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# Sci-Tech Book News Reviews

Ellis Mount
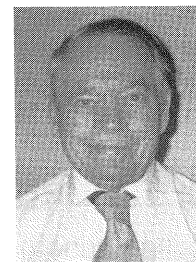
# Sci-Tech Book News Reviews    Ellis Mount, Selector

The following section consists of 100 book reviews selected from *Sci-Tech Book News*, reprinted with the permission of Book News Inc. This review journal is published four times a year, each issue reviewing over 2,000 new titles in the physical and biological sciences, mathematics, engineering, computer science, technology, and agriculture. For a sample issue and subscription information, contact Book News Inc. at 5739 NE Sumner Street, Portland, OR 97218. Ph: (503)281-9230; Fx: (503)287-4485; E-mail: booknews@booknews.com.

GE30   2004-019977 1-85383-976-0

**Environmental management in organizations; the IEMA handbook.**
Title main entry. Ed. by John Brady.
*Earthscan Publications Ltd., ©2005 438 p.*
*$75.00*
The Institute of Environmental, Management and Assessment sets standards for environmental practitioners in the United Kingdom. Editor Brady, affiliated with that organization, brings together the work of 35 contributing authors for this handbook. It is intended as a text for students seeking IEMA certification and a reference for certified environmental practitioners involved with business and government. About one-third of the material—on European Union and UK law—is not precisely relevant for US practitioners, but the balance does apply. Discussion begins with the earth's natural systems, the global environment, and sustainable development. Following is coverage of issues facing organizations in managing environmental performance, including pollution prevention, environmental impacts of product development and of packaging and waste, evaluation tools, communicating with stakeholders, and land contamination. The final sections cover various environmental themes (e.g. pollution, conservation, climate change, food and agriculture)—why they matter and what the future may bring. The book is distributed in the US by Stylus.

HF5478        1-932111-99-9

**Degunking eBay.**
Holden, Greg.
*Paraglyph Press, ©2005    280 p. $24.99 (pa)*
Intended for intermediate eBay buyers and sellers, this guide offers advice on connecting with eBay more quickly, searching and bidding more effectively, communicating with other members, and improving the feedback rating. The second half of the book focusing on selling, with chapters on writing item descriptions, advertising sales, packing and shipping sales, and purchasing inventory. Distributed by O'Reilly.

## LAW

K3585        0-86587-977-X

**Environmental statutes 2004; 2v.**
Title main entry.
*Government Institutes Inc., ©2004 1698 p.*
*$125.00 (pa)*
These volumes provide a bare bones presentation of the major federal environmental legislation of the United States. The first volume presents the complete texts of the Clean Air Act, the Clean Water Act, the Estuary Restoration Act of 2000, the Oil Pollution Act, and the Safe Drinking Water Act. Volume II contains the texts of the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act (with the Superfund Amendments and Reauthorization Act); Environmental Restoration; Emergency Planning and Community-Right-to-Know Act; Toxic Substances Control Act; Federal Insecticide, Fungicide, and Rodenticide Act; Food Quality Protection Act of 1994; National Environmental Policy Act; Pollution Prevention Act; Occupational Safety and Health Act; and Transportation of Hazardous Materials Act. The second volume also contains an index with entries grouped into sections by statute.

KF3133        981-210-371-6

**Intellectual property and biological resources.**
Title main entry. Ed. by Burton Ong.
*Marshall Cavendish Academic, ©2004    553 p.    $37.00 (pa)*
A dozen edited papers from a December 2003 conference of the same name, held in Singapore, explore the legal, ethical, sociological, and environmental implications of the expansion of traditional intellectual property rights, as well as the development of alternative models of legal protection, to encompass non-human biological products and genetic resources extracted from nature. The papers, by academics, practitioners, and policy makers from five continents, analyze

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the current state of debate and various recommendations for reform. Editor Ong teaches law at the National U. of Singapore. Distributed in the US by ISBS.

## SCIENCE (GENERAL)

Q180   2004-015412 0-470-85274-7
**Data analysis and presentation skills; an introduction for the life and medical sciences.**
Willis, Jackie.

*John Wiley & Sons, ©2004   183 p. $35.00 (pa)*
Willis (Coventry University, UK) helps undergraduates in the life and medical sciences develop skills for designing experiments, analyzing data, and presenting findings. Techniques are demonstrated using the standard office software available from Microsoft, with step-by-step instructions accompanied by tips on presentation skills, the use of statistics, and using the Internet for research. Early chapters on basics of working with the Windows environment allow the book to be used by computer novices as well as more experienced computer users.

Q180   2004-112551 0-7618-3025-1
**The research productivity of scientists; how gender, organization culture, and the problem choice process influence the productivity of scientists.**
Fisher, Robert Leslie.
*Univ. Press of America, ©2005   309 p. $38.00 (pa)*
Social scientists have long noted and puzzled over a gender gap in academic scientists' publication rates. Fisher (an independent scholar retired from New York state government) argues that the gap can be attributed to differences in how male and female scientists approach the process of choosing a problem to study. He supports his position with a detailed study of 107 US and Canadian scientists from a variety of disciplines and also draws on a large literature review, including much unpublished European research.

## MATH, COMPUTERS

QA76   2004-016388 1-59140-451-7
**Intelligent techniques for planning.**
Title main entry. Ed. by Ioannis Vlahavas and Dimitris Vrakas.

*Idea Group Publishing, ©2005        364 p.*

*$74.95*
The "intelligent techniques" of the title refer to automated planning (AP), defined by the editors as "the area of Artificial Intelligence that deals with problems in which we are interested in finding a sequence of steps (actions) to apply to the world in order to achieve a set of predefined objectives...." Vlahavas and Vrakas (informatics, Aristotle U. of Thessaloniki, Greece) introduce ten chapters on modern AP approaches, after overviewing classic AP approaches and applications in diverse areas including transportation logistics, and marketing and finance. Newer approaches combine constraint satisfaction techniques (e.g., in planning with machine learning, genetic algorithms) with graph construction and domain-independent heuristics.

QA76   2004-057167 0-471-70925-5
**Jumpstart CMM/CMMI software process improvement; using IEEE software engineering standards.**
Land, Susan K.

*Wiley-Interscience, ©2005   175 p. $59.95 (pa)*
This book is intended as a guide for those interested in understanding the value added by the use of selected IEEE Software Engineering Standards when implementing the Capability Maturity Model (CMM) Level 2 software-process improvement methodology. Land, a software engineering manager, provides a link between

Level 2 requirements and the supporting items available in the IEEE Software Engineering Standards, and offers detailed matrices to map Level 2 requirements to the standards. Technical terminology is explained in simple language for each phase of a CMM and a CMMI-SW model. The book will be useful for software engineers, project managers, and auditors.

QA76.3        2004-031058 0-7645-7950-9
**Beginning MySQL.**

Sheldon, Robert and Geoff Moes.
*John Wiley & Sons, ©2005   840 p. $39.99 (pa)*
Written for experienced programmers who develop

applications that access backend databases, this guide explains how to install MySQL 4.1 on Linux and Windows platforms, create a MySQL database, query and manage data in that database, and connect to the database from PHP, Java, and ASP.NET applications. The authors also discuss transactions, system variable settings, the access privilege system, performance optimization, and backing up a database.

QA76.5                 0-7695-2275-0
**High-performance computer architecture; proceedings. (CD-ROM included)**
International Symposium on High-Performance Computer Architecture, HPCA-11 (11th: 2005: San Francisco, CA)
*Computer Society Press, ©2005     420 p. $125.00 (pa)*
The proceedings of the February 2005 symposium consists of 28 regular papers on processor architecture, thermal considerations, communication architectures, energy and power, memory system issues, evaluation methodologies, software debugging support, and multithreading, and five short papers from industry. Topics include checkpointed early load retirement, the limits of leakage power reduction in caches, a performance comparison of DRAM memory system optimizations for SMT processors, and security enhancement to symmetric shared memory multiprocessors. No subject index is provided in the book, but the papers are searchable on the CD-ROM in Adobe Acrobat Reader.

QA76.59        2004-052491 0-8493-1971-4
**Mobile computing handbook.**
Title main entry. Ed. by Mohammad Ilyas and Imad Mahgoub.
*Auerbach Pub., ©2005        1028 p. $99.95*
Mahgoub (computer science and engineering, Florida Atlantic University) and Ilyas explore challenges in mobile computing and review current efforts and approaches to addressing these challenges. They provide technical information about various aspects of mobile computing, from basic concepts to advanced research. The handbook is intended for researchers and practitioners in the field and for engineers and scientists involved in the design and development of mobile computing systems and their applications. The handbook can also be used as a text for graduate courses in mobile computing. The book is distributed in the US by CRC.

QA76.73        2003-114161 0-7821-4279-6
**Creating interactive Web sites with PHP and Web services.**
Rosebrock, Eric.
*Sybex, Inc., ©2003   410 p. $39.99 (pa)*

Designed for experienced web developers and students alike, this platform-agnostic text explains the PHP language and its use in managing MySQL—tools for building database-driven websites that are evolving in their potential for those attuned to the rich environment of web services. Rosebrock, founder of a community of programmers who trade PHP tips, offers code examples and routines to illustrate each step of the learning process. Topics include adding, deleting, and displaying data, building a template, interacting with web services, creating a user system, processing credit card payments, tracking site statistics, and enhancing sites with third-party scripts.

QA76.73        2004-019955 0-521-54765-2
**Data structures and algorithms using Visual Basic.NET.**
McMillan, Michael.
*Cambridge U. Pr., ©2005     401 p. $45.00 (pa)*
In this tutorial for VisualBasic.NET programmers, data structures and algorithms are presented as problem-solving tools that do not require translations from C++ or Java. McMillan (computer information systems, Pulaski Technical College) explains arrays, ArrayLists, linked lists, hash tables, dictionaries, trees, graphs, and sorting and searching with object-oriented representations. He is consistently practical, using, for example, timing tests rather than Big O analysis to compare the performance of data structures and algorithms.

QA76.73        2004-022626 0-7645-7486-8
**Professional Java, JDK, 5th ed.**
Title main entry. Ed. by W. Clay Richardson et al.
*Wrox Press, Inc., ©2005     712 p. $39.99 (pa)*
This book is for developers who are looking for an all-purpose resource on Java and the latest update, JDK, and for those who are ready for more advanced Java solutions and language features or need a bit of assistance when tackling new Java problems that may be outside their experience. After an overview of tools and techniques, coverage includes when to use Java open source tools such as Ant and Junit; the techniques to implement, save, and restore functionality to applications; how to interact with other language libraries using Java Native Interface; ways to communicate between Java

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components; methods to secure and deploy applications; how to produce a configurable process architecture; and how to exploit common patterns in Java.

QA76.76 2004-049166 0-471-38859-9
**Fuzzy expert systems and fuzzy reasoning.**
Siler, William and James J. Buckley.
*Wiley-Interscience, ©2005 405 p. $94.95*
Siler (Kemp-Carraway Heart Institute) and Buckley (mathematics, U. of Alabama) explore the emulation of human thought, complete with its capability to deal with uncertainties, ambiguities, and contradictions. They examine rule-based and neural net systems and give theories and methods readers can use to get programs to execute statements either sequentially or in parallel. Topics include fuzzy logic, fuzzy sets, fuzzy numbers, combining uncertainties, using inference in an expert system, modifying data and truth values, and resolving contradictions. They also examine expert system shells and the integrated development environment, supply simple example programs, and describe running and debugging parallel and sequential rule-firing programs, working in words rather than numbers, and creating programs that can learn from experience. The fuzzy expert system FLOP is used throughout.

QA76.76 0-596-00900-3
**Windows XP in a nutshell, 2d ed.**
Karp, David A. et al.
*O'Reilly & Associates Inc, ©2005 663 p. $29.95 (pa)*
Written for the advanced user, this detailed guide alphabetically lists each major component of the Windows XP home and professional editions, identifies where to find tasks and settings, provides instructions for configuring a network, and describes the registry and Windows script host. The second edition covers service pack 2.

QA76.9 2004-055105 0-8493-2773-3
**Multimedia security handbook.**
Title main entry. Ed. by Borko Furht and Darko Kirovski. (Internet and communications)

*CRC Press, ©2005 815 p. $89.95*

Furht (computer science and engineering, Florida Atlantic University) and Kirovski (Microsoft Research) address issues related to the protection of digital media in this handbook for researchers, practitioners, and engineers involved in designing and developing systems that protect digital multimedia content from piracy. They introduce security fundamentals, then look at techniques related to multimedia encryption, watermarking, and data hiding, fingerprinting, and authentication. The handbook concludes with chapters describing applications of multimedia protection schemes in areas such as digital rights management and adult image filtering.

QA76.9 0-471-65605-4
**Next generation of data-mining applications.**
Title main entry. Ed. by Mehmed M. Kantardzic and Jozef Zurada.
*Wiley-IEEE Press, ©2005 671 p. $89.95*
In this collection of 25 papers, contributors describe their leading- edge research in analyzing enormous amounts of data spread across a number of databases and servers. They cover a range of markets and applications, such as wafer fabrication, damage detection, sensor array processing, customer relations management, car driving assessments, discovery of patterns in earth science, sorting through simulations, gene mapping, medical diagnosis, data about specific diseases, web-crawling, and security applications. They also explore new methods and theories about data mining and its applications, including using fractals and genetic searches.

QA76.9 0-8247-5939-7
**Statistical methods in computer security.**
Title main entry. Ed. by William W. S. Chen.
(Statistics; textbooks and monographs)
*Marcel Dekker, ©2005 352 p. $89.95*
Contributors of these 19 articles concentrate on the security needs of academia, industry and government through analysis of computer security policy, Internet security, firewalls, virus protection and statistic methods of computer security. Their topics include taking a holistic approach in security policy, managing risks, experimenting in wireless Internet security, using COTS-based architecture or a distributed embedded firewall, using operating system wrappers on commercial firewalls. They also cover a susceptible-infected-susceptible (SIS) with reintroduction for computer virus epidemics, using statistics to discern human ssh traffic from machine scp traffic, passive detection of denial of service attacks on the Internet, the extinction of the SIS Stochastic Logistic Epidemic, one-way functions, policy-based authentication, the evolution of viruses and worms, distributed monitoring and management, and a new model for probabilistic information on the web. Included

is an expert roundtable on firewalls.

QA174 2004-043146 1-58488-372-3
**Handbook of computational group theory.**
Holt, Derek F. (Discrete mathematics and its applications)
*Chapman & Hall / CRC, ©2005* 514 p. $89.95
This work offers a treatment of fundamental methods and algorithms in computational group theory (CGT) at a level accessible to advanced undergraduates. It develops the theory of algorithms in detail and highlights the connections between the different aspects of CGT and other areas of computer algebra. While acknowledging the importance of the complexity analysis of CGT algorithms, the book's primary focus is on algorithms that perform well in practice rather than on those with the best theoretical complexity. Applications of algorithms demonstrate how CGT fits into the wider world of mathematics and science. Author information is not given.

QA274 0-19-852768-3
**Numerical methods for structured Markov chains.**
Bini, D. A. et al. (Numerical mathematics and scientific computation)
*Oxford U. Press, ©2005* 327 p. $89.50
The authors (professors of mathematics and informatics at Italy's U. of Pisa and Belgium's Free U. of Brussels) describe the numerical solution of structured Markov chains applicable in queuing theory and stochastic modeling. They present examples in queuing theory that are meant to clarify the applicative importance of the mathematical models, covering functional iterations, doubling methods, logarithmic reduction, cyclic reduction, and subspace iteration. They also provide a self-contained treatment of the structured matrix tools for fast algorithmic techniques for the solution of structured Markov chains and consider the theoretical issues concerning Wiener-Hopf factorizations, canonical factorizations, and matrix equations. The material is presented in such a way as to demonstrate its usefulness in the research areas of applied probability and numerical analysis.

QA274 0-470-84741-7
**Stochastic methods and their applications to communications; stochastic differential equations approach.**
Primak, Serguei, et al.
*John Wiley & Sons, ©2004* 434 p. $155.00
With communications engineering as their point of view, the authors describe modeling, synthesis and numerical simulation of random processes. They examine random variables and their description, random processes, Markov processes and their description, Markov processes with random structures, and synthesis of stochastic differential equations. They close with applications such as continuous communication channels, an error flow simulator for digital communication channels, a simulator for radar sea clutter with a non-Rayleigh envelope, and samples of Markov chain models in communications. The authors provide a companion web site.

QA276 0-471-46124-5
**Computational statistics.**
Givens, Geof and Jennifer A. Hoeting.
*Wiley-Interscience, ©2005* 418 p. $89.95
Givens and Hoeting (both: statistics, Colorado State U.) give graduate-level students a practical background in order to study bioinformatics, ecology, medicine, computer vision, and stochastic finance. They begin by reviewing mathematical and statistical notation, Taylor's theorem, mathematical and statistical limit theories, probability distributions, likelihood and Bayesian inferences, Markov chains and computing. They proceed to optimizing and solving nonlinear equations, combinatorial optimization, EM optimization methods, numerical integration, simulation and Monte Carlo integration, Markov chain Monte Carlo (and advanced topics in the subject), bootstrapping, nonparametric density estimation, bivariate smoothing, and multivariate smoothing. They include exercises with each chapter.

QA276 2004-112367 0-7618-3030-8
**Essentials of inferential statistics, 4th ed.**
Asadoorian, Malcolm O. and Demetri Kantarelis.
*Univ. Press of America, ©2005* 286 p.
$40.00 (pa)
Intending to cover the key essentials of inferential statistics, the authors have designed this text for a one-semester first course in applied statistics, or for practicing researchers in medicine, natural and social sciences, law, and

engineering. They begin with basic definitions and an introduction to probability theory and its classical, empirical, subjective, axiomatic, and conditional forms, and a survey of Bayesian analysis. They describe probability distributions, summary measures, graphs, sampling distributions, interval estimation, hypothetical testing, correlation and linear regression, and nonparametric tests. They include questions and answers, solved exercises, and references topics, as well as appendices containing projects, summation notation, tables and a quick-reference guide.

QA299 2004-058208 1-58488-428-2
**Handbook of computational methods for integration. (CD-ROM included)**
Kythe, Prem K. and Michael R. Schäferkotter.

*Chapman & Hall / CRC, ©2005      598 p.*
*$89.95*
This book/CD-ROM reference discusses quadrature rules for finite and infinite range integrals and their applications in differential and integral equations, Fourier, Hartley, and Laplace integrals and transforms, and wavelets. Material is presented from a practical rather than theoretical perspective, and will be useful for mathematicians, scientists, and engineers in all disciplines. The CD-ROM contains tables of 5,800 formulas for indefinite and definite integrals, quadrature tables in ASCII format, pdf files, and computer codes in C++, f90, MATLAB, and Mathematica, all in ASCII format. Author information is not given.

QA303 2005-001690 0-7637-2877-2
**Applied calculus for scientists and engineers; a journey in dialogues.**
Blume, Frank.

*Jones & Bartlett, ©2005      869 p. $112.95*
Written for a four-semester sequence, this textbook introduces the principles of differential calculus, integral calculus, differential equations, and vector calculus. The concepts are illustrated with examples relating to the laws of motion, and further explained in imaginary discussions between a teacher and student. Blume (John Brown University) covers graphs of functions, Newton's method of approximation, trigonometric functions, Taylor polynomials, the Laplace transform, mechanical systems, and the geometry of 3D space.

QA431 2004-056152 0-8493-3156-0
**Periodicities in nonlinear difference equations.**
Grove, E. A. and G. Ladas. (Advances in discrete mathematics and applications; 4)
*Chapman & Hall / CRC, ©2005      379 p.*
*$99.95*
Over the last ten years, Grove and Ladas (both: mathematics, U. of Rhode Island) have devoted their efforts to discovering periodicities in higher-order nonlinear difference equations. Aimed at researchers and graduate students, this monograph presents their findings while identifying some open problems and conjectures that merit further investigation. The authors also propose an examination of the global character of solutions of these equations for other values of their parameters, and suggest working toward a more complete picture of the global behavior of their solutions.

## ASTRONOMY

QB361 2004-111158 1-58381-176-1
**Planetary systems in the universe; observation, formation and evolution; proceedings.**
Symposium of the International Astronomical Union (202nd: 2000: Manchester, United Kingdom) Ed. by Alan Penny et al. (IAU symposium; v.202)
*Astronomical Soc./Pacific, ©2004   480 p.*
*$95.00*
Proceedings of the 202nd International Astronomical Union (IAU) Symposium, held in Manchester, England, in August 2002, the first IAU Symposium devoted to extrasolar planets. The 116 contributions are organized into sections on current discovery and study of extrasolar planets, progress in the theory of planet formation, structure and atmosphere of planets, protoplanetary and beta Pic disks, and future discovery and study of extrasolar planets. A sampling of topics: statistical properties of extrasolar planets, planetary messages in the Doppler residuals, modes of gaseous planet formation, growth and interactions of planets, new insights into extrasolar giant planets, possible in situ formation of close giant planets in a passive quiescent nebula, and planetary system imaging and spectroscopy from earth and space. No subject index.

QB799          0-7354-0237-X
**Stellar astrophysics with the world's largest telescopes; proceedings.**
International Workshop on Stellar Astrophysics with the World's Largest Telescopes (1st: Torun, Poland) Ed. by Joanna Mikolajewska et al. (AIP conference proceedings; v.752)
*American Institute of Physics,* ©2004     210 p.     $129.00 (pa)
Papers from a September 2004 workshop review the most timely and interesting problems of stellar astrophysics, particularly those suitable for studies with the world's largest telescopes. Papers are in sections on stellar astrophysics with large telescopes, star formation and planetary systems, high precision techniques, end products of single and binary stellar evolution, and the Local Group of galaxies. Extragalactic cataclysmic variables, the transiting planets, and spectropolarimetry of single and binary stars are some subjects examined. There is no subject index.

QB820 2004-114101 1-58381-183-4
**Extrasolar planets; today and tomorrow.**
Conference on Extrasolar Planets; Today and Tomorrow (2003: Paris, France) Ed. by J.-P. Beaulieu et al. (Astronomical Society of the Pacific conference series; v.321)
*Astronomical Soc./Pacific,* ©2004     424 p. $77.00
Papers from a summer 2003 meeting present observational and theoretical results from research on extrasolar planets, highlighting progress made in understanding the dynamics of planets in disks and in multibody systems and pointing toward unsolved problems in the field. Material is in sections on detection and characterization of extrasolar planets, disks and planetary formation, and disk-planet and planet-planet interaction. Some subjects discussed include polarization spectra of extrasolar giant planets, the search for exospheric signatures from transiting planets, and rotation of extrasolar planets. There is no subject index.

## PHYSICS

QC173 2004-024330 0-19-856746-4
**Special relativity; a first encounter, 100 years since Einstein.**
Giulini, Domenico.
*Oxford U. Press,* ©2005     168 p. $14.99
Special relativity has a distinct poignancy to it; sometimes those who have the privilege of studying it closely feel they are consuming a hearty meal in a warm café while those not so

blessed huddle outside like hungry children, watching through a frosted glass. Giulini (physics, U. of Freiburg) gives those with no more than high-school mathematics a place at the feast, without condescension, building understanding from a brief review of the origins and significance of special relativity to the history of its development through theory and experimentation. Giulini then steps through fundamental concepts, including the notions of similarity, time dilation and length contraction, aberration and the Doppler effect, and mass, momentum, and kinetic energy, culminating in the "most famous equation of all physics" and its application to electrodynamics. He then describes the consequences and applications of special relativity and key experiments.

QC480 2004-304160 0-7503-0923-7
**Handbook of electroluminescent materials.**
Title main entry. Ed. by D.R. Vij. (Series in optics and optoelectronics)
*IOP Publishing Ltd.,* ©2004   646 p. $175.00
Vij (physics, Kurukshetra University, India) brings together contributions from leading researchers in the US, Europe, and the rest of the world to review the state of the art in electroluminescent (EL) materials research and applications. After a brief overview of EL principles and phenomena, chapters offer in-depth reviews of the various types of EL materials currently in commercial use or in development. Each chapter is self-contained, with descriptions of preparation methods, structural, electrical, and optical characteristics, and material on device fabrication and applications. The book is intended for advanced students of applied physics, materials science, optoelectronics, and electronic engineering, and for researchers working in illumination and display engineering. The book's distribution in the US is handled by AIDC.

QC793 2005-923943 0-7354-0249-3
**Nuclei at the limits; proceedings.**
Conference on Nuclei at the Limits (2004: Argonne, Illinois) Ed. by Dariusz Seweryniak and Teng Lek Khoo. (AIP conference proceedings; v.764)
*American Institute of Physics,* ©2005     426 p.     $168.00
It seems the number of new computational methods will soon rival the number of galaxies they are being developed to observe. In these proceedings of the conference of July 2004, contributors describe their results and research on nuclei near the limits of spin, excitation, energy, isospin and charge. Their general topics

include high spin, highly deformed nuclei, nuclear shapes, chirality, neutron-rich nuclei, proton-rich nuclei, N-Z nuclei, very heavy nuclei, nuclear structure above the Yrast line, new techniques, nuclear astrophysics, and light nuclei.

QC929  2004-061861  0-8247-2771-1
**Drought and water crisis; science, technology, and management issues.**
Title main entry. Ed. by Donald A. Wilhite. (Books in soils, plants, and the environment; v.86)
*Taylor & Francis, ©2005    406 p. $125.96*
Wilhite describes himself as a climate scientist and geographer (and presumably the other contributors are similarly trained). Their goal is to explain the complexities of drought and the role of science, technology, and management in resolving many of the issues associated with drought management and the world's expanding water crisis. Of special concern are the many new technologies that are available but are not being used, and new water-conserving technologies that are applied only in few places or particular situations. The case studies include the Colorado River Basin, Canada-US transboundary watersheds. China, and Spain. Most of the chapters, however, consider the role of science and technology in general.

## CHEMISTRY

QD75         0-8493-2436-X
**Statistical treatment of analytical data.**
Alfassi, Zeev B. et al.
*CRC Press, ©2005    266 p. $89.95*
If for no other reason, the American ISO 25 and European EN45001 standards have increased analytic laboratories' awareness of the statistic treatment of analytic data and its need to be both accurate and precise simultaneously. Here the authors help practitioners by examining statistical measures of experimental data, distribution functions, confidence limits of the means, significance tests, and outliers. They describe regression analysis in light of instrument calibration, identification of an analyte by multi-measurement analysis, smoothing of spectra signals, peak search and peak integration, Fourier Transform methods, uncertainty analysis, and the unlikely but effective tools of artificial neural networks in analytical chemistry. They include references for each topic and a general index.

## GEOLOGY

QE571  2004-005965  0-632-05207-4
**Basin analysis; principles and applications, 2d ed.**
Allen, Philip A. and John R. Allen.
*Blackwell Publishing, ©2005  549 p.  $89.95 (pa)*
Philip Allen (Geological Institute, Swiss Federal Polytecnic) and John Allen, a petroleum geologist working in Australia, overview processes related to the formation and evolution of sedimentary basins and discuss the implications of these processes for the development of hydrocarbon resources. This second edition takes into account the explosion of new data, technology, and concepts in the field since the first edition was published, and contains new material on lithospheric deformation, mantle dynamics, erosion processes in sediment delivery to basins, and thermochronological and exposure dating tools. The book is for advanced students and professional earth scientists.

## BIOLOGY

QH324  2004-024635  0-470-85681-5
**Database annotation in molecular biology.**
Title main entry. Ed. by Arthur M. Lesk.
*John Wiley & Sons, ©2005  253 p. $99.95*
Lesk (biochemistry, molecular biology, The Pennsylvania State University) compiles information about the status of database annotation for molecular biology, what skills must be brought to bear on database curation, and proper training for annotators. The book will appeal to biologists and computer scientists working with biological databases. It will also be of interest to users of such databases, including molecular biologists, geneticists, protein chemists, clinicians, and drug developers. Material originated at an October 2002 European Science Foundation training course, "Functional Genomics: Curation of Databases in Molecular Biology."

QH365         0-8264-7531-0
**Darwin's other islands.**
Armstrong, Patrick.
*Continuum Publishing Group, ©2004        266 p.      $125.00*
The visit of Charles Darwin to the Galapagos Islands is well known, but during the 1831-36 voyage of the HMS *Beagle*, he also visited such places as The Falklands, Azores, Pacific Islands, Australia, New Zealand, Mauritius, the Cocos Group, Chile, and other islands off South America.

It is his visits to these other places that Armstrong (geography, U. of Western Australia) examines, drawing on Darwin's original field notes, the log of the HMS *Beagle*, and recent fieldwork in the islands. He documents the visits to the various islands and island groups, describes how the islands look today, and evaluates these visits in relation to the entire corpus of Darwin's' work, which includes his theory of coral reefs, his book on volcanic islands, and research into barnacles.

## TECHNOLOGY (GENERAL)

T9    2004-004862 1-57958-386-5
**Encyclopedia of 20th-century technology; 2v.**
Title main entry. Ed. by Colin A. Hempstead.
*Routledge, ©2005    933 p. $325.00*
Of use to the undergraduate student and general reader, this reference contains descriptive and historical entries on the broad theme of 20th-century technology. Of the 400 entries, most are devoted to some aspect of technology that relate to the areas of food, leisure, homes, human interrelations, work, and health. A few longer essays are included that explore at length historical and interpretive themes, among them globalization, health, gender and technology, energy and power, warfare, transport, biotechnology, the changing nature of work, communications, the uses and consequences of computers, and technology and ethics. A selection of the topics of individual technological entries include audio systems, rocket planes, x-ray crystallography, adhesives, hematology, pesticides, color photography, dams, feedstocks, and gene therapy. There are 34 entries on computers. The contributors are based mainly in the UK and the US.

## ENGINEERING (GENERAL, CIVIL)

TA157 2004-106646 0-309-09162-4
**The engineer of 2020; visions of engineering in the new century.**
Title main entry. National Academy of Engineering of the National Academies.
*National Academies Press, ©2004    101 p. $32.00 (pa)*
This report is the result of an initiative of the National Academy of Engineering that attempts to prepare for the future of engineering by asking the question, "What will or should engineering be like in 2020?" Following an overview of likely future technological changes and challenges that will impact that world and the engineering

profession, the report addresses societal, geopolitical, and professional contexts within which engineering and its new technologies will exist, and sets out aspirations for engineering in 2020 if the US is to maintain its economic leadership.

TA401 2004-061917 0-8247-2419-4
**Molecular modeling techniques in material sciences.**
Hill, Jörg-Rüdiger et al.
*Taylor & Francis, ©2005    313 p. $107.96*
This text is an overview of commonly used and soon to be generally available methods of molecular modeling, which combines computational chemistry techniques with graphics visualization for simulating and predicting the three-dimensional structures, chemical processes, and physiochemical properties of molecules and solids. The authors aim to provide enough theoretical background to allow for informed discrimination in the choice of methods. After introducing the scope of materials modeling, they present chapters on modeling metal oxides, microporous materials, glass, semiconductors and superconductors, and nanomaterials. The necessary mathematical background is reserved for the final chapter. The text assumes a working knowledge of introductory quantum mechanics and classical mechanics.

TA401    0-19-852076-X
**Properties of materials; anisotropy, symmetry, structure.**
Newnhan, Robert E.
*Oxford U. Press, ©2005    378 p. $64.50 (pa)*
Newnham (solid state science, Pennsylvania State U.) presents a textbook suitable as an introduction to the physical properties of materials. Tensor and matrix algebra provide the mathematical framework for his discussion of anisotropy and structure-property relationships. Over the course of the book, he considers questions such as the impact of direction on physical properties, differences between matrix representations and tensor descriptions of properties, the measurement of property coefficients, the influence of symmetry on physical properties, the relationship of anisotropy to crystal structure and texture, how the magnitudes of tensors depend on chemical bond lengths and strengths, and other topics. College-level physics and chemistry are prerequisites and

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knowledge of basic crystallography is helpful to understanding the material.

TA418          1-85957-389-4
**Handbook of biodegradable polymers.**
Title main entry. Ed. by Catia Bastioli.
*Rapra Technology, ©2005    534 p. $198.00 (pa)*
Although biodegradable polymers presently command only a tiny portion of the market, given their possible applications in sustainable technologies globally their potential is enormous. On behalf of a leading independent consulting firm in plastics and rubber, contributors review work by university and private researchers in developing bioplastics and finding applications. Topics include the biodegradability of polymers, their processing and evaluation methods, and their behavior in liquid environments and the soil. They also include the ecotoxilogical aspects of the degradation process and international and national (UK) norms on biodegradability. They describe general characteristics, processing capabilities, industrial applications, market evolution, starch-based technology, poly (lactic acid) and copolymers, aliphatic-aromatic polymers, material formed from proteins, and enzyme catalysts used in synthesis. They also provide a study of biodegradable polymers in municipal solid waste processing.

TA418 2004-065508 0-8247-2747-9
**Handbook of porous media, 2d ed.**
Title main entry. Ed. by Kambiz Vafai.
*Taylor & Francis, ©2005     752 p. $143.96*
Vafai (mechanical engineering, U. of California at Riverside) presents 17 papers that cover recent work in the modeling and analysis of flow, heat, and mass transfer in porous media. Addressing a substantially different set of topics when compared to the first edition, the papers in this second edition discuss fundamental topics in transport, including theoretical models of fluid flow, the local volume-averaging technique and viscous and dynamic modeling of convective heat transfer, and dispersion; numerical modeling, thermally developing flows, heat transfer within highly anisotropic porous media, and other aspects of forced convection; issues of natural convection and double diffusion convection; effects of viscous dissipation for natural, mixed, and forced convection applications; turbulence in porous media; particle migration and deposition; and applications of transport, including geothermal systems, liquid composite molding, and bioconvection.

TA418 2004-057353 0-87170-806-X
**Tensile testing, 2d ed.**
Title main entry. Ed. by J.R. Davis.
*ASM International, ©2004    283 p. $133.00*
Seeking to provide an introduction to those new to tensile testing as well as to those who need more detailed information to use in the course of professional practice. They start with the basics, including explaining the stress-strain curve and test methodology, then proceed to the mechanical behavior of materials under tensile loads (including instability), uniaxial tensile testing (including setup and procedures), testing equipment, and tensile testing for design and for determining sheet formability. Tensile testing of engineered materials such as metals, alloys, plastics, elastomers, ceramics, fiber-reinforced composites and components comes next, followed by procedures for testing materials at extreme temperatures (both hot and cold) or high strain rates.

TA483          0-87339-593-X
**The science of complex alloy phases; proceedings.**
International Symposium on the Science of Comples Alloy Phases (134th: 2005: San Francisco, CA) Ed. by T.B. Massalski and P.E.A. Turchi.
*TMS (Minerals, Metals...Soc.), ©2005      444 p.     $179.00*
This volume reports the proceedings of the Science of Complex Alloy Phases symposium sponsored by the Alloy Phases Committee of the Minerals, Metals and Materials Society. The symposium was held to honor the 2005 William Hume-Rothery Award recipient, Uichiro Mizutani of Nagoya University, Japan. The participants all have made important advances in knowledge of the electronic structure and properties of complex alloys. Addressing current research and implementations of new concepts in efficient computational tools, they discuss such topics as spherical periodicity, semiconducting A1-transition metal alloys, and prediction of site preference and phase stability of transitional metal-based Frank-Kasper phases.

TA633 2004-054550 0-8493-1569-7
**Handbook of structural engineering, 2d ed.**
Title main entry. Ed. by Wai-Fah Chen and Eric M. Lui.
*CRC Press, ©2005    1768 p.        $149.95*
The 37 contributions in this handbook present the fundamental principles of structural analysis for static and dynamic loads, and applies deterministic and probabilistic design theories

to structures using different construction materials. Later chapters address the behavior, analysis, and design of special structures, such as multistory frames, bridges, cooling towers, tunnels, and glass structures. The second edition adds chapters on high-performance steel, fiber-reinforced polymer composites, life cycle evaluation, and fire safety.

TA638 2004-053484 1-59126-019-1
**Structural engineering reference manual, 2d ed.**
Williams, Alan.
*Professional Pub. Inc., ©2005          -- p.*
*$159.95*
The manual aims to help candidates for registration as structural engineers prepare for exams administered by the National Council of Examiners for Engineering and Surveying and by the California State Board for Professional Engineers and Land Surveyors. It's organized into eight sections that correspond to the subject areas given in the NCEES Structural I examination: reinforced concrete design; foundations and retaining structures; prestressed concrete design; structural steel design; timber design; masonry design; seismic design; and bridge structures. The text answers common questions about the exams and provides detailed checklists of things to do to prepare. Oversize: 8.5x11.25.

TA654 2004-049717 0-7844-0739-8
**Fire following earthquake.**
Title main entry. Ed. by Charles Scawthorn et al.
(Technical Council on Lifeline Earthquake Engineering monograph; no.26)
*Am. Society of Civil Engineers, ©2005          332*
*p.          $125.00*
Engineers, planners, and researchers from the seven committees that make up the Technical Council on Lifeline Earthquake Engineering have contributed papers on the history of fires that follow earthquake—as a result of broken gas mains, wooden buildings, electrical wiring, and other combinations—and practical methods to prevent them. The histories of the fires following earthquakes are described for San Francisco (1906), Tokyo (1923), Loma Prieta (1989), Northridge (1994), Kobe (1995), Marmara, Turkey (1999), and Napa (2000). Comparisons are made with non-earthquake caused fires and analysis and modeling is given of fire ignition, report and response, growth and spread, suppression, and the final burnt area. Other topics include fire department operations; the status and reconstruction of potable water, gas, electric,

communication, and roadway systems following earthquakes; methods for mitigating fires; high pressure water supply systems; and seismic retrofit strategies for water system operators, with a benefits and costs analysis.

## HYDRAULIC ENGINEERING

TC424 2004-111531 1-888569-63-8
**Monitoring stream and watershed restoration.**
Title main entry. Ed. by Philip Roni.
*American Fisheries Society, ©2005 350 p.*
*$65.00 (pa)*
This resource for developing monitoring and evaluation programs for restoration fills a gap in the existing literature by focusing on various restoration actions at the habitat unit, reach and watershed scales. The chapters primarily address restoration for cool water biota and salmonid fishes in temperate North American streams and estuaries. The contributors describe monitoring design and sampling considerations, and parameters and techniques needed to design effective monitoring of restoration efforts at various scales. Methods are described for monitoring physical, chemical and biological responses to habitat restoration and enhancement techniques.

TC531 2004-105125 1-85312-751-5
**Flood risk simulation.**
Mascarenhas, F.C.B. (International series on progress in water resources; v.10)
*WIT Press, ©2005     436 p. $258.00*
Volume 10 in WIT's series *Progress in Water Resources* focuses on mathematical modeling of floods. Mascarenhas (Computational Hydraulics Laboratory, Rio de Janeiro) begins with the main concepts of the subject, including equations for unsteady flows, solution methods and models for one-dimensional flows, engineering and theoretical aspects and case studies for natural floods and dam-break floods. The second chapter, on flood hazard and inundation analysis, begins with modeling of inundation flow, moves on to inundation analysis in urban areas and low-lying basins, and concludes with flood hazard analysis in river recreation areas by heavy rainfall. Chapter Three concludes the volume with a hydraulic approach to mathematical modeling of rural and urban floods, including cell models and case studies. The US office of WIT Press is Computational Mechanics.

## ENVIRONMENTAL TECHNOLOGY

TD192        3-527-30585-8

**Environmental biotechnology; concepts and applications.**

Title main entry. Ed. by Hans-Joachim Jördening and Josef Winter.

*Wiley-VCH, ©2005    463 p. $160.00*

Jördening (Technical University of Brunswick, Germany) and Winter (biotechnology of wastewater treatment, Technical University of Karlsruhe, Germany) provide the biological, chemical, and engineering fundamentals that researchers need to develop effective methods in wastewater treatment. Chapters deal with both microbiological and process engineering aspects of the four main areas of environmental biotechnology: wastewater, soil, solid waste, and waste gas treatment. Coverage progresses from bacterial metabolism in wastewater treatment systems through activated sludge process, bioreactors, landfill systems, and commercial applications of biological waste gas purification. Most of the chapters are updated versions of material from the second edition of an 11-volume set, *Biotechnology*, published in 2000.

TD195 2004-011451 0-7918-0222-1

**Energy, technology, and the environment.**

Liu, Paul Ih-Fei.
*ASME, ©2005 271 p. $99.00*
Liu (engineering, U. of Southern California) has assembled notes that he prepared for his classes to provide students, lay readers, and professionals with an introductory overview of environmental problems that arise as a consequence of using energy in industrial practices, and to describe the technology commonly used to improve environmental quality. The study is essentially a second edition of *Introduction to Energy and the Environment*, for which neither date nor publisher is mentioned. It incorporates current information on the environmental effects of combustion by-products, energy-related technological developments, and newly adopted environmental legislation.

TD426 2004-056685 1-56670-643-2

**The economics of groundwater remediation and protection.**

Hardisty, Paul E. and Ece Özdemiroglu.
(Integrative studies in water management and land development)
*CRC Press, ©2005    336 p. $149.95*
Hardisty (managing director for Europe and International, Komex Environmental Ltd., an international environmental consulting firm) and Özdemiroglu (director of economics for the Environmental Consultancy, UK) apply economic concepts of cost-benefit to broad questions of protecting or reclaiming groundwater from pollution. They first provide a basic background in economic theory and basic hydrogeology and remediation science before discussing the application of economic concepts and reviewing the available literature from economic and hydrological disciplines. The core of the work is comprised of a step-by-step explanation of applying cost-benefit analysis to groundwater remediation decision-making. After laying out these steps, they conclude with a series of case studies to demonstrate the application of their approach.

TD427        1-58321-374-0

**Qualitative procedures for identifying particles in drinking water.**

Booth, Stephen and Blaise Brazos.

*American Water Works Assn., ©2005        138 p.        $263.00 (pa)*

So that engineers can respond to consumer complaints about particulate matter in drinking water, this manual provides a series of decision trees for selecting an analysis process, and describes wet chemical methods for making qualitative identifications of aluminum, copper, iron, lead, manganese, and zinc contaminants along with advanced methods for confirming results. Preparation of reagents required for each wet chemical method and procedural instructions are listed on the left-hand page, while color images are reproduced on the right. Case studies of particle samples collected from utilities and a literature review are provided, but no index. Spiral binding.

TD482 2004-057108 0-8493-2097-6

**GIS applications for water, wastewater, and stormwater systems.**

Shamsi, U. M.
*Taylor & Francis, ©2005    413 p. $99.95*
Shamsi (GIS, hydrology, University of Pittsburgh) focuses on practical aspects of software and data tools that enable GIS applications. He documents and analyzes effective use of GIS, demonstrating how to apply the technology to make tasks easier to perform and to save time and money. Models, software, examples, and case studies presented are derived from projects managed by the author. The text encourages

inductive study by presenting case studies first, then explaining procedures. Chapter objectives, summaries, and questions are included, along with b&w maps, illustrations, and tables.

TD491        1-58321-355-4
**Conventional and unconventional approaches to water service provision.**
Title main entry. Ed. by Robert S. Raucher et al.
*American Water Works Assn., ©2004        316 p.        $205.00 (pa)*
This research report investigates the unconventional approaches to water provision that can support the "newly emerging paradigm" of utilities as suppliers of premium quality water for drinking and cooking and bulk water for other uses as two distinct products. Among the approaches examined are bottled water distribution, point-of-use (POU) and point-of-entry (POE) device installation, neighborhood-scale treatment or polishing of distributed water, water reuse, and dual distribution system applications. Customer preference, legal constraints and promoters, technical performance, economic efficiencies, and other criteria are included as part of the evaluation. POU and POE devices receive the greatest focus, with the research including a pilot study of POU devices installed in two large urban-area utilities and in the homes of utility customers, as well as POE and neighborhood-scale supplemental treatment case studies. The report also seeks to judge whether unconventional approaches are best advanced through regulatory compliance or supplemental market-oriented services as drivers.

TD736        1-84339-506-1
**Sewer networks and processes within urban water systems; proceedings.**
International Workshops on [Title] (18th: 2003: Almograve, Portugal) Ed. by Jean-Luc Bertrand-Krajewski et al. (Water and environmental management series)
*IWA Publishing, ©2004        163 p. $117.00 (pa)*
In these proceedings of the eighteenth European (November 2003) and first Asian (February 2004) Junior Scientists' Workshops, participants describe their research and experiments. Topics of papers selected for this publication include modeling an integrated drainage system and connectors for simulators of urban systems, comparing performance of combines overflow devices, spatial evolution of the characteristics of urban wastewater in combined systems, calibration and validation in data sets in storm-

water quality models, prediction of river sedimentation, validation of the DORA model, tracer experiments in dispersal of solutes, measuring oxygen transfer, an experiment in electron acceptor utilization rates, anoxic transformations, and several papers on filtration and exfiltration. The volume includes workshop guidelines for abstracts, oral presentations, and other forms of participation.

TD791 2004-058570 0-8493-3525-6
**Waste management practices; municipal, hazardous, and industrial.**
Title main entry. Ed. by Pichtel, John.
*Taylor & Francis, ©2005        659 p. $107.96*
A practical guide for the identification and management of a range of hazardous wastes, this volume integrates technical information, including chemistry, microbiology and engineering, with current regulations. Emphasizing basic environmental science and related technical fields, it is an introductory manual for waste management as mandated by the Resource Conservation and Recovery Act and related statutes. Pichtel (natural resources and environmental management, Ball State U.) covers the management of three major categories of wastes under regulation in the US and provides real-world problems drawn from his experience. Each chapter contains review questions to aid comprehension of the material.

TD812 2004-296934 0-309-08722-8
**Improving the scientific basis for managing DOE's excess nuclear materials and spent nuclear fuel.**
Title main entry. National Research Council of the National Academies.
*National Academies Press, ©2003        112 p. $28.75 (pa)*
This study identifies research opportunities for storage, recycle, reuse, or disposal of nuclear materials and spent nuclear fuel. Most of the materials dealt with in this report have not been declared as waste. The report completes the fifth in a series of studies requested by the EMSP to assist in developing its calls for proposals and evaluating proposals on this issue. There is no subject index.

## ROADS, RAILROADS

TE270 2004-019318 0-8493-2670-2
**Porous pavements.**
Ferguson, Bruce K. (Integrative studies in water management and land development; 5)

*Taylor & Francis, ©2005      577 p. $159.95*

Porous pavements, in allowing the passage of air, water, and heat into different areas of the environment, result in qualitatively different processes of storage, treatment, and flow and thus provide a significant tool for addressing urban environmental problems. Addressing professionals involved in urban construction ranging from architects and engineers to manufacturers and city planners, Ferguson (landscape architecture, U. of Georgia) presents a reference guide to the principles and applications of porous pavements. Emphasizing the practice and experience in North America, he inventories the range of materials available, compares their applications in different types of settings, and relates them to the context of the general site environment. For each of the families of porous pavement materials, he discusses the nature of the material; the organization of the industry that supplies it; its installation methods, performance levels, and appropriate applications.

## BUILDING CONSTRUCTION

TH845           0-8247-5934-6
**Wind and earthquake resistant buildings; stuctural analysis and design.**
Taranath, Bungale S. (Civil and environmental engineering; 18)
*Marcel Dekker, ©2005          892 p. $149.95*
Practitioner and author Taranath describes the practicalities structural engineers need to master to design buildings that stay standing in earthquakes and catastrophic wind conditions. Keeping the plethora of standards and codes constantly in mind, Taranath steps through the engineering issues of wind loads, seismic design, the differing behaviors of steel, composite and concrete buildings, seismic rehabilitation of existing buildings, and gravity systems. He also examines such special cases as tall buildings, damping devices, panel zone effects, differential shortening of columns, floor leveling problems and floor vibrations, seismic isolation, passive energy dissipation systems and buckling-restrained braced frames. He includes a variety of illustrations and photographs and a list of selected references.

TH4761           2004-014259 1-931498-63-6
**The sauna.**
Roy, Rob.
*Chelsea Green Publ. Co., ©2004       235 p. $30.00 (pa)*
Roy, an expert in teaching cordwood masonry construction, timber framing, earth-sheltered housing and stone circle building gets readers from dream to steam in this new edition, complete with a new chapter on stick-built conventional saunas and color photographs and illustrations. He describes the effects of saunas on humans, and the basic elements of siting and design. He then gives practical advice on building cordwood masonry saunas, post-and-beam log end saunas, and round saunas, with variations. He devotes a chapter to the sauna stove, and another on taking a sauna, which is particularly useful if you are thinking of doing something unhealthy like consuming alcohol. He includes lists of resources, sources of equipment, and sauna societies. He includes a glossary of Finnish sauna terms, useful at the very least in translating the first sentence of this paragraph.

## MECHANICAL ENGINEERING & MACHINERY

TJ778 2004-016936 0-7918-0226-4
**Closed-cycle gas turbines; operating experience and future potential.**
Frutschi, Hans Ulrich.
*ASME, ©2005 283 p. $99.00*
Frutschi puts his long experience to good use in this extensively illustrated examination of the past, present, and future of closed-cycle gas turbines. He starts by describing the special characteristics of closed-cycle gas turbines, and then examines 24 realized installations from around the world from 1939 to 1981. He describes the main components, the thermodynamic characteristics of the closed-cycle, control and operational performance, thermodynamic performance, closed-cycle gas turbines in cogeneration plants (including studies), semi-closed-cycle gas turbines, and closed-cycle gas turbine processes with steam injection. He closes with an essay about the future of the technology and a well-chosen bibliography.

TJ930 2004-017651 0-7918-0225-6
**Design and installation of marine pipelines.**
Title main entry. Ed. by Mikael W. Braestrup et al.
*ASME, ©2005 342 p. $159.00*
Writing from a Danish perspective, Braestrup, a pipeline engineer, provides an overview of marine pipeline design and installation, from project planning through system operation,

concentrating on pressure containment steel pipelines, including flexible lines. The book addresses system layout determination, wall thickness design, route selection, fabrication, and pre-commissioning methodologies. The scope includes deep water as well as shallow water installation, with the main emphasis on hydrocarbons (oil, gas, or multi-phase), although media such as water, slurry, and carbon dioxide are also covered. The book is aimed primarily at engineers new to the subject of marine pipelines, but will also provide background for students of offshore engineering and a reference source for experienced engineers.

## ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING

TK1541　　2004-018711 0-470-85508-8
**Wind power in power systems.**
Title main entry. Ed. by Thomas Ackermann.
*John Wiley & Sons, ©2005　691 p. $155.00*
Written for engineers, designers, developers, and technically astute policy makers, this text edited by Thomas Ackerman, a researcher for the Royal Institute of Technology in Stockholm, Sweden, offers a collection of writings by experts from Europe and the United States on the integration of wind power into already existing power systems. Twenty-nine contributions are arranged in four parts focusing on basic theoretical knowledge (including discussion of the historical development and current status of wind power worldwide as well as power quality standards, measurements, and regulations); practical experience in integration (case studies of examples from Denmark, Germany, the US, Sweden, and India); future concepts related to an increasing penetration level of wind power; and dynamic modeling to study the impact of the large scale integration of wind power.

TK2896　　　　　　1-57444-710-6
**Power system capacitors.**
Natarajan, Ramasamy.
*Taylor & Francis, ©2005　　552 p. $116.96*
Whatever the nature of reactive power compensation in power systems and no matter the voltage level, capacitors are the common elements in all device. Natarajan (president, Practical Power Associates, North Carolina) explains the role of capacitors in power factor correction. He first covers fundamentals such as power factor concepts, industry standards, capacitor specifications, testing of capacitors, location of shunt capacitors, power factor

improvement, and system benefits. He then offers chapters on series capacitors, surge capacitors, capacitors for motor and other applications, and static VAR compensation. He then looks at various protection methods, shunt capacitor bank maintenance, system impact issues such as harmonics and induced voltage on the control cables, and economic analysis applicable to the power factor compensation. The reader is required to have a basic knowledge of protection equipment and time- domain analysis.

TK3307　　　　　　0-471-67909-7
**Rating of electric power cables in unfavorable thermal environment.**
Anders, George J.
*IEEE Press, ©2005　326 p. $110.00*
Master practitioner and scholar Anders provides professionals the computational tools and techniques necessary to analyze today's heavily-loaded transmission circuits. He covers standard rating methods for power cables, and the thermal effects of ampacity reduction, cable crossings, thermal backfills, buried cables and real-time rating analysis, multiple cables in air, and pipe-type cables with slow dielectric fluid circulation. Anders includes descriptions of model cables and computations for mean moisture content in media surrounding underground power cables.

TK5102　　　2004-058495 0-8493-2784-9
**Digital signal processing laboratory.**
Kumar, B. Preetham.
*Taylor & Francis, ©2005　　257 p. $79.95*
Kumar (electrical and electronic engineering, California State University) offers a practical text for those studying digital signal processing (DSP) for the first time, combining background on theory with material on hardware and software aspects of DSP. Each chapter consists of a brief section of theory to explain the underlying mathematics and principles, a problem-solving section, and a computer laboratory section with programming examples and exercises using MATLAB and Simulink. Some chapters include a hardware laboratory section comprised of exercises using test and measuring equipment.

TK5103　　　　　　0-470-86986-0
**Next generation wireless applications.**
Golding, Paul.
*John Wiley & Sons, ©2004　563 p. $110.00*
Developed from a text for a crash training course attempting to cover the entire gamut of current wireless technologies, this volume instructs

practitioners on the "under the hood magic" that makes mobile service delivery platforms work. Rather than offering a code-laden developer cookbook, Golding, who heads a UK company in the field, provides information to aid programmers choose techniques to incorporate into their products and understand the security implications of their designs. Considering what ubiquitous next generation mobile services will mean for end users, he introduces a holistic approach to a mobile network comprised of device, radio frequency, Internet protocol, and content networks.

TK5103        2002-104849 1-58705-105-2
**Optical network design and implementation.**
Alwayn, Vivek. (Networking technology series)
*Cisco Press, ©2004   809 p. $70.00*
This reference provides technology solutions for next-generation optical networks, explains differences among various MAN technologies, and contains a broad range of technical details on multiservice optical networking. Coverage includes optical networking theory, design, and configuration, encompassing the entire spectrum of optical networking technologies from the physical layer to the network layer. The book can be used as a reference for anyone designing, implementing, or supporting an optical network, including network architects, network managers, and consultants. Alwayn has 15 years of experience working with optical networking.

TK5103        2004-022151 1-59140-540-8
**Wireless information highways.**
Title main entry. Ed. by Dimitrios Katsaros et al.
*IRM Press, ©2005    482 p. $69.95 (pa)*
Appropriate for graduate students and research engineers, this collection overviews the basic principles and practices of data management in wireless mobile environments. The 16 chapters address data broadcasting, location management, network support, location-based services, security, and transaction processing. Topics include algorithms for placing broadcast data into multiple wireless channels, the design and selection of a proper service discovery mechanism, modeling of location and mobility, connection admission control in wireless systems, and an extensible platform for location- based services deployment. The editors are affiliated with the Aristotle University of Thessaloniki.

TK5103        2004-115250 0-321-26931-4
**Writing mobile code; essential software engineering for building mobile applications.**
Salmre, Ivo.
*Addison-Wesley, ©2005     771 p. $54.99 (pa)*
Focusing on design methods for mobile software development, the Microsoft-employed author offers his thoughts on defining the scope of an application, addressing performance and user interface requirements, and choosing data access and communication models. Although the examples are written in C# and Visual Basic .NET on the Microsoft .NET compact framework, the book is also accessible to desktop Java, C++, and Visual Basic developers.

TK5105        2001-097378 1-58705-077-3
**802.11 Wirelss LAN fundamentals.**
Roshan, Pejman and Jonathan Leary.
*Cisco Press, ©2004   281 p. $50.00*
Written by two product line managers at Cisco Systems, this book describes the media access control (MAC) and physical layers of 802.11 networks, the security vulnerabilities of the wireless standard, and the mobility of 802.11 client devices. Networks administrators can also read about the challenges of deploying wireless applications that require low-latency network connectivity, the physical site survey process, and WLAN designs for common commercial environments.

TK5105        2004-065954 1-58053-789-8
**802.11 WLANs and IP networking; security, QoS, and mobility.**
Prasad, Anand R. and Neeli R. Prasad. (Artech House universal personal communications series)
*Artech House, ©2005       318 p. $99.00*
Following up on their earlier *WLAN Systems and Wireless IP for Next Generation Communications*, the authors (of DoCoMo Euro- Labs, Germany and the Center for TeleInFrastruktur, Aalborg U., Denmark) attempt to answer questions left unaddressed regarding how IEEE 802.11 wireless local area networks (WLANs) work together with higher layer protocols such as the IP layer, their interactions with the mobile network and WLAN business models. They present eight chapters that look at market and business cases; the details of the IEEE standards; security issues; quality of service; roaming, handover, and mobility management; WLAN deployment and mobile integration; and future generation communications.

TK5105      2003-108109 1-58720-101-1
**Computer networking first-step.**
Odom, Wendell. (First-step series)
*Cisco Press, ©2004   515 p. $24.95 (pa)*
This book explains the basics of computer networking in refreshingly simple language, taking readers on a tour of the core technologies that make up network and Internet traffic. Chapter summaries, review questions and answers, and a glossary are included. The book is ideal for those new to networking, IT professionals who want to know more about networking, people who need to talk to people who build networks, and people who need background before starting courses related to entry-level networking certification. Odom teaches introductory and advanced computer networking courses.

TK5105      2004-011563 0-470-86739-6
**Designing and developing scalable IP networks.**
Davies, Guy.
*John Wiley & Sons, ©2004   270 p. $110.00*
Practitioner Davies describes the complex process of building smarter infrastructures to meet rapidly expanding markets without breaking the bank. He begins by describing appropriate hardware design and transport media, and progresses to router and network management, network security, routing protocols and policy. He closely examines and comments on multi-protocol label switching, virtual private networks, class and quality of service, multicast, and Ipv6, using illustrations, tables, and sample code throughout. In the final section he gives eight complete sample configuration files in JOS and JUNOS software. He includes a comprehensive list of references.

TK5105      1-931836-36-1
**Google hacking; for penetration testers.**
Long, Johnny.
*Syngress Media, Inc., ©2005      502 p. $44.95 (pa)*
This guide describes techniques the bad guys use to locate sensitive information about an individual or company, particularly the specific ways Google searches can discover forgotten network systems and devices that have fallen off the radar of overworked administrators. The author, who maintains johnny.ihackstuff.com, recommends writing a sound security policy, securing a web site from Google's crawlers, and checking Google exposure with automated tools. Distributed in the U.S. by O'Reilly.

TK5105      2004-018981 0-8058-4612-3
**Handbook of human factors in Web design.**
Title main entry. Ed. by Robert W. Proctor and Kim-Phuong L. Vu.
*Lawrence Erlbaum, ©2005   738 p. $99.95 (pa)*
Proctor (psychological sciences, Purdue University) and Vu (psychology, Purdue University and California State University, Northridge) present essays from researchers and practitioners in the field. The book's eight sections begin with a background and overview, then cover human factors and ergonomics, content preparation for the web, search engines and interface agents, universal access, web usability engineering, task analysis ecological interface design and performance modeling, and specific web applications in academic settings. This text is appropriate for academics, professionals, and students in the areas of human factors, human-computer interaction, computer science, and cognitive psychology and web design.

TK5105      0-596-00808-2
**Home networking annoyances; how to fix the most annoying things about your home network.**
Ivens, Kathy.
*O'Reilly & Associates Inc, ©2005     209 p. $24.95 (pa)*
This troubleshooting guide offers solutions to the hundreds of little problems that can arise when installing and running a Windows-based home computer network connected via Ethernet, phone line, power line, or wireless antenna. It covers routers, managing users, mapped drives, file sharing, network printing, shared internet, firewalls, wireless security, the backup process, and compatibility issues.

TK5105      2004-057922 0-8493-3077-7
**The industrial communication technology handbook.**
Title main entry. Ed. by Richard Zurawski. (The industrial information technology series)
*Taylor & Francis, ©2005     -- p.   $149.95*
Zurawski (president and CEO of the California-based ISA Corp., "a company involved in providing solutions for industrial and societal automation") presents 42 tutorials, surveys, and technology overviews that are together intended to provide a comprehensive reference to current and emerging industrial communication technology and systems. After presentation of the basics of data communication and IP networks, papers are grouped into sections dealing with technologies field area and control networks; Ethernet and wireless network

technologies; linking the factory floor with the Internet and wireless fieldbuses; security and safety technologies in industrial networks; and such applications as automotive communication, building automation, manufacturing message specification in industrial automation, motion control, train communication networks, and data communication in electrical substations.

TK5105        2004-561123  1-58705-115-X
**Network security architectures.**
Convery, Sean.
*Cisco Press, ©2004            739 p.        $55.00*
A network is only as secure as its architecture, and Convery, who is the principle architect of the SAFE Security Blueprint, explains how to design and implement that architecture efficiently. He explains how network security works at the foundation level, then shows how to integrate the features of devices, platforms and other elements of the network, following with case studies and advice on managing a completed network to maximize safety. Along with exercises, Convery supplies a set of sample security policies.

TK5105        2004-022155  1-59140-430-4
**Peer to peer computing; the evolution of a disruptive technology.**
Title main entry. Ed. by Ramesh Subramanian and Brian D. Goodman.
*Idea Group Publishing, ©2005            308 p. $74.95 (pa)*
Peer-to-peer (P2P) computing gained widespread publicity during the 1990s with the rise of Napster, and continues to expand beyond the entertainment world to other areas of collaboration in business, government, medicine, and academia. Twenty-seven international academics, information technology practitioners, researchers and consultants contribute 13 articles examining P2P's beginnings—the basic underpinnings, the networks, and the direction they began to take as distribution and data systems; trust, security, and law in P2P systems and communities; applications of P2P computing; and the perspectives and influences of peer concepts in the areas of collaboration, Web services, and grid computing. Neither too technical nor too managerial, the text will appeal to researchers and practitioners desiring a more thorough understanding of this evolving technology.

TK5105        2002-104703  1-58705-104-4
**Troubleshooting virtual private networks.**
Lewis, Mark. (Networking technology series)
*Cisco Press, ©2004  808 p. $70.00*
This guide for network support engineers and architects covers a range of VPN technologies, including IPSec, MPLS, L2TP versions 2 and 3, PPTP, and L2F. Because of its range of coverage, and the fact that each chapter provides a technical overview and configuration guidelines as well as troubleshooting advice, the book may be of assistance to CCIE candidates preparing for the Service Provider and Security exams. Chapter review questions and answers are included. Lewis is a consultant in VPN technologies.

TK6570        0-470-01103-3
**UMTS networks; architecture, mobility, and services.**
Title main entry. Ed. by Heikki Kaaranen et al.
*John Wiley & Sons, ©2005  406 p. $120.00*
As of October 2004, some 50 UMTS (Universal Mobile Telecommunications System) commercial networks were in use around the world. In this work, a team of Finland-based authors (from Oy Aqua Records Ltd, Nokia Research Center, and Nokia Networks) provide an overview of UMTS architecture and its evolution and explain the ways in which it can be used as a third generation platform for mobility and multimedia services. They examine the technology aspects of radio access, the core network, and the terminal and present a protocol- oriented view of the system-wide interworking between the different architectural elements.

TK6680        2004-018881  1-57820-259-0
**Designing DVD menus; how to create professional-looking DVDs.**
Burns, Michael and George Cairns.
*CMP Books, ©2004    191 p. $44.95 (pa)*
This guide for amateur video producers presents step-by-step instructions for designing professional-looking DVD menus. Illustrated throughout with color examples taken from commercial designs, the volume addresses such topics as creating rollover subpictures, making a moving menu, and adding subtitles. Coverage extends to a discussion of facilitating access for visually impaired users. Cairns teaches video editing at the U. of Luton, England and Burns is a freelance journalist specializing in digital technology.

TK6680          2004-022152  1-59140-546-7
**Video data management and information retrieval.**
Title main entry. Ed. by Sagarmay Deb.
*IRM Press, ©2005     392 p. $69.95 (pa)*
Deb (information technology, U. of Southern Queensland) and contributors describe their work in combining these two areas of research, and propose new areas of research into applications and techniques. They begin by examining how the two fields complement each other, then proceed to describe their application to video data storage and networking, to video data security, data synchronization, boundary detection, and finally to information retrieval. Specific topics include high-performance data recording for streaming media, wearable devices that augment human memory, very low bit-rate video coding, video biometrics, soft-decision techniques, news video indexing and captioning, video abstraction, and video summarization based on human face detection and recognition.

TK7870          2004-010317 0-470-84753-0

**ESD; physics and devices.**
Voldman, Steven H.
*John Wiley & Sons, ©2004    398 p. $125.00*
After citing the paucity of university courses on the subject of electrostatic discharge, author Voldham (MIT) sets out to create a cross-disciplinary work structured for graduate-level study and as a reference for EMC non-specialist engineers. This book, the first of three planned volumes, addresses advanced CMOS, silicon on insulator (SOI), silicon germanium (SiGe) and silicon germanium carbon. It also deals with ESD testing, failure criteria and scaling theory for CMOS, SOI, BiCMOS and BiCMOS SiGe. The final chapter discusses new devices and future innovations, such as strained- silicon devices and carbon nanotubes, for which there is not yet any ESD data.

TK7872          2005-041997  1-58053-896-7
**Active filters for integrated-circuit applications. (CD-ROM included)**
Irons, Fred H. (Artech House microwave library)
*Artech House, ©2005         408 p. $125.00*
In this text/CD-ROM package for practitioners and students, Irons (electrical and computing engineering, University of Maine) identifies common problems with active filters for integrated-circuit applications, reviews circuit analysis operations, and illustrates the concept of feedback. He presents the state variable procedure, a general design approach for a range

of applications, and discusses classic approaches for comparative purposes. Material is organized as a one-semester course divided into four subject areas of 10 lectures each. Students are assumed to have had basic courses in linear system theory and electronics or experience working in analog integrated circuit design. The CD-ROM contains circuit and MATLAB files that help readers solve examples in the text.

TK7875          2004-057931  0-8493-2838-1
**Nano-and micro-electromechanical systems; fundamentals of nano- and microengineering, 2d ed.**
Lyshevski, Sergey Edward. (Nano- and microscience, engineering, technology, and medicine series; 8)
*CRC Press, ©2005     722 p. $89.95*
Lyshevski (electrical and computer engineering, Purdue School of Engineering) introduces nano- and microsystems to a wide audience of undergraduate and graduate students, engineers, professionals, and researchers in nano- and microengineering, science, and technologies. He brings together various concepts, methods, and technologies needed to solve a range of problems in the synthesis, modeling, simulation, analysis, and design of nano- and electromechanical devices, and structures. Coverage includes fabrication technologies, applications of quantum mechanics, and molecular and carbon nanoelectronics. Chapter homework problems are included. This second edition has been restructured to provide a more unified approach.

TK7895          0-7695-2302-1
**Real-time and embedded technology and applications; proceedings.**
Real-Time and Embedded Technology and Applications Symposium (11th: 2005: San Francisco, CA)
*Computer Society Press, ©2005     552 p. $201.00 (pa)*
Papers from a March 2005 symposium reveal the latest progress in real- time infrastructure and development, quality of service in open systems, model-driven real-time and embedded systems, and embedded applications. Major themes include adaptive scheduling, analysis, applications, design, power-aware systems, reliability and fault management, resource allocation, sensor networks, and system composition. Some specific topics examined are scheduling messages with deadlines in multi-hop real-time sensor networks, real-time component-based systems, out-of-norm assertions, improving WCET by optimizing

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worst-case paths, and practical on-line DVS scheduling for fixed-priority real-time systems. There is no subject index.

## MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS

TL272  2004-022580  1-933146-01-X
**Semiconductor design and implementation issues in integrated vehicle electronics.**
Hall, John H.
*Academica Press, LLC, ©2005        118 p. $74.95*
Hall, a pioneer in the semiconductor industry, offers a critical look at the way automobile electronics are built in this work accessible to beginning students of electronics and semiconductor design. Starting with a concise history of vehicle electronics, he walks readers through the environmental conditions faced by vehicle systems and the types of failures that can occur. Basic and advanced semiconductor issues raised by vehicle implementation are then discussed in detail, and electronic modules from different manufacturers are examined. The book concludes with design recommendations. B&W photos are included.

## MINING ENGINEERING

TN799  2004-047817  0-415-33340-7
**Extractive metallurgy of rare earths.**
Gupta, C. K. and N. Krishnamurthy.
*CRC Press, ©2005    484 p. $129.95*
Gupta and Krishnamurthy survey the scientific and engineering literature to provide an overview of current practices for extracting rare earths and preparing their derivatives for specific applications. They identify the location, quality, and quantity of the world's rare earth resources and present a detailed account of classical and modern extraction methods. Chemical and electrochemical reduction methods are also covered, as well as metal refining techniques. The authors are affiliated with the Bhabha Atomic Research Center in Mumbai, India.

## CHEMICAL TECHNOLOGY

TP325  2005-040803  0-471-52273-2
**Handbook of coal analysis.**
Speight, James G. (Chemical analysis; a series of monographs on analytical chemistry and its applications, v.166)
*Wiley-Interscience, ©2005   222 p. $120.00*
This handbook provides readers with guidance on testing and analyzing coal. It offers step-by-step test method protocols for proximate and ultimate analysis, mineral matter, physical and electrical properties, thermal and mechanical properties, and spectroscopic and solvent properties. It also explains the meaning of test results and how those results can predict coal behavior and its corresponding environmental impact during use. Emphasis is on relevant ASTM standards and test methods, including corresponding ISO and BSI test method numbers. The handbook will be useful for analytical chemists and engineers in the coal industry. Speight has written other books on fossil fuel processing and environmental issues.

TP359  2004-029903  1-59370-041-5
**Hydrogen and fuel cells; a comprehensive guide.**
Busby, Rebecca L.
*PennWell Books, ©2005      445 p. $69.00*
Written in fairly plain language, this book explains the potential of a future hydrogen economy, the forces driving a global transition toward hydrogen, and the barriers that could disrupt such a transition. The author describes hydrogen's properties and the different types of fuel cells, and identifies some of the companies that are developing and demonstrating hydrogen technologies, often with government funding. Finally, production methods, storage technologies, safety risks, the problems of hydrogen transport, and the costs of building a fueling station infrastructure are explored.

TP1130                0-8247-5473-5
**Handbook of polymer synthesis, 2d ed.**
Title main entry. Ed. by Hans R. Kricheldorf et al. (Plastics engineering; no.70)
*Marcel Dekker, ©2005      939 p. $269.95*
Kricheldorf (University of Hamburg, Germany) provides chemists with information on new preparation methods for the synthesis and chemical modification of polymers. The guide examines the advantages and limitations of a variety of polymerization applications and procedures, as well as new approaches from prominent industry and academic laboratories.

It reviews fundamental concepts of polymer chemistry, including polymerization mechanisms, then examines reaction parameters that are key to the control of polymerization rates, polymer molecular weight, and structural stability, and considers major challenges in the production of commercial-scale polymers. This second edition updates the literature in the field to the year 2000 for the most widely studied groups of polymers.

## MANUFACTURES

TS155 2004-059096 0-471-69209-3
**Operations management; quality and competitiveness in a global environment, 5th ed.**
Russell, Roberta S. and Bernard W. Taylor.
*John Wiley & Sons, ©2006    808 p.  $115.95*
Russell and Taylor, both affiliated with the Pamplin College of Business at Virginia Polytechnic Institute and State University, use rice production and distribution as an ongoing example to convey the global nature and pervasive impact of operations management in this text for business students. This fifth edition integrates new material on global issues, supply chains, e-business, and information technology with more traditional topics. This edition is reorganized around the themes of quality, with chapters grouped in sections on designing and operating the productive system. Learning features from previous editions have been retained, with new problems and cases.

TS155 2004-021792 1-932159-44-4
**The quantum leap; next generation, the manufacturing strategy for business.**

Gilliam, Dean.
*J. Ross Publishing, ©2005    265 p. $49.95*
This work explains demand flow technology and offers tools and techniques, including mathematical models and calculations, for using it to transform manufacturing organizations. Some topics discussed include customer responsiveness and linear planning, group technology and machine cells, product design, quality control, and the role of information systems in demand flow technology. Appendixes list useful web sites and organizations. A glossary is included. Gilliam is affiliated with JCIT International.

TS155           1-55617-898-0
**Software for automatiion; architecture, integration, and security.**
Berge, Jonas.
*ISA, ©2005    325 p. $98.00 (pa)*
Intended for automation engineers, this book provides a broad overview of information technology as applied to automation, and the software technologies and products available for controlling plants and factory systems. The author recommends how to select the software architecture for the system to integrate sub-systems and legacy systems, when to have dedicated hardware servers, and when to use web technologies. DCOM setup, the Windows XP firewall, OPC-DA server configuration, the historical database interface, reporting and analysis, VBA scripting, ActiveX components, troubleshooting, and security are covered.

TS170 2004-049142 1-880611-68-6
**Working environment in life-cycle assessment.**
Title main entry. Ed. by Pia Brunn Poulsen and Allan Astrup Jensen.
*SETAC, ©2004    95 p.  $69.00 (pa)*
This report describes screening, sector, and process methods for performing life cycle assessment, and presents guidelines for evaluating the inputs, outputs, and potential working environmental impacts on humans of a product system throughout its life cycle. The European committee identifies the strengths and weaknesses of several methods and when they are most appropriate, and provides case studies on an office chair, ethanol, sanitary fittings, and an aircraft drinking water tank. No index is provided.

TS192 2004-065819 0-8311-3184-5
**Developing performance indicators for managing maintenance, 2d ed.**
Wireman, Terry.
*Industrial Press, ©2005    250 p. $41.95*
Consultive educator Wireman provides details on how to measure the management of equipment or asset maintenance, which he characterizes as one of the most important functions in an organization today. Companies that view maintenance as a necessary evil will be driven out of business within a decade, he says, by those that see it as a strategic market advantage. The first edition was published in 1998. This updated second edition includes the latest measuring techniques.

TS192 2004-017939 0-8311-3189-6
**Managing factory maintenance, 2d ed.**
Levitt, Joel.
*Industrial Press, ©2005        298 p. $41.95*
Levitt is a management consultant who has trained some 7000 maintenance leaders from 3000 organizations in 20 countries. The revised edition of his text has been extensively rewritten to reflect changes in the field of managing factory maintenance since the first (1996) edition, including the globalization of the location of production and the changing of the guard of the leadership of maintenance. The material has also been reorganized into sections covering maintenance management in factory settings, including the context of managing maintenance, evaluating current practices, maintenance processes and process aids, maintenance strategies and approaches to deterioration, maintenance interfaces, and personal and personnel development.

UG485 2004-066005 1-58053-968-8
**Electronic warfare target location methods.**
Poisel, Richard A.
*Artech House, ©2005        272 p. $99.00*
Poisel (Raytheon Missile Systems) gathers many of the algorithms used for the geolocation of targets, and describes how to apply them in new designs and situations. He gives a basic introduction to emitter geolocation, including the gradient descent algorithm, and then proceeds to calculating triangulation, using quadratic position- firing methods, and applying single-site location techniques. He provides over 620 equations and 115 illustrations to guide readers through the calculations and processes of working with geolocation. He also provides an overview of Grassman algebra and a very helpful list of acronyms.

UG489 2004-053126 0-8412-3806-5
**Defense applications of nanomaterials.**
Title main entry. Ed. by Andrzej W. Miziolek et al. (ACS symposium series; 891)
*American Chemical Society, ©2005 346 p. $140.00*
The editors (of the US Army, Naval, and Air Force Research Laboratories) present 21 papers from chemists, materials scientists, physicists, chemical engineers, and processing specialists on the military applications of nanostructured materials. Papers consider both fundamental issues of pushing back the frontiers of nanomaterials as well applied problems of military technologies, including sensors, data storage, information transfer, structural materials, and energetics. A few specific topics include molecularly imprinted polymers for the detection of chemical agents in water, bioinspired organic-inorganic hybrid devices, characterization of nanoparticle composition and reactivity by single particle mass spectrometry, and nanotechnology applications in space power generation. Preceding the main body of the text is an overview of the nanoscale science and technology program in the Department of Defense. Distributed in the US by Oxford U. Press.❖