

## Foreword

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We started Biocatalysis symposia at AOCS annual meetings eight years ago in 1992. Since then, interest in biocatalysis has been increasing every year. In 1998, biocatalysis was selected as one of the national focus research areas by the Advanced Technology Program (ATP) operated by the Department of Commerce. This year, biocatalysis symposia were organized by many scientific societies, including AOCS. For example, the American Chemical Society had three biocatalysis sessions at its spring annual meeting at Anaheim, California, and the Society for Industrial Microbiology had two sessions on biocatalysis at its 50th anniversary annual meeting at Arlington, Virginia, this August. There also are many international biocatalysis symposia held abroad. As is our tradition, we held two biocatalysis symposium sessions at our AOCS annual meeting at Orlando, Florida, on May 10, 1999.

The definition of biocatalysis is broad in that it deals not only with one-step catalytic reactions but also with many sequential steps of reactions to produce a product. Biocatalysis is a bioprocess that includes molecular manipulation of cells to produce enzymes, catalytic reactions, metabolic engineering, and product recovery. The subject of genetically modified organisms (GMO) is one of our Biotechnology Division's research areas. We would like to see more research activities by our members on GMO.

This year, our two biocatalysis sessions dealt with enzymes such as lipase, hydrolase, lipoxigenase, oxygenase, and phytase, either at enzyme level or for use in microbial cells as biocatalysts. Instead of a single biotechnology special issue, this year we are publishing papers in two issues: October and November of *JAOCS*.

I would like to take this opportunity to thank my co-chairpersons Jei-Fu Shaw of the Academia Sinica, Taipei, Taiwan, and Scott Bloomer of Land O'Lakes Inc., St. Paul, Minnesota, for their assistance in many ways and all our speakers for their excellent presentations. The Biotechnology Division gratefully acknowledges the financial support of Monsanto Company for our first Biotechnology Lifetime Achievement Award. We also appreciate the financial support of our Division activities by the following companies: Bristol-Myers Squibb Co., Loders Croklaan USA, Suntory, Ltd., DuPont, Pharmacia & Upjohn, and Steraloids Inc.

This year, the Division's student paper competition award winners were *First place*, J. Tang, Department of Plant Science, University of Manitoba, Canada. Effect of Genetic Backgrounds on the Production of Medium-Chain Fatty Acids in *Brassica napus* Plants Carrying Transgenes Encoding Acyl-ACP Thioesterases. *Second place*, Xun Edward Zhang, Department of Chemical Materials Engineering, University of Alabama, Huntsville, Alabama. Engineering of Reaction Medium and Conditions to Improve the Lipase-Catalyzed Synthesis of Fructose Fatty Acid Esters. *Co-third place*, Fu Xun, Department of Chemistry, University of Hong Kong. Lipase Specificity in the Esterification Process Involving Acetylenic Fatty Acids and Unsaturated Alcohols. Xuebing Xu, Department of Biotechnology, Technical University of Denmark. Production of Specifically Structured Lipids by Enzymatic Interesterification in a Membrane Reactor.