Sci-Tech News

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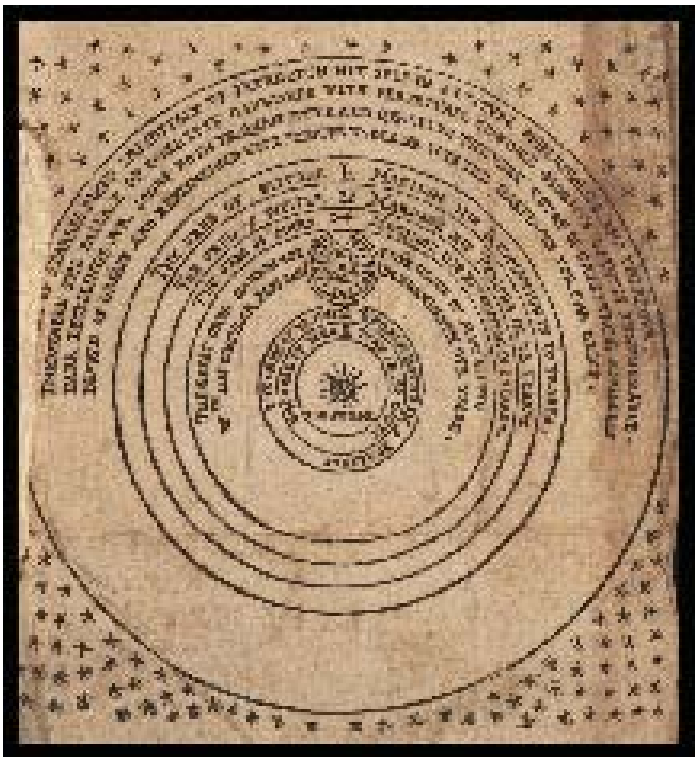
SciTech News

The Official Bulletin for the Chemistry, Engineering, and Science-Technology Divisions and the Aerospace Section of the Engineering Division and the Materials Research and Manufacturing Section of the Chemistry Division of the Special Libraries Association



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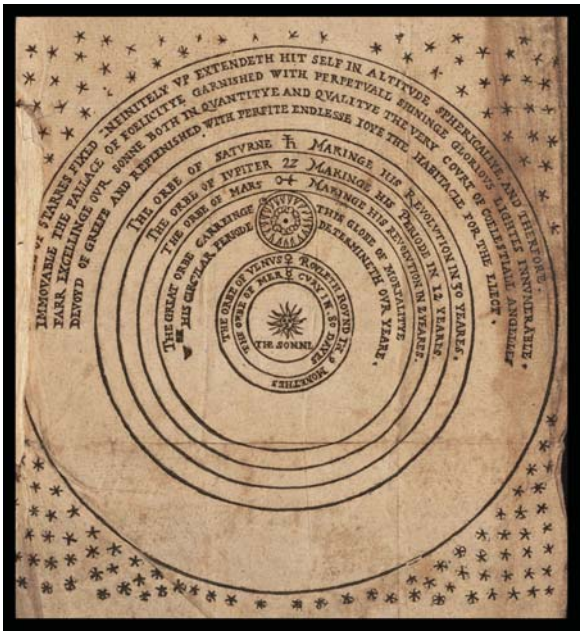
SciTech News

SLA
Connecting People and Information

On the Cover



Nicolas Copernicus was daring enough to propose in 1543 that the earth is a planet and rotates on its axis, but he still thought that the stars are part of an enormous stellar sphere. Copernicus stopped the stellar sphere from rotating, but he never dreamed that it might not exist at all. The first person to take that step, cutting the stars loose from their sphere and proposing that they might extend out indefinitely, was an Englishman, Thomas Digges. In an appendix to a new edition of his father's almanac, Digges suggested that the stars "infinitely up extendeth," and he showed just that on a woodcut of the cosmos that he included with his "Perfit Description of the Coelestiall Orbes", first published in 1576. The illustration here is from a later edition of Leonard Digges, *Prognostication euerlastinge* (London, 1596). All editions are very scarce. *(Photo and caption courtesy of the Linda Hall Library of Science, Engineering & Technology).*

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Reviews

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Copy Deadline

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Issue Number 2 ..... April 1
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Manuscripts: The Editor solicits papers of interest to the community of science and technology-oriented special libraries. Manuscripts of articles should be sent via E-mail (Microsoft Word or Plain Text format) to abby.thorne@gmail.com.

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From the Editor

Abby Thorne

Welcome to issue 1 of *SciTech News* for 2012!

With the new year and new volume, SciTech News is undergoing several staffing changes. As previously announced, Carol Lucke completed her last issue as Advertising Manager with issue 4 last year. We are currently searching for a new Advertising Manager--please contact Sci-Tech Division Chair Cheryl Hansen at cahansen@esi-il.com if you are interested in serving the Sci-Tech Division in this capacity.

Also, Lisa Johnston completed her last issue as author of the Web Reviews column with issue 4 in 2011. We would like to thank Lisa for her service and her very informative columns. Please contact me at abby.thorne@gmail.com if you have an interest in taking over authorship of the Web Reviews column, or if you have an idea for a new column. We are always looking for new content and new ideas!

Finally, we are in the process of naming a new Assistant Editor. The selection process is nearly complete. Please look for an announcement about our new Assistant Editor in issue 2.

While change can be an exciting thing and I look forward to working with our new authors and new *SciTech News* staff, I also have sad news to report. As many of you have heard, Ellis Mount, Editor Emeritus of *SciTech News*, passed away earlier this year. While we are very sad to hear of his passing, *SciTech News* is very grateful for many his years of service and leadership. In his honor, a special section about Ellis will appear in the next issue. Please be looking for it. ❖

Abby Thorne
abby.thorne@gmail.com
859-539-5810

SciTech News Call for Articles!

SciTech News is looking for a few good authors!

If you have a research project, a new service in your library, a new instructional method, or other information you'd like to share with your colleagues, please consider writing for *SciTech News*. In addition to the regular articles, we now have a refereed section. Colleagues will review your article and provide feedback. Accepted articles will be published in the new electronic *SciTech News*. This is an excellent venue to get your research and ideas out to a group of interested readers and get that important refereed article for your dossier or annual review.

For additional information, contact Editor Abby Thorne (abby.thorne@gmail.com) or Review Board Chair Bonnie Osif (bao2@psu.edu). Articles for the refereed section may be submitted to the Review Board Chair at bao2@psu.edu.

News from the Science-Technology Division

Science-Technology Division Cheryl Hansen, Chair

The objectives of the Science-Technology Division shall be to draw together those members of the Special Libraries Association having an interest in the role of library and information science as applied to the recording, retrieval and dissemination of knowledge and information in all areas of science and technology, and to promote and improve the communication, dissemination and use of such knowledge for the benefit of libraries and their users.'

Hi, I am Cheryl Hansen, the 2012 Sci-Tech Division Chair and I hope that 2012 will be a good year for the division. First, I want to thank Joe Kraus, Past Chair, for all his efforts on behalf of the division in 2011. He oversaw a great conference in Philadelphia and I have hopes for one just as good in Chicago this July. That is correct, the SLA Annual Conference and Exposition is not in June this year--it is in July. This change is due to scheduling problems that arose when HQ started planning future conferences several years ago. The schedule will go back to June in 2013 when we will be in San Diego.

Now a little bit about me. I am with an engineering consulting firm with offices around the country that deal with forensic engineering. I have been here about 19 years and was with another similar firm, Triodyne, for 8 years. And before that I thought I would try cataloguing for a while at the Illinois College of Optometry, found that it wasn't my thing, and moved on. Before that I was with what is now called Wisconsin TechSearch at the University of Wisconsin-Madison. I am married, with two daughters, Kate and Ellie, my husband Doug, and Jake, our Hungarian Vizsla. Kate is working on her master's in Public Health at SLU in St. Louis and Ellie is finishing up at the University of Wisconsin-Eau Claire and is planning on following me into librarianship. We live in Naperville, a Chicago suburb but our family is back in Wisconsin and we support the Packers and Badgers proudly. I have been an SLA member since 1984 and am active in the Sci-Tech Division as well as the Engineering Division. I have to say that some of my best friends are colleagues that I have met through SLA over the years.

There is an interesting slate of programs to choose from in Chicago this year. We will start the Conference off with the Annual Newcomers Lunch on Sunday followed by the DST Board Meeting. The INFO-EXPO Grand Opening and the Sunday General Session and Awards Presentation will finish off our Sunday afternoon.

We start off Monday morning bright and early with the Annual Business Meeting and Breakfast. This is an important meeting for Sci-Tech members to attend. This is where you get to see your officers, ask them questions in person, hear the state of the division, and network with old and new colleagues.

After breakfast there will be a variety of programs for you to choose from. We are a co-sponsor with the Academic, Social Science, and Education Divisions of a program entitled Collections in Transition: Impact of e-Resources on Collection Development and Management. For those of you who are computer science people, the Computer Science Roundtable finishes off the afternoon.

On Tuesday, the morning will begin with the Standards Roundtable and continue with a session entitled How and Why Things Fail – Forensic Engineers and Information Specialists. I have to plug this one for sure as the speaker is the head of the engineering consulting firm I am with, ESI. Dr. Stevenson is a great library/information services proponent and a great speaker. Later in the afternoon, Wayne Strickland from NTIS will speak about Open Access to Federal Science & Technology. Bring lots of questions and comments for him. Also in the late afternoon, there is the "Science of" series continuation. This year it will be the Science of Beauty Care. To finish Tuesday off there will be the All-Sciences Poster Session and Reception where you can eat, meet, and check out this year's poster presentations. The theme for this year is "Practicing Agility in an Open Economy." This is a great place to network while learning.

Wednesday is our last day and we have two sessions in the morning. First, back by popular demand, Science 101 will be led once again by Mary Frances Lembo and James Manasco. Lastly there is Legal and Ethical Information Sharing and Intelligence that we are co-sponsoring with the Legal Division.

On Thursday I am working with the Chemistry Division to bring about a tour of the Mansueto Library at the University of Chicago. It is interesting because it has one of the new Automated Retrieval Systems. Stay tuned for more information about the tour. For more information on the 2012 conference, go to http://www.sla.org/content/Events/conference/ac2012/. Registration is open, so register early!

Chicago is a great city with a wonderful lake front and lots of interesting things to see and do. Please come and join us!

The Sci-Tech Division has a great group of volunteers that staff our advisory board and committees. Please think about joining one. You gain the most from your membership when you are involved.

There is something for everyone, so please let me or any of the board members know if you are interested in volunteering. We currently need a Professional Development Chair, a Vendor Relations Chair, and an Advertising Manager for *SciTech News*. The last two can be combined or be separate positions.

Also this year we will be electing the 2012 Chair-Elect and a Treasurer, so if you might be interested in taking a leadership position, please contact me at cahansen@esi-il.com or Hilary Davis at hilary_davis@ncsu.edu.

Sci-Tech is a great division in which to gain leadership experience. Think about it, take a leap, and try it. It is all about networking, learning, and supporting each other.

Lastly watch the listserv and website for information on an upcoming webinar done in conjunction with the Chemistry Division later this spring. Michael White will be speaking on patents. And if you have an idea for a webinar, contact me at cahansen@esi-il.com.

See you in Chicago ,July 14-19, 2012! ❖

Cheryl Hansen, Chair
cahansen@esi-il.com

Science-Technology Division New Members

Submitted by Sarah Oelker, Membership Committee Chair, Science-Technology Division

The Science-Technology Division welcomes its new members:

Giovanna Badia
Saint-leonard, QC
Canada

Ja Tara Barnes
St Louis, MO
USA

Kayleigh Bohemier
Syracuse, NY
USA

Brian Chenoweth
Kingston, ON
Canada

Susan Craft
Raleigh, NC
USA

Bryan Eichner
Kendall Park, NJ
USA

Susan Fisher
New York, NJ
USA

Elizabeth Hammes
Herndon, VA
USA

Rachel Harrison
New York, NY
USA

Margaret Hawes
Washington, DC
USA

Mirna Lessinger
Alameda, CA
USA

Sarah Luccesi
Belchertown, MA
USA

Joanna McNeal
Erie, CO
USA

Jessica McQuade
Cary, NC
USA

Robert Powers
Altadena, CA
USA

Jennifer Robbins
Bellvue, WA
USA

Michael Robinson
Boulder, CO
USA

Laurie Scott
Kingston, ON
Canada

Carol
Staudenheimer
Columbus, OH
USA

News from the Chemistry Division

Chemistry Division — Marie Fraties-Block, Chair

The Chemistry Division is concerned with chemistry and chemical technology, and the economics, educational advances, and information handling of developments in the field of chemistry and related subjects.

As I write this message, the final deadlines for the Chicago SLA 2012 Annual Conference & INFO-EXPO on July 15 through July 18 are approaching.

I want to again express appreciation for my co-planner, Norah Xiao of the University of Southern California Libraries. Norah has many exciting ideas about the future of science librarianship and incorporated those ideas into the conference programs. Thanks, Norah! You are an inspiration and your concepts will make the 2012 conference a success for all members. And Bill Armstrong, as the division's Past Chair, was always there for us when we had strategic and technical planning questions. Norah and I cannot thank you enough …but will try to. Thanks a million!

Our division's web site will contain details about the entire Chemistry Division events at: http://chemistry.sla.org. If you are a member of the Chemistry Division, be sure to read the blogs on our web page. That's where we will post announcements about upcoming programs.

We have many scheduled events at the Chicago SLA 2012 Annual Conference & INFO-EXPO. We'll be discussing some HOT TOPICS, such as:

- Chemistry on the Go – Using Mobile Devices to Access Chemical Information
- Chemistry Information Training: Present and Future
- Institutional Repositories
- National Science Foundation Data Management Plans
- How and Why Things Fail - Forensic Engineers and Information Specialists
- Science of Beauty Care – with a focus on sunscreen chemistry.

Thanks to Judith Currano, the Chemistry Division will be offering some outstanding Continuing Education Courses. Check the Chemistry Division web page for course details.

- Chemistry for the Non-Chemist Librarian
- Chemical Information Sources, Requests, and Reference
- Extreme Structure Searching: Organics, Organometallics, Polymers, and Markush

We will also participate in the All-Sciences Poster Session and Reception. This year's theme is "Practicing Agility in an Open World Economy."

On Thursday, July 19th, we will take a field trip to the award-winning University of Chicago Libraries where we will have a unique tour the robotic book retrieval system. The new Joe and Rika Mansueto Library houses one of the world's largest high-density underground storage systems with the capacity to hold 3.5 million volume equivalents. I'm told it's impressive beyond words. I'm looking forward to seeing this inventive retrieval system with my own eyes.

All members are welcome to attend the Chemistry Division Annual Meeting Breakfast and the Division Board Meeting.

See you in Chicago! ❖

Marie Fraties-Block
Chair, SLA Chemistry Division
marie.fraties-block@basf.com

News from the Materials Research & Manufacturing Section

Materials Research & Manufacturing Section Norah Xiao, Chair

Members of the Materials Research and Manufacturing Section of the Chemistry Division share information concerning all phases of materials procurement, production, applications, and handling by means of educational activities, cooperative programs, publications, and Section-sponsored events at annual conferences.

The Materials Research & Manufacturing Section of the Chemistry Division Welcomes Its New Members

Renae Baldovski
Research Librarian
United States Steel Corp.
Services
800 East Waterfront Dr
Munhall, PA 15120

Amanda Schoen
Librarian/information Specialist
Sherwin Williams
External Technology
601 Canal Rd.
Cleveland, OH 44113

News from the Engineering Division

Engineering Division — Pam Enrici, Chair

The objectives of the Engineering Division are to provide an association for those having an interest in library and information science as they apply to engineering and the physical sciences and to promote the use of materials and knowledge for the benefit of libraries and other educational organizations.

Time flashed by so quickly when I was first elected as Chair-Elect of the Engineering Division that it is hard to catch my breath. It is a very scary thing to become Chair but then I remembered all the good people who are there with me – it's not just me alone! The Past-Past Chair and Past Chair, Laurie Allen and Katherine Breininger, are great role models and I can only hope to do as well as they did. Daureen Nesdill volunteered to become our secretary to fill a one-year vacancy. Mary Whittaker ran for a second term as Treasurer. Penny Sympson is now Chair-Elect of the Division. Betty Edwards will be our 2013 Conference Planner. Thank you all!

I'd like to talk a little about volunteering. Everyone is at a different stage of life and career and work for different employers, so the amount of time you can give will vary. Don't worry if you can't give a lot of time--a small amount of time can make a big difference. For instance, when the call goes out to nominate someone for an award, take the time to think of someone and then nominate them, or let someone know about this individual. This can take so little time but it can mean a big difference to someone. When you are asked to help at our annual conference, please take a bit of time to do so. These are small things that, when you add them up, will make a difference. And, of course, if you have the time, we will be electing a Secretary and a new Chair-Elect near the end of this year. Don't be shy--you will get all sorts of great help. There are also other positions of importance. Check out our website for members of the Advisory Board. Each person provides extraordinary service to the Division. I'll talk more about them in the next issue of *SciTech News*.

During the last year, we have migrated to a new website and software to manage it. It is extremely interactive and you should keep checking the site out or you can choose even be notified when a new posting is made. Big thanks go to Dale Copps who made this all possible and continues to be our webmaster. The URL for the site is: http://engineering.sla.org/.

It's time to register for SLA's Annual Conference. We think we have a great program set for you. Among others are our annual standards update, a follow up on the DRM program from last year, Science and Engineering 101, How and Why Things Fail - Forensic Engineers and Information Specialists, Open Access through the Federal Science Repository Service, Engineering Enterprise Information: Usage and Challenges, the All-Sciences and Engineering Poster Session and Reception (this will be an early evening event and a great chance to network with people from other divisions and get some great tips), and our annual Business Lunch. We will be having our usual charity raffle for candy and some surprises from some of our vendor partners. Our charity this year will be SitStayRead. The SitStayRead program improves reading fluency, makes reading fun, and inspires children to become lifelong readers. Using a curriculum designed with the University of Illinois at Chicago (UIC) Center for Literacy, trained volunteers and certified dog teams bring much needed reading help to children ages 7-9 in Chicago inner-city schools and community facilities. The URL for the organization is: http://www.sitstayread.org/. If you have suggestions for next year's programs in San Diego, contact Betty Edwards, our planner. Her e-mail is: bedwards@draper.com.

Don't forget to recruit new members for SLA and our Division. The membership numbers are dropping and in order to preserve our Division, we need to add new members. We're working with various library school student groups, but if you know someone going to library school, let them know about us! The same thing is true for someone who has switched job responsibilities. Let them know about us.

Don't forget that we have an Engineering Listserv. If you have questions, feel free to put them up on this list. If you haven't subscribed, you can email lyris@sla.lyris.net. Directions are at: http://www.sla.org/content/community/lists/instruction/index.cfm.

This is YOUR Division. If you have suggestions, questions, or problems that you don't feel comfortable putting up on the listserv, let me or another member of the Executive Board know – we're all here to help. ❖

Pam Enrici, Chair
penrici@d.umn.edu

$1000 IEEE Continuing Education Stipend – Call for Applications

Stipend to attend the SLA Annual Meeting in
Chicago, IL July 15-18, 2012

IEEE (Institute of Electrical and Electronics Engineers) is sponsoring for SLA Engineering Division members a travel stipend up to $1000 toward payment of expenses incurred while attending any Continuing Education course offered at the annual SLA conference in Chicago, IL July 15-18, 2012.

The IEEE Stipend will be given to the qualified member who submits an essay, of three or fewer double-spaced typed pages, which is judged to be the best paper that addresses "How the member will benefit professionally from a continuing education course." Please email Stephanie Sheldon (stephanie.sheldon@lmco.com) for a list of Continuing Education courses offered during the SLA 2012 conference. The winner will also be required to submit an article to the Engineering Division newsletter (SciTech News) within twelve months of completion on how the course helped them in library applications.

Qualifications for Entering Award Competition:

Be a member of the SLA Engineering Division in good standing at the time of applying for the award.

Special Instructions:

Type your full name (without any additional personal information) at the top of each essay page. Double space the typing on all pages.

Deadline for Submission: March 14, 2012.

The winner must be present to accept the award at the annual Engineering Division Business Meeting during the SLA 2012 conference.

Submit Entries for the award to:

Stephanie Sheldon
E-mail: stephanie.sheldon@lmco.com
or to:
Stephanie Sheldon, SLA-ENG Awards Committee
Lockheed Martin Aeronautics Company
Company Research Library, MZ 0124
1011 Lockheed Way
Palmdale, CA 93599

Call for Nominations and Applications - SLA Engineering Librarian of the Year Award sponsored by HIS

The Engineering Librarian of the Year, sponsored by IHS, highlights the accomplishments and contributions of SLA Engineering Division members to the engineering librarian profession. The winner must be present to accept the $1500 award at the annual Engineering Division Business Meeting held during the annual SLA conference in Chicago, IL, July 15-18, 2012.

Prospective candidates are encouraged to nominate themselves, or they may be nominated by a colleague or associate.

Criteria for entry are:

1. Be a member of the SLA Engineering Division in good standing at the time of applying for the award.

2. Distinguished achievement(s) in the engineering library profession, through an exceptional contribution on the job, within the SLA Engineering Division, or within the industry at large. Accomplishment(s) should have taken place within the calendar year immediately preceding nomination/application. However, in selected cases, based solely on the Awards Committee's judgment, recognition may be given for ongoing, long-term contribution(s).

Instructions for submissions:

Submit the nomination/application by March 14th, 2012. Provide full name, job title, address, telephone numbers, e-mail address, and a maximum one-page statement of the nominee's qualifications.

Submit Entries for the award to:

Diane F. Brenes, SLA-ENG Awards Committee, at the following email address: diane.f.brenes@boeing.com (714) 235-0814.

Special Libraries Association Engineering Division
$1200 SPIE Digital Library Student Travel Stipend Award
Call for Applications

Award to attend the SLA Annual Conference in
Chicago, IL, 15 -18 July, 2012

SPIE Digital Library is sponsoring for library school students the award of a $1200 travel stipend toward payment of expenses incurred while attending the annual Special Libraries Association conference in Chicago, Illinois, July 15-18, 2012. SPIE Digital Library is the world's largest collection of optics and photonics applied research.

The SPIE Digital Library Student Travel Stipend Award will be given to the qualified student who submits an essay of three or less double spaced typed pages that is judged to be the best essay submitted describing the following scenario:

"Emerging trends in science librarianship"

Qualifications for Entering Award Competition:

Applicants must be student members of the Special Libraries Association at the time of award submission.

The essay winner must be a student member of the SLA Engineering Division at the time of acceptance of the award. Part of the award will be a one year student membership to the SLA Engineering Division.

Last year, the winning essay was posted in the SciTech News Bulletin.

Special Instructions:

1. Give your full name, address, telephone number, e mail address, and a statement, on one page, of your qualifications, as given above, for entering the award competition. Include the name of your library school.

2. Type your full name (without any additional personal information) at the top of each essay page. Double space the typing on all pages.

Deadline for Submission: March 14, 2012.

Submit Entries for the award to:

Bette Finn, SLA Engineering Division Awards Committee
Georgia Tech Library and Information Center
Georgia Institute of Technology
Atlanta, Georgia 30332 0900
Phone: (404) 894 1790 Fax: (404) 894 8190
E mail: bette.finn@library.gatech.edu

News from the Aerospace Section

Aerospace Section — Barbara Williams, Chair

The Aerospace Section of the Engineering Division encourages communication and cooperation among information professionals concerned with aerospace, aeronautical and related technologies. In addition, it fosters dialog with entities such as NASA, the AIAA and other important sources of technical data and bibliographical services.

My name is Barbara Williams, current Chair of the Aerospace Section, and I want to introduce myself since I do not know at least two-thirds of the Section members. I currently work as the Aeronautics and Astronautics Librarian and as the Instruction Coordinator for the Engineering and Sciences for the Massachusetts Institute of Technology (MIT) Libraries. I came to MIT by way of the University of Arizona, and before that I worked at Kettering University, and prior to that at my alma mater Michigan State University. My first order of business will be to put names with faces.

The songster Jim Croce wrote, "There never seems to be enough time to do the things you want to do…" This certainly rings true for me, and probably for you, also. As soon as I can find an extra hour, I tell myself, I am going to skim through the articles that are accumulating on my desk. Yet if the future is any indication of the past, these articles will end up in the recycle bin several months from now. If only someone would create a platform for audio articles similar to audio books!

Being a part of the Aerospace Section hopefully gives us an edge on our jobs by providing us with practical tools and innovative forums to stay on top of current trends in our area. Membership entitles us to productive networking opportunities to leverage the expertise of our community. At the 2012 Leadership Summit I had the opportunity to network with some really great people and I learned so much about what people in the trenches are doing: where they are having success, what's not working well, etc. I discovered that we are an awesome group. The informal conversations that take place between and after sessions when more time is available to explore specific topics is what I found most valuable about the Summit. The challenge for us is to figure out how to duplicate that atmosphere in cyberspace.

Our Section is indebted to Adrianne Washburn, Past Chair, for creating a Guide that outlines the responsibilities and timeline for new Aerospace Section Chairs. The Guide includes a compilation of correspondences that reduce the need to reinvent the wheel for routine processes. I intend to contribute to the usefulness of this Guide before passing it on to my successor. Whenever I brainstorm with Adrianne I am reminded of why I chose this profession, which is to contribute to the development of an informed citizenry. Everyone should have an "Adrianne" to remind us why we became librarians, especially on those days when, in spite of our best efforts, we still feel dismayed.

The annual Aerospace Business Meeting and Breakfast is slated for Wednesday, July 18th from 8:00 to 9:30 a.m.; this is a ticketed event and the cost is $35.00. The George Mandel Award will be presented at the breakfast, which will be followed by the Aerospace program, Mobilizing the Message: It Takes a Village to Recruit Creative Problem Solvers, from 10:00 to 11:30 a.m. This session is in response to the Intel study, which revealed that a majority of teenagers do not understand the role of engineers in our society. The focus is on ways information professionals and practitioners can help publicize the various engineering disciplines and what engineers do. Jeffrey A. Hoffman, former NASA astronaut who has been on five space flight missions and current Professor of the Practice in the Department of Aeronautics and Astronautics at MIT, will participate in the discussion.

Mary Strife, the Aerospace Section Chair-Elect from West Virginia University, is at work piecing together the history of the Aerospace Section, which was formerly a full-fledged Division. At the Leadership Summit, Mary and I chatted about ways to stir up the membership for the purpose of strengthening our community; we thought taking a quick look back at our history might help us navigate our future. The above discourse inspired one of my goals for the

upcoming year, which is to poll the Aerospace Section to determine how to revitalize and increase our membership. The electronic survey will be short and simple -- please consider filling it out when it arrives. I feel privileged to serve as your Chair this year and I look forward to meeting as many of you as possible, either in cyberspace or in Chi-town at SLA 2012 Annual Conference & INFO-EXPO. ❖

Barbara Williams, Chair
barbaraw@mit.edu

Science Today in Verse

Hope Leman, Samaritan Health Services

NATIVE LADYBUGS
Seven species out of eight
At a quite alarming rate
Are disappearing far and wide
From the British countryside.
Invasive species now exceed
Those they easily outbreed.

AMBITIOUS SKYDIVER
An Austrian man maintains that he
Will be the first in history
To skydive from a fearful height
To show descending feat of flight.
[Quite a terrifying sight
In morning, afternoon, or night]
Then let us bow in humble prayer
As he plummets through the air
Let us celebrate with gladness
Nerve and courage, mixed with madness

SUBSTANCE ABUSERS
Abusers and addicts seemingly
Completely lack ability
From rampant drug use to abstain
Due to structures in the brain.

COMFORTS OF MASSAGE
Pain-inducing inflammation
Is reduced by stimulation

POTENTIALLY BIG BLOW UP
Some volcanoes, thought extinct,
Are more active than we think.

WAR BETWEEN SPECIES
When wasps and ants will
fight it out
There is very little doubt
The wasp will win and here is
why:
It is bigger and can fly!
It will simply grab and drop
Its foe to splat and then to plop.
That seems to be the total gist
Of what an entomologist
At any rate was moved to say
When documenting such a fray.

VOILA! M. PASTEUR
We've been reminded it's unwise
To drink our milk unpasteurized.
Of evidence we've had a wealth
That doing so is bad for health.
[That is why 'tis 'gainst the law
To market milk that is too raw.]

THE AGE-OLD STORY
Men act extra chivalrously
With gals in close proximity;
Their gallantry extends quite far
The prettier the women are.
A study proved these basic facts:
Her loveliness spurs selfless acts!
This is well and good to know!
To beauty shop forthwith I'll go. ❖

Sci-Tech Book News Reviews Susan Fingerman, Selector

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HYDROLOGY, OCEANOGRAPHY

GB406 2011-024100 978-1-4398-3048-2
Geoinformatics in applied geomorphology.
Title main entry. Ed. by Siddan Anbazhagan et al.
CRC Press, ©2011 381 p. $129.95
Recently, the many technologies relating to spatial information have been used in applied geomorphology, which examines the interaction between human activities and geological change, but until now there has not been a systematic account of that intersection. Contributors from the several geological sciences explain how modern concepts, technologies, and methods in geo-informatics can be used to solve a wide variety of applied geomorphology's problems, such as characterizing different kinds of landforms, natural hazard zoning and mitigations, petroleum exploration, and groundwater exploration and management.

PRODUCTION, INDUSTRY, LABOR

HD30 2011-012307 978-1-61350-195-5
Knowledge management 2.0; organizational models and enterprise strategies.
Title main entry. Ed. by Imed Boughzala and Aurelie Dudezert.
Information Science Reference, ©2012 265 p. $175.00
Researchers and practitioners in information, computers, business, and other fields project the next generation of knowledge management, which is expected to take advantage of Web 2.0 technologies. They highlight areas with a global focus and an international dimension, comparing different approaches and practices developed in different countries and cultures. Their topics include exploring the impact of Web 2.0 on knowledge management, social networks and knowledge management in library systems, competence management over social networks through dynamic taxonomies, a strategic knowledge management system framework for a supply chain at an intra-organizational level, and the change path for Web 2.0 and project management with a few examples.

HD30 2011-027029 978-1-61350-165-8
Technological, managerial and organizational core competencies; dynamic innovation and sustainable development.
Title main entry. Ed. by Farley Simon Nobre et al.
Business Science Reference, ©2012 693 p. $185.00
Business scholars, economists, industrial engineers, and engineers from other technical fields present the results of an international project of multidisciplinary research into links between innovation and organization. They look at innovation in light of sustainability, organizational networks, entrepreneurship, knowledge management, research and development and technology management, marketing, finance, internationalization, and information systems. Among the topics are the diffusion and adoption of innovations for sustainability, maturity in innovation network management, dynamic capabilities and innovation radicalness, self-regulation on innovative products choice, and the recent internationalization of Brazilian companies.

HD61 2011-012291 978-1-4398-5552-2
Practical spreadsheet risk modeling for management.
Lehman, Dale E. et al.
CRC Press, ©2012 264 p. $89.95
Lehman (economics, Alaska Pacific U.); business consultant Huybert Groenandaal; and Greg Nolder an analyst for an Alaska credit union, explain how to build spreadsheet models to support decisions involving risk. They

incorporate some of the latest techniques and methods in risk modeling that are not covered in similar guides, and use many real-world examples that practitioners will recognize. The material can be used in courses ranging from a few days to an entire semester. They use the ModelRisk software, a trial version of which is available on Lehman's website. Among the topics are basic Monte Carlo simulation in spreadsheets, selecting distributions, modeling relationships, and optimizing and decision making.

HD62 2011-022158 978-1-4398-4806-7
Business, marketing, and management principles for IT and engineering.
Chorafas, Dimitris N.
CRC Press, ©2011 419 p. $79.95
For business practitioners and engineering and technology and for graduate students, business consultant Chorafas explains the principles, policies, and practices of management that are used by the best companies, as well as how they develop and implement them. Generally, he says, companies devote much attention to matters of efficiency, productivity, and rationality that are distilled into management principles, and demonstrated in daily activities. Many of these activities serve as case studies here. He covers business strategy, management principles, marketing and sales, innovation, and financial staying power.

SOCIOLOGY

HM742 2011-410053 978-0-7637-9195-7
Security strategies in Web applications and social networking.
Harwood, Mike. (Jones & Bartlett learning information systems security & assurance series)
Jones & Bartlett, ©2011 406 p. $89.95 (pa)
Harwood (MCT, MCSE, A+, Network+, Server+, Linux+) presents this resource and instructional book covering web application and social networking security principles. Recently information storage has shifted from mainframe computers to web-enabled servers, thus presenting new and challenging security issues. The principles covered in this book provide readers with the practical and progressive knowledge required to successfully conduct web application and social networking security. This book is intended for students and practitioners of IT security and cyber security.

HM742 2011-031357 978-1-4398-5349-8
Social media, crisis communication, and emergency management; utilizing Web 2.0 technologies.
Title main entry. Ed. by Connie White.
CRC Press, ©2012 307 p. $69.95
Intended for disaster managers and policy makers, this timely volume explores the use of social media and collaborative computer and communications technologies for disaster response and emergency preparedness. Topics discussed include the design of social media resources for emergency management, Facebook, Twitter and microblogging, collaboration and document management, visual aides and mapping software and the development of free and open source software resources. Chapters include numerous illustrations, sidebars and case studies. White is a professor of emergency preparedness studies at Jacksonville State University, Alabama.

HQ799 2011-003709 978-0-910965-87-3
Dancing with digital natives; staying in step with the generation that's transforming the way business is done.
Title main entry. Ed. by Michelle Manafy and Heidi Gautschi.
CyberAge Books, ©2011 394 p. $27.95
Digital natives, as defined by the editors, are people born after 1984 who have grown up using digital technology. This collection of 19 essays by contributors from the worlds of business and academia, aims to show members of the previous generations how to understand, market to, and work with digital natives. Essays are grouped thematically into categories of working with digital natives, marketing and selling to digital natives, entertaining the digital native, and educating the digital native. Specific topics broached include Facebook in the workplace, adapting old-fashioned marketing values to the needs of digital natives, learning to engage the digital native, and teaching digital literacy digitally. Manafy is director of content at FreePint Ltd. and Gautschi previously taught in the French university system.

SCIENCE (GENERAL)

Q180 2011-036560 978-1-4398-6918-5
Handbook of scientific proposal writing.
Oruc, A. Yavuz.
CRC Press, ©2012 225 p. $59.95
Oruc (U. of Maryland) offers researchers and research administrators in academia and funding agencies with a broad overview of initiating and conducting funded scientific research projects, combined with practical advice for conceiving research ideas, expanding them into proposals, and carrying out funded research projects. Chapters explore an overview of scientific

research and its methods, issues of intellectual merit and impact criteria, the development of research ideas into research proposals, the relationship between research and education in research universities, and the missions and operational characteristics of funding agencies.

MATH, COMPUTERS

QA76.59 2011-022932 978-1-61350-107-8
Ubiquitous multimedia and mobile agents; models and implementations.
Title main entry. Ed. by Susmit Bagchi.
Information Science Reference, ©2012 329 p. $195.00
This collection of twelve articles on emerging mobile computing technology showcases current scholarship in autonomous systems and ubiquitous computing. The works cover a variety of technologies, and topics discussed include mobility management for multimedia content delivery, agent-based collaborative software, ubiquitous content discovery systems and security management in distributed sensor networks. Individual chapters include illustrations, tables and equations as well as abstracts and bibliographies and a volume wide compilation of reading resources is provided. The contributors are computer scientists from American, European and Asian institutions.

QA76.758 2011-032719 978-1-4398-5375-7
Social software engineering; development and collaboration with social networking.
Keyes, Jessica.
CRC Press, ©2012 467 p. $89.95
This timely volume on collaborative management strategies in software engineering explores the ways in which advances in communications technology and social networking have influenced the way that software is developed and tested. Topics discussed include collaborative infrastructures, knowledge sharing in engineering teams, collecting knowledge across social networks, measuring social software engineering, mobile software and security and privacy concerns. The volume includes a series of appendices that provides practical guides and activities for implementing social networking strategies in real world situations. Keyes is the former director of research and development for the New York Stock Exchange.

QA76.9 2011-034670 978-1-4398-6625-2
Building enterprise systems with ODP; an introduction to open distributed processing.
Linington, Peter F. et al. (Chapman & Hall/CRC innovations in software engineering and software development)
CRC Press, ©2012 258 p. $69.95
Linington (emeritus, computer communications, U. Kent, Britain), software consultants Zoran Milisevic and Akira Tanaka, and Antonio Vallecillo (languages and information systems, U. of Malaga, Spain) provide a gentle introduction to the international standard developed by ISO and ITU-T for describing and building widely distributed systems and applications in a systematic way. They summarize the basic structuring ideas of Open Distributed Processing (ODP), emphasizing the central idea of there being a set of viewpoints. Then they look in detail at the five viewpoints and the correspondences between them, explain how the concepts are used to solve a number of common problems, and discuss some of the subtler ideas underlying this kind of system modeling.

QA76.9 2011-009965 978-1-61350-113-9
Computational and data grids; principles, applications, and design.
Title main entry. Ed. by Nikolaos Preve.
Information Science Reference, ©2012 384 p. $195.00
Computer scientists, electronic engineers, and physicists explore a technology for making use of idle time on networked computers. In sections on principles of grid infrastructures, grid network designs, and applications for grid computing, they consider such aspects as desktop grids and volunteer computing systems, grid data handling, grid access control models and architectures, applying grid computing for meteorological assessment of wind and solar resources in sub-Saharan Africa countries, and enhancing the grid with multi-agent and semantic capabilities.

QA76.9 978-1-4200-8279-1
The garbage collection handbook; the art of automatic memory management.
Jones, Richard et al. (Chapman & Hall/CRC applied algorithms and data structure series)
CRC Press, ©2012 481 p. $79.95
It is not solid waste disposal--curb-side pickup and all--that computer scientists Jones (U. of Kent, Canterbury), Antony Hosking (Purdue U.-West Lafayette), and Eliot Moss (U. of Massachusetts-Amherst) are concerned with here, but how software developers can manage computer memory. Their topics include copying garbage collection, partitioning the heap, run-time interface, concurrency garbage collection, and real-time garbage collection.

QA76.9 2011-008678 978-1-61350-056-9
Pattern discovery using sequence data mining; applications and studies.
Title main entry. Ed. by Pradeep Kumar et al.
Information Science Reference, ©2012 273 p. $195.00
Computer scientists and engineers explain some of the ways that data in the form of sequences can be mined not only to find a particular value or event at a particular time, but also to reveal relationships between such values or events. Their topics include kernel methods based approaches to classifying and clustering sequential patterns in sequences of continuous feature vectors and discrete symbols, classifying biological sequences, analyzing kinase inhibitors and the druggability of kinase-targets using machine learning techniques, video streaming for on-road traffic density analytics, and sequence pattern mining for web logs.

QA278 2011-030498 978-1-4398-5550-8
A practitioner's guide to resampling for data analysis, data mining, and modeling.
Good, Phillip I.
CRC Press, ©2012 214 p. $89.95
Good explains a method of statistics that involves sampling the same data over and over to increase the accuracy of the analysis. He begins by surveying the wide range of applications, then discusses estimation and the bootstrap, software for use with the bootstrap and permutation tests, comparing two populations, multiple variables, experimental design and analysis, categorical data, multiple hypotheses, model building, classification, and restricted permutations.

PHYSICS

QC454 2011-012255 978-0-470-03248-0
Vibrational optical activity; principles and applications.
Nafie, Laurence A.
John Wiley & Sons, ©2011 378 p. $120.00
Nafie (emeritus, chemistry, Syracuse U., New York) was one of the few adepts when vibrational optical activity was an esoteric field before the turn of the century. Now that commercial devices are available and scientists around the world are using spectroscopy based on it, he summarizes the fundamental principles and applications of the field's two main forms: vibrational circular dichroism and vibrational Raman optical activity. His topics include vibrational frequencies and intensities, molecular chirality and optical activity, the theory of Raman optical activity, instrumentation for vibrational circular dichroism, calculating vibrational optical activity, and applications. Readers from beginners to specialists should find the information useful.

QC476 2011-032875 978-1-4398-3467-1
Handbook of luminescent semiconductor materials.
Title main entry. Ed. by Leah Bergman and Jeanne L. McHale.
CRC Press, ©2012 448 p. $149.95
Physicists, chemists, materials scientists, and electronic and computer engineers examine the photoluminescence properties of semiconductors with applications to semiconductor-based devices. The topics include principles of photoluminescence, random lasing and ultraviolet photonic light sources as novel applications of zinc oxide, narrow-gap semiconductors for infrared detectors, fundamentals of the quantum confinement effect, and biological applications of photoluminescent semiconductor quantum dots.

QC661 2011-021210 978-1-84821-293-0
Electromagnetic reverberation chambers.
Besnier, Philippe and Bernard Démoulin.
ISTE/Wiley, ©2011 407 p. $195.00
French scientists Besnier (Institute of Electronics and Telecommunications, Rennes) and Démoulin (emeritus, U. of Lille) describe chambers designed to echo electromagnetic radiation in order to measure it. Writing for engineers, technicians, and beginning students and using a conventional physical approach, they cover the position of the reverberation chambers in common electromagnetic tests, the main physical features of electromagnetic cavities, the statistical behavior or stirred waves in an oversized cavity, the impact of the physical and technological parameters of a reverberation chamber, radiated immunity tests in a reverberation chamber, emissivity texts, measuring the shielding effectiveness, and a mode stirring reverberation chamber as a research tool.

CHEMISTRY

QD39 2011-028266 978-1-60960-860-6
Advanced methods and applications in chemoinformatics; research progress and new applications.
Title main entry. Ed. by Eduardo A. Castro and A.K. Haghi.
Engineering Science Reference, ©2012 494 p. $195.00
Chemists and other physical scientists and engineers, along with computer scientists and related researchers and practitioners

describe the current status of cheminformatics, which uses computational techniques and methods to study and solve complex chemical problems. The topics include the structural classification of complex molecules by artificial intelligence techniques, a new stochastic methodology for discovering high-through-put materials, a homotopy pertuburation approach to the analytical solution of cubic autocatalytic reaction-diffusion equations, applying macromolecular QSAR (quantitative structure-activity relationships) theory, and computational techniques to predict binding affinity in drugs.

QD79 2010-036838 978-0-470-43407-9
Comprehensive chromatography in combination with mass spectrometry.
Title main entry. Ed. by Luigi Mondello. (Wiley series on mass spectrometry)
John Wiley & Sons, ©2011 481 p. $125.00
Scientists from Europe, North America, and Australia describe comprehensive two-dimensional chromatography in combination with mass spectrometry, a technique that is still being developed. Their topics include theoretical considerations of multidimensional gas and liquid chromatography, flow-modulated comprehensive two-dimensional gas chromatography, detector technologies and applications, other comprehensive chromatography methods, and comprehensive chromatography data interpretation technologies.

QD505 2010-053405 978-0-470-56820-0
Polymeric chiral catalyst design and chiral polymer synthesis.
Title main entry. Ed. by Shinichi Itsuno.
John Wiley & Sons, ©2011 497 p. $149.95
Polymer-immobilized chiral catalysts and reagents have received considerable attention in regard to the organic synthesis of optically active compounds. Here chemists review asymmetric catalysis using a polymer-immobilized catalyst and the synthesis of chiral polymers. Among their topics are a polymer-immobilized chiral organocatalyst, peptide-catalyzed asymmetric synthesis, the synthesis and application of helical polymers with macromolecular helicity memory, optically active polymer and dendrimer synthesis and their use in asymmetric synthesis, and using oxidative cross-coupling polymerization to synthesize a hyperbranched polymer with binaphthol units.

QD708 2011-010605 978-0-470-23053-4
Supramolecular photochemistry; controlling photochemical processes.
Title main entry. Ed. by V. Ramamurthy and Yoshihisa Inoue.
John Wiley & Sons, ©2011 623 p. $149.95
To explore interactions between light and materials structures larger and more complex than single molecules, chemists look at supramolecular assemblies in solution and solid states as well as photophysics and photochemistry of molecules that are integrated into the supramolecular assembly. Their topics include templating photoreactions in solutions, supramolecular photochirogenesis, the photochromism of multicomponent diarylethene crystals, controlling photoreactions through non-covalent interactions within zeolite nanocages, and protein-controlled ultrafast photoisomerization in rhodopsin and bacteriorhodopsin.

QD880 2011-010584 978-0-470-55974-1
Supramolecular soft matter; applications in materials and organic electronics.
Title main entry. Ed. by Takashi Nakanishi.
John Wiley & Sons, ©2011 487 p. $125.00
Physical scientists from around the world explore a number of areas of supramolecular soft matter that offer potential for developing organic electronics. They cover supramolecular objects towards multi-task organic materials, stimuli responsive dye organized soft materials, dimension controlled organic frameworks, recent trends in organic radical materials, organogels and polymer assembly, supramolecular liquid crystals, supramolecular composites based on carbon nanotubes, optoelectronics based on supramolecular assemblies, and prospects in supramolecular soft materials.

TECHNOLOGY (GENERAL)

T10 2011-002506 978-1-4398-5002-2
Using the engineering literature, 2d ed.
Title main entry. Ed. by Bonnie A. Osif.
CRC Press, ©2012 580 p. $159.95
Librarians specializing in science and engineering offer colleagues advice on how to built, maintain, and use special collections, up to entire libraries, devoted to a single branch of engineering. After chapters on general engineering resources and minorities in engineering, they look at different branches of engineering, among them: agricultural and food, chemical, civil, electrical and electronics, environmental industrial, mechanical, nuclear, and transportation. Other chapters consider engineering education and the history of engineering. The first edition was published in 2006.

T57 2011-023571 978-1-61350-086-6
Hybrid algorithms for service, computing and manufacturing systems; routing and scheduling solutions.
Title main entry. Ed. by Jairo R. Montoya-Torres et al.
Information Science Reference, ©2012 336 p. $180.00
Operations research, industrial and mechanical engineering, and computer science are among the perspectives contributors bring as they discuss the design, implementation, and experimental evaluation of hybrid meta-heuristic methods for approximating solutions to large-scale optimization problems. The topics include vehicle routing models and algorithms for winter road spreading operations, strategies for an integrated distribution problem, a hybrid particle swarm algorithm for resource-constrained project scheduling, hybrid heuristics for the territory alignment problem, and a hybrid Lagrangian relaxation and Tabu search method for interdependent-choice network design problems.

T59 2011-019718 978-1-4200-4628-1
Human factors and ergonomics in consumer product design; methods and techniques.
Title main entry. Ed. by Waldemar Karwowski et al. (Ergonomics design and management; theory and applications)
CRC Press, ©2011 493 p. $89.95
In the first in a projected series on human factors and ergonomics in designing consumer products, engineers and designers explore methods for consumer products design, the design process, digital design, and the user-centered design of consumer products. Their topics include a model-based framework for influencing conceptual designs, the role of standards in design, cultural ergonomics issues, digital human modeling in the user-centered design process, and the evolution of dishwasher design and the potential for a more user-centered approach.

T65 978-1-4493-9767-8
Gamification by design; implementing game mechanics in web and mobile apps.
Zichermann, Gabe and Chris Cunningham.
O'Reilly Media, Inc., ©2011 182 p. $24.99 (pa)
Intended for application designers, marketers, and product managers, this volume on interface design explores the ways in which gaming concepts can be applied to all manner of computer, mobile, and web applications, increasing interest and drawing new customers and users. Beginning with an overview of game fundamentals, the work discusses topics such as player motivation and game mechanics, and design for engagement. Additional chapters explore case studies in gamification and two tutorials in coding game mechanics. Chapters include numerous color screenshots and sidebars and access to additional online materials is provided. Zichermann and Cunningham are gamification advocates.

ENGINEERING (GENERAL, CIVIL)

TA177 2010-053404 978-1-118-00889-8
Lean for systems engineering with lean enablers for systems engineering.
Oppenheim, Bohdan W. (Wiley series in systems engineering and management; 82)
John Wiley & Sons, ©2011 294 p. $95.00
Oppenheim (systems engineering, Loyola Marymount U., and founder and co-chair, Lean Systems Engineering Working Group if INCOSE) notes that ineffective system engineering can frequently be found at the root of poor program performance in a variety of sectors, such as defense, aerospace, civil infrastructure, shipbuilding, and others. He offers in this book a response built on lean six sigma thinking. Lean isn't new; the system of using common sense continuous process improvements originated at Toyota some time ago. It contains a wealth of both classic and recent literature citations and lays out the basis for what it being introduced: Lean Enablers for System Engineering. The book is well-written and conveniently formatted, and offers a variety of resources, including a glossary and extensive references.

TA190 2011-022356 978-0-7844-1150-6
Applied GPS for engineers and project managers.
Ogaja, Clement A.
Am. Society of Civil Engineers, ©2011 208 p. $80.00 (pa)
This book is for civil engineers, researchers, students, and project managers. It explains the basics of global positioning technology (GPS) within the context of engineering and project management and guides engineers and project managers in selecting and implementing a GPS system into projects or research. Part 1 treats basics of GPS, such as positioning and measurement principles and improving accuracy, and reviews features of low-cost systems and high-precision systems. Part 2 presents applications in eight different areas, such as structural health monitoring, robotics and machine control, maritime operations, geohazards monitoring, miniaturized GPS systems, and wireless

communications. About 20 pages of appendices give facts on GPS receiver classification, calculations, and equations. A glossary of terms is also included. The book is illustrated with b&w photos. Ogaja teaches geomatics engineering at California State University.

TA418 2010-028359 978-0-470-48788-4
Computational methods for large systems; electronic structure approaches for biotechnology and nanotechnology.
Title main entry. Ed. by Jeffrey R. Reimers.
John Wiley & Sons, ©2011 659 p. $135.00
Researchers in chemistry, environmental sciences, and physics explain some of the computational methods that are available to deal with problems in nanotechnology and biotechnology, and how to select an appropriate one in any particular case. They cover density functional theory as the main workhorse, higher-accuracy methods, more-economical methods, and advanced applications. The topics include principles of density functional theory and equilibrium and non-equilibrium applications, coupled-cluster calculations for large molecular and extended systems, effective low-energy Hamiltonians in condensed matter physics and chemistry, computational methods for modeling free-radical polymerization, and calculating molecular conductance.

TA418 2011-934932 978-1-84569-812-6
Nanocoatings and ultra-thin films; technologies and applications.
Title main entry. Ed. by Abdel Salam Hamdy Makhlouf and Ion Tiginyanu.
Woodhead Publishing, ©2011 428 p. $255.00
Chemists and engineers present a tutorial and reference to the most common thin-films and nanocoating techniques as informed by both basic research and practical experience. Writing for end-user design engineers, coaters, and coatings suppliers, they discuss such aspects as current and advanced coating technologies for industrial applications, chemical and physical vapor deposition methods, methods for analyzing nanocoatings and ultra-thin films, nanocoatings for architectural glass, advanced protective coatings for aeronautical applications, ultra-thin membranes for sensor applications, and self-cleaning smart nanocoatings.

TA455 2010-053092 978-0-470-39122-8
Ceramic integration and joining technologies; from macro to nanoscale.
Title main entry. Ed. by Mrityunjay Singh et al.
John Wiley & Sons, ©2011 816 p. $175.00
Researchers compile information about integrating ceramics in a wide range of fields to provide a comprehensive reference across scales, materials, and purposes. The sections cover science and technology for macroscale integration, integration issues in energy generation and device fabrication, and nanometer-scale and biological integration. The topics include joining and integration issues of ceramic matrix composites for the nuclear industry, oxide thermoelectric power generation, the changing physics in metal interconnect reliability, the integration of nanowires in new devices and circuit architectures, and the biointegration of prosthetic devices.

TA455 2011-031714 978-1-4398-3800-6
Polyurethane shape memory polymers.
Huang, Wei Min et al.
CRC Press, ©2012 367 p. $179.95
Huang (mechanical and aerospace engineering, Nanyang Technological U., Singapore), Singapore engineer Bin Yang, and Richard Yong Qing Fu (thin films, U. of of the West of Scotland) focus on polyurethane, but explore shape memory effects generally from fundamentals to applications, from macro to submicron scales, and from the past to the future. Their topics include the thermomechanical behavior of polyurethane shape memory polymer, effects of moisture on glass transition temperature and applications, magnetic and conductive polyurethane shape memory polymer, porous types, wrinkling atop shape memory polymers, medical applications, and mechanisms of multi-shape and temperature memory effects.

TA455 2011-021008 978-0-470-56210-9
Rubber-clay nanocomposites; science, technology, and applications.
Title main entry. Ed. by Maurizio Galimberti.
John Wiley & Sons, ©2011 601 p. $149.95
Material, chemical, and mechanical engineers consider clay as one of the new class of fillers for rubber that have at least one dimension at the nanometer scale. They cover clays for nanocomposites, preparing and characterizing rubber-clay nanocomposites, compounds with rubber-clay nanocomposites, and applications. Among specific topics are organophilic clay minerals, alkylammonium chains on layered clay mineral surfaces, the rheology of rubber-clay nanocomposites, vulcanization characteristics and the curing kinetic of rubber-organoclay nanocomposites, the permeability of rubber compositions

containing clay, rubber-clay nanocomposites based on butyl and halobutyl rubbers, and automotive and non-automotive applications.

TA455 2011-007555 978-0-470-49712-8
Self-healing polymers and polymer composites.
Zhang, Ming Qiu and Min Zhi Rong.
John Wiley & Sons, ©2011 416 p. $125.00
This interesting volume examines cutting edge technologies in the field of polymer research, highlighting current scholarship in the development of self-healing materials. The material presents both conceptual information as well as specific information for engineers and researchers, and covers such topics as theoretical considerations for self healing materials and concept modeling, extrinsic self-healing via addition polymerization, anionic polymerization, and intrinsic self-healing using the Diels-Alser Reaction. Chapters include numerous illustrations, tables and equations and a glossary of acronyms and terms is provided. Zhang is an expert polymer engineer and Rong is a former professor of materials science at Tianjin University, China.

TA492 2011-019533978-0-470-97200-7
Beam structures; classical and advanced theories.
Carrera, Erasmo et al.
John Wiley & Sons, ©2011 182 p. $110.00
This volume on beam theory provides advanced structural engineers with an overview of the history of beam design scholarship and a survey of current and emerging theories on beam design and structural engineering. Beginning with a discussion of fundamental equations of continuous deformable bodies, the work explores the Euler-Bernoulli and Timoshenko theories, Carrera Unified Formulation, CUF beam FE models, Shell capabilities of refined beam theories and multi-model beam theory and the Arlequin method, Chapters include numerous illustrations and technical drawings. Calculations in this volume are generated using the MUL2 engineering software. The authors are aerospace engineers associated with the Politecnico di Torino, Italy.

TA658 978-0-7844-1188-9
Blast protection of buildings.
American Society of Civil Engineers. (ASCE standard; ASCE/SEI 59-11)
Am. Society of Civil Engineers, ©2011 108 p. $125.00 (pa)
This brand new standard synthesizes experiences of committee members and others to present current practice in analyzing and designing structures for blast resistance. It covers general considerations, design considerations, performance criteria, blast loads, fragmentation, structural systems, protection of spaces, exterior envelope, materials detailing, and performance qualification. The first half of the volume sets out the standards, and the second half comments on them.

TA1637 2011-029864 978-1-4398-3721-4
Visual cryptography and secret image sharing.
Title main entry. Ed. by Stelvio Cimato and Ching-Nung Yang. (Digital imaging and computer vision; 4)
CRC Press, ©2012 501 p. $139.95
This collection of seventeen articles on visual cryptography showcases cutting-edge research in the encryption of images decodable by the human eye without the aid of computers. Topics discussed include halftone error diffusion methods, visual cryptography for color images, cryptography for multiple secrets, photographic images, probabilistic visual cryptography schemes, cheating prevention, resolving alignment problems, steganography in halftone images, and two-decoding-option image sharing methods. Chapters include detailed formulas and equations as well as color illustrations. Contributors include academics from European, American and Asian universities as well as cryptography and computer science professionals.

ENVIRONMENTAL TECHNOLOGY

TD196 2011-011802 978-1-4398-3830-3
Global contamination trends of persistent organic chemicals.
Title main entry. Ed. by Bommanna G. Loganathan and Paul Kwan-Sing Lam.
CRC Press, ©2012 638 p. $159.95
Researchers in the environmental, biological, and earth sciences from around the world address the past, present, and possible future trends of artificial organic chemicals that are persistent in the environment and cause unintended effects on the environment and to the health of wildlife and humans. They cover classical and emerging persistent organic chemicals (POC); the Asia-Pacific region; Europe and Africa; the Americas; and coastal, oceanic, Arctic, and Antarctic regions. Among the topics are spatial and temporal trends of polybrominated diphenyl ethers, the environmental contamination status of polychlorinated biphenyls in China, chlorinated hydrocarbons in animal tissues and products of animal origin from Poland, contamination profiles and temporal trends of

POC in oysters from the Gulf of Mexico, and the contamination profile and temporal trends of persistent organic pollutants in Antarctic biota.

TD898 2011-922772 978-1-84564-566-3
High-level radioactive waste (HLW) disposal; a global challenge.
Pusch, R. et al.
WIT Press, ©2011 299 p. $260.00
Pusch (Lulea Technical U., Sweden), R. Yong (North Saanich, Canada), and M. Nakano (U. of Tokyo) grapple with challenges of storing highly radioactive waste, focusing on the most common approach of isolating it within multiple artificial barriers then burying it in rock. After introducing the underlying concepts and processes, they discuss the geological basis, engineered barriers, the performance of barriers, the long-term performance of engineered barriers, repository concepts for the waste, alternative concepts, and risk assessment and challenges. They point out that the future of the nuclear power business depends highly on finding a safe way to deal with the hazardous waste it produces. Unusual for WIT Press, no index is provided.

TG340 2011-014658 978-1-4398-3763-4
Seismic design aids for nonlinear pushover analysis of reinforced concrete and steel bridges.
Ger, Jeffrey and Franklin Y. Cheng. (Advances in earthquake engineering)
CRC Press, ©2012 376 p. $119.95
Ger, the US Federal Highway Administration bridge engineer for Florida, Puerto Rico, and the US Virgin Islands; and Cheng (emeritus, civil engineering, Missouri U. of Science and Technology) offer practicing engineers a step-by-step guide for pushover analysis, along with an executable file for a computer program to perform pushover analysis. Also called nonlinear static monotonic analysis, pushover analysis has become a common practice for performance-based bridge seismic design because it can identify failure modes and design limit states of bridge piers, and can project the progressive collapse sequence of damaged bridges when subjected to major earthquakes.

BUILDING CONSTRUCTION

TH7413 2010-030052 978-1-60358-296-4
Passive solar architecture; heating, cooling, ventilation, daylighting, and more using natural flows.
Bainbridge, David A. and Ken Haggard.
Chelsea Green Publ. Co., ©2011 294 p. $85.00
Bainbridge (consultant and emeritus, sustainable management, Marshall Goldsmith School of Management) and Haggard (architect and former architecture professor), both pioneers in the solar movement, provide a detailed overview of passive solar design and how to use solar energy for heating, cooling, ventilation, and daylighting. They draw from their own experiences and other sources to give homeowners, architects, and builders an understanding of the principles of design and the details and formulas needed for successful projects. They also address sustainable building materials and their use--and dig into the beginnings of green design for an understanding of how it has made it possible to construct buildings that generate more electricity than they use. Numerous high-quality photographs and illustrations are included.

MECHANICAL ENGINEERING & MACHINERY

TJ151 978-3-03785-137-1
Advanced research on mechanical engineering, industry and manufacturing engineering; selected papers; 2v.
Int'l Conference on Mechanical Engineering, Industry, and Manufacturing... (2011: Beijing, China) Ed. by Helen Zhang and David Jin. (Applied mechanics and materials; vs.63-64)
Trans Tech Publications, ©2011 1042 p. $276.00 (pa)
Over 200 peer-reviewed and selected papers cover mechanical engineering, design, and materials science; material engineering, industry, and manufacturing engineering; intelligent materials, information engineering, and energy engineering; and design science, materials, and mechanical manufacturing technology. Among specific topics are push-based sequence authorization mechanisms for grid security, the transmitting efficiency of supercharged devices, the blind signal separation of strong reverberation based on a new algorithm, applying compliant mechanisms on a polishing robot, a method of software static testing in the presence of runtime exception, and a new controller of stochastic delay systems. The

two volumes are paged and indexed together.

TJ216 978-1-84919-259-0
Eigenstructure control algorithms; applications to aircraft/rotorcraft handling qualities design.
Srinathkumar, S. (Control engineering series; v.74)
IET, ©2011 285 p. $120.00
Srinathkumar (National Aerospace Laboratories, India) develops algorithms based on eigenstructure control theory and demonstrates their use in designing practical flight control systems. Writing for control and aeronautical engineers and for researchers and graduate students in flight control, he assumes a basic background in state variable control system design, linear algebra/matrix theory, flight mechanics/flight control, and flight vehicle handing qualities. He includes a problem in distillation plant control to demonstrate how the algorithms and principles can also be applied to other dynamical systems, such as process control, that need feedback control. Books from the UK's Institution of Engineering & Technology (IET), IEE, and Inspec are distributed in the US by Books International.

TJ217.6 978-3-527-31492-8
Predictive control in process engineering; from the basics to the applications.
Haber, Robert et al.
Wiley-VCH, ©2011 600 p. $190.00
Haber (Cologne U. of Applied Sciences); Ruth Bars (automation and applied informatics, Budapest U. of Technology and Economics); and Ulrich Schmitz, with an oil company, introduce predictive control and discuss in detail the control algorithms for both single and multiple input/output linear systems, some predictive control methods for nonlinear systems, and some new trends and practical aspects in predictive control. They write for graduate and senior undergraduate students and for engineers who want to apply advanced control techniques in industrial practice. They suppose a basic knowledge of control theory.

TJ230 978-0-8311-3432-7
Machine designers reference.
Marrs, Jennifer.
Industrial Press, ©2012 716 p. $74.95
This reference is written by a mechanical designer for other mechanical designers, students, and recent graduates. It will be useful to all practitioners of machine design, and epically useful to designers in the automation, assembly equipment, and light industrial machine industries. For those at the start of their careers, there is enough background provided on each topic to allow the reader to use the procedures and formulas and to communicate with suppliers. For the experienced practitioner, the book is organized to concisely provide tips, formulas, and data needed most often. Most formulas and data are collected in large-format tables, and all tables are indexed at the start of each chapter. Bullet lists of best practices and critical considerations are also provided. Each chapter lists recommended further resources including books, websites, and companies. Coverage includes design and analysis, ergonomics and machine safety, dimensions and tolerances, pins and retaining rings, pipe threads and washers, welds and weldments, materials and surfaces, power transmission devices, and machine reliability and performance. The book is illustrated with b&w photos and illustrations, and features a larger type size for readability. Marrs is a mechanical design engineer.

TJ853 2011-005405 978-1-4398-1672-1
Microfluidics and nanofluidics handbook; fabrication, implementation, and applications.
Title main entry. Ed. by Sushanta K. Mitra and Suman Chakraborty.
CRC Press, ©2012 615 p. $179.95
The two-volume handbook surveys microfluidics in a number of fields spanning the biological sciences, chemistry, physics, and engineering. The first volume provides the fundamental scientific background in physics and transport phenomena, and applications in the life sciences. This second volume begins by explaining experimental and numerical methods, then turns to fabrications and other applications ranging from aerospace to biology. Among the topics are recent developments in microparticle image velocimetry, the lattice Boltzmann method and its applications in microfluidics, system integration in microfluidics, microfluidics based on magnetic particles, and the enhancement of methane solubility in water confined to nanoscale pores.

TJ853 2011-005406 978-1-4398-1676-9
Microfluidics and nanofluidics handbook; chemistry, physics, and life science principles.
Title main entry. Ed. by Sushanta K. Mitra and Suman Chakraborty.
CRC Press, ©2012 1099 p. $179.95
For graduate students, scientists, and practicing engineers, the two-volume handbook synthesizes the current knowledge some 20 years after

microfluidics first became an important research area. This first volume covers physics and transport phenomena, and life sciences and related applications. Among the topics are pressure-driven flow in microchannels, single-particle colloidal hydrodynamics, fluid friction and heat transfer in microchannels, cellular biomicrofluidics, and microscopic hemorheology and hemodynamics. The other volume covers experimental and numerical methods, and fabrication and other applications.

ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING

TK452 2011-022945 978-1-84821-263-3
Electrical machines diagnosis.
Title main entry. Ed. by Jean-Claude Trigeassou.
ISTE/Wiley, ©2011 334 p. $145.00
Concentrating primarily on results from French researchers, this book addresses monitoring and diagnosis of electrical machine faults and compiles techniques used to detect the electrical, thermal, and mechanical faults that occur in electrical drives. Topics include: modeling induction machine winding faults for diagnosis, closed-loop diagnosis of the induction machine, diagnosis using observers, thermal monitoring, resistance and crankability estimation, signal analysis, fault diagnosis of the induction machine by neural networks, and faults detection and diagnosis in static converters. While extremely technical, writing is concise and direct and well-supported by numerous illustrations. Editor Trigeassou (IMS-LAPS, Bordeaux U., France) and 29 co-authors contributed.

TK454 2011-022160 978-1-4398-2951-6
Handbook of magnetic measurements.
Tumanski, Sawomir. (Series in sensors)
CRC Press, ©2011 390 p. $169.95
Continuing the work he began in his 2006 *Principles of Electrical Measurement*, Tumanski (Warsaw U. of Technology, Poland) moves into the less studied territory of magnetic measurements. He writes for engineers and students generally who may know little about magnetic measurements, but suggests that specialists might use the reference to help find their way around the field. His topics are fundamentals of magnetic measurements, magnetic materials, magnetic sensors, testing magnetic materials, and magnetic field measurements and their applications.

TK1010 2011-026251 978-1-61350-138-2
Innovation in power, control, and optimization; emerging energy technologies.
Title main entry. Ed. by Pandian Vasant et al.
Engineering Science Reference, ©2012 381 p. $195.00
Mostly electrical, but also mechanical, industrial, and other engineers explore some of the approaches to designing controls for an electrical power distribution system that displays considerable variability during its normal operation. Writing for fellow professionals, they provide theoretical frameworks and empirical research findings on such matters as a Hopefield Lagrange network for economic load dispatch, demand-side response smart grid techniques for optimizing energy use, the dynamic analysis and stability improvement concerning the integration of wind farms in Kurdistan, the optimal configuration and reconfiguration of electric distribution networks, and analyzing and monitoring a power grid.

TK2933 2011-007916 978-1-4398-3917-1
PEM fuel cell failure mode analysis.
Title main entry. Ed. by Haijiang Wang et al. (PEM fuel cell durability handbook)
CRC Press, ©2012 352 p. $139.95
One of the continuing challenges of proton exchange membrane (PEM) fuel cells is increasing durability without adding excessive weight or cost, especially in transport applications. Here engineers explore how the devices fail, in order to know what has to be changed to extend cell life. Among their topics are catalyst degradation, membrane degradation, the degradation of bipolar plates and its effect on PEM fuel cells, contaminant-induced degradation, environment-induced degradation, and design-related durability issues.

TK5103 2011935967 978-0-7695-4526-4
Fault diagnosis and tolerance in cryptography; proceedings.
Workshop on Fault Diagnosis and Tolerance in Cryptography (8th: 2011: Nara, Japan) Ed. by Luca Breveglieri et al.
Computer Society Press, ©2011 115 p. $177.00 (pa)
Researchers and engineers ponder the effect of faults, either accidental or malicious, on integrated circuits implementing cryptographic algorithms. One invited paper presents a classification model to guide readers through the fault attack jungle, and the other characterizes fault injection as a fast moving target in evaluations. Another 10 papers cover fault attacks on elliptic curve cryptosystems, differential

fault attacks on symmetric cryptosystems, algebra fault detection, and fault detection in practice. Only the authors are indexed.

TK5103 2011-028947 978-0-470-64775-2
Free space optical networks for ultra-broad band services.
Kartalopoulos, Stamatios V.
John Wiley & Sons, ©2011 234 p. $99.95
Intended for communications engineers, this introductory technical work on free space optical (FSO) networks examines the technologies and potential benefits and pitfalls involved in the development of laser last-mile communications devices. The volume discusses transceiver design, point-to-point FSO systems, Mesh-FSO systems, integration with public networks, FSO network security, and specialized applications. Numerous illustrations, tables and formulas are provided along with a large glossary of acronyms. Kartalopoulos is a professor of telecommunications networking at the University of Oklahoma.

TK5103 2011-000132 978-1-4398-0889-4
Game theory for wireless communications and networking.
Title main entry. Ed. by Yan Zhang and Mohsen Guizani. (Wireless networks and mobile communications)
CRC Press, ©2011 571 p. $99.95
This collection of twenty-three articles on game theory presents current scholarship in communications networking with an emphasis on large scale, diverse and unpredictable configurations. The volume is divided into sections covering game theory and wireless communications fundamentals, power control games, economic analysis through game theory and complex resource management, and individual articles address such topics as wireless sensor networks, non-co-operative power control in CDMA networks, auction algorithms for dynamic spectrum access, and game theory and intelligent network selection. Chapters provide detailed illustrations, equations and code examples and are laid out for easy reference and citation. Contributors include electrical engineering and computer science academics from a variety of institutions around the world.

TK5103 2011-018344 978-0-470-27681-5
High voltage protection for telecommunications.
Blume, Steven Warren. (IEEE press series on power engineering; 44)
Wiley-IEEE Press, ©2011 239 p. $89.95
This technical guide for electric power and communications technicians provides detailed information on designing and implementing robust protections for sensitive equipment in high voltage environments. Beginning with a discussion of electrical power system fundamentals, the work covers topics such as ground potential rise and zone of influence, critical telecommunications circuits in high voltage locations, high voltage protection equipment, level III equipment installation and testing, and personnel safety with high voltage protection equipment. The volume includes numerous illustrations and charts. Blume is an engineer specializing in power systems and telecommunications.

TK5103 2011-012256 978-1-119-99321-6
Mobile and wireless communications for IMT-advanced and beyond.
Title main entry. Ed. by Afif Osseiran et al.
John Wiley & Sons, ©2011 298 p. $135.00
This collection of essays on mobile and wireless communications showcases current research on state-of-the-art technologies for broadband and cellular communications using IMT-advanced protocols and standards, popularly referred to as 4G services. Topics discussed include radio resource management, carrier aggregation, spectrum sharing, MIMO systems, coordinated multi-point systems, relaying, network coding, device-to-device communications and end-to-end performance analysis. Additional chapters discuss emerging and next generation technologies and a collection of appendices provide relevant technical specifications. Contributors include academics and communications engineers from major firms such as Nokia, Qualcomm and Orange Labs.

TK5103 978-1-4200-8814-4
Near field communications handbook.
Title main entry. Ed. by Syed A. Ahson and Mohammad Ilyas. (Internet and communications; v.13)
CRC Press, ©2012 364 p. $99.95
Near field communication is a short-range, high-frequency wireless communications technology that has emerged from the convergence of contactless identification such as radio-frequency identification (RFID) and networking technologies such as Bluetooth and Wi-Fi. Researchers, presumably in electronics or computers, though they do not say so, walk readers through many applications that have evolved or are anticipated soon. Among the topics are security, software support for the user-centered prototyping of mobile applications, physical user interfaces for interactive spaces, the performance of an authentication and payment service compared with traditional solutions, and an empirically grounded design of a nutrition tracking system for patients with eating disorders.

TK5103 2011-024239 978-1-84821-296-1
Radio engineering; from software to cognitive radio.
Title main entry. Ed. by Jacques Palicot.
ISTE/Wiley, ©2011 378 p. $195.00
French scientists and engineers describe the concept of cognitive radio, which tends to make communication devices more autonomous, capable of deciding which resources to use and how to use them effectively. In this way, the system become more flexible and resources are used more efficiently. They also discuss software radio as a support technology. Their topics include cognitive radio sensors, decision making and learning, the transmitter/receiver analog front end, processing nonlinearalities, and implementation platforms. The material could be useful to engineers, researchers, and radio designers. The CiP data shows the title *Software and Cognitive Radio Engineering*.

TK5104 978-1-60807-194-4
Satellite communications; network design and analysis.
Jo, Kenneth Y.
Artech House, ©2011 505 p. $149.00
An electronics engineer working on satellite communications architecture designs for the US military at Fort Meade, Maryland, Jo introduces systems engineering approaches to modern satellite networks that provide wideband communications services through satellites, Earth stations, terminals, and terrestrial networks. Recent dramatic increases in both the availability of the technology and demand, he says, make it essential to map out feasible ways of providing secure, world-wide, reliable network-centric data service. He assumes readers have a fundamental knowledge of information systems and architectures, telecommunications networks, and telecommunications standards and protocols. Advanced calculus would be nice, but is not required. Some of the material is based on notes for a graduate course he taught at Johns Hopkins University.

TK5105 2011-031717 978-1-4398-0156-7
Applied semantic web technologies.
Title main entry. Ed. by Vijayan Sugumaran and Jon Atle Gulla.
CRC Press, ©2012 462 p. $89.95
Contributors with backgrounds in electronics and computer science as well as information and communications survey tools and processes for making all parts of the World Wide Web comprehensible to all other parts. Among their topics are toward semantic interoperability between information systems, a hybrid ontology mediation and mapping approach, relation extraction for semantic web with taxonomic sequential patterns, the automatic evaluation of search ontologies in the entertainment domain using natural language processing, and semantics for energy efficiency in smart home environments.

TK5105 2011-025333 978-1-61350-092-7
Biologically inspired networking and sensing; algorithms and architectures.
Title main entry. Ed. by Pietro Lio and Dinesh Verma.
Medical Information Science Reference, ©2012 297 p. $245.00
Lio (U. of Cambridge) and Verma (IBM) gather 13 papers exploring new architectures, resource optimization techniques, and routing protocols for computer networks that are based on biological mechanisms and natural phenomena. The contributing researchers demonstrate the potential of a dendritic cell algorithm for addressing intrusion detection problems, describe an organic network control system for adapting network protocols to dynamically changing environments, and compare three neural networks for cognitive modeling. Other topics include TCP congestion control, network energy driven wireless sensor networks, genetic algorithms for delay and disruption tolerant networks, and a scented node protocol for MANET routing.

TK5105 978-1-4398-5173-9
Cloud and virtual data storage networking; your journey to efficient and effective information services.
Schulz, Greg.
CRC Press, ©2012 371 p. $79.95
Intended for information technology professionals, system architects, and executives in charge of information systems, this volume discusses the rationale behind implementing cloud computing and virtual storage systems and presents a clear overview of existing and emerging technologies that have the potential to meet business data storage needs. Beginning with a discussion of business needs assessment and network storage fundamentals, the work covers such topics as infrastructure resources management, data security, data protection, cost-effective growth strategies, storage capacity optimization, commercial cloud solution packages and practical cloud system planning and implementation. The volume includes numerous illustrations, a glossary of acronyms and terms and a collection of online resources for further reading. Schulz is an independent IT consultant.

TK5105 2011-014521 978-0-470-97455-1
Connected services; a guide to the Internet technologies shaping the future of mobile services and operators.
Golding, Paul.
John Wiley & Sons, ©2011 330 p. $85.00
Intended for telecommunications professionals, this volume on emerging web technologies provides an explanation of cutting edge Internet technologies and discusses the principles that traditional telecom corporations must understand to thrive in the web connected mobile computing marketplace. Beginning with a basic exposition of the connections between the Internet and telecommunications the volume explores topics such as web services and how they work, web operating systems, big data and the real-time web, real-time and right-time technologies, modern device platforms, the augmented web, cloud computing and software- and platform-as-a-service, network-as-a-service and applying web start-up processes in telecommunications infrastructures. Golding is an experienced software architect and technologist with extensive experience in mobile-web development.

TK5105 2011-009262 978-1-60960-851-4
Cyber security standards, practices and industrial applications; systems and methodologies.
Title main entry. Ed. by Junaid Ahmed Zubairi and Athar Mahboob.
Information Science Reference, ©2012 316 p. $195.00
Researchers and practitioners in computer science, electrical engineering, information, and other fields discuss the current state of cyber security, which encompasses the security of both information and the networks it is on. They cover mobile and wireless security; social media, botnets, and intrusion detection; formal methods and quantum computing; embedded systems and SCADA (supervisory control and data acquisition) security; and industrial and applications security. Among their topics are protecting smartphone data using mobile usage pattern matching, cyber security and privacy in the age of social networks, practical quantum key distributions, embedded systems security, and cyber security in liquid petroleum pipelines.

TK5105 2011-010970 978-0-470-94342-7
Handbook of position location; theory, practice and advances.
Title main entry. Ed. by Seyed A. (Reza) Zekavat and Michael Buehrer. (IEEE series on digital & mobile communication)
John Wiley & Sons, ©2012 1222 p. $189.00
Intended for researchers, engineers, and high-level graduate students, this handbook of localized and location-aware wireless technologies showcase current and emerging research in a range of areas relating to public safety, military, robotics and transportation applications. The volume is divided into sections covering the fundamentals of position location, TOA and DOA based positioning, signal strength positioning, localization identification, tracking using Kalman filter, network localization and practical applications. Individual articles address such topics as source localization algorithms, computational analysis infrastructures, wireless indoor signal strength performance, collaborative position location, and RFID-based autonomous mobile navigation. Illustrations, technical drawings, and tables support the text and access to MATLAB files for several chapters is provided via a companion website. Contributors include academics in telecommunications engineering from universities around the world.

TK5105 2011-034867 978-1-61350-104-7
Innovations, standards, and practices of Web services; emerging research topics.
Title main entry. Ed. by Liang-Jie Zhang.
Information Science Reference, ©2012 419 p. $195.00
In this context, a web service is a software system designed to use standard protocols to support interoperable machine-to-machine interactions over a network. Computer scientists and related researchers survey the state of the field, emphasizing best practices, standards, and new ideas. Their topics include privacy preserving trust establishment with web service enhancements, a model-based approach to diagnosing fault in web service processes, issues on the compatibility of web service contracts, a framework and protocols for service contract agreements based on international contract law, an integrated framework for web services orchestration, and a web service enabled online laboratory.

TK5105 2011-007547 978-0-470-74149-8
LTE, WIMAX, and WLAN network design, optimization and performance analysis.
Korowajczuk, Leonhard.
John Wiley & Sons, ©2011 720 p. $155.00
Intended for engineers and wireless network designers, this large volume on Network optimization and performance analysis provides detailed information on the latest technologies in wireless data transmission and broadband wireless networking. Beginning with market analysis and network specification requirements, the work covers such topics as

RF channel analysis, OFDM implementation, advanced antenna systems, WiMAX, broadband standards comparisons, wireless network performance assessment, and network optimization. Chapters include illustrations, equations and data tables and an appendix of common mathematics for wireless networks is provided. Korowajczuk works for CelPlan Technologies, a network design and planning firm.

TK5105 978-1-4493-9491-2
Programming social applications.
LeBlanc, Jonathan.
O'Reilly Media, Inc., ©2011 518 p. $44.99 (pa)
Intended for developers working in social media application development, this guide to the collection and use of social network user information and data provides detailed information on the nuts and bolts of building user targeted, multi-platforms integrated applications. Beginning with a discussion of social application container core principles, chapters cover such topics as OpenSocial uses and APIs, porting profiles and friendships, sharing and data requests, OAuth and OprnID, and social application security. Chapters include detailed code examples and screenshots and access to additional online resources, including sample applications, is provided. LeBlanc is a California-based software developer and social application expert.

TK5105 2011-029149 978-1-84821-251-0
The semantic sphere 1; computation, cognition, and information economy.
Lévy, Pierre.
ISTE/Wiley, ©2011 381 p. $145.00
A participatory digital memory common to all humanity is on its way, declares Lévy (collective intelligence, U. of Ottawa), but today the use of the this memory is limited by problems of semantic opacity, incompatibility of classification systems, and linguistic and cultural fragmentation. To overcome this difficulty, he presents to the science community and informed public a new system for encoding meanings that will allow operations on meaning in the new digital memory to become transparent, interoperable, and computable. He calls it Information Economy Meta Language (IEML). He begins with the philosophy of information, discussing such aspects as symbolic cognition and creative conversation. Then he turns to modeling cognition, with chapters on the scientific knowledge of the mind, the IEML semantic sphere, the hypercortex, observing collective intelligence, and other topics.

TK7870 2011-019534 978-0-470-82780-2
Modeling and simulation for microelectronic packaging assembly; manufacturing, reliability and testing.
Liu, Sheng and Yong Liu.
John Wiley & Sons, ©2011 564 p. $140.00
Sheng (Huazhong U. of Science and Technology, China) and Yong, with a US semiconductor company, are concerned primarily here with electronic packaging in assembly manufacture processes, failure mechanisms in these processes, and testing through modeling and simulation. In some cases, however, they explore fundamentals of the modeling process itself. They cover mechanics and modeling, modeling in microelectronics packaging and assembly and in package reliability and testing, and applying modern modeling and simulation methodologies to nanometer-scale packaging.

TK7871 Erzysztof In 978-1-4398-4835-7
Nano-semiconductors; devices and technology.
Title main entry. Ed. by Krzysztof Iniewski. (Devices, circuits, and systems)
CRC Press, ©2012 585 p. $129.95
Touting nanometer-scale semiconductors as essential elements in the imminent and inevitable nanofication of the world, contributors discuss semiconductor materials, silicon devices and technology, and compound semiconductor devices and technology. Their topics include electrical propagation on carbon nanotubes from electrodynamics to circuit models, developing three-dimensional chip integration technology, optimizing and modeling monocrystalline silicon solar cells, and resonant tunneling and negative differential resistance in III-nitrides.

TK7872 978-1-84919-071-8
Ultracapacitor applications.
Miller, John M. (Power and energy series; v.59)
IET, ©2011 363 p. $100.00 (pa)
Having long worked on hybrid vehicle technology in the private sector, Miller is now with the US Department of Energy, Oak Ridge National Laboratory, National Transportation Research Center. Here he describes the fundamentals and applications of carbon-based electric double-layer capacitors. Also called ultracapacitors, these energy storage systems are capable of kilofarad levels of capacitance in single cells, and possess sufficient energy to challenge batteries. He emphasizes the electrochemistry of ultracapacitors for the benefit of practicing engineers, specifically applications engineers who are responsible for the design-in, sizing,

and customer follow-up of energy storage installations. Books from the UK's Institution of Engineering & Technology (IET), IEE, and Inspec are distributed in the US by Books International.

TK7878 978-1-84919-069-5
Coaxial electrical circuits for interference-free measurement.
Awan, Shakil et al. (Electrical measurement series; v.13)
IET, ©2011 321 p. $95.00 (pa)
Awan, Bryan Kibble, and Jürgen Schurr have over 60 years experience between them making electrical measurements in National Measurements Laboratories in Britain and Germany. Here they argue that it is possible to design circuitry so that the electrical and magnetic fields associated with its currents and potentials are confined. Because of reciprocity, they continue, such a circuit would not respond to external electric or magnetic fields either, that is would be immune to external electrical interference. Circuits with this characteristic should be used more widely in electrical instruments, especially sensing and measuring systems within the frequency range from DC to 100MHz. They describe how a network of coaxial cables has no significant external magnetic field if each other conductor carries a current that is maintained equal and opposite to that flowing in the inner conductor, and how it can be applied. Books from the UK's Institution of Engineering & Technology (IET), IEE, and Inspec are distributed in the US by Books International.

TK7881 2011-009746 978-0-470-68664-5
Transients of modern power electronics.
Bai, Hua and chris Mi.
John Wiley & Sons, ©2011 280 p. $135.00
This could be considered a reference work on power electronics, a fast-growing and major branch of electrical engineering--thanks to emerging applications such as electric power systems, alternative energy, and hybrid electric vehicles. Authors Bai (electrical and computer engineering, Kettering U.) and Mi (electrical and computer engineering, U. of Michigan-Dearborn) also offer a critique of the shortcomings inherent in current power electronics research, contending that research that fails to address all aspects of the topic frequently results in failure. They propose that the only path to high performance, high reliability, and high design accuracy requires combining analysis of macroscopic control and microscopic transient processes. While technical, the writing is direct and clear--and includes numerous real-world examples.

TK7882 978-1-60807-017-6
Biometrics in identity management; concepts to applications.
Modi, Shimon K. (Information security and privacy)
Artech House, ©2011 263 p. $99.00
Modi, a biometrics technology specialist experienced in applied research and standards development, provides an extensive exploration of commercially available technologies used in identity management (IdM), the processes far beyond passwords and other identifiers typically used to confirm an individual's identity in what has become an increasingly complex digital world. Chapters cover topics such as technical evaluation fundamentals, fingerprint and face recognition, iris and hand geometry recognition, speaker and vascular recognition, dynamic signature verification, biometric standards and testing, designing and deploying biometric systems, security and privacy issues in biometric applications. Essentially, the author's intent is to bring research and actual practice together.

TK7882 2011-023573 978-1-61350-129-0
Continuous authentication using biometrics; data, models, and metrics.
Title main entry. Ed. by Issa Traoré and Ahmed Awad E. Ahmed.
Information Science Reference, ©2012 280 p. $195.00
In order to avoid weaknesses such static authentication, such as a computer password entered only at the beginning of a session, computer scientists and engineers describe continuous authentication, which repeats the authentication process several times during the session, focusing on the use of biometrics. After setting out fundamentals, they cover continuous authentication based on physiological and cognitive metrics, and using behavioral biometrics. The topics include performance metrics and models for continuous authentication systems, multimodal biometric hand-off for robust unobtrusive authentication, low-level multi-spectral palm print image fusion, sitting postures and electrocardiograms, keystroke analysis as a tool for detecting intrusion, and personal identification and authentication based on keyboard dynamics in Japanese long-text input.

TK7882 2011-030495 978-1-4398-4775-6
Logo recognition; theory and practice.
Chen, Jingying et al.
CRC Press, ©2012 176 p. $99.95
Researchers in information and communication report the results of their research into recognizing logos as a means for identifying

sources of documents and obtaining semantic information about them. They cover preliminary knowledge, shape recognition techniques, system overview, a novel polygonal approximation, logo indexing, logo matching, and applications.

TK7895 2010-040981 978-0-470-64336-5
Computer system design; system-on-chip.
Flynn, Michael J. and Wayne Luk.
John Wiley & Sons, ©2011 334 p. $74.95
This guide to computer system design provides engineers with both theoretical and practical information on building system-on-chip (SOC) computer systems for a variety of cutting edge embedded computing tasks. Beginning with an overview of the author's system design approach, the volume covers processors, memory requirements, interconnects, customization and configuration, specific application requirements, and advanced options. Numerous illustrations, technical drawings, and equations support the text and access to additional online resources is provided. Flynn is professor emeritus of engineering at Stanford University and Luk is a professor of computer engineering at Imperial College, London.

TK7895 2011-010401 978-1-4398-1845-9
Model-based testing for embedded systems.
Title main entry. Ed. by Justyna Zander et al.
(Computational analysis, synthesis, and design of dynamic systems; 13)
CRC Press, ©2012 660 p. $149.95
Computer and information scientists and related researchers examine model-based testing from a number of perspectives that combine various aspects of embedded systems, embedded software, their models, and their quality assurance. They cover automatic test generation, integration and multilevel testing, specific approaches, testing in industry, and testing at the lower levels of development. Among specific topics are behavioral system models versus models of testing strategies in functional test generation, automated statistical testing for embedded systems, model-based integration testing with communication sequence graphs, the model based passive testing of safety-critical components, and embedded automotive systems.

TK7895 2011-023005 978-1-4398-1760-5
Real-time embedded systems; optimization, synthesis, and networking.
Qiu, Meikang and Jiayin Li.
CRC Press, ©2011 215 p. $99.95
Embedded systems are electronic systems that include a microprocessor to perform certain specific tasks, explain Qui and Li (both electrical and computer engineering, U. of Kentucky). They explain how the wee computer interacts with its environment, focusing on analysis and design at the system level. Their topics include multi-core embedded systems design, resource allocation with inaccurate information, scheduling for phase change memory with scratch pad memory, task scheduling in multiprocessors to reduce peak temperature, and battery-aware scheduling for wireless sensor networks.

MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS

TL152 978-1-60807-192-0
Autonomous ground vehicles.
Özgüner, Ümit et al. (Intelligent transportation systems)
Artech House, ©2011 277 p. $109.00
The autonomous vehicles anticipated to be on the roads in the near future are expected to give drivers previously unseen safety and performance assistance features, such as intersection accident warnings, safer lane changing and merging assistance, parking assistance, and other collision avoidance technologies. This reference is intended to give professionals in the discipline an understanding of the relevant technologies that will allow vehicles to make decisions in response to traffic situations without input from the driver, including autonomous control and feedback methods that will be used to give drivers more help than ever before in their efforts to drive safely and avoid potential traffic accident conditions. The authors address system architecture; sensors, estimation, and sensor fusion; examples of autonomy; maps and path planning; and vehicle-to-vehicle and vehicle-to-infrastructure communication. Authors are Özgüner (electrical and computer engineering, The Ohio State U.), Acarman (computer engineering, Galatasaray U, Turkey), and Redmill (research scientist, The Ohio State U.).

TL589 2011-009365 978-0-470-74563-2
Advanced control of aircraft, spacecraft, and rockets.
Tewari, Ashish. (Aerospace series list)
John Wiley & Sons, ©2011 436 p. $105.00
Tewari (aerospace engineering, Indian Institute of Technology, India) provides an introduction to the design and analysis of general flight control systems, as well as state-of-the-art control system design methods. Topics include but are not limited to: optimal control techniques, optimal navigation and control of aircraft, rocket guidance and attitude control, spacecraft guidance systems and attitude control, control of underactuated flight systems, linear systems, and stability. While intended for a professional audience with a solid mathematics background, the text is very clearly written.

TL875 2011-015486 978-0-470-75012-4
Spacecraft systems engineering, 4th ed.
Title main entry. Ed. by Peter Fortescue et al.
John Wiley & Sons, ©2011 691 p. $75.00
Originally published in 1991, this text is now in its fourth edition and, of course, much changed. Material is arranged in 20 contributed chapters beginning with the spacecraft environment and its effect on design, and proceeding through the various topics necessary for design: dynamics, celestial mechanics, mission analysis, propulsion systems, launch vehicles, attitude control, electrical power systems, telecommunications, and assembly, among other topics. Two of the three editors--Peter W. Fortescue and Graham G. Swinerd are affiliated with the U. of Southampton, UK; the third, John P.W. Stark, with the U. of London. With a few exceptions, the contributors are engineers based in the UK.

TL3000 2011-002191 978-0-470-76749-8
Single event effects in aerospace.
Petersen, Edward.
John Wiley & Sons, ©2011 502 p. $135.00
"Single event effects" (SEEs) refers to the radiation effects encountered in space-borne electronic systems that arise through the action of a single ionizing particle as it penetrates sensitive nodes within electronic devices, which can lead to seemingly random errors and even system failures. This volume is presented by Petersen (a consultant formerly with the US Naval Research Laboratory) as a tutorial on the basic terminology and concepts of SEEs and their rate prediction and is based on revised and updated notes for a 2008 NSREC (Nuclear and Space Radiation Effects Conference) Short Course. It describes the foundational issues of the subject, as well as issues that are important for measuring single event upset phenomenon and the interpretation of measurements. Attention is also given to experimental aspects from nuclear physics that are infrequently addressed in electrical engineering courses.

CHEMICAL TECHNOLOGY

TP155 2010-036834 978-0-470-92708-3
Principles and case studies of simultaneous design.
Luyben, William L.
John Wiley & Sons, ©2011 324 p. $149.95
Luyben (chemical process control and design, Lehigh U.) provides chemical engineers with general design principles for developing an effective flowsheet to transform reactants into products in a profitable, safe, environmentally friendly, and controllable plant. Simultaneous design, he explains, entails considering both steady-state economic and dynamic controllability aspects of the process. Among the topics discussed are principles of reactor design and control, designing and controlling an auto-refrigerated alkylation process, and the ethyl benzene process.

TP156 2011-027952978-1-4398-4907-1
Unit operations of particulate solids; theory and practice.
Ortega-Rivas, Enrique.
CRC Press, ©2012 474 p. $149.95
Ortega-Rivas (chemical engineering, Autonomous U. of Chihuahua, Mexico) examines unit operations in chemical engineering that involve handling and processing powders and other particulate solids. The textbooks on unit operations tend to focus on liquid, and mention particles only briefly if at all, he says. His overall themes are characterizing particulate systems in relation to storage and conveying, bulk solids processing, and separation techniques for particulate solids. Specific topics include size reduction and enlargement, fluidization, solid mixtures, and solid-fluid systems.

TP210 2011-006416978-0-470-49740-1
Writing chemistry patents and intellectual property; a practical guide.
Waller, Francis J.
John Wiley & Sons, ©2011 238 p. $79.95
A researchers in the chemical industry, Waller has written or co-written 46 US patents, and shares insights he has gleaned with intellectual property novices, workers just entering chemical technology, general readers interested in intellectual property, and people in the actual

process of writing and submitting a chemical patent. His topics include the background and historical perspective about intellectual property, reasons for patent office rejections, writing the patent application, the need for confidentiality agreements, and what academic science faculty should know about patents and copyrights.

TP248 2011-026134 978-0-470-63923-8
Biopolymers; biomedical and environmental applications.
Title main entry. Ed. by Susheel Kalia and Luc Averous.
Scrivener/Wiley, ©2011 614 p. $195.00
Most of the contributors are from chemistry and materials science, but some are from areas of application in biological, medical, and environmental sciences. They profile polymers derived from natural sources and how they are or can be used, especially to substitute for chemicals from non-renewable sources. They cover polysaccharides, bioplastics and biocomposites, miscellaneous biopolymers, and biopolymers for specific applications. Among the topics are natural polysaccharides from membranes to active food packaging, biopolymers based on carboxylic acids derived from renewable resources, gluten, rubber, electronic structures and conduction properties of biopolymers, and modified cellulose fibers as a biosorbent for organic pollutants. Scrivener is now owned by Wiley.

TP248 2010-054066 978-0-470-57334-1
Biomechatronic design in biotechnology; a methodology for development of biotechnological products.
Mandenius, Carl-Fredrik and Mats Björkman.
John Wiley & Sons, ©2011 285 p. $89.95
From the perspective of mechanical design engineering, but for readers with backgrounds in biotechnology and mechanics and electronics, Mandenius and Björkman (engineering biology and assembly technology, Linkoping U., Sweden) introduce the design principles and methodology of biomechatronics. They explain its fundamentals and theory, and how it integrates biological technology with mechanical and electric engineering. They detail research methods such as schemes and matrices for analyzing the functionality of the products, ranking methods for screening and scoring the best design solutions, and structuring graphical tools for an investigation of the subsystems and sub-functions of products, and give examples of applications for blood glucose sensors, surface plasmon resonance biosensor devices, a diagnostic device for *Heliobacter pylori* infection, microarray devices, microbial and cellular bioreactors, chromatographic protein purification, stem cell manufacturing, bioartificial organ-stimulating devices, and process analytical technology and quality by design.

TP248 2011-377434 978-3-527-32618-1
Biocatalysis in polymer chemistry.
Title main entry. Ed. by Katja Loos.
Wiley-VCH, ©2011 433 p. $210.00
Chemists, materials scientists, and other researchers describe catalysis in polymers that is driven by enzymes or other biological material. The topics include monomers and macromonomers from renewable resources, improved immobilization supports for *Candida antarctica* lipase B, the enzymatic polymerization of vinyl polymers, enzymatic synthesis of polyaniline and other electrically conductive polymers, polymerases for the biosynthesis of storage compounds, chiral polymers by lipase catalysis, the molecular modeling approach to enzymatic polymerization, and enzymatic polysaccharide degradation.

MILITARY & NAVAL SCIENCE

U163 2011-024020 978-1-84821-304-3
Cyberwar and information warfare.
Title main entry. Ed. by Daniel Ventre.
ISTE/Wiley, ©2011 412 p. $145.00
This collection of seven articles on information warfare and cyber-attacks showcases current scholarship in the infiltration and defense of information systems and the emerging operational capabilities of small states lacking in traditional military capabilities, in this critical new arena. Topics discussed include cyberwar's borders, cybersecurity and democracy, operational aspects of cyberattacks, Chinese information warfare strategies, and cyberwarefare in closed societies. Chapters include illustrations and data tables and are individually notated. Contributors are French academics in computer science and information security related fields.

PUBLISHING, LIBRARY SCIENCE, BIBLIOGRAPHY

Z278 2010942256978-1-84787-014-8
Publishing; principles and practice.
Guthrie, Richard.
Sage Publications, ©2011 225 p. $110.00
This text examines all major aspects of the contemporary book publishing trade in the UK and US. After an overview of the history of books since 1475, the volume details the publishing process, looking at the editor's role, the production process, printing and bookbinding, budgeting,

and the roles of agents, writers, and readers. Various sectors of publishing are explored, such as consumer and trade books, academic publishing, professional and journal publishing, education, reference, and children's books. A chapter on the business of publishing examines corporate strategies, mergers, and the rise of five large trade publishers. One chapter focuses on digital publishing, discussing social networking, media regulation, guerilla marketing, print on demand, and e-books. Separate chapters are devoted to copyright and publishing law, rights and contracts, and marketing and bookselling. The book is illustrated with a few b&w book covers and includes charts and graphs, case study boxes, bullet points, and timelines. Guthrie holds advanced degrees in publishing studies.

Z675 978-1-84334-630-2
Academic branch libraries in changing times.
Zdravkovska, Nevenka. (Chandos information professional series)
Chandos Publishing, ©2011 211 p. $75.00 (pa)
A librarian since 1977, Zdravkovska (Engineering and Physical Sciences Library, U. of Maryland, College Park) has 15 years of academic branch library experience. Based on a year-long research of the published literature on branch academic libraries, she offers fellow academic branch librarians and administrators of large academic libraries a brief historical overview, followed by an examination of the current situation, with an eye toward the future of branch academic libraries at Academic Research Library institutions during difficult economic times. The text includes practical ideas for adding branches as well as closing and/or consolidating branches. Distributed in the U.S. by Neal-Schuman Publishers.

Z675 978-1-84334-654-8
Managing your library and its quality; the ISO 9001 way.
Balagué, Núria and Jarmo Saarti. (Chandos information professional series)
Chandos Publishing, ©2011 211 p. $75.00 (pa)
The implementation of ISO 9001 quality standard in the business world has become increasingly widespread, leading to a growing number of commercial information services also being managed according to the standard. Balagué (library services, Universitat Autónoma de Barcelona) and Saarti's (library director, U. of Eastern Finland) text provides ideas for library and information sector managers to approach the ISO 9001 standard in more familiar library terms than are used in the actual standard. The text opens with an introduction to quality management issues and the use of the ISO 9001 in the library environment, followed by a section covering the main features of the ISO 9001:2008 and ways to implement its components in libraries. The structure in the latter corresponds to the numbering format of the standard to facilitate understanding and use.

Z682 2011-016135 978-0-8389-1103-7
Working in the virtual stacks; the new library & information science.
Kane, Laura Townsend.
Am. Library Association, ©2011 167 p. $47.00 (pa)
For those considering a career in librarianship or a mid-career change, Kane (information services, U. of South Carolina School of Medicine Library) provides a follow-up that illustrates how changes in technology have affected the work of librarians since publication of her *Straight from the Stacks: A Firsthand Guide to Careers in Library and Information Services* (2003). She presents interviews with 34 librarians from around the country who describe their emerging roles as subject specialists, technology specialists and social networkers, teachers and community liaisons, entrepreneurs, and administrators. She gives information on their environments, responsibilities, skills, education and training, and professional associations, then spotlights several librarians in each specialty.

Z711 2011-010354978-1-59884-822-9
The reference interview today.
Knoer, Susan. (The Libraries Unlimited library management collection)
Libraries Unlimited, ©2011 138 p. $50.00 (pa)
Knoer, (U. of Kentucky, Lexington) offers a practical well-organized guide to helping library patrons get the information they need. She covers the in person reference interview as well as those conducted through interactive online services such as chat, co-browsing, and instant messaging. Coverage includes cultural differences in patrons; strategies for communicating with patrons of different ages and abilities; virtual reference in Second Life; special collections; and advice for new librarians and paraprofessionals. The volume is thoroughly notated and includes numerous suggestions for further reading.

Z716 2010-671269 978-1-85604-572-8
E-books in libraries; a practical guide.
Title main entry. Ed. by Kate Price and Virginia Havergal.
Facet Publishing, ©2011 327 p. $95.00 (pa)
Price (e-strategy and resources, U. of Surrey, UK) and Havergal, who works in learning centers and e-resources at the further education college Petroc in the UK, assist library and information professionals in managing collections of e-books with this 13-chapter guide. Library and information, publishing, e-resources, and learning professionals from Europe and US discuss the history, production, and distribution of e-books, including publishing, selecting suppliers, on-demand services, and free texts; planning and developing an e-book collection in public, further, and higher education libraries; delivering e-books to library readers, including making the collection visible, cataloging, providing guidance, training, and support, and information technology issues; and engaging library users, students, and staff. Distributed in the US by Neal-Schuman.

ZA3075 2011-031233 978-1-55570-736-1
Instructional design for librarians and information professionals.
Farmer, Lesley S. J.
Neal-Schuman, ©2011 229 p. $80.00 (pa)
Farmer (librarianship, California State U. Long Beach) teaches all types of librarians how to design instruction for their patrons. She discusses the need, foundations, theories, and framework for instructional design, then learners and their styles, developmental and gender issues, how adults learn, instructors, organizations, and groups of learners. Further chapters cover needs assessments, outcomes and standards, types of learning, and evaluation; curricular issues, resources, and formats; instructional delivery, including timing, grouping, environment, and context; incorporating technology; how to build systems and learning communities, with discussion of course management systems and systems related to other programs and functions; and management, including documentation, support, communication, assessment, and continuous improvement. ❖

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