

The 4th Sino-Japan Symposium on Biocatalysis and Biotransformation

Amano Enzyme holds the Japan-Sino Symposium on Biocatalysis and Biotransformation every other year in collaboration with Zhejiang University in China. The symposium aims to connect Chinese companies interested in enzyme-based sustainable industrial processes with professors from Japanese and Chinese universities and public research institutions conducting cutting-edge research in the field, and to contribute to the development of the field.

The fourth symposium was held on November 26, 2022. Despite being held entirely online due to COVID-19 restrictions in China, a large number of people attended the symposium, with over 440 joining from China. A total of 15 speakers (see below) presented, including two online lectures from Japan by Prof. Shuji Akai (Osaka University) and Prof. Haruyuki Atomi (Kyoto University). The lectures covered a wide range of topics, but mainly highlighted the results of studies on the functional modification of enzymes using GMO technology and the improvement of enzyme productivity.

In recent years, global efforts to realize a sustainable society, as set forth in the SDGs, have

been gaining momentum. Enzyme-based Green Chemistry has also been expected to play a central role in these efforts.

Amano Enzyme will continue to hold this symposium in order to deepen the exchange of technologies between China and Japan, and will make every effort to support enzyme-based Green Chemistry.



The opening ceremony at Zhejiang University (right: Prof. Yang of Zhejiang University)



Prof. Akai during a lecture



Prof. Atomi during a lecture

Lecture topics

Yan Feng	Shanghai Jiao Tong University	Enzyme evolution for efficient biosynthesis of bio-fuel and medicine
Shuji Akai	Osaka University	Synergy of biocatalysts and transition metal catalysts: Innovative syntheses of optically pure, functional organic compounds
Dawei Zhang	Chinese Academy of Science	Bacillus subtilis super expression system and simulation-based enzyme design strategy
Haruyuki Atomi	Kyoto University	Identification of new enzymes and pathways in hyperthermophilic archaea
Yao Nie	Jiangnan University	Biosynthesis of valuable hydroxyl compounds via asymmetric oxidoreductive reactions: Engineering of enzymatic activity and selectivity
Yusaku Kodama	Amano Enzyme Inc.	Protein Engineering using Molecular Dynamics & Docking Simulation
Binju Wang	Xiamen University	Theory reveals How Preorganized Electric Fields and pH modulate the enzymatic reactions
Zhoutong Sun	Chinese Academy of Science	Enzyme directed evolution and rational design
Ling Jiang	Nanjing Tech University	Carbohydrase genes mining and functional sugars production through multi enzymes cascade
Shuke Wu	Huazhong Agricultural University	Development of growth selection systems for directed evolution of various chiral amine synthases
Xiaoqiang Huang	Nanjing University	Visible light activated Green Biomanufacturing
Huilei Yu	East China University of Science and Technology	Molecular Evolution and Synthetic Application of Baeyer Villiger monooxygenases
Haoran Yu	Zhejiang University	Rational design of enzymes for industrial applications
Luo Liu	Beijing University of Chemical Technology	Enhanced P450 catalytic efficiency by dynamic regulation of substrate tunnel
Jingang Wang	Chinese Academy of Science	Engineering and Industrial Application of Penicillin and Cephalosporin Lyase