

Preface

This issue is based on papers presented at both the Catalytic Reaction Engineering and the Catalytic Reactor Engineering sessions of EuropaCat V, which was held in Limerick, Ireland, in September 2001. The issue is a selection of 18 papers from the 50 submitted at the symposia, and includes contributions from Europe, Asia, North America and Australia.

Various aspects of catalytic reaction and reactor engineering research are dealt with. Reviews are given on how to model the different chemical and physical phenomena from the active site all the way to the reactor scale as well as on the history and classification of G–S reactors. A case study on the use of the stirred tank reactor sheds some light on the use of reactor technology in the production of fine chemicals.

The papers reflect applications and further developments in both reaction and reactor engineering. Examples can be found on the use of molecular modeling to obtain kinetic parameters, the use of computational fluid dynamics (CFD) to describe the interaction between kinetics and transport and the use of transient experiments for kinetic studies. A recurrent theme is the interplay between extra- and intra-particle transport and intrinsic kinetics. The complexity of experimental and theoretical tools make meetings such as

EuropaCat V very useful by bringing together experts from different fields.

The applications that are covered range from evergreens as natural gas conversion and petrochemical processing to areas such as fuel cells and fine chemicals.

The papers collected in this issue were accepted after review by experts and underwent revision to incorporate improvements suggested by the reviewers. We are grateful to the reviewers for their considerable effort and for their detailed comments that led to significantly improved final papers.

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