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Sci-Tech Book News Reviews

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Sci-Tech Book News Reviews   Susan Fingerman, 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. Phone: (503)281-9230; Fax: (503)287-4485; E-mail: booknews@booknews.com.

PRODUCTION, INDUSTRY, COMMERCE

HD9502   2006-005402 978-1-59370-051-5
Practical energy efficiency optimization.
Rajan, G.G.
PennWell Books, ©2006 403 p. $90.00
Focusing in the needs of in-house power plants but also considering other sites, expert practitioner and consultant Rajan gives basic information about optimizing the system, subsystems and individual equipment, improving system and equipment design, and extending the operating cycle. He covers industrial energy management in general, including fuels, steam consumption, energy costing, and recycling, optimization basics with time-dependent optimization models and specialized software, overall energy efficiency models such as monitoring consumption and improving database analysis, general optimization models including making best use of hydrogen production, working with the energy mix and process mix options, and making equipment maintenance and repair decisions. He includes exercises and a series of appendices giving background information for review.

HD9999   1-57808-429-6
Biomaterials from aquatic and terrestrial organisms.
Title main entry. Ed. by Milton Fingerman and Rachakonda Nagabhushanam.
Science Publishers, Inc., ©2006 610p. $128.00
Fingerman and Nagabhushanam, both affiliated with the Department of Ecology and Evolutionary Biology at Tulane University, explore international efforts to develop biomaterials into commercially viable materials that will contribute to solving health and environmental problems such as Alzheimer's disease and water pollution. The readership for the book includes natural products chemists, oncologists, toxicologists, biochemists, molecular biologists, and advanced students. The book is distributed in the US by Enfield.

HF5548   2005-920841 0-7897-3369-2
Tricks of the Microsoft Office gurus.
McFedries, Paul. (Business solutions)
Que Publishing, ©2005   536 p. $39.99 (pa)
This guide highlights little-used features of Microsoft Office, involving Excel, Word, PowerPoint, Access, and Outlook; sharing data and collaborating with other users customization, VBA programming language, VBA macros, and how to automate Access; and security. Some of the tips involve using autocorrect, fields, analyzing data, slide formatting and design, queries, email contacts, merging data, and using a Tablet PC. The appendix explains how to work with the Windows Registry. McFedries is the president of Logophilia Limited, a technical writing company, as well as a consultant, beta tester, author, and teacher.

HV6431   978-0-471-77615-4
Emergent information technologies and enabling policies for counter-terrorism.
Title main entry. Ed. by Robert L. Popp and John Yen.
Wiley-Interscience, ©2006 468 p. $115.00
American (except one Canadian) specialists in counter-terrorism, information technology, or policy development discuss several modeling approaches to counter-terrorism, information management and signal processing, knowledge management, collaborative technologies, text and data processing, social and network link analysis, and issues around developing policy to implement advanced information technologies in the rapidly growing counter-terrorism industry. Much of the material is highly technical in the area of advanced information technology.

HV8290   1-59749-115-2
Dictionary of information security.
Slade, Robert.
Syngress Media, Inc., ©2006 222 p. $29.95 (pa)
Slade, a data communications, information security, and management consultant, provides a dictionary of terms used in information security,

which he realized was much-needed after attending the Certified Information Systems Security Professional Common Body of Knowledge review seminar of the International Information Systems Security Certification Consortium. Concentrating on usage of terms, he presents informal entries, from ABA guidelines and ASCII to zine and zoo, which do not list every variation of a term, origins (unless having local references), or pronunciation. The book is intended for students, security professionals, systems and network administrators, and managers.

LAW, EDUCATION

K3924 2006-045970   1-58053-106-7
Nanotechnology regulation and policy worldwide.
Matsuura, Jeffrey H.
Artech House, ©2006 194 p. $89.00
A lawyer specializing in intellectual assets. Matsuura examines the current status of nanotechnology and its regulation in different countries around the world. He also assesses the technical and commercial impact of that regulation, and offers suggestions to nanotechnology users for regulatory compliance and to regulators and policymakers for an effective future regulatory approach to nanotechnology.

KF3946   95-2411   0-7355-5386-6
Hazardous waste compliance guide, 12th ed.
Kirk, H. Ray. Ed. by Sherri M. Schroeder.
Aspen Publishers, Inc., ©2005 -p. $167.50
This essential guide provides clear and accessible guidance in all aspects of hazardous waste compliance, with chapters on the basic laws, identification of waste, common wastes, generator status, minimizing waste, records and audits, storage, shipping and disposal, emergency planning, and hazard communication. Sample safety plans and a comprehensive guide to resources are provided. The updated edition contains new revised forms, and updated information on mercury-containing equipment, priority PBTs for TRI reporting, and other updated codes. Kirk, a specialist in EPA and OSHA regulations with an advanced degree in crisis management, operates a consulting firm and conducts seminars. Format is an oversized three-ring binder (11.25x11.5").

LB1028   2005-928505   1-58603-530-4
Artificial intelligence in education; supporting learning through intelligent and socially informed technology.
Title main entry. Ed. by Chee-Kit Looi et al. (Frontiers in artificial intelligence and applications; v.125)
IOS Press, ©2005   1012 p. $204.00
Back in the day, artificial intelligence in school meant having someone else write your papers. No longer! In July 2005, the latest in a series of biennial conferences was held in Amsterdam, where researchers in education, technology, cognitive science, and other fields considered how AI software can be used in education. The proceedings comprise 89 full papers, along with 72 posters and 11 reports of panels and other events. The invited talks cover learning with virtual peers, scaffolding inquiry learning: how much intelligence is needed and by whom, a success story of constraint-based tutors, and interactivity and learning. There is no subject index.

SCIENCE (GENERAL)

Q175   2005-024868   978-0-8126-9578-6
Scientific reasoning; the Bayesian approach, 3d ed.
Howson, Colin and Peter Urbach.
Open Court Publishing, ©2006 327 p. $40.00 (pa)
Mathematician and divine Thomas Bayes, in his memoir—published posthumously in 1763—set out a process for evaluating hypotheses based on the idea that valid inductive reasoning is reasoning according to the formal principles of probability. The notion languished for over two centuries, because it might have jeopardized the status of the prior probabilities of scientific theories, but started being noticed about the time Howson and Urbach's introduction to it first appeared in 1989; the 1993 second edition is updated here.

Q183 2006-012875 0-13-185672-3
LabVIEW for everyone; graphical programming made easy and fun, 3d ed. (CD-ROM included)
Travis, Jeffrey and Jim Kring.
Prentice Hall, ©2007 981 p. $69.99
This tutorial on the LabVIEW graphical programming language and program is aimed at readers with basic computer knowledge. Divided among fundamentals and advanced topics, the chapters cover virtual instrumentation, the LabVIEW environment and programming basics, data structures, using charts and graphs, string data types, signals and data acquisition, external instruments, connectivity, customization, and other advanced features. The

third edition has been revised and expanded for version 8.0 and includes new Express VIs and Express technology, certified developer callouts, autotool, references, event structure, variants, type, definitions, XML, and other topics. A CD-ROM, containing an evaluation version of the program, examples and activities, and files related to certification, comes with the volume. Travis is a consultant, software developer, and teacher. Kring, a software engineer, works in LabVIEW development, system integration consulting, and custom software design.

MATH, COMPUTERS

QA37   2005-056262 978-0-471-75715-3
Math refresher for scientists and engineers, 3d ed.
Fanchi, John R.
Wiley-Interscience, ©2006 347p. $59.95 (pa)
For people with technical backgrounds, Fanchi (reservoir and energy engineering, Colorado School of Mines) offers an one-volume overview of the essential elements in a wide range of mathematical topics. He says it could especially interest professionals who want to understand the latest technology, engineers preparing for a professional exam, or students wanting to refresh their mathematics background. Many exercises are included, with solutions in the back. No dates are noted for earlier editions.

QA76.5   978-0-7695-2556-3
Application of concurrency to system design; proceedings.
Int'l Conference on Application of Concurrency to System Design (6th: 2006: Turku, Finland) Ed. by Kees Goossens and Laure Petrucci.
Computer Society Press, ©2006 283 p. $224.00 (pa)
Twenty-eight papers from the June 2006 conference compare different methods for designing and analyzing complex concurrent hardware and software systems. The ten sessions address asynchronous and synchronous systems, scheduling, timed systems, algorithms, stochastic models, model checking, systems on chips, algebraic approaches, and semantics. Topics include throughput analysis of synchronous data flow graphs, extended time automata and time Petri nets, models of computation for networks on chip, an algebra of abstractions for communication processes, concurrency in distributed systems under autonomous and enforced actions. No subject index is provided.

QA76.57 2006-009287 1-59140-861-X
Digital multimedia perception and design.
Title main entry. Ed. by Georghita Ghinea and Sherry Y. Chen.
Idea Group Publishing, ©2006 318 p. $79.95 (pa)
Written for researchers, multimedia designers, and content and infrastructure providers, this volume reviews technology in the area of perception-based multimedia design, including theory and applications in virtual reality, multi-sensory-based computing, ubiquitous communications, personalization, and adaptation. Ghinea and Chen (both: information systems, computing, and mathematics, Brunel U., UK) compile 14 chapters in sections on perceptual modeling, the five senses, the integration of human factors in the design and development, and advances in networking technologies. A sampling of topics: emulating human vision, affective computing, the visualization of auditory information, and the differences between left and right-handed people in computer-presented information. Authors of the chapters are in the fields of computer science, electrical engineering, communication and media studies, psychology, and others and are from around the world.

QA76.57 2005-058037 0-8493-7212-7
Multimedia encryption and authentication techniques and applications.
Title main entry. Ed. by Borko Furht and Darko Kirovski.
Auerbach Publications, ©2006 395 p. $79.95
For researchers and practitioners in the field at a level between intermediate and high, specialists in multimedia encryption and authentication from academia and industry survey the current and future trends in designing modern systems for the tasks. They include such advanced topics as chaotic video encryption techniques and streaming media encryption.

QA76.64 2006-295071 1-59059-507-6
Foundations of AOP for J2EE development.
Pawlak, Renaud et al.
Apress, ©2005 328 p. $49.99
Aspect Oriented Programming (AOP) and its tools can benefit enterprise Java application development, especially in the writing of large-scale applications. The authors assume readers have little or no experience in AOP and start with the basics, including comparing AOP with object-oriented programming and the basic concepts behind AOP. They cover AspectJ, Java aspect components, JBoss AOP, Spring AOP,

3

AOP tools comparisons, design patterns and AOP, and quality of service. After this overview they present the architecture and design of a sample application and show how to use AOP within the sample's business, presentation and client tiers. The result is a remarkably accessible overview with a wide range of examples and a good foundation for using J2EE applications.

QA76.64   0-9766940-9-3
From Java to Ruby; things every manager should know.
Tate, Bruce.
Pragmatic Bookshelf, ©2006 152 p. $29.95 (pa)
This book is a guide specifically for software developers and their managers who are convinced of the superiority of the Ruby on Rails' framework to Java's but need help convincing the decision-makers to make the switch. Tate (who is a former Java enthusiast) describes in practical terms why many developers believe the Java framework is weakening and the numerous advantages (e.g. a decreasing risk profile) of Ruby's simplified language. The aim is to smooth the way for a mass transition. The author is a former Java enthusiast unafraid to evolve with the times.

QA76.73 2004-093741 0-672-32704-X
Extending and embedding PHP.
Golemon, Sara. (Developer's library)
Sams, ©2006 409 p. $49.99 (pa)
For software developers already adept with the syntax and structure of the PHP language, Goleman, who has been intimately involved with its development, explains how to extend it by adding functions classes, resources, and stream implementations. She also describes how to embed the language itself into other applications to make them more versatile and useful to users and customers.

QA76.73   978-1-59059-582-4
Foundations of Ajax.
Asleson, Ryan and Nathaniel T. Schutta.
Apress, ©2006 273 p. $39.99 (pa)
Intended for experienced web developers, this guide explains XMLHttpRequest object's properties and methods, how it communicates with the server, and techniques for adding Ajax to an application. Code examples illustrate how to document JavaScript code with JSDoc, validate HTML content with Firefox extensions, search for nodes using DOM Inspector, test JavaScript with JsUnit, and debug Ajax requests with Greasemonkey.

QA76.73   2006-012205 0-321-34960-1
Java concurrency in practice.
Goetz, Brian.
Addison-Wesley, ©2006 403 p. $44.99 (pa)
A consequence of the proliferation of multicore processors in desktop systems is an increasing number of multithreaded Java programs and associated concurrency bugs. According to software consultant Goetz, the primary author of this text, it is not sufficient to address concurrency issues through Java's low-level mechanisms such as synchronizaton and condition waits unless the mechanisms are used consistently to implement application-level protocols or policies. In this work, he and his colleagues introduce general rules and mental models that aid in building performant concurrent classes and applications in Java. They discuss basic concepts of concurrency and thread safety, how to exploit threads to improve the throughput or responsiveness of concurrent applications, and issues of performance and testing. They conclude with a look at advanced topics, including explicit locks, atomic variables, nonblocking algorithms, and developing custom synchronizers.

QA76.73   2006-015309 1-59327-077-1
Object-oriented PHP; concepts, techniques, and code.
Lavin, Peter.
No Starch Press, ©2006 190 p. $29.95 (pa)
Lavin, a Web developer, takes a practical approach in this overview of object-oriented (OO) PHP, offering many concrete examples to demonstrate the advantages of OO programming. He introduces OO programming as implemented in PHP, and develops some useful classes to demonstrate basic syntax and concepts. The classes developed in the book are all fully functional and are available for download at the companion website. The book will appeal to developers familiar with PHP, to developers already familiar with any OO language, and to system administrators. Some previous knowledge of PHP is desirable.

QA76.754   2005-935242 0-672-32875-5
FreeBSD 6; unleashed. (DVD-ROM included)
Tiemann, Brian and Michael Urban.
Sams, ©2006 877 p. $49.99 (pa)
For those with technical knowledge, such as developers and website operators, this volume explains the advanced open-source operating system FreeBSD and how to use it. It begins with installation, and moves on to the desktop system, the shell environment and command line

interface, system administration, and networking and configuration. Appendices and bonus materials on the DVD-ROM cover discussions of network security, virtual private networks, the domain name server, troubleshooting, hardware compatibility, commands, and further sources. The DVD-ROM also contains the Base FreeBSD 6.1 system, Xfree86 4.2, FreeBSD ports collection, source code, and additional packages. Tiemann, a freelance technology columnist and author of other computer books, specializes in networking applications, system administration, and database-driven site design. Urban is the author of *Sams Teach Yourself FreeBSD in 24 Hours*.

QA76.76   2006-010651 978-0-470-01812-5
Algorithms and networking for computer games.
Smed, Jouni and Harri Hakonen.
John Wiley & Sons, ©2006   264 p. $90.00
Combining algorithmic knowledge and game-related problems, this guide covers all the common difficulties found in game programming. Smed and Hakonen, who are both from Finland's University of Turku, focus on solving algorithmic problems practically and finding a path in, creating the terrain of, and making decisions in the game world. They also discuss networking problems in computer games, particularly hiding the inherent communication delay, using limited network resources, and coping with cheating. The text includes algorithmic solutions in pseudo code format, discussion of the synthetic player, and 51 ready-to-use algorithms and 178 illustrative exercises.

QA76.76   2005-935651 978-0-7695-2504-4
Computational intelligence for modelling, control & automation; jointly with Intelligent agents, web technologies & internet commerce; proceedings; 2v.
Int'l Conference on Computational Intelligence for Modelling.../Int'l Conference on Intelligent Agents, Web... (2005: Vienna, Austria)
Computer Society Press, ©2006 2336 p. $344.00 (pa)
Two conferences are represented in the couple thousand pages of this hefty two-volume set: The International Conference on Computational Intelligence for Modeling, Control & Automation (CIMCA 2005), and the jointly held International Conference on Intelligent Agents, Web Technologies and Internet Commerce (IWATIC 2005). The venue was Vienna, Austria, and sponsoring organizations included associations based in the US, Europe, Japan, Australia, and Taiwan. Papers detail

research related to the broad themes of image processing, knowledge discovery and decision making, intelligent systems for modelling and prediction, web services, intelligent agents and ontologies, encryption, information management, robotics, genetic algorithms and evolutionary computation, neural netowrk systems, and fuzzy systems—to name just a sampling of the topics addressed. The papers are not indexed.

QA76.76   0-596-00982-8
Learning UML 2.0.
Miles, Russ and Kim Hamilton.
O'Reilly & Associates Inc, ©2006 269 p. $44.99 (pa)
This guide for software developers explains how to use the Unified Modeling Language (UML) to craft and communicate a project's design, regardless of the software process or methodology used. Software engineers Miles and Hamilton emphasize the practical applications of UML, and avoid too much theoretical discussion. Each of the different UML diagram types is presented in the form of a hands-on tutorial. It is assumed that the reader has some familiarity with object-oriented design and the Java language.

QA76.76   2005-058144 0-8493-3593-0
Software sizing, estimation, and risk management; when performance is measured performance improves.
Galorath, Daniel D. and Michael W. Evans.
Auerbach Publications, ©2006 541p. $79.95
Software project cost and schedule specialist Galorath and software risk specialist Evans share their insights from years of software project management. For people who manage, engineer, and assure software and for stakeholders, they explain how to identify, manage, and mitigate estimate risks and project impacts. They cover estimation issues, the estimation process, metrics and special estimation cases, and risk management and estimation tools and techniques. Their approach is practical rather than theoretical or academic. Distributed in the US by Taylor and Francis.

QA76.8   2003-099242 0-672-32670-1
BlackBerry in a snap.
Morrison, Michael. (Sams teach yourself)
Sams, ©2006 377 p. $24.99 (pa)
This guide presents short step-by-step lessons on how to use a BlackBerry, from setup to applications. Morrison explains how to manage it from a PC; customize; use email, text messages, and instant messaging; browse the web; operate it as a phone; use Bluetooth; utilize the address

book, calendar, and tasks; and implement security. Morrison is the author of many computer books and a mobile software developer.

QA76.9   1-59140-936-5
Advanced topics in database research; v.5
Title main entry. Ed. by Keng Siau.
Idea Group Publishing, ©2006 460 p. $79.95 (pa)
Siau (U. of Nebraska at Lincoln) intends this collection to provide researchers and academics with some of the latest research on databases and database management. He has organized the papers into sections on analysis and evaluation of database models, database designs and applications, database design issues and solutions, and semantic database analysis. Specific topics include assessment of business process modeling languages using a generic quality framework, Web- based ontology-building method guidelines, autonomic computing for automating configuration and optimization tasks, a concurrency control algorithm for high-dimensional index structures, evaluation of the performance of dynamic database applications, indexing regional objects in high-dimensional spaces, and the application of semantic association discovery for the determination of relevance of heterogeneous documents.

QA76.9   1-58053-963-7
Ambient intelligence, wireless networking, and ubiquitous computing.
Title main entry. Ed. by Athanasios Vasilakos and Witold Pedrycz. (Mobile communications series)
Artech House, ©2006 450 p. $149.00
Concepts, algorithms, paradigms, implementations, and existing systems of Ambient Intelligence (AmI), wireless networking, and ubiquitous computing are covered in 20 chapters by an international roster of contributors (most are European; some are from North America, the Middle East, and Asia). Editors Vasilakos (U. of Thessaly, Greece) and Pedrycz (U. of Alberta, Canada) open with discussion of the challenges at this frontier of computer research where smart dust and other technology will be enlisted to respond to, and even anticipate human needs and directives. Subsequent coverage includes technical and practical problems that must be addressed in order to make the environment seamlessly workable for its human inhabitants. Chapters are devoted to technical issues—such topics as fuzzy adaptive embedding agents, physical browsing, distributed workgroups, grids, peer-to-peer networks, routing protocols,

human-machine interfaces, security—as well as issues of context and application in business (meetings), education (e.g. the MyCampus system), and wearable systems. The final chapter addresses intelligent automatic exploration of virtual worlds (and why it's important).

QA76.9   2006-922684   978-0-7695-2585-3
Cluster computing and the grid; proceedings. (CD-ROM included)
IEEE International Symposium on Cluster Computing and the Grid (6th: Singapore: 2006)
Computer Society Press, ©2006 662 p. 229.00 (pa)
Ninety-five papers from the May 2006 symposium present new approaches to message passing interfaces, peer-to-peer computing, programming models, data grid management middleware, performance evaluation, resource management, and scheduling. The researchers propose an information service architecture model for a grid virtual organization, a core grid ontology for the semantic grid, a problem- solving environment for analyzing biodiversity patterns, and a grid-aware toolkit for reservoir uncertainty analysis. Other topics include CPU load predictions on the computational grid, provenance- based trust for scientific workflows, and a feedback mechanism for network scheduling in LambdaGrids. No subject index is provided, but the digital version of the book on the CD-ROM is searchable.

QA76.9   2005-026186   978-1-57820-318-5
Enterprise security architecture; a business-driven approach.
Sherwood, John et al.
CMP Books, ©2005 587 p. $69.95
This work presents a framework for developing enterprise security architecture. The Sherwood Applied Business Security Architecture (SABSA) model is generic and defines a process for architecture development, with each solution unique to the individual business. Security architecture issues are related to business requirements using charts, graphs, and real business situations. The audience for the book includes both technical security personnel and business managers. Sherwood is affiliated with Royal Holloway College, University of London, UK.

QA76.9   2006-009839   1-58450-467-6
Innovative cryptography, 2d ed.
Moldovyan, Nick and Alex Moldovyan.
Charles River Media, ©2007 386p. $49.95 (pa)
Nick Moldovyan and Alex Moldovyan, both affiliated with the Specialized Center of Program Systems, review current findings in the area of

       6

cryptography and explore how to implement these new techniques to solve various problems of information protection in computer networks and communications systems. Coverage includes the mathematical basics of symmetric and asymmetric cryptography, the synthesis of block ciphers, and software-oriented ciphers. The book is for all involved in the development of cryptographic tools, including engineers, researchers, programmers, and IT security professionals.

QA76.9   2006924254 0-7695-2598-9
Policies for distributed systems and networks; proceedings.
IEEE International Workshop on Policies for Distributed Systems and Networks (7th: 2006: London, Ontario, Canada)
Computer Society Press, ©2006 244 p.
$180.00 (pa)
Eighteen full papers and 15 short papers from the June 2006 workshop explore computer interfaces that can be adapted to different users and different environments. The six sessions address internet and database policies, access control policies, tools and rules, coordination, policy management, and access evaluation. Topics include a quantitative approach to IT investment allocation, a distributed tabling algorithm for rule-based policy systems, a basis for comparing characteristics of policy systems, and policy languages for digital identity management in federation systems. No subject index is provided.

QA76.9
978-0-7695-2590-7
Scientific and statistical database management; proceedings.
Int'l Conference on Scientific and Statistical Database Management (18th: 2006: Vienna, Austria)
Computer Society Press, ©2006 399 p.
$186.00 (pa)
This volume consists of 33 full papers, five short papers, and five demonstrations from the July 2006 conference on scientific database management, experiment data management, data streams and time series data, conceptual modeling and OLAP, data mining and visualization, ontologies and metadata management, and algorithms. The researchers propose a pedigree query language for expressing hereditary data, data models for signaling pathways, and a disc-based approach to data summarization and privacy preservation. Other topics include containment of partially specified tree pattern queries, data harvesting for tracing phenomena in sensor networks, a citation system for curated databases, and materialized views in the presence of reporting functions. No subject index is provided.

QA76.9   2006-002985 1-58450-460-9
Text mining application programming. (CD-ROM included)
Konchady, Manu.
Charles River Media, ©2006 412 p.
$59.95 (pa)
After reviewing some standard statistical concepts and linear algebra, this book explains methods for building tokens from text, constructing indexes, and detecting patterns in text that may be helpful to software developers managing unstructured text. The second half covers information extraction, the structure of the web, the development of a search engine, cluster organization, text categorization, and question and answer systems. The CD-ROM contains open source tools to test the text mining functions.

QA268   978-0-471-75618-7
Code design for dependable systems; theory and practical applications.
Fujiwara, Eiji.
Wiley-Interscience, ©2006 701 p. $150.00
Fujiwara (Tokyo Institute of Technology) introduces the field and recent advances with a focus on matrix codes, discussing them in terms of theory and practice—with respect to high-speed semiconductor memories, mass memories of disks and tapes, logic circuits and systems data entry systems, and distributed storage systems—and their advantages (e.g. flexibility) over the more commonly studied polynomial codes. Coverage includes new classes of matrix codes (error locating, spotty byte, and unequal error control, parallel decoding) in their practical settings. Introductory chapters can be used at the advanced undergraduate level; graduate students with background in math, logic circuits, and a basic knowledge of codes, and practicing engineers/ designers will make use of more advanced coverage as well as the reference material.

QA268
0-596-10121-X
Unicode explained.
Korpela, Jukka K.
O'Reilly Media, Inc., ©2006 658p. $59.99 (pa)
This reference to Unicode provides details on the basics as well as advanced programming, including explanations of the identification and classification of characters, using codes, conversion, characters and language, usage, internet protocols, and programming. The book starts at the average computer user's level, then becomes more technical; it is aimed at end users of multi-lingual or specialized text-related

applications, and IT professionals, teachers, and students. Korpela is a consultant who specializes in character codes, localization, orthography, usability, and accessibility. He has taught at Helsinki U. of Technology and other institutions.

QA276   2006-040184 978-0-470-02353-2
Statistical matching; theory and practice.
D'Orazio, Marcello et al. (Wiley series in survey methodology)
John Wiley & Sons, ©2006 256 p. $99.00
D'Orazio, Di Zio, and Scanu (ISTAT-Istituto Nazionale de Statistica, Rome, Italy) describe the basics and methods of statistical matching: combining information from different sources that contain no common unit. They explain the mathematical-statistical framework of the statistical matching problem, including the conditional independence assumption, auxiliary information, and uncertainty; and statistically matching two files, with attention to issues in preparing and applications. Likelihood based inference is used, and the nonparametric case, Bayesian paradigm, and model assisted approaches are also discussed. The appendices contain partially observed data, loglinear models, distance functions, and finite populations sampling, and shows algorithms written in the R language. The book is intended for researchers in national statistics institutes and applied statisticians, and scientists and researchers that have background knowledge in maximum likelihood methods, regression analysis, and the analysis of contingency tables.

QA372   2006-042615 1-58488-677-3
Introduction to asymptotic methods.
Awrejcewicz, Jan and Vadim A. Krysko. (CRC series; Modern mechanics and mathematics; 5)
Chapman & Hall/CRC, ©2006
251 p. $89.95
Awrejcewicz (Technical University of Lodz, Poland) and Krysko (Technical University, Russia) review the main methods of singular perturbations, emphasizing applications to differential equations. The authors' original approach to the subject is based on the integrated mathematical-analytical treatment of various objects taken from interdisciplinary fields of mechanics, physics, and applied mathematics. Their hybrid approach leads to results that cannot be obtained by standard theories in the field, and the book features results and literature citations that have not been seen in the western scientific community.

QA402   978-0-7695-2596-9
Computational complexity; proceedings.
IEEE Annual Conference on Computational Complexity (21st: 2006: Czech Repub2279771lic)
Computer Society Press, ©2006 371 p.
$205.00 (pa)
Papers from a July 2006 conference shed light on recent developments in all areas of computational complexity. Some specific topics examined include polynomial identity testing for depth 3 circuits, constructing Ramsey graphs from Boolean function representations, learning monotone decision trees in polynomial time, and random measurement bases, quantum state distinction, and applications to the hidden subgroup problem. Other topics are grid graph reachability problems, the complexity of numerical analysis, derandomization of probabilistic auxiliary pushdown automata classes, and a 3-query non- adaptive PCP with perfect completeness. There is no subject index.

QA402   2006-040065 978-0-471-70858-2
Optimal state estimation; Kalman, H. [infinity] and nonlinear approaches.
Simon, Dan.
John Wiley & Sons, ©2006 526 p. $95.00
Simon (Cleveland State U.) presents an accessible yet rigorous graduate-level text on approaches to estimating the state of a general system, for engineers across the disciplines. Written with an engineering slant rather than as a mathematics text (although both discrete-time systems and continuous-time systems are addressed for the sake of completeness), the material requires a graduate-level foundation in linear systems theory and probablility and stochastic processes and a moderately high level of mathematical and engineering maturity. Distinguishing this text from others on the subject are examples that do not require a computer so that students gain an intuitive understanding of each theory, web access to MATLAB-based source code, and thorough treatment of advanced topics. With this text under their belt, advanced students can launch their own contributions to the field.

QA611   2005-058916 0-8218-4070-3
Gradient inequalities with applications to asymptotic behavior and stability of gradient-like systems.
Huang, Sen-Zhong. (Mathematical surveys and monographs; v.126)
Amer. Mathematical Society, ©2006 184 p.
$59.00
Here Huang gives a comprehensive study of gradient inequalities and their applications in proving convergence of solutions to gradient-

like systems, with an eye to application fields including the mathematical model of physical problems, a calculus of variations, image processing, and geometric evolution problems. He introduces his results and also introduces their application to gradient-like system in Hilbert spaces and to the stability problem, then covers gradient inequality and abstract convergence results, closing by apply results to semilinear gradient-like systems in Hilbert spaces.

QA699   2005-005106 1-59102-296-7
Flatland; a romance of many dimensions. (reprint, 1884)
Abbott, Edwin A. (Prometheus's literary classics series)
Prometheus Books, ©2005 130 p. $11.00 (pa)
This is an amazing tour of a two-dimensional society, as earnest as any travelogue, complete with debate on the suppression of the Chromatic Sedition. Especially charming is the two-dimensional narrator's attempts to explain the three dimensions of Spaceland and the one dimension of Lineland. This edition includes the author's hand-drawn illustrations, including the famous chart of "My body just before I disappeared." Originally published in London by Seeley & Co., 1884. Cited in *Books for College Libraries, 3d ed.*

ASTRONOMY

QB461   2006-015391 0-8053-0402-9
An introduction to modern astrophysics, 2d ed.
Carroll, Bradley W. and Dale A. Ostlie.
Addison-Wesley, ©2007   1341 p. $141.60
This textbook is designed for undergraduate astrophysics courses for astronomy and physics majors. Thirty chapters cover such topics as the theory of special relativity, the classification of stellar spectra, the fate of massive stars, the realms of the giant planets, and the structure of the universe. Many contain optional advanced sections. The second edition has been revised to reflect recent discoveries and significant advances in the field.

PHYSICS

QC15   2005-029427 978-0-19-517845-6
The Martians of science; five physicists who changed the twentieth century.
Hargittai, Istvan.
Oxford U. Press, ©2006   313 p. $34.50
They were born at the turn of the twentieth century in Budapest. They eventually came to America. They did not let little things like one of

them (Wigner) winning a Nobel Prize get in the way of their enduring friendships. Their politics led left and right and their careers took them all over the place. Szilard left physics to join the nuclear nonproliferation movement. Von Neumann developed computers for complex calculations. Von Karman became the first director of NASA's jet propulsion laboratory. Teller was one of the fathers of the atom bomb and later of the Star Wars initiative. When they were older, despite the differences in their careers and politics, they still considered each other collaborators and friends. Hargittai (chemistry, Budapest U. of Technology and Economics) makes good use of his personal acquaintances and primary resources to describe lives that were always collegiate, if not exactly parallel.

QC20   2006-042558 0-470-04142-0
Mathematical methods in science and engineering.
Bayin, S. Selcuk.
Wiley-Interscience, ©2006 679 p. $115.00
Based on his own courses, this book by Bayin (physics, Middle East Technical U., Turkey) discusses advanced mathematical tools of physics for use by science and engineering students and researchers. Each chapter reviews a different subject and can be read independently. Coverage encompasses special functions in science and engineering; Sturm-Liouville systems and the factorization method; coordinates and tensors; continuous groups, Lie algebras, and group representations; complex analysis; the basics of fractional calculus; infinite series; integral transforms; variational analysis; integral equations; Green's functions; and path integrals. The book can be used in advanced undergraduate and graduate courses. Students should have background in topics covered in the first three years of science and engineering undergraduate curriculum.

QC173   2005-035595
978-0-7503-0969-1
One- and two-dimensional fluids; physical properties of smectic, lamellar and columnar liquid crystals.
Jakli, Antal and A. Saupe. (Series in condensed matter physics)
Taylor & Francis, ©2006   339 p. $139.95
Smectic and lamellar liquid crystals are three-dimensional layered structures in which each layer behaves as a two-dimensional fluid. Jakli and Saupe (both Kent State U.) describe the basic structures and properties of these fluids and the nature of phase transitions. They begin

9

by describing liquid crystal materials, including thermotropic liquid crystalline materials, lyotropic liquid crystals, and amphotropic liquid crystals. They describe fluids with reduced dimensionality (such as soap film and smectic membranes), phase transitions (including the Landau description), rheological properties, the optics of anisotropic materials, defect structures, magnetic properties, electrical properties, and applications. The authors have provided very clear illustrations and a comprehensive list of references for each chapter.

QC476   2006-011409 0-8194-6350-7
Coherent-mode representations in optics.
Ostrovsky, Andrey S. (SPIE monograph; pm 164)
SPIE, ©2006   86 p. $56.00 (pa)
Ostrovsky gathers reported results on mode representations that have been scattered across the literature and provides a unified treatment derived from modal analysis. He covers coherent-mode representation of optical fields, sources and systems, coherent-mode representation of propagation-invariant fields, coherent-mode representation in radiometry and alternative coherent-mode representation of a planar source.

QC625   2005-056957 978-0-471-78882-9
Electrokinetic and colloid transport phenomena.
Masliyah, Jacob H. and Subir Bhattacharjee.
Wiley-Interscience, ©2006 707 p. $125.00
Masliyah and Bhattacharjee, professors of chemical and mechanical engineering, respectively, at the University of Alberta, Canada, overview the latest research and applications in the field in this self-contained reference for both beginners and professionals. Coverage progresses from mathematical preliminaries through colloidal systems, electrophoresis, and numerical simulation of electrokinetic phenomena. Because the book does not require advanced mathematical knowledge, it can be used by senior undergraduate and graduate students approaching the subject for the first time. The book's worked examples will also be useful to researchers and professionals.

QC876   2005-024526 978-1-4051-2357-0
Analytical techniques for atmospheric measurement.
Title main entry. Ed. by Dwayne E. Heard.
Blackwell Publishing, ©2006 510 p. $199.99
With an emphasis on how a range of instruments work and which technique to use to perform the appropriate field observations, this text takes a practical approach suitable for the working atmospheric scientist or the graduate or undergraduate student of atmospheric and environmental chemistry and is the first to bring all the instrumental techniques together. Contributors cover the role of field measurements, instrument platforms, quality assurance, infrared absorption spectroscopy, UV-Visible differential optical absorption spectroscopy, florescence methods, mass spectrometry methods for atmospheric trace gases or aerosol composition measurements, chemical methods (chemoluminescence, chemical amplification, electrochemistry and derivation). Chromatographic methods, and measurements of photolysis frequencies in the atmosphere.

CHEMISTRY

QD96   2005-036663 978-0-470-02516-1
Quantitative applications of mass spectrometry.
Title main entry. Ed. by Irma Lavagnini et al.
John Wiley & Sons, ©2006 138p. $35.00 (pa)
Writing for scientists that are not necessarily physicists or chemists but still find themselves needing to make use of quantitative organic mass spectrometry, the authors (of Italy's U. of Padova and National Council of Research) offer a basic introduction to the development and use of this quantitative procedure. They discus the types of instrumental approaches available, how to design a quantitative analysis from general strategy to method validation, how to improve specificity, and theoretical aspects of calibration and data analysis.

QD96   2005-036662 978-0-471-60731-1
Surface enhanced vibrational spectroscopy.
Aroca, Ricardo.
John Wiley & Sons, ©2006 233 p. $180.00
Together, surface-enhanced Raman scattering (SERS)—narrowly defined as surface plasmon-assisted enhancement of Raman scattering—and surface- enhanced infrared absorption (SEIRA) form a new branch of vibrational spectroscopy called surface-enhanced vibrational spectroscopy (SEVS). Aroca (chemistry and biochemistry, U. of Windsor, Canada) begins his monograph on SEVS by reviewing the vibrating molecule and the origin of infrared and Raman spectra and providing a brief discussion on the absorption and scattering of light by metallic nanoparticles, the fabrication of nanostructures, and the selection of the appropriate experimental conditions for SERS and SEIRA. Remaining chapters

consider SERS as a surface plasmon- assisted spectroscopy, the chemical effects of molecule-nanostructure interactions, the ability to apply SERS to different types of molecule systems, and overviews of SERS and SEIRA applications.

QD139   1-85957-492-0
Polymer reference book.
Crompton, T.R.
Rapra Technology, ©2006   704 p. $198.00 (pa)
Covering physical, chemical, and physiochemical methods, this work describes the capabilities, limitations, and applications of techniques used in the examination of polymers. Commercial instrumentation for the determination of metals, non-metals, functional groups, polymer structural analysis, and end-groups in the main types of polymers is covered by the text. It also describes the analysis of minor non-polymeric components of the polymer formulation, including processing additives and residual volatiles and monomers. Fingerprinting techniques for the rapid identification of polymers and methods for examining polymer surfaces and defects are presented. Other features of polymer characterization that are discussed include the determination of molecular weight; polymer fractionation techniques; chemical and thermal stability; resin cure; oxidative stability; photopolymers; glass and other transitions; crystallinity; viscoelasticity; rheological properties; thermal properties; flammability testing; particle size analysis; and the measurement of mechanical, electrical, and optical properties.

QD382   2006-008950 1-58706-219-4
Molecular imprinting of polymers.
Title main entry. Ed. by Sergey Piletsky and Anthony Turner. (Biotechnology intelligence unit)
Landes Bioscience, ©2006   208 p. $149.00
Because molecular recognition is the basis for most biological processes, from ligand-receptor binding to translation and transcription of the genetic code, the value of being able to design biomimetic materials with molecular recognition properties is evident. One of these areas of biomimetics is in the realm of molecular imprinting, which is defined by the editors (both of the Institute of BioScience and Technology, Cranfield U., UK) as "process of template-induced formation of specific recognition sites (binding or catalytic) in a material where the template directs the positioning and orientation of the material's structural components by a self-assembling mechanism." They present

15 chapters that review the current state of the field by discussing polymer design, synthesis, and characterization, introducing practical applications and technologies, and considering aspects of commercialization strategy and intellectual property rights.

QD516   1-55899-851-9
Multifunctional energetic materials; proceedings.
Symposium on Multifunctional Energetic Materials (2005: Boston, MA) Ed. by N.N. Thadhani et al.
Materials Research Society, ©2006 259 p. $95.00
Multifunctional energetic materials are those that integrate desirable characteristics of high energy density and rapid energy release properties—that is, explosives—with a least one other designed functionally, for example mechanical strength. Chemical and materials scientists and engineers from military, university, and industrial laboratories in the US, Europe, and Singapore present 29 selected papers on synthesis and processing, characterization, mechanisms, and theory and modeling.

GEOLOGY

QE38   1-84564-168-X
Geo-environment and landscape evolution; proceedings.
International Geo-Environment and Landscape Evolution (2d: 2006: Rhodes, Greece) Ed. by J. F. Martín-Duque et al. (WIT transactions on ecology and the environment; v.89)
WIT Press, ©2006   478 p. $290.00
Studying how the earth's dynamic processes and materials work together is a dynamic process essential for understanding pollution (air, water and soil), soil erosion, waste disposal, water quality, building construction and reconstruction of landscapes. These proceedings of the June 2006 conference includes 46 new comprehensive peer-reviewed papers with a wide range of topics, including international planning and management, environmental modeling and monitoring, environmental pollution and remediation, climatological processes, locating geo-environment in urban settings, geoecology, hydrological studies, landscape analysis, natural hazards and risks, remote sensing, soil and rock properties and vulnerability studies. The US office of WIT Press is Computational Mechanics.

BIOLOGY

QH324   2006-003556 1-59140-864-4
Advanced data mining technologies in bioinformatics.
Title main entry. Ed. by Hui-Hwang Hsu.
Idea Group Publishing, ©2006 329 p. $79.95 (pa)
Writing for advanced undergraduates, graduate students or professionals in computer science, computer engineering or management information systems with emphasis in bioinformatics, this collection of 16 articles that work as comprehensive chapters describes basic to advanced theories, procedures, functions and techniques. They cover the basics of data mining, hierarchical profiling, scoring and applications, methods and practices of combining multiple scoring systems, DNA sequence visualization, proteomics with mass spectrometry, analysis of large phylogenic datasets, algorithmic aspects of protein threading, hybrid approaches to pattern differentiation and formulations for heterogeneous genomic data, clustering techniques without parameters for gene expression analysis, joint discriminatory gene selection for the molecular classification of cancer, a haplotype analysis system for genes in common diseases, a Bayesian framework for improving the clustering accuracy of protein sequences based on association rules, in-silico recognition of protein-to-protein interactions, understanding annotations in protein interaction networks, mining "BioLiterature" for automatic annotation of genes and proteins, and comparative genome annotation systems.

QH434   2005-034347 1-58829-496-X
Bacterial genomes and infectious diseases.
Title main entry. Ed. by Voon L. Chan et al.
Humana Press Inc., ©2006 270 p. $135.00
Canadian, US, and Irish researchers set out some general findings about bacterial genomes and their impact on strategy and approach for investigating mechanisms of pathogenesis of infectious diseases. They also discuss the value and power of genomics, proteomics, glycomics, and bioinformatics as applied to selected specific bacterial pathogens. Readers are expected to be graduate and senior undergraduates students, scientists, and clinicians in microbiology, pathobiology, genetics, and infectious diseases.

QH603   2005-026667 1-58829-576-1
Ion channels; methods and protocols.
Title main entry. Ed. by James D. Stockand and Mark S. Shapiro. (Methods in molecular biology; v.337)
Humana Press Inc., ©2006 212 p. $99.50
The dysfunction of ion channels, note the editors (of the U. of Texas Health Science Center), is the root cause of many human diseases. In this work, they present protocols of recent techniques and experimental designs used to study the role of ion channels in cell biology and physiology. They have organized the 15 contributions into sections devoted to methods for exogenous expression of ion channels in cells; methods for studying channel structure-function; methods for studying channel regulation and physiological function; and methods for studying channelopathies, genetic screening, and molecular biology. The protocols follow the same format as in other volumes of the series, providing step-by-step instructions, introduction to the principles behind the technique, lists of necessary equipment and reagents, and tips on troubleshooting and pitfalls.

QP363   3-527-31285-4
Transcription factors in the nervous system; development, brain function, and diseases.
Title main entry. Ed. by Gerald Thiel.
Wiley-VCH, ©2006   445 p. $219.00
Aimed at neurobiologists, geneticists, biochemists, and scientists in related fields, this text provides a comprehensive overview of how genetic transcription factors regulate the development and function of the brain. It features 20 contributions from leading international researchers, including one from Nobel laureate Eric Kandel. The volume is divided into three sections dealing with neural development, brain function, and neuronal diseases. Editor Thiel is affiliated with the U. of Saarland Medical Center in Germany.

QP364   2005-025723 0-8493-1891-2
The dynamic synapse; molecular methods in ionotropic receptor biology.
Title main entry. Ed. by Josef Kittler and Stephen Moss. (Frontiers in neuroscience)
CRC / Taylor & Francis, ©2006 317 p. $149.95
Writing for researchers interested in techniques, methods and conceptual advances used for studying neurotransmitter receptors and other synaptic proteins, the contributors of these 15 papers describe a broad array of molecular, biochemical, imaging, and electrophysiological approaches. Topics include AMPA receptor trafficking, long-term plasticity at inhibitory

synapses, proteomics of the PSD, phosphorylation of site-specific antibodies, protein palmitoylation by the DHHC protein family, antibody labeling and biotinylation approaches to study neurotransmitter receptors, visualization of AMPAR trafficking and surface expression, neurotransmitter dynamics, receptors dynamics and functional tagging, RNAi and applications in neurobiology, transfecting and transducing neurons, expression of recombinant proteins in rat brains using Sindbus virus, Lentivirus-based genetic manipulation, AMPA receptor phosphorylation in synaptic plasticity, and genomic and post-genomic tools for studying synapse biology.

QP514 0-07-146197-3
Harper's illustrated biochemistry, 27th ed. (online access included)
Murray, Robert K. amd Daryl K. Granner.
Lange Med. Books/McGraw-Hill, ©2006 692 p. $44.95 (pa)
Originally published in 1939, this enduring reference/text continues with its mission to introduce biochemistry concepts to medical and health sciences students in concise text supported with graphs, charts, and diagrams. Updating the 2003 26th edition (which was drastically revised to make it shorter), the 27th includes substantial revisions as well as new coverage of bioinformatics and computational biology. Topics are each treated in about 10 pages and are presented under the themes of: structures and functions of proteins and enzymes; bioenergetics and the metabolism of carbohydrates and lipids; metabolism of proteins and amino acids; structure, function and replication of informational macromolecules; biochemistry of extracellular and intracellular communication; and special topics (e.g. nutrition, digestion and absorption, muscle and the cytoskeleton). The authors introduce each concept with discussion of its biomedical importance.

QP514 1-904933-16-5
Microbial bionanotechnology; biological self-assembly systems and biopolymer-based nanostructures.
Title main entry. Ed. by Bernd Rehm.
Horizon Bioscience, ©2006 373 p. $189.95
Researchers from around the world survey the most successful approaches to using micro-organisms to produce nanodevices with biological and chemical function. They demonstrate the diversity of biological nanostructures, the implied design space, and the potential for application in medicine and technology. Their topics include the application of polyhydroxyalkanoates to studies of

interactions between proteins, the self-assembly and applications of bacteriophages, bacterial spores, and supramolecular assembly using the natural specificities of biological macromolecules. Distributed in the US by Taylor and Francis.

MICROBIOLOGY

QR82 2005-032511 1-55581-365-8
The biology of vibrios.
Title main entry. Ed. by Fabiano L. Thompson et al.
ASM Press, ©2006 423 p. $139.95
As a text on vibrios has not been published in 20 years, Thompson (Microbial Resources Division and Brazilian Collection of Environmental and Industrial Microorganisms, Brazil), Austin (Heriot- Watt U., UK), and Swings (Ghent U., Belgium) present 29 chapters of recent research on the biology of this common marine bacteria, including discussion of biodiversity, ecology, post-genomics, and disease and epidemiology associated with vibrios. Other topics are isolation, enumeration, and preservation; classification and phylogeny; genome evolution; physiology; animal pathogens; the impact of genomics and proteomics in the study of human pathogens; and biotechnological applications. Contributors are from the fields of biology, bacterial infections, microbiology, marine research, and related fields, and are from around the world.

MEDICINE (GENERAL & PUBLIC ASPECTS)

R856 2005-058118 978-0-471-39628-4
Force microscopy; applications in biology and medicine.
Title main entry. Ed. by Bhanu P. Jena and J.K. Heinrich Horber.
Wiley-Liss, ©2006 300 p. $125.00
Atomic force microscopy has helped overcome limitations of both light and electron microscopy and allowed the structure and dynamics of single biomolecules and live cells to be determined in three dimensions at near-angstrom resolution. Researchers describe its application to such matters as the molecular mechanism of secretory vesicle content expulsion during cell secretion, the plant cell wall and its constituents, cellular interactions of nanoscale drug deliver systems, inter-molecular forces of leukocyte adhesion molecules, and imaging soft surfaces.

R856   2006-001110 978-0-471-24967-2
Wiley encyclopedia of biomedical engineering; 6v.
Title main entry. Ed. by Metin Akay.
John Wiley & Sons, ©2006 4152p. $1,950.00
The field is rife with activity directed toward "integration of engineering, mathematics, and the computational and information sciences and technologies with biology, the life and cognitive sciences, medicine, and health care" as editor Akay (biomedical engineering, Arizona State U.-Tempe) defines the new biomedical frontier. That's a great deal of integration to be done, and this six- volume reference is intended to help with the melding and the cross- disciplinary cultivation of ideas and innovation. Some 350 well-referenced articles—supported by approximately 2,000 tables, figures, and illustrations—discuss pertinent topics at various levels of detail and sophistication; the aim is to suit the needs of undergraduate and graduate students as well as research scientists and experts concerned with any of the aforementioned fields as they pertain to health care and medical equipment. Arrangement of the in- depth articles is alphabetical by topic; thorough indexing is in the sixth volume.

RA967   2006-009318 978-0-471-71661-7
The architecture of medical imaging; designing healthcare facilities for advanced radiological diagnostic and therapeutic techniques.
Rostenberg, Bill.
John Wiley & Sons, ©2006 446 p. $110.00
For designers and healthcare professionals, this volume explains design and planning processes so that radiologists and administrators can collaborate with architects. It covers design approaches that take into account changes to the industry and medical imaging, organizing and managing a project from the owner's point of view, imaging techniques and new modalities, planning and design concepts for facilities, and how imaging trends affect this design. An appendix contains regulatory guidelines. The book follows and updates the author's *The Architecture of Imaging*, which is no longer in print. Two chapters were written by Steven Horii (radiology and medical informatics, U. of Pennsylvania Medical Center). Rostenberg is an architect who specializes in the design and planning of technologically complex healthcare facilities and has taught at several institutions, including Harvard U.

INTERNAL MEDICINE, PSYCHIATRY

RC365   2005-032056 978-0-470-01488-2
Neurodegenerative diseases and metal ions.
Title main entry. Ed. by Astrid Sigel et al. (Metal ions in life sciences; v.1)
John Wiley & Sons, ©2006 463 p. $265.00
The editors (professors of inorganic chemistry at the U. of Basel and the U. of Zurich, Switzerland) present the first volume of a series dedicated to study of metal ions in the life sciences. The 15 chapters are dedicated to discussion of neurogenerative diseases that are caused by a defect in metal ion transport or homeostasis, caused by toxicological exposure to metals, or caused or associated with metalloprotein aggregation and/or misfolding. After a chapter exploring general considerations of protein folding and misfolding, three chapters are devoted to metal ion interactions with mammalian prion proteins and their fragments, involved in spongiform encephalopathies and Alzheimer's disease. The role of iron in Parkinson's and Huntington's diseases is then investigated. Also discussed are the interrelationship between copper-zinc superoxide dismutase and familial amyotrophic lateral sclerosis, the malfunctioning of copper transport in Wilson and Menkes diseases, and the chemical interplay between catecholamines in metal ions. The neurotoxic effects of aluminum, cadmium, lead, and mercury are reviewed. The final chapter provides a general summary of the medicinal chemistry of metal-centered brain diseases.

GYNECOLOGY & OBSTETRICS

RG950   2005-023402 978-0-7637-1650-9
Primary care of women; a guide for midwives and women's health providers.
Hackley, Barbara et al.
Jones & Bartlett, ©2006   938 p. $89.95
Designed as a desk reference as well as an introductory text, this book assumes that midwives and those delivering women's health care are also likely to be primary care providers. Focusing on the clinical and the common, each chapter includes material on how the management of the relevant condition is affected by pregnancy. Contributors define primary care (including disparities in health care and cultural competence in practice, then cover immunizations, health screenings, environmental health, antibiotics, obesity and weight management, violence against women and children, substance abuse, mental illness, headache, eye and ear, asthma and allergy, respiratory

conditions, cardiovascular disease, anemias, endocrinology, gastrointestinal conditions, the abdomen, the breast, cervical and ovarian cancer screening, musculoskeletal conditions, dermatology and infectious diseases. Some entries are accompanied by clinical photographs.

RS57   2006-040265 0-8493-3799-2
Basic statistics and pharmaceutical statistical applications, 2d ed.
De Muth, James E. (Biostatistics; 16)
CRC Press, ©2006   714 p. $89.95
This textbook introduces undergraduate and graduate students of pharmacy to the many uses of statistics in the pharmaceutical industry. It can also serve as a reference for researchers seeking methods to statistically analyze data. The focus is on practical applications, rather than the theoretical bases or derivations of formulas. Each chapter contains a description of a statistical test or related subject, discussions of its appropriate use and limitations, and a series of example problems. The second edition features expanded coverage of biostatistics. De Muth was Chair of the USP Expert Committee on Biostatistics from 2000-2005.

AGRICULTURE

S540   2005-045698 1-58488-538-6
Design of experiments for agriculture and the natural sciences, 2d ed.
Hoshmand, A. Reza.
Chapman & Hall/CRC, ©2006 437 p. $79.95
Hoshmand (business and management, Daniel Webster College, New Hampshire) offers students and applied researchers of agricultural and natural sciences a guide to designing and analyzing science experiments. Readers are assumed to be familiar with statistical concepts such as the normal, bi-nominal, chi-square, and t distributions but not with the analysis of variance. He emphasizes the logical underpinnings of design and analysis, expecting readers to extend the principles he presents to contexts he does not. No date is noted for the first edition; the second uses a step-by-step process to explain the concepts, and numbers equations consecutively within each chapter.

TECHNOLOGY

T11   2006-009103 0-9779665-0-X
Scientific style and format; the CSE manual for authors, editors, and publishers, 7th ed.
Title main entry. Ed. by Style Manual Committee, Council of Science Editors.
Rockefeller University Press, ©2006 658 p. $59.95
A reference for authors, editors, publishers, students and translators, this manual covers both general and scientific publication styles and formats for all forms of scientific writing. The text includes many examples of recommended styles, cross- references and summary tables. It presents both American and British preferences. This seventh edition begins with a new section addressing the fundamentals of scientific publication and contains a new chapter on the responsibilities of authors, editors and peer reviewers for various ethical concerns. Other chapters have been expanded, including the discussions of electronic publication.

T56   2005-037902 0-313-33354-8
Building the world; an encyclopedia of the great engineering projects in history; 2v.
Title main entry. Ed. by Frank P.Davidson and Kathleen Lusk Brooke.
Greenwood Press, ©2006   937 p. $199.95
Davidson and Lusk Brooke draw on 35-plus years of experience in engineering and history, including periods as academics at both MIT and Harvard, in assembling the first encyclopedia to cover 41 of the world's most significant, large engineering projects, from early human civilization to modern times. Each chapter describes the project's historical background, cultural context, planning, building, and importance in history, and includes the text of the original authorizing documents, where available. The collection offers readers a greater understanding of how these structures have transformed the physical world and influenced the growth and development of societies and cultures. For students, scholars and professionals in national and regional history, engineering and technology, law, architecture, public art, and historic preservation; government leaders, diplomats, planners, and social scientists; and the general public. Illustrated in b&w.

T174   2006-009729 0-8330-3910-5
The global technology revolution 2020, executive summary; bio/nano/materials/information trends, drivers, barriers, and social implications. (CD-ROM included)
Title main entry. Ed. by Richard Silberglitt et al.
RAND, ©2006   28 p. $30.00 (pa)
The Rand Corporation undertook the study for the National Intelligence Council as part of the Council's 2020 project designed to provide US policymakers with a view of how world developments could evolve, identifying opportunities and potentially negative developments that might warrant policy action. The accompanying disk provides further analysis. There is no index.

ENGINEERING (GENERAL, CIVIL)

TA167   2005-052979 0-8058-5618-8
Theories and practice in interaction design.
Title main entry. Ed. by Sebastiano Bagnara and Gillian Crampton Smith. (Human factors and ergonomics)
Lawrence Erlbaum, ©2006 356 p. $79.95
Because interaction design is a new practice, the contributors to this volume draw from other practices and disciplines, such as cognitive psychology, computer science, discourse analysis, economics, engineering, linguistics and semiotics, to develop methods applicable to interaction design. With relevant ideas from these other disciplines, each essay responds to one of the seven themes—activity, emotion, situatedness, community, conversation, memories and market—that Bagnara (cognitive ergonomics, Milan Polytechnic) and Smith (director, Interaction Design Institute Ivrea, Italy) identify as important to the field.

TA403   1-55899-848-9
Combinatorial methods and informatics in materials science; proceedings.
Symposium on Combinatorial Methods and Informatics in Materials Sciences (2005: Boston, MA) Ed. by Michael J. Fasolka et al.
Materials Research Society, ©2006 356 p. $90.00
In these proceedings from the November-December 2005 symposium, contributors present their research in combinatory and high-throughput approaches, complex materials and device systems. This interdisciplinary collection includes papers on materials science, physics, chemistry, materials modeling and electrical, chemical, data systems and mechanical engineering. Invited and other peer-reviewed papers include as general topics electronic materials and devices; polymers, biopolymers and coatings; nanomaterials and catalysts; sensors, materials and devices; and a number of entries on design and data management in terms of informatics.

TA418   978-1-85573-933-8
Nanostructure control of materials.
Title main entry. Ed. by R.H.J. Hannink and A.J. Hill.
Woodhead Publishers, ©2006 344 p. $249.95
Controlling the bulk properties of materials by manipulating them at the nanometer scale is described by materials scientists and other researchers from Australia, Europe, the US, and China. Providing examples of nanostructure control, fabrication, modeling, and exploitation, they consider such topics as the emergence of efficient non-crystalline atomic organization in nanostructures, organic-inorganic nanocomposite membranes for molecular separation processes, preparing monolithic noncrystalline ceramics, and noncrystalline light metal hydrides for hydrogen storage. Distributed in the US by CRC Press.

TA418   0-87849-990-3
Progress on advanced manufacture for micro/nano technology; proceedings; 2v.
International Conference on Advanced Manufacture (2005: Taipei, Taiwan) Ed. by Jywe, Wunyuh et al. (Materials Science Forum; v.505-507, pt.1 and 2)
Trans Tech Publications, ©2006 1334 p. $424.00 (pa)
This two-volume set contains proceedings from the fall 2005 International Conference on Advanced Manufacture, held in Taipei, Taiwan, R.O.C. Papers from the conference present the latest research results and future directions in MEMS/nano-manufacturing technology, precision mechanical manufacturing technology, and manufacturing technology for photoelectric devices and semiconductors. Other areas covered include metrology for advanced manufacturing, applications of MEMS and nano-systems, optico-mechatronic technology, advanced nano/micro technology in bio-applications, metal forming, and material removal processes. Non-traditional machining, fine machining of nontraditional materials, and 3-D printing core technology are also examined. Two keynote lectures address simulation and experimental set-up of a plasmonic-based lens design, and nanometrology, nanopositioning, and nanomeasuring with integrated nanoprobes.

TA1520   2005-056953 978-0-471-67941-7
Adaptive optics for vision science; principles, practices, design and applications.
Title main entry. Ed. by Jason Porter et al. (Wiley series in microwave and optical engineering)
Wiley-Interscience, ©2006 591 p. $150.00
Rising from a collaboration within the Center of Adaptive Optics, which more than 30 universities, government laboratories and corporations support, this is the first text entirely devoted to providing the fundamentals of adaptive optics along with practical applications. Articles, which function as chapters, cover wavefront measurement and correction in terms of aberration structure of the human eye and aging, wavefront sensing and diagnostic uses including wavefront sensing calibration, wavefront correctors, control algorithms, adaptive optics software, system assembly and integration, performance characterization, and retinal imaging applications including fundamental properties and high-resolution imaging. Vision correction topics include customized devices, customized corneal ablation and refractions, while visual psychophysics with adapter optics includes generating the visual stimulus. Design examples include the Rochester adaptive optics ophthalmoscope, the Indiana U. AO-OCT system and a liquid crystal adaptive optics phoropter.

TA1637   2006-009296 1-59140-754-0
Advances in image and video segmentation.
Zhang, Yu-Jin.
IRM Press, ©2006   457 p. $74.95 (pa)
The 20 papers presented by Zhang (Tsinghua U., China) are intended to inform scientists and engineers engaged in research and development in image and video segmentation on recent advances in the field, which has the main objective of extracting information represented by data from an image or sequence of images. After the introductory survey chapter, papers discuss optimization, variational model, meta-heuristic and dynamical systems of image segmentation. Video segmentation advances in shift-based filtering, video object segmentation, active shape model, and shot boundary protection are explored next. Focus then turns to applications, such as human lip segmentation, machine-printed character segmentation, food image segmentation, and blind navigation. Finally, advanced topics of segmentation evaluation are addressed.

ENVIRONMENTAL TECHNOLOGY

TD657 2006-012558   0-7844-0872-6
BMP technology in urban watersheds; current and future directions.
Title main entry. Ed. by Richard Field et al.
Am. Society of Civil Engineers, ©2006 324 p. $97.00 (pa)
Revised and expanded from those presented symposium "Current and Future Directions" at the June-July 2004 Environmental and Water Resources Institute World Water and Environmental Congress, these papers describe best management practices (BMP) for monitoring, selecting, implementing and costing procedures. This collection contains descriptions of research programs, including a report of the US EPA's Urban Watershed Research Program, integrated approaches, conditions in greater metropolitan areas, coarse solids management, media filtration to remove solids from storm water, sampling and monitoring, placement models, and case studies from the Pacific Rim, Florida Kansas City, Milwaukee and China.

TD795 2006-921658   1-85312-750-7
Disposal of hazardous waste in underground mines.
Title main entry. Ed. by V. Popov and R. Pusch. (The sustainable world; v.11)
WIT Press, ©2006   258 p. $170.00
The result of a three-year research program from four EU countries, this examines the possibility of using abandoned mines for the disposal of chemical wastes. With an emphasis on sustainability, contributors describe hazardous waste generation and management in Europe, the need for underground disposal and the supply of underground mines, criteria for selecting repository mines, engineered barriers, stability analysis of mines, risk assessments using numerical modeling of flow and transport in fractured rock, and a series of case studies and reports on active mines and mineral production as well as inactive mines from EU member states. Professionals in the field will find this useful and students may also find it interesting. The US office of WIT Press is Computational Mechanics.

TD898   978-1-55899-889-6
Scientific basis for nuclear waste management; proceedings.
Symposium on Scientific Basis for Nuclear Waste Management (29th: 2005: Ghent, Belgium) Ed. by Pierre Van Iseghem. (Materials Research Society symposium proceedings; v.932)
Materials Research Society, ©2006 1083 p. $120.00
Held in September 2005, this symposium offered an overview of recent international research on the environmentally safe geological disposal of high-level and intermediate-level radioactive waste. In addition to the standard topics covered (e.g., spent nuclear fuel, container materials, radionuclide behavior, performance/safety assessment), the conference also highlighted activities of the Nuclear Energy Agency, some of the new EC Integrated Projects, and the new EC Network of Excellence. Van Iseghem (SCK-CEN, Mol, Belgium) summarizes the experimental results and recommendations of one of these research programs. The "not in my backyard" issue is not addressed. Illustrations include a 2,500 year-old tomb found in Italy, cited as evidence that underground repositories can be stable even in earthquake-prone areas for thousands of years.

BUILDING CONSTRUCTION

TH845 2005-053573   0-7844-0816-5
Structural safety and its quality assurance.
Title main entry. Ed. by Bruce R. Ellingwod and Jun Kanda.
Am. Society of Civil Engineers, ©2005 200 p. $53.00 (pa)
Written by the international group of committee members from the Council on Tall Buildings and Urban Habitat Committee 9/10, this volume addresses issues in meeting performance goals of tall buildings relating to safety, serviceability, durability, and economy. The committee members consider methods for modeling common structural loads, the effects of uncertainty in analysis and design, and assessment of existing structures, as well as quality assurance and control and management techniques. Ellingwood (engineering, Georgia Institute of Technology) and Kunda (U. of Tokyo) aim the volume at structural engineering students and professionals.

TH7345   2005-053948   0-88173-534-5
Testing and balancing HVAC air and water systems, 4th ed.
Sugarman, Samuel C.
Fairmont Press, ©2006   325 p. $99.95
For technicians or those new to the industry, this volume explains a proportional method of evaluating and balancing the air and water sides of a HVAC system that the author devised while working at a nuclear power plant. It covers general and specific balancing procedures; testing and balancing cleanrooms, commissioning systems, and water balancing procedures; systems types and components, balancing devices, instrument usage and care; and equations and conversion tables. The new edition contains a chapter on analog and digital controls and has coverage of pneumatic, electric, electronic, direct digital, and proportional, integral and derivative control systems. The book is also meant for engineers, builder owners, and facility managers. Sugarman, an energy and power educator, develops training programs, and is also the author of articles, books, and videos on the topic. Distributed by CRC Press/Taylor & Francis.

MECHANICAL ENGINEERING & MACHINERY

TJ211 2005-046664   0-8493-3748-8
Autonomous mobile robots; sensing, control, decision making, and applications.
Title main entry. Ed. by Shuzhi Sam Ge and Frank L. Lewis. (Control engineering; 22)
CRC Press, ©2006   709 p. $169.95
Ge (National U. of Singapore) and Lewis (automation and robotics, U. of Texas at Arlington) present 17 contributions (written by 46 contributors) describing theoretical, technical, and practical issues common to both centralized and distributed autonomous robotic systems, at a level appropriate for researchers, engineers, and graduate students involved in creating the next generation. Each contribution includes abundant references for more in-depth research, but the volume generally is intended to provide broad, cohesive coverage. Chapters are organized under the main themes of sensors and sensor fusion, modeling and control, map building and path planning, decision making and autonomy, and, finally, system integration and applications.

ELECTRICAL ENGINEERING, ELECTRONICS

TK5102   2005-046691 0-8493-3752-6
Memory management for synthesis of DSP software.
Murthy, Praveen K. and Shuvra S. Bhattacharyya.
CRC / Taylor & Francis, ©2006   299 p. $135.95
Murthy and Bhattacharyya, who are not further identified, explain techniques for minimizing memory requirements during the synthesis of

software from dataflow representations of image and video digital signal processing. They review a body of research they have conducted on memory minimization techniques for compiling synchronous dataflow specifications. The account could be of interest to researchers in high level design methods, and to educators wishing to introduce the material in graduate courses.

TK5103   2005-034989 978-0-8493-4190-8
MIMO system technology for wireless communications.
Title main entry. Ed. by George Tsoulos. (The electrical engineering and applied signal processing series)
CRC / Taylor & Francis, ©2006 378 p. $129.95
Multiple-input-multiple-output (MIMO) wireless systems use more than one antenna at each end of the link, which allows them to achieve increases in overall system performance. Researchers in telecommunications from Europe, North America, and South America offer a reference to the technology as a whole and to elements of it, beginning with fundamentals and working toward more advanced aspects. Their topics include spatio-temporal propagation modeling, feedback techniques, antenna selection, and network planning and deployment issues.

TK5105   0-321-38555-1
Designing with web standards, 2d ed.
Zeldman, Jeffrey.
New Riders Publishing, ©2007 410p. $44.99 (pa)
As one of the first web designers, Zeldman has had a profound impact on the profession and the medium. Written for designers, developers, owners, and managers who want their sites to cost less, work better, and reach more people now and in the future, his text examines some of the ways that standards can solve common problems of web design and production. Now in full color, the second edition has been updated throughout, incorporating improvements in best practices and advances in the world of browsers since publication of the first edition in 2003.

TK5105   2006-928186 978-0-7695-2651-5
Networking, architecture, and storages; proceedings.
International workshop on Networking, Architecture, and Storages (2006: Shenyang, China)
Computer Society Press, ©2006 203 p. $179.00 (pa)
In these proceedings of the workshop of August 2006, contributors describe their research in a variety of topics, including networking and data communication (including transmission error approximation in Zigbee devices), performance

optimization and modeling (a distributed object tracing system and P2P traffic identification by TCP flow analysis), reliable data storage (accurate available evaluations in P2P systems, design and implementation of reconfigurable gateway array of multiple fabrics), networking and routing (making P2P anonymous routing resilient using redundancy), architectures and systems, networking and storage (scheduling policies and improved design), and reliability and security *third-party security protocol for storage, recognizing multi-attack behavior, and decentralization. Short papers are also included.

TK6570   2006-004830 0-471-46792-8
Mobile database systems.
Kumar, Vijay.
Wiley-Interscience, ©2006 294p. $99.95
Drawing from a graduate course he teaches every year, Kumar (computer science and informatics, U. of Missouri-Kansas City) presents information about managing data on a system in which processors and the entire database or portions of it are moving around in geographical space. His main goal is to illustrate how well database technology and wireless mobility have mingled and produced a new area variously called pervasive ubiquitous, or nomad computing.

TK6575   2005-058854 1-58053-925-4
ELINT; the interception and analysis of radar signals.
Wiley, Richard G. (Artech House radar library)
Artech House, ©2006 451 p. $139.00
Here ELINT, or electronic intelligence, is the result of observing the signals transmitted to radar systems to obtain information about their capacities. In other words, it is the remote sensing of remote sensors. Expert Wiley covers the latest technologies, first defining electronic intelligence and giving its capabilities and limitations and then covering ELINT implications of range equations and radar constraints, characteristics of ELINT interception systems, the probability of intercept, antennas and direction finders, emitter locations, estimation of power at the transmitter, antenna parameters, "low probability of intercept" (LPI) radar and ELINT, antenna scan analysis, intrapulse analysis, pulse repetition interval analysis, deinterleaving pulse trains, measurement and analysis of carrier frequency, determining ELINT parameter limits, and working with ELINT data files. Wiley includes over 240 illustrations.

TK6592   1-56347-828-5
Airborne Doppler radar; applications, theory, and philosophy.
Schetzen, Martin. (Progres in astronautics and aeronautics, v.215)
Am. Inst. of Aero. & Astro., ©2006 177 p. $84.95
Drawing on his expertise as a professor of electrical and computer engineering at Northeastern U. and as a consultant to the Apollo 11 lunar landing team, Schetzen explains the Doppler effect, its various applications and the use of Doppler radar for stabilization and navigation of aircraft. He provides a quasi-static approximation of the Doppler spectrum and a summary of the mathematical concepts required for development of an exact theory before explaining the exact theory, which he compares with the quasi-static approximation. The text is supplemented by an executable MATLAB program that can be used to determine the Doppler spectrum parameters for any antenna pattern and any terrain backscattering.

TK7875   2006-042635 0-8247-2305-8
Microengineering, MEMS, and interfacing; a practical guide.
Banks, Danny. (Mechanical engingeering; 119)
CRC / Taylor & Francis, ©2006 326 p. $139.95
In the past decade or so microengineering and microelectromechanical systems (MEMS) have found wide use within such diverse areas as biomedicine, automotive applications, sensors and actuators. Researcher and practitioner Banks focuses on the practical in this overview of the current state of the technology, covering basic terms. photolithography, silicon micromachining, nonsilicon processes, mask design, microsensors, microactuators, micro total analysis systems, integrated optics, assembly and packaging, nanotechnology, amplifiers and filtering, computer interfacing and output drivers.

TK7882   978-0-7695-2602-7
Information visualization; proceedings.
International Conference on Information Visualisation (10th: 2006: London, England) Ed. by Ebad Banissi et al.
Computer Society Press, ©2006   857 p. $229.00 (pa)
One hundred and twenty-four papers from the July 2006 conference present new developments in knowledge domain visualization, spatial and environment visualization, visual data mining, augmented and virtual reality, digital art, rendering, and applications of graph theory. The knowledge visualization session explores a pragmatic taxonomy of knowledge maps, geospatial anchoring of encyclopedia articles, and narratological representation of Australian aboriginal knowledge using a game engine. Other topics include natural textures for weather data visualization, FFT and convolution performance in image filtering on GPU, adaptive labeling for interactive mobile information systems, and a comparison of four ontology visualization techniques in Protege. No subject index is provided.

CHEMICAL TECHNOLOGY

TP248   1-904933-17-3
Nanobiotechnology in molecular diagnostics; current techniques and applications.
Jain, K.K.
Horizon Bioscience, ©2006 185 p. $179.95
Nanobiotechnologies of many kinds are currently being applied to molecular diagnostics to refine and extend the limits of detection. In this resource for researchers, financiers, and others involved in the pharmaceutical and nanotechnology industries, Jain offers an overview of these applications. Drawing upon an extensive review of the literature (more than 180 sources are cited), he describes technologies such as nanobiochips and nanobiosensors and outlines their use in clinical diagnostics and drug discovery. A neurologist and neurosurgeon by training, Jain is a consultant at Jain PharmaBiotech in Basel, Switzerland. Distributed in the U.S. by Taylor & Francis.

MANUFACTURES

TS156 2005-021046   978-0-87389-668-9
Get it right; a guide to strategic quality systems.
Imler, Ken.
ASQ Quality Press, ©2006 179 p. $50.00 (pa)
For quality and business managers and executives, Imler articulates the benefits of an effective quality control system for both regulated and nonregulated companies. He discusses the difference between a general system and a customer-centric one, strategic planning, and ways to improve an existing system. He delineates the four phases of quality systems, evaluation, the roles and skills of groups, departments, and consultants, as well as how these roles work in different business models. Imler, a consultant in pharmaceuticals, devices, biologics, and combination products, has assisted companies in the strategic and tactical aspects of quality systems and leads AAMI seminars on quality system regulation.

TS156 2005-0342590-13-185524-7
Design for Six Sigma for green belts and champions; applications for service operations—foundations, tools, DMADV, cases, and certification. (CD-ROM included)
Gitlow, Howard S. et al.
Prentice Hall, ©2006   688 p. $79.99
Each of the principles used in the Design for Six Sigma method is described in depth in this text, with chapters devoted to each of the five phases of DMADV—the process applied to design projects (define, measure, analyze, design, verify)—and to tools and methods that include multiple regression, design of experiments, and discrete even simulation models. Appendixes follow each chapter detailing JMP and Minitab applications. Introductory chapters are provided on Six Sigma and the fundamentals of statistics, and a case study is included, making this a well-rounded guide for service industry organization managers. The CD-ROM contains SigmaFlow software.

TS156   2006-013206
978-0-87389-682-5
A practical field guide for AS9100.
Myhrberg, Erik Valdemar and Dawn Holly Crabtree.
ASQ Quality Press, ©2006   137 p. $60.00 (pa)
This guide for aerospace industry professionals explains how to implement and maintain a Quality Management System (QMS) in conformance with AS9100. Each sub-clause containing requirements is the focus of a two-page spread that lists the needed documentation, identifies what questions internal auditors need to ask, and discusses the responsibilities of top management. The steps required for creating an effective, conforming QMS for each sub-clause are illustrated by flowcharts. The volume is not indexed.

MILITARY & NAVAL SCIENCE

UG490 2006-009800 0-275-98419-2
The development of mine warfare; a most murderous and barbarous conduct.
Youngblood, Norman. (War, technology, and history)
Praeger, ©2006   258 p. $49.95
Treating the sea mine and the land mine as siblings, Youngblood (Texas Tech U.) tells the history of mine warfare from the origins of the mine through the development of the International Campaign to Ban Landmines and the signing of the 1997 Ottawa Convention limiting the manufacture and use of antipersonnel mines. He discusses technical, tactical, and strategic developments in mine warfare along with the experiences of those who developed mines and those who had to deal with them on the battlefield.

UG740   2004-028909 0-415-36120-6
Missile defence; international, regional, and national implications.
Title main entry. Ed. by Bertel Heurlin and Sten Rynning. (Contemporary security studies)
Routledge, ©2005   227 p. $115.00
Much of the discussion of the US deployment of a missile defense system looks only at how it will affect US security interests against so-called rogue nations. In contrast, Heurlin (European security and integration, U. of Copenhagen, Denmark) and Rynning (political science, U. of Southern Denmark) note that "unipolarity is not omnipotence" and devote this book to discussion of the wider global and regional politics of US deployment of missile defense technology. The nine contributions look at the evolving strategic thinking of the US in the post-Cold War era; missile defense as a means for the US to maintain technological superiority against rivals other than rogue states; the relationship between missile defense and US efforts to acquire overseas military bases; and regional responses to deployment from Russia, China, Middle Eastern states, and Scandinavia.

V874   2005-023031 0-8330-3842-7
American carrier air power at the dawn of a new century.
Lambeth, Benjamin S.
RAND, ©2005 113 p. $20.00 (pa)
This RAND Corporation monograph examines the current capabilities of the US naval aircraft carrier power, paying particular attention to how carrier power was deployed during the invasions of Afghanistan and Iraq. The author generally concludes that air power was used successfully in both campaigns and that carrier forces will likely remain able to operate as a massed force able to conduct deep-strike missions on multiple inland targets.❖

21