Synthesis & Catalysis 2025, 367, e202401375.

#### **Poster Presentation at Conference**

1. Sohail, M.; Tanaka, F.  
Dynamic Kinetic Asymmetric Transformation of Racemic Diastereomer Mixtures: Diastereo- and Enantioselective Synthesis of Spirooxindoles  
The 145th Annual Meeting of the Pharmaceutical Society of Japan 2025.  
2025.03.26-2025.03.29 (poster No. 28P-am065)
2. Osborne, J.; Tanaka, F.  
Development of Catalytic  $\gamma$ -Position-Selective Formal Aldol Condensation Reactions of  $\beta$ -Ketophosphonates with Aldehydes to Afford  $\gamma,\delta$ -Unsaturated  $\beta$ -Ketophosphonates  
The 145th Annual Meeting of the Pharmaceutical Society of Japan 2025.  
2025.03.26-2025.03.29 (poster No. 28P-pm034S)

#### **External Service**

2023 - Ongoing

Advisory Board Member, Tetrahedron Chem (Elsevier)

#### **Workshops and Seminars (Organized and Hosted by Faculty/Units)**

Speaker Name(s)	Title	Location	Date
Prof. Min Woo Ha	Exploration of Natural Product-Based Scaffold Compounds for Asymmetric Organocatalysis and Pharmaceutical Applications	C700, Lab3, OIST	2025-02-17