



Book reviews

Reaction Engineering for Pollution Prevention

M.A. Abraham and R.P. Hesketh (Eds.); Elsevier Science, Amsterdam, 2000, 332 pp., NLG 425 (Euro 193.86)/US\$ 222.50, ISBN 0-444-50215-7

This book contains 21 of the 50 papers presented in a Topical Conference on Environmental Reaction Engineering and Catalysis held by the Catalysis and Reaction Engineering division of the American Institute of Chemical Engineers (AIChE) as a part of the 1998 annual AIChE meeting in Miami Beach, Florida. Papers selected for this proceeding volume deal broadly with environmental reaction engineering, defined by the book's editors as "the use of reaction engineering principles including reactor design for the development of processes that provide an environmental benefit".

The papers are categorized under four major headings:

1. Combustion and CO₂ — several of the seven papers in this section deal with CO₂ produced by combustion and its potential recovery and disposal.
2. Catalytic reactions — the elimination of NO_x and VOCs and organics by catalysis are the subject of several papers in this six-paper section.
3. Supercritical fluids — CO₂ used as a critical fluid is the focus of three of the four papers.
4. Reactor design and miscellaneous contributions — four papers on diverse topics including one on pollution prevention.

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Bioremediation of Contaminated Soils

Donald L. Wise, Debra J. Trantolo, Edward J. Cichon, Hilary I. Inyang and Ulrich Stottmeister (Eds.), Marcel Dekker, New York, NY, 2000, US\$ 235.00, 920 pp., ISBN: 0-8247-0333-2

It is a daunting task to attempt to review a 900-page text, especially one that contains 48 different research papers contributed by more than 150 scientists from 18 different countries. Indeed, I was amazed at the number of papers from Europe and especially Russia (nine each from Russia and Germany). These countries' contributions were only exceeded in number by US.

The papers cover a wide range of topics, roughly placed in one of four sections.

- Bioremediation Techniques.
- Bioremediation of Hydrocarbon-Contaminated Materials.
- Soil-Specific Bioremediation Techniques.
- Phytoremediation.

Needless to say, the papers covered a wide variety of topics under the above four major headings, especially remediation of heavy metals-contaminated soils. But other contaminants such as ammonia, herbicides, chlorobenzene, PCBs, TNT, oil and even mustard gas are the subjects of papers.

Several of the authors of papers included in the book have either published in or served on the editorial advisory board of JHM. However, most of the authors are unknown to me. I was, however, surprised at the large number of papers from Europe and especially Russia.

I thought two papers were from appropriate sources.

- Bioremediation of Crude Oil in Cold Climate Conditions — it was from Finland.
- Bioremediation of Heavy Metal Contaminated Soils in Dry Land: Case Studies in Egypt.

The preface notes the text has over 1600 references. I noted the record number of references was 248 in one single paper — Degradation of Aromatic Xenobiotics by Enzymes.

There were, however, three strangely (from my perspective) out-of-place papers on: (1) The production of Food Additives for Cattle Waste, (2) Increase of Pea Cell Sensitivity to Chemical Compounds During Chromatin Activation Periods, and (3) a wastewater treatment paper on Modification of Biological Treatment Process. None of these papers seemed to fit the topic.

While not a book many engineers will buy for themselves, it is one I recommend for library purchase.