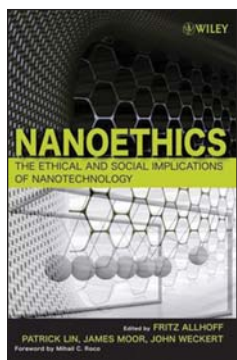


## Nanoethics: The Ethical and Social Implications of Nanotechnology

**Fritz Allhoff, Patrick Lin, James Moor and John Weckert, Wiley-Interscience, Hoboken, NJ, 385 pp., 2007, \$40 paperback, ISBN: 978-0-470-08417-5, \$90 hardcover, ISBN: 978-0-470-08416-8**



This anthology gives the reader an introduction to and basic foundation in nanotechnology and nanoethics, and then delves into near-, mid-, and far-term issues. It goes beyond the usual environmental, health and safety (EHS) concerns to explore such topics as privacy, nanomedicine, human enhancement, global regulation, the military, humanitarianism, education, artificial intelligence, space exploration, life extension, and more. With contributions from 40

preeminent experts from academia and industry worldwide, many diverse perspectives are reflected. The book includes seminal works that influence nanoethics today, encourages an informed, proactive approach to nanoethics, and advocates addressing new and emerging controversies before they impede progress or impact human welfare.

Dealing with critical issues that will affect industry as well as society, this book is designed to promote further investigations and a broad and balanced dialogue in nanoethics. While this will be a definitive reference for students, scientists in academia and industry, policy makers, and regulators, it is also a valuable resource for anyone who wants to understand the challenges, principles, and potential of nanotechnology.

## Chemical Engineering Design

**Gavin Towler and Ray Sinnott, Butterworth-Heinemann, an Elsevier Imprint, Burlington, MA, 1245 pp., \$90, 2008, ISBN: 978-0-7506-8423-1**

"Chemical Engineering Design" is a complete text for students of chemical engineering. Written for the senior design course, and also suitable for introduction to chemical engineering courses, it covers the basics of unit operations and the latest aspects of process design, equipment selection, plant and operating economics, safety and loss prevention. It is a textbook that students will want to keep through their undergraduate education and on into their professional lives.

For students in an introductory course, the book illustrates the relevance of various concepts. For the senior design course, it allows them to learn from the expert knowledge of practicing design engineers who also have extensive undergraduate teaching experience.

The book covers: all aspects of unit operations, design and economics, including the latest API, ASME, and ISA design codes and ANSI standards; up-to-date U.S. price data and correlations of equipment costs; robust plant economics; and the

use of commercial engineering software in design and costing. It includes detailed worked examples, case studies, end-of-chapter exercises, plus supporting data, spreadsheet calculations and equipment specification sheets for downloading. In addition, there are over 100 typical industrial design projects drawn from a diverse range of process industries.

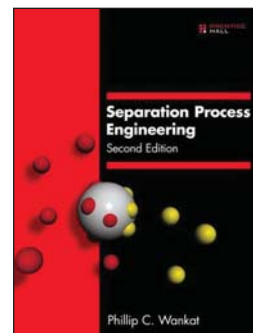
## Separation Process Engineering, Second Edition

**Philip C. Wankat, Prentice Hall, Upper Saddle River, NJ, 738 pp., \$116, 2007, ISBN: 0-13-084789-5**

"Separation Process Engineering, Second Edition" helps readers thoroughly master both standard equilibrium-stage separations and the latest new processes.

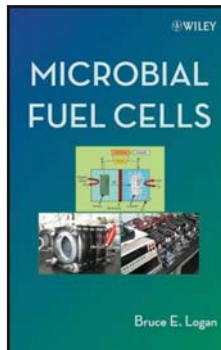
It starts by reviewing core concepts, such as equilibrium and unit operations, then introduces a step-by-step procedure for solving separation problems. Next, it introduces each leading process, including membrane separation, adsorption and chromatography. The author presents essential principles, techniques and equations, detailed examples, and simulation exercises using Aspen Plus.

An updated version of the book's first edition, its enhancements include improved organization, extensive new coverage, and numerous homework problems, more than 75% of which are new, all tested in the author's Purdue Univ. classes.



## Microbial Fuel Cells

**Bruce E. Logan, Wiley-Interscience, Hoboken, NJ, 200 pp., \$85, 2008, ISBN: 978-0-470-23948-3**



This is the first book dedicated to microbial fuel cells (MFCs), devices in which bacteria create electrical power by oxidizing simple compounds such as glucose or complex organic matter in wastewater. It serves not only as an introduction to the theory underlying the development and functioning of MFCs, but also as a manual for ongoing research. The author provides practical guidance for the effective design and operation of MFCs based on his own first-hand experience.

This reference covers everything one needs to fully understand MFCs, including: key topics such as voltage and power generation, MFC materials and architecture, mass transfer to bacteria and biofilms, bioreactor design, and fundamentals of electron transfer; applications across a wide variety of scales; the role of MFCs in the climate change debate; detailed illustrations, charts, graphs and tables; and practice problems with step-by-step examples.