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SciTech News

Ellis Mount, Editor Emeritus

On the Cover
The concept of an "elemental world" originated with Aristotle but was still common in the Renaissance. The four elements—earth, water, air, and fire—were thought to fill the central part of the cosmos, each element in a sphere of its own. For a 1503 collection (which happened to contain the first publication of any of the works of Archimedes), Luca Gaurico offered a title-page woodcut that shows a human, perhaps Archimedes himself, standing on the earth, with the other elemental spheres behind him. The zodiac above represents the "celestial world" which surrounds us. It is interesting that the earth on which the figure stands is actually a map of the world as known before Columbus, with Europe and Africa at the left, and Asia extending off to the right. From Luca Gaurico (ed.), Tetratagonismus id est Circuli quadratura per Ca[m]panu[m], Archimede[m] Syracusanu[m] etque Boetium mathematicae perspicacissimos adiuuentia (Venice, 1503; photo and caption courtesy of the Linda Hall Library of Science, Engineering & Technology).

News from the Sponsoring Divisions
Chemistry Division..............................4
Materials Research and
Manufacturing Section of the
Chemistry Division...........................10
Engineering Division..........................16
Aerospace Section of the
Engineering Division .........................22
Science-Technology Division..................25

Departments
From the Editor....................................3
Web Reviews ....................................27
New Science and Technology Journals ....30
SciTech Book News Reviews..................34

Index of Advertisers
ACS..................................................5
ASM ..............................................11
CSA ................................................31
East View .......................................29
McElroy Translation ............................7
Nature .............................................13
Paterra...........................................inside front cover
Powell's Technical Books ......................23
STN..............................................inside back cover
We Buy Books.................................19
Wiley.............................................15
Zubal Books.................................outside back cover

Copy Deadline
February Issue.............Jan 5
May Issue.....................April 1
August Issue...............July 1
November Issue...........Oct 1

SciTech News    February 2007
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2007 marks the beginning of my third year as SciTech News (STN) Editor. I continue to appreciate the wealth of information included in this publication. And I have to admit that having it in one handy print volume is convenient. I hope our readers appreciate the ability to learn what our sister Divisions are doing, and I know that they receive value from columns such as the Web Reviews, New Journals, and SciTech Book News.

I’m also very pleased to be publishing the Beyond the Chemistry Web column. I always find something intriguing there. Checking on all the URLs in each column as I edit definitely gives me some interesting moments. Speaking of getting distracted, while confirming the Caltech Archives URL in Diane Brenes’ Web Reviews column this issue, I followed the trail of numerous photos of Richard Feynman, reliving his illustrious career. It must have been a joy to be in his classroom, he was such an exuberant instructor! You must also check out the other URLs in her column, if only to see that glorious HubbleSite Gallery homepage. It’s times like these that I really regret that we do not have a color publication.

When I mention to readers that I am the interim selector for the SciTech Book News section, I am repeatedly told how helpful that section is for collection development. That must be one reason why we have over 100 subscribers outside of the SLA membership, including some of the major research libraries throughout the world. Selecting 100 titles from hundreds of items takes a bit of time, and I now even more appreciate the contribution made by Ellis Mount in this regard for many years. I would like to rotate this “opportunity” among our Divisions/Sections, in order to be sure that different disciplines and subjects are well-represented. If you are interested in being a selector please let me know and I will provide more details about the process.

You will notice that I have included the International Membership Award announcement from the PAM Division in this issue. I know there is a lot of crossover membership with that Division among our members, and thought in any case that the information would be of interest to others. Remember that any SLA member can belong to most Lists. The SLA Discussion List page can be found at http://www.sla.org/content/community/lists/index.cfm. There are many opportunities to learn about what other Divisions, Chapters, Committees and Caucuses are discussing. Also in this issue, Christina Pikas has provided an excerpt from the Discussion List page on some features of the updated software.

I would like once again to encourage any of you fledgling or experienced writers to contact me regarding a potential article or regular column. Remember that we were once indexed by Inspec and may be so again, and H.W. Wilson and EBSCO are current subscribers to STN.

Finally, welcome to all our new Division and Section leaders. It will be interesting to see how the new leadership year evolves, from initial board meetings at the Winter Leadership Summit, to program planning and decisions for local chapters. Many exciting programs for the 2007 Annual Conference in Denver are announced in the Chair messages. See my consolidated list to whet your appetite even further. By the time you receive this issue a preliminary conference program and planner should be available at the SLA conference site. Also, check out the Division sites for more information.

Hope to see you in Denver in June.ι

Susan Fingerman
susan.fingerman@jhuapl.edu
Chemistry Division

A. Ben Wagner, 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.

It is an honor to now be serving as the Chair of the Chemistry Division. For those of us doing planning for the Denver 2007 Annual Meeting, it feels rather like we are in the home stretch as the final program deadline is just weeks away. I am thankful for having a most capable co-planner, Marie Fraties-Block of BASF Corp, to share the load. More on Denver in a moment, but I wanted to say how much I am looking forward to meeting leaders and potential leaders at SLA Leadership Summit in Reno, NV on January 24-27, 2007.

Although you no doubt will be reading this after the Summit, I did want to note for next year that the Leadership Summit is open to all SLA members and would be especially helpful to anyone in any leadership capacity or simply considering future leadership roles. SLA staff have put much renewed effort in the Summit, providing top notch speakers and trainers, terrific professional development, position-specific sessions, and many opportunities to network with the SLA Board, staff, and other divisional/chapter leaders.

Since this is the first year our officer positions run from January-December, I will be holding a board meeting on Saturday morning in Reno and hope to establish this as an annual event. I hope other Divisions will increase their level of participation in the Leadership Summit.

In terms of Denver 2007, the preliminary program will be appearing in print shortly. Our Division has posted DCHE events on our web site at http://units.sla.org/division/dche/2007/index.htm. If you are a member of our Chemistry Division, be certain you are a subscriber to our Divisional list or you will miss many announcements. See http://units.sla.org/division/dche/listserv.htm for details.

Note also that the 2007 Annual Meeting is unusually early, Sunday, June 3 through Wednesday, June 7. With only twelve program slots, including the three 7:00 a.m. breakfast slots (calling all morning people!), we all need to realize that, of necessity, Wednesday will be a full day of programming right up to 4:30 p.m. As an academic librarian that does not necessarily get full travel funding, I realize how tempting it is to use Wednesday as a travel day and save a night of lodgings. But why not take full advantage of the conference and all the effort it takes to get there? Why not fly out as late as possible on Wednesday, or even better, fly out early Thursday when you are rested and can enjoy the beautiful city of Denver for one more night without having 5 different vendor parties or committee meetings to attend?

We have a new Chair-Elect, Sue Cardinal of the University of Rochester, a new Secretary, Margarete Bower from University of Pittsburgh, and a new Treasurer, Bob Buchanan of Auburn University

Ted Baldwin and the previous Chairs, with the assistance of our entire board, have built and maintained a strong Division. By working together, we can continue the tradition. Please contact me at any time with questions or comments.

A. Ben Wagner,
Chair, SLA Chemistry Division
abwagner@buffalo.edu
The Statesman William Jennings Bryan once said, "Destiny is not a matter of chance, it is a matter of choice."

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Message from the Chemistry Division Chair Elect

Hope everyone had a wonderful holiday. A frequent comment in my family was "I ate too much." The food was so good!

Speaking of food, do you know of any good restaurants in Seattle? Send me your favorites.

In late January at the Leadership Summit (http://www.sla.org/content/resources/leadcenter/LeadershipSummit/07leadsummit/index.cfm) Rachel Ellison and I, working with Nora Stoecker from the Materials Research and Manufacturing (MRM) Section, will officially start planning for the 2008 Seattle conference with the theme "Breaking Rules, Building Bridges."

What does this theme bring to mind for you? Here are some ideas that came to me.

- Meeting patrons where they are, not just at the reference desk
- Cafes in the library
- Noise in the library/ Fostering collaborative spaces
- When it's online, it doesn't have to be returned
- Defining our patrons more broadly
- Librarians outside traditional roles
- Status of the ejournal archive
- New ways of publishing, new ways of budgeting

While these might be interesting in general, help us figure out what the chemistry library or MRM angle might be. Nora had already polled MRM Section members for their suggestions before the conference theme was published. Feel free to submit more ideas as soon as possible so we can incorporate them into the 2008 conference.

When you attend SLA national conferences, do you break rules by over-indulging on networking and learning activities until you are overwhelmed and worn out? Fortunately over-indulgence at a conference has a nice side effect of handouts, business cards, and web postings that we can review and act on at a later time. Maybe now is that "later time."

If you haven’t attended Chemistry Division events before, why not take 15 minutes to look at our website and see what is posted? http://units.sla.org/division/dche/index.htm

Your 2008 Conference Program Planning Team.
Sue Cardinal, SCardinal@library.rochester.edu
Rachel Ellison, Rachel.Ellison@ecolab.com
Nora Stoecker, nstoecker@nksinfo.com

Sue Cardinal
Chair Elect, Chemistry Division

Call for Nominations

The Chemistry Division Nominating Committee is requesting nominations for the following offices:
Chair-Elect (January–December 2008, term as Chair starts January 2009)
Secretary (January 2008–December 2008)

The Committee would like to hear your suggestions for names of people to consider for these offices. Self-nominations are certainly welcome.

The Committee will prepare the slate of candidates, (one candidate for each position,) and present the entire slate for a vote at the Annual Business Meeting in Denver in June 2007.

Nominations should be received by February 1, 2007.

Please submit nominations to:
Ted Baldwin
College of Applied Science Library
2220 Victory Parkway
Cincinnati, OH 45206-2389
513-556-4211
Ted.Baldwin@uc.edu
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2007 Marion E. Sparks Award for Professional Development

The Chemistry Division of the Special Libraries Association is sponsoring a student/new member scholarship essay competition in 2007. The award is named to honor Marion E. Sparks, a chemistry librarian at the University of Illinois from 1913 until her death in 1929. Ms. Sparks contributed a great deal to the field of chemical information. Her achievements include teaching courses on chemical information, and authoring and publishing what is argued to be the first book to formally address chemical literature and library instruction.

This competition is intended to encourage student members or new members of the Chemistry Division to attend the Annual Conference and participate in the activities of the Chemistry Division of the Special Libraries Association.

AWARD: The winner will receive $1,500 to attend the 2007 SLA Annual Conference June 3-6 in Denver, CO. The winner will also receive a certificate of achievement and will be introduced at the Chemistry Division Business Meeting & Breakfast. This award is intended to reimburse the winner’s expenses for attending the convention, including: registration, airfare, lodging, food and/or the continuing education course (registration in one of the Chemistry division CE courses - “Chemistry for the non-chemist librarian” or “Chemical Information Sources, Requests, and Reference”, or any other continuing education course is recommended but not required).

ELIGIBILITY: All student members of the Chemistry Division and all individuals who became members of the Chemistry Division since January of 2006 are eligible to enter the contest. Preference will be given to library school students and recent MLIS graduates.

TO ENTER: Compose an essay to address the candidate’s objectives for professional development and the outcomes if a person is granted the award. Essay should not exceed 400 words or two typed double-spaced pages. Please include a resume and the names of two references.

Entries may be submitted by email or regular mail to:
Cory Craig
University of California, Davis
Physical Sciences & Engineering Library
One Shields Avenue
Davis, California 95616-8676
cj craig@ucdavis.edu

Deadline for submission: March 15, 2007

Essays will be judged by a panel of SLA Chemistry Division members. The winner will be notified by April 10, 2007 http://www.sla.org/division/dche/sparks.htm
Beyond the Chemistry Web...

Bob Buchanan, Physical Sciences Librarian, Auburn University

Feel free to send recommendations to me at buchara@auburn.edu.

FUN
Search or browse the Urban Legends Reference Pages for stories that may become or already are urban legends. The commentary sheds light on how much fact may back up the stories. http://www.snopes.com

GENERAL
The Washington Monthly College Rankings ranks colleges on how much they, their students, and their alumni give back to society. The resulting list is much different than the more familiar U.S. News & World Report rankings. http://www.washingtonmonthly.com/features/2006/0609.collegechart.html

The Bad Analysis blog takes on sloppy thinking, mostly in newspaper articles. http://badanalysis.blogspot.com

http://annoyedlibrarian.blogspot.com/2006/07/annoyed-librarian-library-blog.html

GENERAL SCIENCE
Google Patents does not replace other patent databases, but the ability to keyword search the full-text of pre-1976 U.S. patents is a pretty nifty feature. http://www.google.com/patents

Updated almost every day, Seed Magazine offers science news, articles, podcasts, and videos. Its noble goal is “a science-savvy global citizenry.” http://www.seedmagazine.com


For authoritative information on alternative health products, including clinical studies when available, visit Sloan-Kettering – About Herbs, Botanical, & Other Products. There are separate tabs for consumers and health professionals. http://www.mskcc.org/mskcc/html/11570.cfm

Find out the science behind cosmetics and hair care products from two cosmetics scientists at The Beauty Brains. http://thebeautybrains.com

CHEMISTRY
The number and quality of chemistry blogs are catching up to other disciplines. Good examples include Totally Synthetic and Peter MR’s Blog which link to other chemistry blogs. http://www.totallysynthetic.com/blog
http://www.mrm.ch.cam.ac.uk/blogs/murrayrust

Roche offers Web versions of its two wall maps on Biochemical Pathways and Metabolic Pathways. Enzymes are linked to the corresponding ENZYME Data Bank entry. http://www.expasy.ch/cgi-bin/show_thumbnails.pl
http://www.expasy.ch/cgi-bin/show_thumbnails.pl?2

Use MnM Minimotif Miner to search a protein for short amino acid sequences that have demonstrated functionality in other proteins, such as binding and modifying other biological molecules. http://sms. engr .uc conn .edu


Create nucleotide and protein sequences using GeneDesign developed by the Johns Hopkins Medical Institution. http://slam . bs. jhmi. edu/gd

SciTech News
February 2007

Published by Jefferson Digital Commons, 2007
Get back, JoJo. Yes, I’m back as your 2007 Chair of the Materials Research and Manufacturing Section (MRM) of the Chemistry Division. I’ve really enjoyed getting to know the Chemistry Division folks and expect another invigorating year working with them to keep the Section going and growing. A big bravo to Marty Rhine and Ted Baldwin for leading the successful transformation of MRM into a Section of Chemistry last year.

I’m excited to be representing the Section at the Leadership Summit and will report on that experience in the next SciTech issue. “Sticky ideas” is one of the speaker topics...hmmmm...We’ll be continuing to plan in Reno for the 2007 conference which is being held in Denver in June. The 2007 theme is appropriately “Climbing to New Heights.” To learn more about MRM program involvement, please read the 2006 Annual Report included in this issue.

We’re already getting serious about the 2008 Seattle conference planning as well. Program Planning Chair Nora Stoecker (nkstoeck@sandia.gov) is seeking ideas for the conference. The conference theme is “Breaking Rules, Building Bridges.” So use that as a springboard (could be dangerous...no, don’t jump off a bridge; let’s build a bridge of program ideas!).

2008 program ideas which have come forward so far are:
-Science of Coffee (especially since 2008 is in Seattle!)
-Materials and manufacturing associations - what’s out there, how could we partner with them, what valuable information do they provide, etc.?
-Collection development sources for materials science and manufacturing: books, bibliographies, journals, websites - could be a moderated “roundtable discussion of “must have” and/or “new & interesting” sources.
-Nanomaterials

I’ve provided the 2006 MRM Annual Report to you which includes goals for 2008. Please let me know what you think, what you’d like to see happen in the Section in the future.

FLASH!! We’re looking for nominations or volunteers to provide leadership as future Chairs of the Section. If you have interest or know someone who would be great, send them Marty Rhine’s way (mrrhine@yahoo.com).

And, if you’d like to help our other committee chairs, Bette Finn, Membership, Earl Mounts, Strategic Planning, and Carol Tower, Materials/Manufacturing Association Liaison, do let us know. We have some other areas which could be activated if you’d like to get more involved, such as MRM web, information literacy, professional development, and mentoring. WE NEED YOU! And I’m sure you’ve heard it said, and I’ve experienced it’s true, that we get out of an association what we put into it!

Betsy Aldridge
Betsy.Aldridge@PACCAR.com

The Materials Research & Manufacturing Section New Members

Denise Callihan
PPG Industries Inc
Chem Tech Ctr Library
440 College Park Dr
Monroeville, PA
15146-1553

Laura Holland
BASF Admixture Inc
Library
23700 Chagrin Blvd
Cleveland, OH 44122-5554

Katherine Porter
Vanderbilt University
Science & Engineering
Library
419 21st Ave S
Nashville, TN 37240

Carol Tower
Society of Manufacturing Engineers
One SME Dr
PO Box 930
Dearborn, MI 48121-0930

Luanne Frey
S C Johnson
Research Info Ctr
1525 Howe St #152
Racine, WI 53403-2237

Dr Lee Pedersen
Brown University
Sciences Library
201 Thayer St, Box I
Providence, RI 02912

Marcia Stoklosa
Solutia Inc
Library & Info Svcs
575 Maryville Centre
Dr, #1S
St Louis, MO 63141

February 2007
SciTech News
ALLOY PHASE DIAGRAMS CENTER ONLINE

For the first time ever, an online, fully searchable database of Alloy Phase Diagrams is available exclusively from ASM International. Database access is through an easy-to-use web interface that facilitates the organization, display, searching and linking of the data for thousands of element combinations.

In the initial release, Alloy Phase Diagrams Online will feature 8,000 binary diagrams and 2,000 ternary diagrams. The collection will grow to include 10,000 binary diagrams and more than 20,000 ternary diagrams with regular planned updates.

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2006 Annual Report – Materials Research & Manufacturing Section of the Chemistry Division

At the beginning of 2006 the Materials Research & Manufacturing Section (MRM) membership was a fraction of the former Division membership. This probably occurred because it was not possible to choose MRM Section membership except by write-in on the renewal forms at year-end 2005.

Members of the MRM Division in late 2005 who were not members of the Section in 2006 were contacted. Many indicated their intention to continue as members of the Section; however, some joined other Divisions instead, especially Engineering and Sci-Tech. It was many months before one could select the MRM Section to find members in the SLA online Membership Directory. The Directory showed 39 members as of 12/11/06, slightly more than half the MRM Division membership a year ago. We know of members who indicated they belonged to the MRM Section, but whose names do not show up in the Directory, so 39 is not an accurate total. Membership Chair Bette Finn is persistently working with SLA headquarters to remedy the situation. We are happy to note that some new members have joined the Section this year.

Attendance at the Six Sigma roundtable discussion at the Baltimore Conference was less than the attendance in 2005, but the content was substantial, thanks to Betsy Aldridge’s soliciting presentations from SLA members/corporate librarians she knew who had conducted Six-Sigma projects.

Our Denver programs will be an IHS tour with the Engineering Division as lead division, and a session on Hybrid vehicles with the Transportation Division as the lead division.

Volunteers functioning so far, all in cooperation with similar Chemistry Division committees, are:
Strategic Planning - Earl Mounts
Membership - Bette Finn
Program Planning - Nora Stoecker
Nominations - Marty Rhine
Materials/Manufacturing Associations Liaison chaired by Carol Tower
List Owner - Patricia Croml.

Goals for 2007:
1) Help with the Hybrid Vehicles and IHS Field Trip programs at the Denver 2007 conference;
2) Plan at least one solid materials/manufacturing program for the Seattle 2008 conference;
3) Increase participation of MRM Section members in all Chemistry Division programs and continuing education offerings;
4) Increase section membership;
5) Increase member involvement in leadership and liaison with the Chemistry Division;
3) Contribute to the strategic planning process of the Chemistry Division

Anticipated resources needed from Chemistry Division for 2007:
Financial resources:
1) Reimburse Chair for 2007 registrations to Leadership Summit and Annual Conference;
2) Help pay for part of the Engineering and Transportation Division expenses for the 2007 programs (if needed).

Submitted by:
Marty Rhine, 2006 Co-Chair
Betsy Aldridge, 2006 Co-Chair/2007 Chair
MRM Section of the Chemistry Division
A site license is your access to nature.com

New physical sciences titles include Nature Nanotechnology and Nature Photonics. Ask your representative for further details.
Call for Posters: SLA Annual Conference - Denver 2007

Libraries are changing at a rapid rate these days, forcing librarians to seek new and innovative ways of interpreting and fulfilling their roles within various organizations. How are you meeting the future? Are you using resources, materials, or even spaces in new or innovative ways that may help re-define or clarify your role as librarian or information professional? Are you beginning to interact with non-traditional users or groups?

If the answer is yes to any of these questions, we would love for you to consider sharing your ideas and experiences with your colleagues in the upcoming poster session at SLA in Denver, June 2007, sponsored by the Biomedical and Life Sciences Division. This session is scheduled for Sunday, June 3rd, 7:00 pm, to coincide with the Division reception, so that you will be assured of a good audience.

The theme of this session is, “Innovations and Best Practices in Biomedical and Life Sciences Libraries.” The poster session will provide an informal and lively venue for sharing innovative ideas on topics that concern us all. How are we defining or re-defining ourselves in these changing times? How do we see ourselves ten years down the road, and how is this vision beginning to manifest itself in the way we operate now? What are we doing to make ourselves leaders in our fields and our institutions? If such questions are of importance to you, please consider submitting an abstract for possible inclusion in the poster session. This is a theme that should engage us all, for it concerns the future of our profession.

Guidelines for materials and layout of poster presentations are available on the SLA Chemistry Division website at: http://www.sla.org/division/dche/poster.html

Please submit your name, institution, fax, email address, poster title, and description (250 words or less) by email or surface mail to:
Scott Reece
3117 Ortiz NE
Albuquerque, NM 87110
scott_reece@illinoisalumni.org

The deadline for submissions is March 1, 2007. Any SLA Member is welcome to submit an abstract for consideration. In the event that a greater number of submissions are received than can be accommodated, members of the sponsoring Division will be given first preference. All applicants will be notified no later than April 1, 2007 as to whether or not their proposal has been accepted.

Contact Eleanor MacLean at the address given below if you have any questions about this session.

Eleanor MacLean
Biology Liaison Librarian Life Sciences Library
McGill University Montreal, QC H3G 1Y6
Ph. (514) 398-4744 Fax: (514) 398-3890
Email: eleanor.maclean@mcgill.ca
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—Library Journal, October 2006

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Engineering Division

Bob Tolliver, 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.

First off I would like to thank all of the Division officers who have done extended duty in their positions during the last 18 months. The Division appreciates the extra time you’ve all put in. I would especially like to thank our out-going Chair, Kathy Nordhaus, for her leadership of the Division and for her help and encouragement as I’ve prepared to take over as chair. I hope I can do as good a job.

We’re hoping to do some upgrades to our online information this year. Our new webmaster, Vani Inampudi, is interested in updating our website, which I think is a good idea to do every few years. We’re also planning to upgrade our discussion list to improve functionality and include an archive of posts. This is something the board has already discussed and hopefully we can implement this soon.

While I’m on the topic of the discussion list, and since I’m the list owner, I would like to thank all of the Division members who’ve contributed to the list and made it such a valuable resource. Since I’ve been a member of the Division, about six years, the discussion list has been very active and has been a great place to get help, find resources and information, and generally keep the members up to date on what’s going on in the world of engineering libraries.

The Engineering Division is sponsoring four awards for the SLA Annual Meeting in Denver: the Elsevier/SLA Engineering Librarian of the Year Award, the IEEE Continuing Education Stipend, Inspec’s $1200 Travel Stipend Award, and the Engineering Division Team Award. The last award is new this year. All of the awards have a March 1, 2007 deadline for submission of nominees. Please nominate someone for one of these awards. Please contact Joan Dubis at joan.c.dubis@boeing.com for information on the awards or visit the Division’s awards page at http://units.sla.org/division/deng/Awards.html. [Ed. note - Notices are also in this issue of STN]

If the awards nominations aren’t enough, we also have two positions on the Engineering Division Board opening up for 2008: Chair Elect and Treasurer. We need some nominees for these positions, so if you know someone, including yourself, that you think would be a good candidate, please contact Kathy Nordhaus at k-nordhaus@raytheon.com. For more information see the posting in this issue of SciTech News.

Dana Roth from the Chemistry Division brought to my attention a Perspective piece that he and Kimberley Douglas recently published in Chemical & Engineering News titled “Looming Threats to Society Journals.” The article is freely available at http://pubs.acs.org/doi/science/84/8447sci4.html. Since journals are such a significant part of our budgets throughout engineering and the sciences, issues related to journals have a big impact on our libraries and information centers. If you have any thoughts on the article and the issues that Dana and Kimberley bring up, please let me know.

As I write this, the SLA Leadership Summit in Reno is approaching and details for our events at the Annual Meeting need to be taken care of, so I’ll get back to work now. If you have any comments, suggestions, or would like to help out the Division in any way, please let me know at diabob@umich.edu.

Bob Tolliver
Chair, Engineering Division
CALL FOR NOMINATIONS

Elsevier /SLA
Engineering Librarian of the Year Award

Please consider nominating a colleague or associate for our Engineering Librarian of the Year award. This $1500 gift is offered annually to honor a member of the SLA Engineering Division.

The award is sponsored by Elsevier and the Division to highlight the accomplishments and contributions of members to the engineering librarian profession. Recognition comes in the form of the stipend and a certificate, and is presented at the Division’s Annual Business Meeting held during the SLA Annual Conference.

Prospective candidates are encouraged to nominate themselves, or an associate may nominate them.

Criteria for entry are:

1. Membership in good standing in the SLA Engineering Division, as of January 1 of the previous year in which the award is presented.

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

Instructions for submissions – Deadline March 1, 2007

Provide full name, address, telephone numbers, e-mail address, and a maximum one-page statement of the nominee’s qualifications to:

Joan C. Dubis
The Boeing Company
Library Services
5301 Bolsa Avenue – M/S H012-A001
Huntington Beach, CA 92647
joan.c.dubis@boeing.com
714-372-0993 (p) - 714-896-1737 (f)
IEEE Continuing Education Stipend

The IEEE (Institute of Electrical and Electronics Engineers) Continuing Education Stipend will be given to the Engineering Division member who submits the best essay on how the applicant will benefit professionally from a continuing education course.

AWARD: The award is a $1000 stipend for expenses incurred while attending any CE course offered at the annual Special Libraries Association Conference in Denver, CO, June 3-6, 2007. The stipend may be applied to travel, food, and one night’s accommodation. Award applicants must be members in good standing in the SLA Engineering Division for at least one year as of January 1, 2007.

TO ENTER: The winner will be required to submit an article to SciTech News within twelve months of completion on how the course helped them either in library applications or professionally. Apply by submitting a one to three page (double spaced) essay on how you will benefit professionally from the specific continuing education course. Include your full name, address, telephone number, and e-mail address. Please type your full name at the top of each essay page.

The deadline for submission is March 1, 2007. The recipient of the award will be notified by April 1.

Please submit entries to:
Penny S. Sympson, SLA Engineering Division Awards Committee
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, IL 60062
Voice: 847.753.7202 Fax: 847.498.0358
E-mail: psymphson@wje.com

Call for Nominations – Engineering Division Leaders

Want to hone your leadership skills in a friendly and supportive environment? Then please consider running for office in the SLA Engineering Division!

The SLA Engineering Division Nominating Committee is looking for Division members interested in serving in the following positions: Chair Elect and Treasurer. The Treasurer serves for two years; the Chair Elect position is a three-year commitment. The newly elected officers will begin their terms at the SLA Leadership Summit in January 2008. Full position descriptions may be found in the Engineering Division’s Recommended Practices document at http://www.sla.org/division/deng/Recommend.html.

The Division realizes that financial support for conference registration fees, travel, and lodging may be a concern and we want to help. Therefore, contingent upon available monies in our treasury, funding to attend the SLA Leadership Summit and/or Annual Conference may be made available up to an amount of $2000 (per year) for the Chair Elect, and up to $1000 (per year) for the Treasurer.

Serving the Division is a great way to learn new skills and get to know interesting colleagues within the Division and across SLA. If you are interested in running for one of these positions, wish to suggest a fellow Division member for consideration, or if you have any questions, please contact Kathy Nordhaus, Chair of the Nominating Committee, k-nordhaus@raytheon.com. A slate of no more than two candidates per open position will be announced by the Nominating Committee in early March 2007.

Respectfully submitted,

Kathy L. Nordhaus
Chair of the Nominating Committee
Engineering Division New Members As of December 2006

Laurie Allen
Raytheon Company
Woburn, MA

Connie Bush
Boeing
Huntington Beach, CA

C. A. Clift
BAE Systems
Minneapolis, MN

Kevin Drees
Oklahoma State University – Edmond
Low Library
Stillwater, OK

Kristen Fitzpatrick
Westfield, NJ

David Gingell
Chevron
Berkeley, CA

Elizabeth Grossman
QUALCOMM Inc.
San Diego, CA

Kevin Ireton
San Antonio, TX

Kathleen Jackson
Washington Group International
Denver, CO

Nancy Kozlowski
Gulfstream Aerospace Corp
Savannah, GA

Susan Morley
CSA International
Toronto, ON Canada

Mark O'English
Washington State University – Owen Science & Eng. Library
Pullman, WA

Michael J. Petro
IEEE
Piscataway, NJ

Loretta M. Shaw
Fairview Park, OH

Ronald Rodrigues
San Lorenzo, CA

Erin Rust
Raytheon Missile Systems
Tucson, AZ

Gerald Steeman
NASA Langley Research Ctr. – Library & Info Svcs Branch
Hampton, VA

Bing Wang
Georgia Tech Library & Info Ctr.
Atlanta, GA

Sheila Young
Arizona State University – Noble Science & Engineering Library
Tempe, AZ
Special Libraries Association Engineering Division Announces
The Inspec Travel Stipend Award ($1,200)
For the SLA Annual Meeting in
Denver CO, 3-6 June 2007

Inspec is sponsoring their annual award of a $1,200.00 travel stipend for a library school student toward payment of expenses incurred while attending their first annual Special Libraries Association conference, to be held in Denver CO, June 3-6, 2007.

The Inspec Award will be given to the qualified student who submits the best essay of three or less double-spaced typed pages describing the following topic:

If you were a Librarian in charge of the science or engineering collections, how would you go about promoting databases within your collection to the appropriate departments that can benefit from them? What could the database producers do to assist in your efforts (e.g., send you promotional items, etc.). Explain how your efforts will benefit your organization.

Qualifications for Entering the Award Competition:

1. Be a student member of the Special Libraries Association.
2. Be attending his or her first SLA Conference.

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 1

The recipient of the Inspec Award will be notified by April 1.

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

Voicemail: (404) 894 1790
Fax: (404) 894 8190
E-mail: bette.finn@library.gatech.edu
CALL FOR NOMINATIONS
Engineering Division Team Award

This award is offered annually to honor a team. It is sponsored by the SLA Engineering Division and highlights the accomplishments and contributions of a team working on projects in the area of engineering. A team may consist of members who work in a collaborative environment - academic libraries and corporations with several libraries or one librarian involved in a group project.

Recognition comes in the form of a $1500 stipend, plaques for team members and a presentation at the Division's Annual Business Meeting held during the annual SLA conference. Prospective teams are encouraged to nominate themselves, or an associate may nominate them.

Criteria for nomination are:

1. One member of the team should be a member of SLA in good standing for one year (as of January 1) of the previous year the award is given.

2. The team project accomplishment should have taken place within the calendar year immediately preceding the nomination; however, in selected cases, based solely on the Awards Committee’s judgment, recognition may be given for an ongoing, long-term team project.

3. The team leader or one team member needs to be present at the Division’s Annual Business Meeting to accept the award. Other team members wanting to attend the presentation will need to make/pay for their own travel arrangements.

Deadline for submission is March 1, 2007: The recipient of the award will be notified by April 1.

Please submit entries to:

Joan Dubis, SLA Engineering Division Awards Committee
The Boeing Company
Library Services
Huntington Beach, CA
714-372-0993 voice
714-896-1737 fax
Email: joan.c.dubis@boeing.com or jcdubis@yahoo.com
Aerospace Section

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.

Welcome to 2007!

I was elected to be Aerospace Chair Elect-Elect at the Aerospace Breakfast in Baltimore this past year. Therefore I would have been Chair-Elect in 2007 and Chair in 2008, allowing me plenty of time to become accustomed to the Aerospace Section. Through circumstances beyond my control I have hopped, skipped and jumped a few steps and have become Aerospace Section Chair for 2007. Just after SLA 2006 Ginny Jarvis, Chair Elect 2006, had to resign her position due to a wonderful new career opportunity. The transition from Chair-Elect Wanabe to Chair has been very smooth and can be attributed to the wonderful pre-planning for Denver that Ginny Jarvis and Bob Tolliver, 2007 Engineering Division Chair, had done prior to my arrival on the scene.

Speaking of Denver, things to look forward to are: Tom Henricks, former astronaut and now President of McGraw Hill's Aviation Week speaking on how his career as an Astronaut prepared him for a career in the Information Industry; and the Aerospace Breakfast meeting where Edna Paulson, Principal Outreach Specialist for NASA CASI, will speak about the Aerospace Database and what it has to offer. And, let us not forget our two for one tour! You have the opportunity to tour the National Center for Atmospheric Research followed by lunch, a hike and a visit to the Laboratory for Atmospheric and Space Physics. What more could you ask for on a spring day in Denver?

By the time you read this I will only have been Chair for a month and already I am sending out thanks to David Hook, past Chair, who worked really hard and has found the Aerospace Section a new Chair-Elect for 2007. Please welcome Kathryn Breininger of The Boeing Company. If you are interested in nominating yourself or a colleague for Aerospace Section Chair-Elect 2008 please feel free to contact Marcia Rodney or myself. Many thanks also to Marcia Rodney for all her hard work and support in 2006, I am certain she will enjoy being Past-Chair this year. More thanks go to Kathy Nordhaus, Engineering Division Chair in 2006, for all her support, mentoring, fun and friendship.

Amy C. Smith, Chair

A heartfelt thank you goes to Eileen Dorschner for offering to be the Mandel Nominating Committee Chair this year. Though it may be to late for 2007 nominations, please be thinking of potential nominees for 2008. If you have received the Mandel Award in the past, please also think of volunteering to be on the nominating committee.

I have a few other topics of personal interest that I would like to share with you. One is RSS feeds (Really Simple Syndication). Have you discovered these yet? I am a recent convert, having just started using them about 6 months ago. RSS feeds have opened up a new way to keep me up to date on so many different things. I use it to stay current in the news and on such topics as innovation, technology, what’s new in books, vendors news, and what’s happening in the profession. ALA is now offering an RSS feed (what’s up SLA?). I am such a convert in fact, that while I was doing a usability study and was asked if I would use the email alert function, I said that I’d rather have an RSS feed. Who wants another email to deal with?

My other topic of interest is in having librarians/information professionals get involved in the organization of information. You may say “what?” we already do this; or isn’t that the definition of a librarian/information professional? My reply to you would be “could have fooled me.” If you work in a library, yes, to a certain extent you do organize information (especially you catalogers); or perhaps you organize and synthesize information for a client. But what about taking a wider view? Your skills are in high demand. Don’t leave the issues of knowledge management, records management or the retention of corporate knowledge in the hands of IT. They may know how to build it, but do they know how to organize it? If you are already working on these issues I would love to hear about your work.

Looking forward to seeing you in Denver!

Amy C. Smith
Chair, Aerospace Section
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SLA on the Web
SciTech News Division Websites

Chemistry Division
Discussion List Instructions:
Send an e-mail to: Lyris@lists.sla.org. In the body of the message: Subscribe sla-dche
<your e-mail address> <FirstName> <LastName>

Chemistry Division - MRM Section
Discussion List Instructions:
Send an e-mail to: Lyris@lists.sla.org. In the body of the message write only: Subscribe
SLA-DMRM <your e-mail address> <FirstName> <LastName>

Engineering Division
Discussion List Instructions:
Send an e-mail to: Majordomo@iee.org.uk. Leave the subject line empty. In the body of
the message write only: Subscribe sla-eng

Engineering Division - Aerospace Section
Home Page: http://www.sla.org/division/deng/Aerospace.html
Discussion List Instructions:
Send an e-mail to: Listserv@sti.nasa.gov. Leave the subject line empty. In the body of the
message write only: Subscribe SLA-AERO Your_Name

Science-Technology Division
Home Page: http://www.sla.org/division/dst/
Discussion List Instructions:
Send an e-mail to: majordomo@welles.library.northwestern.edu. Leave the subject line empty. In the body of the message write only: subscribe sla-st

SLA’s Updated ListServ(tm) Software

SLA has updated the software that manages many of the SciTech News Division discussion
lists.

How to sign in to read messages from your lists over the web:
1. Go to http://sla.lyris.net/read/
2. Enter your e-mail address you use for your list(s), click ‘OK’ (If you are a list administrator
you will be prompted to enter a password)
3. Once logged in, click the button ‘My Forums’ in the left nav bar
4. Select the SLA list you would read. That’s it!

How to amend your personal settings (i.e. you want to receive a digest of messages once per
day):
1. Go to http://sla.lyris.net/read/
2. Enter your e-mail address you use for your list(s), click ‘OK’ (If you are a list administrator
you will be prompted to enter a password)
3. Once logged in, click the button ‘My Account’ in the left nav bar
4. Under the drop down menu ‘Membership Type’ select ‘Digest: One daily email with all the
message for that day’
5. Select the ‘Save Changes’ button. You’re done!

Excerpted from the SLA Press Discussion List page available online at http://www.sla.org/
content/community/lists/index.cfm
Greetings! I hope everyone was able to enjoy the holidays and a good start to the bright new year. This is my first column as your new Chair; we’re all still getting used to the new timing now that the SLA organizational year runs from January to December.

As I write this, the SLA Leadership Institute is coming up soon. This year, all of the Executive Board will attend, so we’re looking forward to doing some organizational business as well as learning leadership & management skills, and doing a little team-building. Over the course of this year we’re looking forward to adopting our newly revised recommended practices (formerly known as the procedures manual), reviewing & updating our strategic plan, continuing to transition our election procedures for online elections, continuing to build our recently-revised website, and adapting to the new conference procedures that will govern 2008. Believe it or not, planning for the 2008 conference has already begun.

I want to thank past Chair Mary Frances Lembo for all of her hard work in leading the Division over the last 18 months as we transitioned from the old schedule to the new, and for her support and encouragement as I have been learning the ropes. Valerie Perry, our Treasurer and SciTech News Business Manager, is also finishing up her 2-year term. Valerie has been a real rock for our Division, managing our funds and our financial strategies so capably. Even in the face of many challenges, Mary Frances and Valerie have always stepped up and gotten things done, making it fun in the process. That’s a big key to thinking about Division work, and one of the best lessons we can all learn: volunteering for your professional association can actually be both fun and fulfilling. The tasks themselves can be rewarding, and you form strong personal bonds as you work with colleagues.

Think about what you might like to do in the Sci-Tech Division; let me know if you would like to participate on a committee, work on a program, develop a Sci-Tech course for Click University, or explore some other role. There are so many ways to contribute or to learn. When we get together at the Annual Conference, consider attending one of the Board meetings, or talk to one of the officers at our Annual Business Meeting. Try us out -- there is always room for someone who wants to participate at any level, and I promise we’ll make it a positive growth experience!

Note that Mary Frances, in her new role as chair of the Nominating Committee, is going to be looking for candidates to run for Chair-Elect and Secretary over the next few months. The Nominating Committee now seeks candidates in the spring for election in late summer/early fall, so if one of these roles interests you, don’t wait for the Conference to speak up.

Looking forward to the Annual Conference, 2007 Program Planner Michelle Wilde and Professional Development Chair Dale Riordan have put together a terrific program for us. We’ll start with two half-day CE courses (“Creating and Managing Institutional Data Repositories,” and a hands-on lab practical “Exploring New Technologies through Instruction”), end with a tour of the National Center for Atmospheric Research and Laboratory for Atmospheric and Space Physics, and enjoy a full schedule of topical programs and receptions in between. Visit the Division website or the SLA Online Planner for the full roster.

Our vendors have again been generous with us for the 2007 conference. I would especially like to acknowledge Thomson Scientific, ACS Publications, and IET/Inspec for increasing their support this year, and Annual Reviews for becoming a new information partner. We welcome back old friends - The Association for Computing Machinery (ACM), ASTM International, CrossRef, EBSCO Industries, Elsevier Science, IEEE, Knovel, Open Text, and ProQuest. We’ll be grateful that SLA conferences are in June, after watching Denver dig out from the snows of December, and we want to see you there.

Chair-Elect Christine Whitaker and her program planning team are currently soliciting topic
ideas (and more planning team members) for 2008, when we visit Seattle. If you would like to propose a topic, suggest a speaker, or put together a program for Seattle, Christine wants to hear from you (cwhitaker@gw.med.sc.edu).

If you’re still reading, you’ll have noticed the theme: GET INVOLVED. Engaging with your profession is one of the best things you’ll ever do; you’ll reap both professional and personal rewards.❖

Ann Koopman
Chair, Science-Technology Division
Ann.Koopman@jefferson.edu

◆◆◆◆◆

The Science and Technology Division Welcomes Our New Members

Daria W. DeCooman
San Diego, CA

Alicia A. Livinski
Annandale, VA

Loretta M. Shaw
Fairview Park, OH

Mark A. Henry
Denver Public Library
Denver, CO

Kaye Moore
Western Career College
San Jose, CA

Janet L. Smith
LRCE
Baton Rouge, LA

Joanne Lecky
Singleton Urquhart LLP
Vancouver BC
Canada

Elizabeth Paulson
Seattle Midwifery School
Seattle, WA

PAM Division International Membership Award Winner Announced

The Physics-Astronomy-Mathematics (PAM) Division of SLA is delighted to announce Mr. Muhammad Shahid Sorya as the 2007 recipient of the PAM International Membership Award. This award is presented to a librarian from the developing world for the purpose of providing an opportunity for active participation in SLA and SLA-PAM.

Muhammad is currently serving as a librarian at the School of Mathematical Sciences (SMS) at Government College University in Lahore, Pakistan. SMS was established to promote mathematics and allied sciences in Pakistan and presently has 25 faculty members and approximately 70 Ph.D. students.

In the upcoming months, Muhammad will prepare a short report on the state of scientific information in his country to be presented to the membership at the annual meeting in June 2007. He will discuss the role of library associations in the development of the library profession in Pakistan and the development of the Higher Education Commission (HEC) Digital Library and its role in the promotion of research, particularly in pure sciences.

PAM members are very pleased to welcome Muhammad as a new member and look forward to having him join us in Denver. PAM thanks East View Information Services for sponsoring the 2007-2008 International Membership Award. For more information please contact Nisa Bakkalbasi, Chair--PAM International Relations Committee (nisa.bakkalbasi@yale.edu).

Reprinted with permission from the PAM discussion list.

February 2007
SciTech News

https://jdc.jefferson.edu/scitechnews/vol61/iss1/13
Web Reviews

For this issue we will look at a sample of science/technology & engineering digital image collections.

**Bentley Snow Crystal Collection**
http://www.bentley.sciencebuff.org/index.htm

154 of Wilson A. Bentley's original glass plate slides of snow crystals, housed at the Buffalo Museum of Science, can be viewed and searched at this site. These striking images, the first successful photographs of snowflakes, were taken by Bentley from 1893-1903. Each image can be searched by date, description, snowflake classification scheme, and weather conditions at the time of the photograph.

**Caltech Archives PhotoNet**
http://archives.caltech.edu/photoNet.cfm

The California Institute of Technology Archives presents PhotoNet, a collection of thousands of images from the Institute's visual holdings. Photos, paintings, fine prints and drawings of people, places and things can be searched from this extensive collection dating back to 1891. Also browse 236 images of science and technology objects or 252 rare book illustrations.

**Emilio Segrè Visual Archives**
http://photos.aip.org/

The Emilio Segrè Visual Archives houses a collection of over 25,000 historical lithographs, photographs, engravings, slides and other illustrative resources of 20th century physicists and astronomers. More than 7,000 of these items are available at this site and view. The archive is maintained by the Niels Bohr Library, part of the American Institute of Physics - Center for History of Physics. All images are for reference only. Written permission is required for public use.

**HubbleSite Gallery**
http://hubblesite.org/gallery/

Search the HubbleSite Picture Album for dazzling color images of our solar system, galaxies, nebulae, stars, and the universe. Image tours, slide shows, short videos and more from the Hubble Space Telescope are provided by the Space Telescope Science Institute's Office of Public Outreach. Breathtaking!

**JSC Digital Image Collection**
http://images.jsc.nasa.gov/index.html

Over 9,000 images from NASA's Johnson Space Center press release photos are captured at this site. Use the fulltext or browse search tool to...

Pictures of Science: 700 Years of Scientific and Medical Illustration
http://digitalgallery.nypl.org/nypldigital/explore/dgexplore.cfm?col_id=197
One of the New York Public Library’s Digital Gallery collections, Pictures of Science exhibits over 340 “astronomy, chemistry, geology, mathematics, medicine, and physics” illustrations that span 700 years. Images can be enlarged, purchased as a print or searched for related images and resources.

Science & Society Picture Library
http://www.sciencesociety.co.uk/subcategories.asp?cat=SCIENCE+TECHNOLOGY
http://www.sciencesociety.co.uk/subcategories.asp?cat=PERSONALITIES
Check out the Science & Technology and Personalities categories of the Science & Society Picture Library for thousands of remarkable images from London’s Science Museum. Fields covered include aeronautics, chemistry, optics, physics, space technology & rocketry and so much more.

Kinematic Models for Design Digital Library (KMODDL)
http://kmoddl.library.cornell.edu/collection-toc.php
Cornell University Library maintains this site of five separate kinematic model image collections. Extensive metadata is included for each model: date created, creators name, manufacturer, size, type of material, links to related resources and more. Of particular interest is Cornell’s Sibley School of Mechanical and Aerospace Engineering 19th-century Reuleaux collection of more than 220 mechanism and machine models.
Science Photo Library (SPL)
http://www.sciencephoto.com/index.html
The Science Photo Library, listed as "the world's leading provider of science photos" offers over 100,000 images spanning the fields of science, technology & industry, space & astronomy, history of science & medicine and more. Browse a subject index for images or search by keyword. All images are copyrighted and must be licensed for use.

Evidence For Recent Liquid Water on Mars. "Newton Crater is a large basin formed by an asteroid impact. The picture shown here highlights the north wall of a specific, smaller crater located in the southwestern quarter of Newton Crater. The north wall of the small crater has many narrow gullies eroded into it. These are hypothesized to have been formed by flowing water and debris flows." Credit: NASA, JPL, Malin Space Science Systems OD. Image taken by the Mars Global Surveyor and just one of many available through links from the JSC Digital Image Collection.

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New Science and Technology Journals

Earl Mounts


*AeroSafety World* continues the Flight Safety Foundation’s tradition of excellence in aviation safety journalism stretching back more than 50 years. The new full-color monthly magazine, initially called Aviation Safety World when it was launched in July 2006, offers in-depth analysis of important safety issues facing the industry, along with several new departments and a greater emphasis on timely news coverage. While *AeroSafety World* has taken the place of the seven newsletters the Foundation used to produce, the archives remain active and back issues of the newsletters are still available.


The book, in its double nature as a physical object and a textual content, although challenged by increasingly wide-spread and effective communication tools, has never disappeared as had been divined by some early prophets of doom. The focus of *Bibliologia* remains the book, in its physical form, that—from one metamorphosis to the next—extends from the papyrus of the scroll and from the parchment of the codices to the bits of the e-book. The bibliologists’ attention has so far been focused more upon ancient printed books, hand pressed in the first three centuries after the invention, leaving to one side the industrial, although still fully typographical, book produced in the last two centuries. Today, the introduction of new digital procedures in typesetting and printing processes seems bound to place in a fully defined time the entire rise and fall of the printed book. It is with these objects and in accordance with these beliefs that *Bibliologia, an International Journal of Bibliography, Library Science, History of Typography and the Book* is set.


*Biomicrofluidics* is an online open-access journal whose aim is to rapidly disseminate novel microfluidic techniques with diagnostic, medical, biological, pharmaceutical, environmental, and chemical applications. Research areas include DNA and molecular manipulation, immuno-colloid and genetic probe control, rapid particle analyzers and counters, microfluidics and nanofluidics, wetting and nano-rheology, drop and digitated platforms, electrokinetics and magnetohydrodynamics, pathogen and molecular concentration, and separation and sorting devices.


*Climate of the Past* is dedicated to the publication and discussion of research articles, short communications and review papers on the climate history of the earth. The main subject areas are: reconstructions of past climate based on instrumental and historical data as well as proxy data from marine and terrestrial (including ice) archives; development and validation of new proxies; improvements of the precision and accuracy of proxy data; theoretical and empirical studies of processes in and feedback mechanisms between all climate system components in relation to past climate change on all space and time scales; simulation of past climate and model-based interpretation of paleo climate data for a better understanding of present and future climate variability and climate change. CP follows the innovative two-stage publication concept of the EGU which involves a forum to foster scientific discussion, enhance the effectiveness and transparency of scientific quality assurance and enable rapid publication.
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The European Journal of Sport Science (EJSS), the official journal of the European College of Sport Science, pursues the multidisciplinary aims of the College to promote the highest standards of scientific study and scholarship in the following fields: natural sciences of sport; social and behavioral sciences and humanities; sports medicine; and sport itself. The Journal also aims to facilitate and enhance communication across all sub-disciplines of the sport sciences. For the purposes of the EJSS, 'sport' is defined inclusively to refer to all forms of human movement that aim to maintain or improve physical and mental well-being, create or improve social relationships, or obtain results in competition at all levels. The Journal publishes articles from across the disciplinary spectrum concerning inter alia the motivation, attitudes, values, responses, adaptations, performance and health-related aspects of persons engaged in sport.


In Innovations in Incidence Geometry is an international journal founded by the research group Incidence Geometry, Ghent University, and published by the scientific publisher Academia Press, Ghent. The journal publishes original research papers of the highest quality about all aspects of incidence geometry. These include finite geometry, projective and affine planes, generalized polygons and other rank 2 geometries, geometry of groups, Galois geometry, finite algebraic geometry, incidence geometric aspects of algebraic combinatorics, and topological incidence geometry.


In recent years, we have witnessed a rapid growth in not only the theory, but also the development and application of advanced robots, such as the humanoid robot. Traditionally, robotics R&D focused first on mechanics, modeling, planning, and control. Today, however, it is necessary to study both the artificial body and artificial mind at the same time. Thus, the humanoid robot seems an adroit platform to investigate mind-body interaction, or psychosomatic engineering, which also includes artificial psychology, and the science of learning. IJHR includes research articles, which address relevant areas contributing to both the mental and physical development of advanced robots; reviews which describe, in non-technical terms, the latest in basic theories, principles, and algorithmic solutions; short articles which discuss the latest significant achievements and future trends in robotics R&D; papers on curriculum development in humanoid robot education; and book reviews.

This journal has as its objective the publication and wide electronic dissemination of innovative and consequential research in mechanics of materials and deformable structures of all types. Analytical, computational, and experimental results must serve to clarify physical phenomena that typically involve small or large deformation states. Methods that can be generalized to a wider class of problems are encouraged. Drawing from all areas of engineering, materials, and biology, the mechanics of solids, materials, and structures is experiencing considerable growth in directions not anticipated a few years ago, which involve the development of new technology requiring multidisciplinary simulation. The journal stimulates this growth by emphasizing fundamental advances that are relevant in dealing with problems of all length scales. Of growing interest are the multiscale problems with an interaction between small and large scale phenomena.


The Journal of Physical Chemistry C (Nanomaterials and Interfaces) publishes original experimental and basic research targeted to scientists in physical chemistry of nanoparticles and nanostructures; surfaces, interfaces, catalysis; electron transport, optical and electronic devices; and energy conversion and storage. Recent articles include; “Theoretical study on the structural, energetic, and optical properties of ZnS nanotube;” “Anchoring a liquid crystal molecule on a single-walled carbon nanotube;” “Thermal evolution of a platinum cluster encapsulated in carbon nanotubes;” and “Growth of different nanostructures of CuO (nanothreads, nanowires, and nanocubes) by simple electrolysis based oxidation of copper.”


This journal publishes results of research from the entire field of polymer reaction engineering and serves as a forum for discussion and dissemination of emerging technologies and scientific advancements in the area of reaction engineering applied to polymerization reactors. The journal aims to be one of the main reference sources for researchers in the area of polymer reaction modeling, reactor optimization and control. It extends the scope of the high-quality macromolecular journals by emphasizing polymer reaction engineering as a crucial component in the development and improvement of polymeric materials.


Construction Materials provides original research and practice papers on the procurement, specification, application, development, performance and evaluation of all materials used in construction and civil engineering. Classes of materials covered include metals, timber, glass, ceramics, cement, concrete, bricks, terracotta, stone, finishes, rubber, plastic, sealants, adhesives, bitumen and fabrics as well as innovative and recycled materials. All aspects of a material’s lifecycle are addressed including embodied energy, environmental impact, service life, refurbishment, recycling and reuse. Recent articles include Effect of additives on performance of asphalt mixtures; Chloride ion penetration in bridge deck concrete; Performance of helically shaped metal fasteners in timber; and Sustainable timber procurement.

SciTech News February 2007
Published by Jefferson Digital Commons, 2007
Sci-Tech Book News Reviews  Susan Fingerman, Selector

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

GEOGRAPHY, HYDROLOGY, ENVIRONMENT

G70  2006-017908  978-1-58948-140-4  
**A to Z GIS; an illustrated dictionary of geographic information systems, 2d ed.**
Title main entry. Ed. by Tasha Wade and Shelly Sommer.  
*ESRI Press*, ©2006 268 p. $24.95 (pa)
This dictionary meant for students and professionals consists of terms relating to geographic information systems (GIS) and their use in research, field studies, and practical applications. Approximately 1,800 terms — general, not software-specific — are included, as well as color illustrations, and articles by other contributors about annotation and labels, features, geometry, layers in ArcGIS software, map projections and coordinate systems, remote sensing, and topology. Terms that describe concepts, processes, and operations, and those from related fields such as cartography, computing, geodesy, geography, GPS, and remote sensing, are included. Definitions incorporate subject area classifications. Wade is a project manager at ESRI and Sommer is a research specialist at ESRI.

G109  978-1-59693-016-2  
**Introduction to GPS; the Global Positioning System, 2d ed.**
El-Rabbany, Ahmed. (The GNSS technology and applications series)  
*Artech House*, ©2006 210 p. $69.00
Featuring over 90 illustrations, this resource for students and practitioners provides a concise overview of the Global Positioning System (GPS) and its applications. Without going into any advanced mathematics, El-Rabbany (Ryerson U., Toronto, Canada) describes the GPS system and its components and elucidates its signal structure. Other topics include measurement errors and biases; ambiguity resolution techniques; and integration with other satellite navigation systems. The second edition features a new chapter on GPS satellite orbit. The volume concludes with a list of useful Websites.

GB451  2005-015457  978-1-4051-3685-3  
**Global coastal change.**
Valiela, Ivan.  
*Blackwell Publishing*, ©2006 368 p. $89.95 (pa)
Valiela has been teaching and conducting research since 1969 in Woods Hole at the Boston U. Marine Program, Marine Biological Laboratory. He offers an overview of the environmental factors changing the marine systems of the world. Topics addressed include the global context of coastal change, atmospheric-driven changes, sea level rise, alteration of freshwater discharges, alteration of sediment transport, loss of coastal habitats, petroleum hydrocarbons, chlorinated hydrocarbons, metals, the introduction of exotic species, harvest of finfish and shellfish, eutrophication, and other agents of coastal change. The text is intended for interested lay readers, professional managers and decision makers, and researchers and students dealing with coastal matters. Illustrated in b&w.

GL798  978-1-59693-052-0  
**GNSS receivers for weak signals.**
Ziedan, Nesreen I. (GNSS technology and applications series)  
*Artech House*, ©2006 234 p. $95.00
Global navigational satellite systems (GNSSs) have a wide variety of applications, including positioning wireless devices, tracking during ionospheric scintillation, and determining the orbit of satellites, all of which involve weak signals. Ziedan (geomatics engineering, U. of Calgary and computer systems and engineering, Zagazig U., Egypt) examines weak signals and introduces new, more efficient receiver algorithms designed for weak signals and various dynamic conditions. He overviews GNSS principles and weak-signal processing and techniques, signal models, signal acquisition, fine acquisition, bit synchronization, data detection, code and carrier tracking, and navigation message decoding. He also offers a summary of the algorithms and their performance.
encrypted data in databases, a component library for Matlab neural networks, and instantiation semantics for message sequence charts. Other topics include the mixed postman problem with restrictions on the edges, real-time scheduling of interrupt requests over conventional PC hardware, multi-format web content transcoding for mobile devices. No subject index is provided.

QA75.5 2006-921099 978-0-7695-2563-1
Creating, connecting and collaborating through computing; proceedings.
Computer Society Press, ©2006 277 p. $185.00 (pa)
The 2006 C³ conference brought together researchers, developers, and end users from around the world to consider recent developments in the areas of creative and collaborative computing and multimedia authoring environments. The volume opens with a description of a new 3D content browser based on Croquet that has a TVML processing engine and peer-to-peer connectivity. The remaining 35 papers discuss such topics as learning in a distance and collaborative course that connected Kyoto U. and UCLA; authorization-based access control for the services oriented architecture; and idioms for composing games with EToys. The volume lacks a subject index.

QA76 978-0-471-99813-6
Knowledge structures for communications in human-computer systems; general automata-based.
Koenig, Eido C.
Wiley-IEEE Press, ©2007 281 p. $55.00 (pa)
Koenig (computer science emeritus, U. of Wisconsin-Madison) draws on his decades of practical experience along with his 34 previously published works in the field to create this one-stop resource. He focuses on six features required for communication in human-computer systems (HCS): extracting and storing the knowledge of sentences, knowledge association, deductive process, inference, feedback and sequencing of knowledge, illustrating how to achieve each by using the General Automata Method. He describes a general automaton in a detailed analysis, then addresses the processing of knowledge about automata, a general system of interactive automata, processing of knowledge about systems of automata, changing expressions of knowledge for communication from one form and style to another, and electronic security through pseudo languages. The result
is challenging but thorough, and Koenig makes sure the text is accessible by including helpful appendices with background information.

QA76.54 978-0-7695-2676-8
**Embedded and real-time computing systems and applications; proceedings.**
International Conference on Embedded and Real-Time Computing Systems and Applications (12th: 2006; Sydney, Australia)
*Computer Society Press*, ©2006 428 p. $194.00 (pa)
Fifty-seven papers from the August 2006 conference report recent developments in ubiquitous computing, timing analysis, resource management, embedded software, real-time communications, power aware computing, multiprocessor scheduling, real-time operating systems, and wireless sensor networks. Topics include instruction scheduling with release times and deadlines on ILP processors, data freshness and overload handling in embedded systems, relaxed correctness for firm real-time databases, and operating system support for procedural abstraction in embedded systems. No subject index is provided.

QA76.61 2006-006350 1-58488-643-9
**Fundamentals of natural computing; basic concepts, algorithms, and applications.**
De Castro, Leandro Nunes. (Chapman & Hall/CRC computer and information science series)
*Chapman & Hall/CRC*, ©2006 662 p. $89.95
De Castro (computer and electrical engineering, Catholic U. of Santos) describes combining patterns found in nature and typical computer behaviors to design a new and innovative generation of computers. Striving to be a complete guide, this includes theoretical material as well as practical instructions, right down to the code, integrating the basic concepts, algorithms and applications from a wide range of disciplines. He describe concepts ranging from parallelism and the ability to distribute to adaptation and reductionism, the ways in which computer design can be inspired by nature in evolutionary biology, evolutionary computing, or simulated annealing, neurocomputing with such techniques as neural networks, swarm intelligence, including swarm robotics, and immunocomputing, including artificial immune systems. Phenomena include fractals, cellular automata, L-systems, iterated function, fractional Brownian motion, and artificial life and closes with descriptions of new natural materials used in computing.

QA76.73 978-1-59693-008-7
**Security for mobile networks and platforms.**
Aissi, Selim et al. (Artech House universal personal communication series)
*Artech House*, ©2006 313 p. $109.00
Written by a security architect at Intel and two security experts working in Europe, this book describes hardware and software security approaches employed on mobile platforms, wireless protocols, and network security aspects of wireless area networks. After introducing authorization and cryptographic techniques, the authors explain communication stacks, web services, managed runtimes, certification schemes, the TLS protocol, IPsec, Bluetooth, and the IEEE 802.11 standard and countermeasures.

QA76.87 2006-007625 978-0-8493-3375-0
**Neural networks for applied sciences and engineering; from fundamentals to complex pattern recognition.**
Samarasinghe, Sandiya.
*Auerbach Publications*, ©2007 570 p. $99.95
Samarasinghe (natural resources engineering, Lincoln U., New Zealand) describes how neural networks are used to find patterns in scientific data. Beginning with the basics, she explains a variety of neural networks’ internal workings, and how to apply them to solve real problems. Among the types are Multilayer Perceptron for predictions and classification, Self-Organizing Feature Maps for unsupervised clustering, and Recurrent Networks for understanding and forecasting time-series. Distributed in the US by Taylor and Francis.

QA76.9 2006-016095 978-0-470-01748-7
**Grid networks; enabling grids with advanced communication technology.**
Title main entry. Ed. by Franco Travostino et al.*
*John Wiley & Sons*, ©2006 340 p. $100.00
Once network and Grid experts seemed to live on different planets, but now these advanced technologies have merged to their mutual benefit. The contributors, master practitioners and academics, cover both theory and practical issues including applications to a variety of Grid types, including those used in computation, data, service and instrumentation. They describe in detail the general attributes and types of Grids, including emergent communication technologies, Grid network requirements, driver applications, architecture, emerging architecture from standards bodies, service and service design, building on multiservice networks, middleware, TCP and UDP services and protocols, Layer 2 and Layer 3 technologies, monitoring and
fault detection, recovery and restoration, infrastructures, and future possibilities. Articles are very accessible and the illustrations are especially helpful. The result is comprehensive and serves well as a reference as well as a source of inspiration for further research.

QA76.9 2006-007942 0-7494-4748-6
International IT governance; an executive guide to ISO 17799/
ISO27001.
Calder, Alan and Steve Watkins.
Kogan Page Ltd., ©2006 366 p. $80.00 (pa)
The information-driven economy requires that business managers and executives understand how information security risks to their organizations are being treated by their information technology (IT) departments. Experts in the field address the critical role of IT governance (defined as “the system by which business corporations are directed and controlled”), relevant regulation (e.g., the Sarbanes-Oxley Act), and policy and practice specifics of meeting ISO/IEC 27001 as the new global standard of information security best practice available (superseding ISO/IEC 17799). The guide includes recommended websites and reading, and offers access to a supporting website with downloadable templates and a trial subscription to a digital update service.

QA268 2006-049639 978-1-58488-618-1
An introduction to cryptography, 2d ed.
Mollin, Richard A. (Discrete mathematics and its applications)
Chapman & Hall/CRC, ©2007 413 p. $79.95
According to the followers of Pythagorus, “numbers rule the universe,” and the undergraduate readers for whom this text is written will agree. Updating his text with recent discoveries (such as an unconditional deterministic polynomial-time algorithm for primality testing), popular references and eight appendices on computer arithmetic, Mollin (mathematics, U. of Calgary) covers the mathematical basics (including primes, induction, primitive roots, complexity, and the work of Euler, Fermat, Wilson, Legendre and Jacobi) and the cryptography basics (including ciphers, modes of operations and attacks) and includes the design elements of DES and AES, public-key cryptography (including ElGamal and digital envelopes), primality testing, factoring (including Pollard’s algorithms), electronic mail and Internet security (including firewalls and cookies), and leading-edge applications such as login and network security, viruses and other infections, smart cards, and biometrics. Mollin also includes dozens of mini-biographies, including that of the aforesaid Pythagorus.

QA611 2006-046178 0-471-68755-3
Topology and its applications.
Basener, William F. (Pure and applied mathematics series)
Wiley-Interscience, ©2006 339 p. $90.00
With its ability to categorize and count objects using approximate qualitative information as opposed to exact values, thereby allowing researchers to better understand an array of diverse topics, topology appeals to a wide range of disciplines, including engineering as well as physical and biological sciences. Basener (mathematics and statistics, Rochester Institute of Technology) keeps this diversity in mind in this text for a first course in topology or geometric topology. Working from rigorous theorems and proofs, and offering a broad array of examples and applications he covers point set topology, combinatorial topology, differential topology, geometric topology and algebraic topology in chapters on continuity, compactness and connectedness, manifolds and complexes, homotopy and the winding number, fundamental group, and homology. The applications are fascinating, and include a simple example of chaos, the topology of the universe, vector fields on surfaces, order and emergent patterns in condensed matter physics and computing Betti numbers.

ASTRONOMY

QB506 0-939570-72-3
New views of the moon.
Title main entry. Ed. by Bradley L. Jolliff et al. (Reviews in mineralogy and geochemistry; v.60)
Mineralogical Soc. of America, ©2006 721 p. $45.00 (pa)
Large teams of scientists from around the world contribute to each of the long chapters on the lunar surface and space-moon interactions; the constitution and structure of the lunar interior; the thermal magmatic evolution of the moon; cratering history and lunar chronology; the development of the moon; and the earth-moon system, planetary science, and lessons learned.

QB529 2006-022105 978-0-87590-430-6
Solar eruptions and energetic particles.
Title main entry. Ed. by Natchimuthukonar Gopalswamy et al. (Geophysical monograph; 165)
American Geophysical Union, ©2006 385 p. $88.00
Recently coronal mass ejection (CME) and solar energetic particles (SEPs) have received a significant amount of study, thanks the
peculiarities of solar cycle 23 and to new orbiting and ground-based systems. Researchers were able to take measures of unprecedented sensitivity to test assumptions and refine models. The results here include the aforesaid ejection, including their initiation and relationship with flares; SEPs, including the source material for large events and observations of energy-dependent charge states; flares and energetic particles, including radiative diagnosis and particle acceleration in solar flares and escape into interplanetary space; CME-driven shocks and SEPs in the heliosphere, including radio bursts and SEP events; and space weather, including geoeffective CMEs and energy particles.

**PHYSICS**

QC278 2006-010332 978-0-19-857054-7

Experimental techniques for low-temperature measurements; cryostat design, material property, and superconductor critical-current testing.

Ekin, Jack W.

*Oxford U. Press*, ©2006 673 p. $119.50

Ekin (physics, National Institute of Standards and Technology) provides core information in a manner accessible enough to suit graduate students while meeting the needs of professionals, combining a textbook on cryostat design techniques with a data handbook 50 years in the making that provides materials property data for carrying out that design. On the topic of cryostat design and materials selection Ekin describes measurement cryostats an cooling methods, heat transfer at cryogenic temperatures, cryostat construction, wiring and connections, temperature measurement and control and properties of solids at low temperatures. He also describes sample holders and contacts for electrical and transport measurements and critical-current measurements and data analysis for superconductors. The data handbook is truly impressive and includes cryogenic properties and construction, heat transfer, cryogenic apparatus wiring, temperature measurement tables and controller tuning, properties of solids at low temperatures, specialized resistivity measurement methods, sample contacts and critical-current analysis parameters.

QC631 978-3-527-40529-9

High-frequency electrodynamics.

Katsenelenbaum, Boris Z.

*Wiley-VCH*, ©2006 329 p. $165.00

Katsenelenbaum (USSR Institute of Radio Engineering and Electronics/Russian Academy of Sciences emeritus) is the first to develop the laws of formation and propagation of electronic waves from the concept of guided wave optics; this text should become the standard within the field of electronics. Combining classical concepts with the very new, Katsenelenbaum comes up with a startling range of applications within the design of modern telecommunications systems, including the newest antennas, waveguides and power transmission lines. He gently steps readers through the Maxwell equation, plane lines, closed waveguides, closed resonators, open lines, antenna theory, and diffraction on metallic and dielectric objects, and includes both general and complementary references.

**CHEMISTRY**

QD65 978-0-8493-0487-3

CRC handbook of chemistry and physics; a ready-reference book of chemical and physical data, 87th ed.

Lide, David R.

CRC / Taylor & Francis, ©2006 -- p. $139.95

HHHH Previous editions of this venerable reference are cited in Books for College Libraries, 3d ed. and Guide to Reference Books. This is the second edition to appear in a larger page size and new type font, for those who continue to find that digital formats do not necessarily preclude the usefulness of ink & paper (it's also available on CD-ROM and on the Web). Four heavily used tables have been substantially revised: physical constants of inorganic compounds, bond dissociation energies, table of the isotopes, and scientific abbreviations and symbols. Fourteen other tables have been updated, and a new table on specific enthalpies of solution of polymers and copolymers has been added. David R. Lide (former director, standard reference data, National Institute of Standards and Technology) continues as editor.

QD79 978-3-527-31377-8

HPLC made to measure; a practical handbook for optimization.

Title main entry. Ed. by Stavros Kromidas.

*Wiley-VCH*, ©2006 753 p. $150.00

The goal of Kromidas (founder, Novia GmbH, “an independent consulting company for analytical chemistry”) in producing this monograph is to highlight the issue of optimization in high performance liquid chromatography (HPLC) from a range of different perspectives. After contributors discuss some of the fundamentals of optimization, Kromidas presents chapters discussing the characteristics of optimization.
in individual HPLC modes, including RP-HPLC, normal-phase HPLC, gel-permeation and size-exclusion chromatography, affinity chromatography, and enantiomer separations. Three chapters on coupling techniques come next, followed by three more on computer-aided optimization. The volume concludes with case studies of liquid chromatography mass spectrometry coupling in proteomics, testing for robustness in RP-HPLC, a hardware solution for the separation of complex mixtures, and the use of multiple detection (ultraviolet, mass spectrometry, chemiluminescent nitrogen detection) in the characterization of libraries of newly synthesized substances.

QD115 3-527-31317-6

**Diffraction and spectroscopic methods in electrochemistry.**

Title main entry. Ed. by Richard C. Alkire et al. (Advances in electrochemical science and engineering; v.9)

*Wiley-VCH*, ©2006 427 p. $199.00

Featuring balanced coverage of theory and applications, this resource for chemists, physicists, materials scientists, and engineers surveys recent advances in *in-situ* diffraction and spectroscopic methods in electrochemistry. The first of ten chapters by leading academics and researchers describes an application of the X-ray diffraction technique to the study of the structure-reactivity relationship in electrocatalysis. Other topics include (for example) UV-visible reflectance spectroscopy of thin organic films at electrode surfaces, and tip-enhanced Raman spectroscopy (TERS). Each chapter concludes with a discussion of possibilities for further research. Editor Alkire is affiliated with the Department of Chemical Engineering at the U. of Illinois, Urbana.

QD381 2005-056860 0-8493-9361-2

**CRC handbook of enthalpy data of polymer-solvent systems.**

Wohlfarth, Christian.

*CRC / Taylor & Francis*, ©2006 623 p. $269.95

Knowledge of thermodynamic data of polymer solutions is essential for an understanding of the molecular nature of mixtures and various industrial and laboratory processes. Introducing this text as one that fills a vacuum in data books and databases detailing enthalpy changes (i.e., the sum of a system's internal energy plus the energy associated with work done by the system) in polymer solutions, (Wohlfarth (physical chemistry, Martin Luther U., Halle-Wittenberg, Germany) covers all the necessary bases for researchers and engineers who work in this field. Appendices route the reader to datasets on polymers and solvents. The text supplements the *CRC Handbook of Thermodynamic Data of Copolymer Solutions* and related CRC handbooks.

QD506 2005-017738 978-1-4051-2696-0

**Chemistry and technology of surfactants.**

Title main entry. Ed. by Richard J. Farn.

*Blackwell Publishing*, ©2006 315 p. $199.99

Contributors mostly from chemical companies, but also universities and regulatory agencies provide a broad guide to the manufacture, chemistry, and uses of surface active agents. Writing particularly for new chemists and chemical engineers, but also for more experienced hands who are encountering surfactants for the first time, they cover what surfactants are, the basic theory, the applied theory, anionic and non-ionic surfactants, other types, and relevant regulations in various countries. Manufacturers are also listed.

**BIOLOGY**

QH75 2006-001707 978-1-4051-2145-3

**Conservation and the genetics of populations.**

Allenford, Frederick W. and Gordon Luikart.

*Blackwell Publishing*, ©2007 642 p. $84.95 (pa)

Allenford and Luikart (both U. of Montana) explain how to apply the concepts and tools of genetics to problems in conservation, providing a foundation and a few examples rather than trying to review the extensive literature. They speak primarily to trained biologists and to graduate and advanced undergraduate students in biological sciences or resource management who have a basic understanding of ecology and genetics.

QH212 978-3-527-31269-6

**Scanning probe microscopies, beyond imaging; manipulation of molecules and nanostructures.**

Title main entry. Ed. by Paolo Smaori.

*Wiley-VCH*, ©2006 544 p. $190.00

Chemists, materials scientists, and physicists explore how scanning tunneling microscopy and atomic force microscopy can be used not just to look at the details of surfaces and interfaces, but also to manipulate their characteristics. They concentrate on soft materials comprising organic, supramolecular, polymeric, and biological architectures adsorbed on inorganic and metallic surfaces. Their topics include nanoscale structural, mechanical, and electrical properties; patterning; bond strength and tracking.
Chemical reactions; and theoretical approaches.

**BOTANY**

QK898 2006-041207 1-58829-635-0

*Plant proteomics; methods and protocols.*

Title main entry. Ed. by Hervé Thiellement et al. (Methods in molecular biology; 355)

_Humana Press Inc._, ©2007 399 p. $125.00

These 29 articles describe the most up-to-date methods of researchers in plant proteomics, concentrating not only on standard procedures such as two-dimensional gel electrophoresis but also on improvements such as immobilized pH gradients (IPG). Many of the papers cover tricky procedures and include phenol extraction of proteins from recalcitrant plant tissues, protein extraction from a variety of materials including woody plants, cereal seeds, xylem and phloem sap, isolation of chloroplast proteins or plant mitochondria, plant plasma membrane protein extraction and solubilization, detergents and chaotropes for protein solubilization, visible and florescent staining for two-dimensional gels, quantitative analysis of two-dimensional gels, protein identification using nano liquid chromatography and tandem mass spectrometry, identification of phosphorylated proteins, glycosylation, multivariate data analysis, electroelution of intact proteins from certain gels and their subsequent analysis, generation of plant protein microarrays and investigation of antigen-antibody interactions, and phosphorylation studies using plant protein microarrays.

**ZOOLOGY**

QL785 2005-051558 978-0-19-516765-8

*Comparative cognition; experimental explorations of animal intelligence.*


_Oxford U. Press,_ ©2006 704 p. $120.00

Seventy-two international academics and researchers contribute to a text celebrating comparative cognition’s first quarter century with a state-of-the-art collection of essays covering the broad realm of the scientific study of animal intelligence. Thirty-three chapters are organized into ten sections covering perception and illusion, attention and search, memory processes, spatial cognition, timing and counting, conceptualization and categorization, pattern learning, tool fabrication and use, problem solving and behavioral flexibility, and social cognition processes. For students and professional researchers in all areas of psychology and neuroscience.

**ANATOMY, PHYSIOLOGY**

QM451 2006-041749 0-470-04000-9

*Digital neuroanatomy. (CD-ROM included)*

Leichnetz, George R.

_Wiley-Liss,_ ©2006 92 p. $69.95 (pa)

Leichnetz (anatomy and neurobiology, Virginia Commonwealth U.) presents an introduction to neuroanatomy that is supplemented by an interactive CD containing approximately 300 images. The book presents information taught in first-year medical neuroscience courses and is meant for advanced undergraduate and graduate, first year medical and dental, and pharmacy and physical therapy courses. Topics covered are light-microscopic neurohistolgy; electron-microscopic neurohistolgy; the skull, meninges, and spinal cord; gross and sectional anatomy of the brain; and an introduction to brain imaging and MRIs. B&w images are also incorporated in the text. Self-grading quizzes are included on the CD.

QP514 2006-012747 978-0-470-09065-7

*Chemical biology; applications and techniques.*

Title main entry. Ed. by Banafsheh Larijani et al.

_John Wiley & Sons,_ ©2006 258 p. $65.00 (pa)

Written by an international team of researchers and academics, this text introduces 13 chemical and physical techniques used in chemical biology research and discusses their corresponding biomedical applications. Techniques covered include (for example) cryo-electron microscopy, PET imaging, optical tweezers, and chemical genetics. The volume, which features a section of full-color illustrations, is aimed at advanced students and pharmaceutical researchers who possess a basic understanding of the physical sciences. Editor Larijani is affiliated with Cancer Research, UK.

QP519 2006-043900 978-0-471-72184-0

*Principles of mass spectrometry applied to biomolecules.*

Title main entry. Ed. by Julia Laskin and Chava Lifshitz. (Wiley-Interscience series in mass spectrometry)

_Wiley-Interscience,_ ©2006 687 p. $150.00

This work reviews the basic principles of mass spectrometry as they relate to the life sciences, with special focus on the inherent challenges posed by varying degrees of biomolecular size and flexibility. Contributors from academia and industry describe recent advances in the field and discuss challenges associated with analysis of
bimolecules using mass spectrometry. Chapters are grouped in three sections on structures and dynamics of gas-phase biomolecules; activation, dissociation, and reactivity; and thermochemistry and energetics. The book will be of interest to researchers and scientists. Laskin is a researcher in the private sector. Lifshitz taught chemistry at The Hebrew University, Israel.

QP531 978-3-527-31305-1
Concepts and models in bioinorganic chemistry.
Title main entry. Ed. by Heintz-Bernhard Kraatz and Nils Metzler-Nolte.
Wiley-VCH, ©2006 443 p. $70.00 (pa)
Focusing on the role of model systems in bioinorganic chemistry, Kraatz (inorganic chemistry, U. of Saskatchewan) and Metzler-Nolte (bioinorganic chemistry, U. of Bochum) and their expert contributors feature concepts such as electron transfer, medical inorganic chemistry, bioorganometallics and metal DNA complexes as well as inorganic model chemistry on metallo-enzymes, organized by metal ion. Topics of the ten papers include the biodistribution of metal ions, medicinal inorganic chemistry, the chemical toxicityology of metals and metalloids, charge transport in biological molecules, bioorganometallic chemistry, interactions with metal ions, the bioorganic side of nucleic acid chemistry, nuclease and peptidase models, metalloporphyrins and metalloporphyrinoids, model complexes for enzymes containing vanadium, model complexes for enzymes containing molybdenum and tungsten, structural and functional models for oxygen-activated nonheme iron enzymes, model chemistry of iron-sulfur protein active sites and model complexes of enzymes containing nickel. Each paper includes references.

MEDICINE (GENERAL & PUBLIC ASPECTS)
R729 2006-020119 0-8058-4885-1
Handbook of human factors and ergonomics in health care and patient safety.
Title main entry. Ed. by Pascale Carayon. (Human factors and ergonomics)
Lawrence Erlbaum, ©2007 995 p. $295.00
This handbook contains 51 chapters compiled by Carayon (U. of Wisconsin, Madison) on the prevention of medical errors—concepts and methods of human factors and ergonomics and the applications for improving quality, safety, efficiency, and effectiveness in patient care. Other objectives of the volume are to reduce the cost of health care as well as stress and workload. Authors are from academia, the health care industry, and governmental agencies and are practitioners of Human Factors Engineering in Denmark, France, Germany, Japan, the Netherlands, the UK, and the US. Sections cover macroergonomics and systems; job and organizational design, including stress and burnout; physical ergonomics; technology, robotics, and computer interaction; human error; methodologies, such as cognitive work analysis and video analysis; interventions; and applications in the emergency department, pediatrics, home care, nursing homes, and primary care. The book is intended for healthcare and human factors professionals and patient safety specialists, as well as undergraduate and graduate courses in nursing and other fields. Both subject and author indexes are supplied.

R858 2005-9308 31 1-58603-549-5
Connecting medical informatics and bioinformatics; proceedings.
International Congress on Medical Informatics (19th: 2005: Geneva, Switzerland) Ed. by Rolf Engelbrecht et al. (Studies in health technology and informatics; v.116.)
IOS Press, ©2005 1032 p. $192.00
The theme of the 19th Medical Informatics Europe Conference, held in August 2005, was "Connecting Medical Informatics and Bio-Informatics," emphasizing the convergence of these disciplines and reflecting the growing cooperation of different disciplines in healthcare. The editors of these proceedings (specialists in medical informatics at Germany's GSF National Research Center for Environment and Health, Switzerland's U. Hospitals of Geneva, and Romania's U. of Medicine and Pharmacy) present 169 peer-reviewed papers from the conference, organizing them into sections on bioinformatics and medical genomics; computerized patient records; decision support and clinical guidelines; educational technologies and methodologies; handheld and wireless computing; healthcare networks; imaging informatics; implementation and evaluation of clinical systems; terminologies, ontologies, standards, and knowledge engineering; natural language, text mining, and information retrieval; online health information and patient empowerment; organization change and information needs; and public health informatics and clinical trials.
HEALTH, MEDICINE, PSYCHIATRY

RA440 2006-000963 978-1-4051-3512-2
Qualitative research in health care, 3d ed.
Title main entry. Ed. by Catherine Pope and Nicholas Mays.
Blackwell Publishing, ©2006 156 p. $34.95 (pa)
With new material on the ethics and quality of qualitative research, advice on using different types of research, and information on the emerging field of research synthesis, this edition has been thoroughly updated to reflect recent developments. The 13 essays, which function as chapters, address qualitative interviews, focus groups, observational methods, conversation analysis, case studies, analysis of qualitative data, action research and consensus development. Each topic includes lists of references and further reading.

RA792 2005-057773 978-0-470-01484-4
Statistical methods in spatial epidemiology, 2d ed.
Lawson, Andrew B. (Wiley series in probability and statistics)
John Wiley & Sons, ©2006 398 p. $130.00
Lawson (epidemiology and biostatistics, University of South Carolina) covers the analysis and application of spatial statistical methods. In Part I, he introduces basic definitions and terminology, along with map construction and some basic models. In Part II, he applies this knowledge to fundamental problems of spatial epidemiology, such as disease mapping, ecological analysis, and space-time analysis. The book includes numerous data sets, each representing a different approach to analysis. This second edition offers a new emphasis on bioterrorism and disease surveillance. The audience for the book includes medical statisticians as well as researchers and practitioners from public health and epidemiology. The book is also suitable for graduate students of statistics and epidemiology, and for professionals working in government agencies.

INTERNAL MEDICINE, PSYCHIATRY

RC150 978-1-85315-698-4
Influenza; human and avian, 2d ed.
Jennings, Roy and Robert C. Read.
Royal Society of Medicine Pr., ©2006 76 p. $38.00 (pa)
Writing for medical practitioners working either in the general community or in practices based on an industry or company, Jennings and Read (both: infection and immunity, U. of Sheffield) review the biological characteristics of the influenza viruses, the epidemiological and immune mechanism that have important roles in the pathogenesis of influenza infection, clinical features in different population groups, the current state of vaccines and new anti-influenza drugs, and managing influenza in general practice. The first edition was published in 2002. This work is distributed in the US by BookMasters.

RC553 2006-00065 3 1-59385-311-4
Imitation and the social mind; autism and typical development.
Title main entry. Ed. by Sally J. Rogers and Justin H. G. Williams.
Guilford Pr., ©2006 466 p. $65.00
Rogers (psychiatry and behavioral sciences, University of California- Davis) and Williams (child psychiatry, University of Aberdeen, Scotland) gather research from a range of disciplines examining the role of imitation in both typical infant and child development and in autism. Work on the range of imitative behaviors focuses on the effects of imitation on language development, parent-child and...
peer relations, and learning. Chapters on the neural underpinnings of imitation and the links between imitation, autism, and related neurodevelopmental disabilities reveal implications for understanding and helping those with autism. The book is for graduate students and professionals in psychology, psychiatry, neuroscience, and education.

**Psychology of terrorism.**
Title main entry. Ed. by Bruce Bongar et al. 
*Oxford U. Press,* ©2007 492 p. $69.50
Presented by Bongar (psychology, Stanford U. School of Medicine), Brown (psychiatry and behavioral medicine, U. of South Florida), Beutler (psychology, Stanford U. School of Medicine), Breckenridge (associate director, Stanford Center for Interdisciplinary Policy, Research, and Education on Terrorism), and Zimbardo (emeritus, psychology, Stanford U.), 28 chapters explore a range of psychological issues related to the phenomenon of terrorism. After opening chapters lay out the general outlines of the field, the contributions are organize into four sections that explore psychological explanations for different types of terrorism, psychological consequences of terrorism, issues of assessment and treatment for different populations affected by terrorism, and prevention and psychological problems in reactions to terrorism.

**The art and science of cardiac physical examination. (with heart sounds and pulse wave forms on CD)**
Ranganathan, Narasimhan et al. (Contemporary cardiology) 
*Humana Press Inc.,* ©2006 413 p. $99.50
Seeing the lack of training in cardiac auscultation, Ranganathan, Sivaciyian (U. of Toronto and St. Joseph’s Health Centre, Toronto, Canada), and Sakseoa (Northwestern U. School of Medicine) describe cardiac physical examination techniques and skills. The volume covers—similar to their course at the U. of Toronto—arterial pulse, blood pressure measurement, jugular venous pulse, precordial pulsations, heart sounds, murmurs, elements of auscultation, pathophysiology, and local and systemic manifestations of cardiovascular disease. The accompanying CD contains about 140 clinical examples from real patients, with recordings of heart sounds and murmurs displayed on an oscilloscope, as well as videos of pulsations from patients with lesions, and echocardiographic images. The volume is meant for students, cardiologists, internists, primary care physicians, anesthesiologists, and residents in internal medicine and cardiology.

**Surgery**
RD594 2005-046723 0-86577-920-1
*Atlas of neurosurgical techniques; brain.* 
Sekhar, Laligam N. and Richard G. Fessler.
*Thieme Medical Publishers,* ©2006 1074 p. $349.95
This extensive atlas of neurosurgical techniques focuses on how to manage diseases and disorders of the brain. The 900 illustrations accompany discussions of aneurysms, arteriovenous malformations, tumors, lesions, epilepsy and functional brain disorder, trauma, hydrocephalus, infections, stereotactic radiosurgery, and minimally invasive surgery. Sekhar (neurological surgery, U. of Washington, and cerebrovascular surgery, Harborview Medical Center, Seattle) and Fessler (neurosurgery, U. of Chicago Hospitals) compile 91 chapters, which cover indications, approaches, alternatives, anesthesia, surgical procedures, complications, and postoperative care, written by an international group of surgeons. The book serves as a companion volume to *Atlas of Neurosurgical Techniques: Spine and Peripheral Nerves.*

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*SciTech News* 
Published by Jefferson Digital Commons, 2007

February 2007  43
The actual complexity of life that occurred in the organization. No date is noted for the first edition.

Sci-Tech News, Vol. 61 [2007], Iss. 1, Art. 13

46

https://jdc.jefferson.edu/scitechnews/vol61/iss1/13
3D scalar data. The techniques allow for the absorption, reflection, scattering and emission of light within an image—useful in medicine but also useful in the simulation of smoke, fire, clouds, and similar effects. This text covering theory and practice is intended not only for medical imaging specialists, but also for scientists, engineers, game developers, visual artists, animators, and anyone working with computer graphics. It can be used in an introductory course as well as for self study. The 17 chapters discuss theoretical background and basic approaches, GPU programming and GPU-based volume rendering, transfer functions, local and global volume illumination, ray casting, segmented volume data and large volume data, and non-photorealistic and illustrative techniques, among other topics. Algorithms for specific tasks are included throughout the book, written in C++ with OpenGL as the graphics API and Cg as the shading language.

**ENGINEERING (GENERAL, CIVIL)**

TA190 2005-035109 0-470-00723-0

The entrepreneurial engineer; personal, interpersonal, and organizational skills for engineers in a world of opportunity.

Goldberg, David E.

Wiley-Interscience, ©2006 208 p. $39.95

This text helps current and aspiring engineers develop the non-technical skills they need in order to be professionally successful throughout their careers. Goldberg (entrepreneurial engineering, U. of Illinois at Urbana-Champaign) describes ten key competencies that will enable engineers to better navigate a world in which the lines between technology and business have diminished or disappeared. Sample topics include writing a personal mission statement, making effective presentations, working as part of a team, and assessing technological opportunities.

TA335 2006-045439 1-58488-401-0

Numerical methods for engineers, 2d ed.

Griffiths, D. V. and I. M. Smith.

Chapman & Hall/CRC, ©2006 479 p. $79.95

No date is noted for the first edition of the textbook, but the second uses the newest version of the programming language Fortran 95 to introduce numerical methods in linear algebraic, non-linear, eigenvalue, and ordinary and partial differential equations. Interpolation and curve fitting and numerical integration are also covered. Programs are set out in the text.

TA347 2006-045012 978-0-89871-614-6

Understanding and implementing the finite element method.

Gockenbach, Mark S.

SIAM, ©2006 363 p. $87.00 (pa)

The finite element method is the most popular general-purpose technique for computing accurate solutions to partial differential equations. This textbook for advanced undergraduate and beginning graduate students in mathematics, engineering, and the physical sciences explains the theory underlying the method and discusses its applications for equilibrium problems. Particular attention is paid to the practical details of programming the algorithms, and MATLAB codes are available for download from a companion Website.

TA355 2005-054945 978-0-8493-3420-7

Engineering vibrations.

Bottega, William J.

CRC / Taylor & Francis, ©2006 726 p. $109.95

Bottega (mechanical and aerospace engineering, Rutgers U.) balances physics/mechanics and mathematics in this wide-ranging resource for students and professionals working on mechanical and structural vibration. With illustrations, examples and case studies supplementing the text, Bottega starts with an overview of basic principles, including equivalent systems, springs in parallel and in series, elementary dynamics and complex numbers, then moves to free vibration of single degree of freedom systems, forced vibration of single degree of freedom systems in both periodic and non-periodic excitations, operational methods, dynamics of multi-degree of freedom systems, free vibration of multi-degree of freedom systems, forced vibration of multi-degree of freedom systems, dynamics of one-dimensional continua, free vibration of one-dimensional continua, and forced vibration of one-dimensional continua. Each topic includes a bibliography and exercises.

TA405 978-1-55899-886-5

Materials in extreme environments; proceedings.

Symposium on Materials in Extreme Environments (2006: San Francisco, CA) Ed. by Daryush ILA et al. (MRS symposium proceedings; v.929)

Materials Research Society, ©2006 213 p. $104.00

The 27 papers examine fundamental properties and the response of materials in such extremes as static and dynamic high pressure, high strain and high strain rates, high radiation and electromagnetic fields, high and low temperatures,
corrosive environments, and atomic oxygen. Among the behavior and responses are crack branching, structural transition to super-protonic phase under high pressure, tensile and optical properties of the Hubble telescope’s insulation, and nanostructure evolution. As a general rule, these sorts of things are to be avoided, but in some cases, extreme environments are used to produce desired properties.

**Biofunctionalization of nanomaterials.**


In the first volume of the publisher’s new series “Nanotechnologies for the life sciences,” Kumar (Center for Advanced Microstructures and Devices, Louisiana State University) et al. review the latest advances in efforts to create biocompatible nanomaterials. Recent research studies shed light on areas such as biofunctionalization of various types of materials, including fluorescent nanoparticles, carbon nanotubes, magnetic nanoparticles, gelatin nanoparticles, and microarrays. Other topics include conjugation of nanomaterials with proteins, and folate-linked lipid-based nanoparticles for tumor-targeted gene therapy. Readership for the book includes scientists working in medicine, biology, chemistry, materials science, physics, and engineering. The series is intended to provide the underlying science behind the design and implementation of medical, biological, and cybernetic applications in nanotechnology.

**Self-organization during friction; advanced surface-engineered materials and systems design.**

Title main entry. Ed. by German S. Fox-Rabinovich and George E. Totten. (Materials engineering; 31) CRC / Taylor & Francis, ©2007 458 p. $139.95

Researchers from Europe, North America, and Japan concentrate on the self-organizing phenomenon, physico-chemical aspects of friction, and using advanced materials and surface-engineering techniques to control friction. They combine the fundamentals of thermodynamics and nano-tribological and other methods of material characterization, with studies of tribological behavior in a wide range of materials, to offer a novel approach to developing a new generation of surface-engineered self-adaptive materials.
topics covered at the meeting include dielectrics, piezoelectrics, ferroelectrics, semiconductors, magnetic thin films, batteries and cells, memory devices, and optical devices. Some specific paper topics include powder and dielectric characterization of hydrothermally synthesized barium titanate nanopowders, a technique for permittivity measurement of ceramic powders at microwave frequencies, evaluation of characteristics of composite electromagnetic wave absorbers, and a new method to absorb dye molecules for dye-sensitized solar cells.

TA462 978-0-87170-709-3
ASM handbook; v.13C: Corrosion; environments and industries.
Title main entry. (Series; title)
ASM International, ©2006 1137 p. $220.00
This is the third and final volume of a three-volume update, revision, and expansion of Metals Handbook, 9th edition, vol. 13, Corrosion, published in 1987. The three volumes together present the current state of corrosion knowledge, describe efforts to mitigate corrosion on structures, and provide a perspective on future trends in corrosion prevention and mitigation. This volume is organized into two sections addressing the performance of materials in specific classes of environments, including freshwater, marine, and underground environments, and their performance in the environments created by specific industries, such as nuclear power, fossil energy and alternative fuels, petroleum and petrochemicals, defense, pharmaceuticals and medical technology, land transportation, commercial aviation, and the pulp and paper industries.

TA654 1-84564-175-2
Structures under shock and impact; proceedings.
International Conference on Structures Under Shock and Impact (9th: 2006; New Forest, England) Ed. by N. Jones et al. (WIT transactions on the built environment; v.87)
WIT Press, ©2006 570 p. $335.00
The 53 papers cover impact and blast loading characteristics, material response to high rate loading, missile penetration and explosion, protecting structures from blast loads, the behavior of structural concrete, correlation between computational and experimental results, energy absorbing issues, structural crash-worthiness, structural serviceability under impact loading, and seismic engineering applications. None of them address the World Trade Center explicitly, though mention is made of how that collapse has boosted interest in the field. The US office of WIT Press is Computational Mechanics. There is no subject index.

TA656 2005-031812 0-7918-0242-6
Design of hazardous mechanical structures, systems and components for extreme loads.
Stevenson, John D. and Ovidiu Coman.
ASME, ©2006 296 p. $125.00
For structural-mechanical engineers, this volume examines the safe design of mechanical structures, systems, and components in hazardous facilities so that they can withstand extreme loads, both those that are man-induced or those resulting from external natural phenomena. It includes first order definition of the loads and analysis procedures for nuclear, petrochemical, and biomedical facilities. Coverage encompasses design classifications and safety goals, risk-based and risk-informed SSC Design Basis, generalized load phenomena, and the design acceptance criteria of the American Society of Mechanical Engineers and others. Other topics discussed are earthquake design and natural hazard phenomena, external blast and high energy system SSC rupture loads, the vibration response of fluid distribution systems, buried tunnels, vaults, and piping, and quality assurance and control.

TA1520 2006-044469 0-8493-4026-8
Applied micro photonics.
Jamroz, Wes R. et al.
CRC / Taylor & Francis, ©2006 403 p. $139.95
The electron will one day make way for the photon, and researchers are struggling to find the materials, topologies, and fabrication technologies at optimum speed and minimum cost. The authors, all practitioners, describe the historical perspective behind the technology, including photonic computing, photonic band-gap structures and quantum photonics, technology growth and the market push, fundamentals of interactions of light with matter, the photonic node, transmitters, couplers and switches, multiplexers, receivers, amplifiers and compensators, new technologies, materials, fabrication and integration, advanced microphotonic devices, quantum photonic systems and future systems and their applications. Illustrations are clear and helpful and the authors include references for further reading.
are being made for a special issue of a journal with the symposium's best computer graphics papers. There is no subject index.

HYDRAULIC ENGINEERING

Sustainable irrigation management, technologies and policies.
Title main entry. Ed. by G. Lorenzini and C.A. Brebbia. (WIT transactions on ecology and the environment; v.96) WIT Press, ©2006 390 p. $240.00
These papers from the proceedings from the conference of the same name held September 2006 in Bologna, Italy cover the management of increasingly scarce water resources, scientific and technical aspects of irrigation, and matters relating to national and international policies and economics. Papers include irrigation controls in situ, systems and planning in such areas as China and salty California, irrigation modeling, including hydraulic systems and subsurface irrigation, and irrigation management in such areas as Spain, Australia, South Africa and the Rio Grande. Examples include systems using low quality water and the retrieval of eroded areas. The US office of WIT Press is Computational Mechanics.

ENVIRONMENTAL TECHNOLOGY

Securing our water supply; protecting a vulnerable resource.
Kroll, Dan J. PennWell Books, ©2006 238 p. $79.00
Kroll, chief scientist for a company that studies water supply vulnerabilities, addresses general concerns related to protecting all types of water facilities and equipment from terrorist threats. After introductory chapters on the psychology of terrorism and a history of attacks on water supplies, he covers physical and plant security, cybersecurity, water monitoring, responding to an event, and legal liabilities for water utilities and protections under the Safety Act. B&w photos of various facilities are included. Appendices provide incident reporting forms, and list chemical and biological agents of concern and types of equipment for enhancing physical security.
of two or three without compromising comfort or services. Distributed in the US by Stylus.

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**ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING**

TK454 2006-050353 1-59693-096-9

**Problem solving in electromagnetics, microwave circuit, and antenna design for communications engineering.**

Warnick, Karl F. and Peter Russer. (Artech House antennas and propagation library)

*Artech House*, ©2006 360 p. $109.00

Warnick (electrical and computer engineering, Brigham Young U.) and Russer (high-frequency engineering, Technical U. Munich) present a collection of problems and solutions in electromagnetic field theory and its applications for use in graduate and upper-level undergraduate courses, or as a reference for experienced engineers. The early chapters deal with fundamental field theory topics such as electromagnetic sources, Maxwell’s equation, and static and quasi-static analysis. On this foundation, the later chapters discuss such topics as waveguides and transmission lines, antenna analysis, and numerical methods.

TK5101 2006-022505 0-321-42761-0

**Telecommunications essentials; the complete global source, 2d ed.**

Goleniewski, Lillian.

*Addison-Wesley*, ©2007 865 p. $49.99 (pa)

This guide serves as a reference to telecommunications technologies, covering terminology and issues, infrastructures, and new developments and applications. Beginning with the basics, the volume reviews technology fundamentals, traditional transmission media, communication channels, and the PSTN, then describes data communications and networking, the new generation of networks, and wireless communications. This edition addresses new developments in next-generation networks, IP networks and services, and optical networking, and contains new sections on IP telephony, VPNs, NGN architectures, broadband access alternatives, and broadband wireless applications. It includes a 100-page glossary. Goleniewski, who works for a company that provides education, information, and advisory services in telecommunications technologies, also lectures internationally.
TK5102 977-5945-37-2
Advances in nonlinear signal and image processing.
Title main entry. Ed. by Stephen Marshall and Giovanni L.
Sicuranza. (EURASIP book series on signal processing and
communications; v.6)
Hindawi Publishing Corporation, ©2006 361
p. $119.95
Sicuranza and Marshall, affiliated, respectively, with the University of Trieste, Italy and the
University of Strathclyde, UK present work on emerging theories and techniques in nonlinear
signal and image processing, including recent theoretical contributions in digital filtering as well
as applications in areas such as genomics, speech analysis and synthesis, communication systems,
active noise control, and strategies for handling multivalued data. Each chapter has a common
structure, with an introduction briefly describing the state of the art in the area discussed, an
explanation of the advantages of using a nonlinear approach, a demonstration of new methods and
results, and a summary. Color and b&w images are included. The book is intended as a reference
for graduate students and practitioners working on modern signal processing applications.

TK5102 2006-042318 0-8194-6092-3
Local approximation techniques in signal
and image processing.
Katkovnık, Vladimir et al.
SPIE, ©2006 553 p. $92.00
Well-stocked with images including inverse
radon transform filtering and tomography, this
comprehensive text for advanced students and
professionals explains a wide variety of signal
processing techniques developed to restore
signals from noisy and degraded observations,
with signals acquired from still or video cameras,
electron microscopes, and x-ray or ultrasound
devices. Here the authors explain the process
of extracting useful information from images,
called "signal recognition," and detail a recent
and original approach to it based on combining
local polynomial approximation (LPA) and the
“intersection of confidence interval” rule.
Topics include discrete LPA, shift-invariant LPA
kernels, integral LPA, discrete LPA accuracy,
adaptive-scale selection, anisotropic LPA
and LPA-ICI algorithms, nonlinear methods,
likelihood and quasi-likelihood, photon imaging,
and multi-resolution analysis, with applications
in entertainment, medicine, business, industry, the military, science and security.

TK5103 2005-051362 978-0-471-74244-9
Cognitive radio architecture; the
engineering foundations of radio XML.
(CD-ROM included)
Mitola, Joseph.
Wiley-Interscience, ©2006 473 p. $99.95
Mitola, a consulting scientist and pioneer in the
field, here offers the first full-length book
dedicated to cognitive radio, a field which
integrates computational intelligence and
software-define radio for embedded intelligent
agents that adapt to RF environments and
user needs. Mitola asserts the technology is
ready and gives a technical overview of the
capabilities, then describes the process of
evolving from aware and adaptive to cognitive
radio, autonomous machine learning for AACR,
and cognitive radio architecture. He then
describes radio-domain competence with use
cases, radio knowledge, and implementation
of radio-domain skills, while user-domain
competence topics include cases, knowledge,
implementing skills and semantic radio.

TK5103 2006-050454 1-59693-028-4
Laser space communications.
Aviv, David. (Artech House space technology and
applications series)
Artech House, ©2006 194 p. $99.00
Having worked 25 years in radar and laser
communications development for private
companies, Aviv says that laser communication
technology provides privacy and interconnectivity
with little power demand, compact size, low
weight, and no requirement for an assigned
frequency. He describes the engineering
aspects of laser space communications systems
that allow electrical engineers to design
laser data links in a variety of environments.

TK5105 2006-017743 0-13-227267-9
Ajax; creating Web pages with
asynchronous JavaScript and XML.
Woyschowsky, Edmond. (Bruce Perens’ open source series)
Prentice Hall, ©2006 384 p. $44.99 (pa)
It is powerful, it is open source software, and it
works. Ajax has become the tool of choice for
many developers using asynchronous JavaScript
and XML, and master developer Woyschowsky
uses extensive code examples and primers on
key technologies and builds from the ground
up so everyone from novices and experts
will find this useful. He covers the types of
web pages, the basics of Ajax, HTML/XHTML,
JavaScript, Ajax using HTML and JavaScript,
XML, XMLHttpRequest, Ajax using XML and
XMLHttpRequest, Ajax using XSLT, reusing
code, exploiting Ruby on Rails and making best use of the essential cross-browser HTML DOM.

TK5105  0-7695-2579-2
Automated software engineering; proceedings.
International Conference on Automated Software Engineering (21st: 2006: Tokyo, Japan)
Computer Society Press, ©2006 380 p. $207.00 (pa)
The 121 papers in this proceedings volume were collected for the 21st IEEE International Conference on Automated Software Engineering, held in Tokyo in September 2006. The contributors discuss the automation of the software development process with attention to themes such as verifying specifications with proof scores, modeling and synthesis, testing, mining software repositories and using communicative acts in interaction design specifications. Also addressed are ideas regarding architecture, impact analysis, and management. The majority of the contributions are full papers; 17 short papers and some that summarize tool demonstrations and mini-tutorials are also included. This book contains an author index only.

TK5105  0-321-39235-3
Communicating design; developing web site documentation for design and planning.
Brown, Daniel M.
It's up to the designer to not only do it right but also to let the client see what's being done, and to capture ideas, track progress, and make sure everyone is singing from the same page. Consultant Brown describes the ten basic deliverables as belonging to three basic types, thereby making it much easier to sort out who gets what and when. He works in layers with user needs documents (personas, usability test plans and usability reports), strategy documents (competitive analyses, concept models, and content inventory) and finally with design documents (site maps, flow charts, wire frames and screen designs) on top. The logic of Brown's ideas works well at a practical as well as theoretical basis, because he shows why user needs and strategy documents come first, before planners start playing with all the cool software.

TK5105  978-0-7695-2654-6
High-performance interconnects; proceedings.
Symposium on High-Performance Interconnects (14th: 2006: Stanford, CA).
Computer Society Press, ©2006 93 p. $168.00 (pa)
Thirteen papers from the August 2006 symposium explore new and emerging technologies in wired, optical, and wireless networking, packet processing, switching, and routing. The researchers present a loosely-coupled TCP acceleration architecture, full-connectivity WDM optical interconnects with reduced complexity, an Ethernet-based virtualization technology for reconfigurable hardware platform, and a single-cycle multi-match packet classification engine using TCAMs. Other topics include network I/O acceleration in heterogeneous multicore processors, fast buffer memory with deterministic packet departures, and scheduling traffic matrices on general switch fabrics. No subject index is provided.

TK5105  2006-047271  0-8204-9940-4
Knowledge factors; how to animate members of online communities to create knowledge-relevant content.
Schmitz-Justen, Felix J.
Peter Lang Publishing Inc, ©2006 231 p. $47.95 (pa)
Schmitz-Justen, a postdoctoral researcher in collaborative knowledge management and lifelong learning, analyzes ways to optimize the sharing of knowledge in forum-based online knowledge communities. He reviews the literature on changing learning and work environments and other key concepts such as knowledge creation, capture and utilization, and proposes a model based on structural equation model analyses. He describes his empirical study, which he conducted through a univariate analysis of variance and his research methods which tested individuals' knowledge process contributions. The result is an integrated set of what had previously been fragmented research and a usable model for further research and evaluation of online knowledge communities now so prevalent in virtually every discipline of study.

TK5105  2006-006501  978-0-470-02596-3
Semantic Web technologies; trends and research in ontology-based systems.
Davies, John et al.
John Wiley & Sons, ©2006 312 p. $120.00
The Semantic Web combines the descriptive languages RDF and OWL with the data-centric language XML to provide machine-interpretable...
descriptions of the content of Web documents. This work overviews key semantic knowledge technologies and research. It explains (semi-) automatic ontology generation and metadata extraction in depth, and covers ontology management and mediation. Theoretical concepts are illustrated with three case studies of industrial applications in digital libraries, the legal sector, and the telecommunication industry. The audience for the book includes graduate and advanced undergraduate students, and academic and industrial researchers.

TK5105 2006-278999 978-1-59059-514-5
SharePoint 2003 user's guide.
Bates, Seth and Tony Smith.
Apress, ©2005 340 p. $34.99 (pa)
This tutorial/reference is for all levels of SharePoint 2003 users, from beginners to advanced users. Early chapters walk through the components and capabilities that make up the SharePoint environment, with step-by-step instructions, screen shots, and examples. Later chapters cover business solutions commonly deployed through SharePoint, and offer example scenarios demonstrating the benefits of using SharePoint in specific situations, such as document collaboration and meeting management. Bates is a software architect and Smith is a product manager in the private sector.

Thinking on the Web; Berners-Lee, Gödel, and Turing.
Alessio, H. Peter and Craig F. Smith.
Wiley-Interscience, ©2006 261 p. $50.00
Two computer scientists with extensive internet research experience discuss the potential for an intelligent World Wide Web (also called a Semantic Web) in this book for a tech-savvy general audience as well as computer science students, scholars, and professionals. The main challenge in developing web intelligence, posit the authors, is finding a balance between greater logic expressive power and achievable computer reasoning complexity. The work and findings of Kurt Gödel, Alan Turing, and Tim Berners-Lee on machine intelligence are central to the book, which discusses both the practical and philosophical considerations related to web intelligence. A series of critical dialogues appear throughout the book, and exercises to further understanding are offered at the end of each chapter. A glossary is also provided.

TK5936 978-0-471-74109-1
Computational auditory scene analysis; principles, algorithms, and applications.
Wiley-Interscience, ©2006 395 p. $89.95
Auditory scene analysis is the process by which a hearer mentally separates the single wave form received by the ear into the various sounds that compounded to form it—for example into a person talking, a bird singing, and traffic; or into a violin, a trumpet, and a drum. It turns out that the process can be modeled by computer by exploiting perceptual principles. Here scientists and engineers who have done it explain the ropes to colleagues who have not, but would like to.

TK6580 2006-045743 978-0-471-73582-3
Adaptive radar signal processing.
Title main entry. Ed. by Simon Haykin.
John Wiley & Sons, ©2007 230 p. $94.95
A collaboration between Haykin (electrical and computer engineering, McMaster U.) and his co-writers over 20 years, this details the use of adaptive radar signal process to account for the fact that the nature of the environment is not to be stationary. Making good use of decades of study, Haykin examines the estimation of the angle of arrival in the presence of multipath signals, exemplified by a low-angle radar designed to track a sea-skimming missile, and the reliable detection of a small target in the presence of sea clutter. After an introduction to experimental radar facilities, contributors describe radar spectral analysis in terms of multipath signals and time-frequency analysis of sea clutter. They then discuss dynamic models with the dynamics of sea clutter and the influence of long waves on the nonstationary nature of sea clutter and two new strategies for target detection.

TK7871 2006-002545 1-57444-574-X
Organic light-emitting materials and devices.
Title main entry. Ed. by Zhigang Li and Hong Meng.
(Optical science and engineering; 110)
CRC / Taylor & Francis, ©2006 672 p. $139.95
Organic LEDs are brighter, more efficient, faster, lighter, and may even be cheaper to make someday. For the moment however, they suffer from a lack of suitable materials, short lifetimes, and technical hurdles in the mass production of devices using them. Academic and industry researchers present an overview of organic light-emitting materials, device physics, engineering, and other aspects, to help their fellow researchers overcome the difficulties.
Organic electronics; materials, manufacturing and applications.

Researchers from Europe, North America, and Japan survey the current landscape of organic thin-film transistors and the integrated circuits and electronic devices made with them. Reflecting the field itself, they represent both industrial and academic laboratories. Such devices, they say, may pave the way for completely new set-ups, fabrication processes, and applications. Among applications are or might be radio-frequency identification tags, single-use electronics, low-cost sensors, and flexible displays.

Chemical Technology

Applied mathematical methods for chemical engineers, 2d ed.

Loney, Norman W.

Motor Vehicles, Aeronautics, Astronautics

Autonomous software-defined radio receivers for deep space applications.

Hamkins and Simon, both affiliated with the Jet Propulsion Laboratory at the California Institute of Technology, introduce autonomous software-defined radio (SDR) receivers and explain the design and development of algorithms for their operation. Each chapter begins with a problem statement and offers a full mathematical derivation of an appropriate solution, a decision metric or loop-structure, and performance results. Application chapters describe NASA’s Electra radio, which was developed for deep space applications, and demonstrate the performance of an actual software implementation of the various algorithms working together. Although the technology described is intended for deep space applications, the theoretical development and algorithms presented can be applied to any terrestrial radio capable of processing more than one type of signal.

Biological and pharmaceutical nanomaterials.

Kumar introduces the debut volume in a series covering the convergence of materials and life sciences on the nanoscale, treated the tailoring of nanomaterials to medical applications. Conversely, this collection of a dozen chapters by international scientists in the field provides in-depth reviews of nanomaterials derived from key biological and pharmacological substances. Kumar (Center of Advanced Microstructures and Devices, Louisiana State U., Baton Rouge) introduces the themes of...
DNA-based nanotubes and nanoparticles; peptide- and protein-based nanomaterials; and the properties, preparation, and promise of pharmaceutical nanoparticles in gene and other therapies. Microscopic images and diagrams (some in color) illustrate material structures, experimental outcomes, intracellular pathways for gene expression, and related processes.

TP1142 2005-931631 1-58603-533-9
Plastics additives; advanced industrial analysis.
Bart, Jan C. J.
IOS Press, ©2006 808 p. $300.00
For those who examine the formulation of polymeric materials, this resource is organized for quick reference and emphasizes principles and characteristics and industrial applicability. Rather than wet chemical routes of analysis, coverage is mainly concerned with applications where such routes are not an option, as with high-molecular weight additives, grafting, incorporation in the polymer backbone, and reactive systems, or in surface analysis, microanalysis, and spatially resolved analysis. The focus is on the direct deformation of solid polymer/additive compounds. Coverage includes solid-state spectroscopy, thermal analysis and pyrolysis, laser techniques, surface studies, and microanalysis, along with process analytics, quantitative analysis, and modern analytical method development and validation. The author is affiliated with DSM Research, The Netherlands.

MANUFACTURES, MILITARY & NAVAL SCIENCE

TS156 978-0-471-76867-8
Practical support for ISO 9001 software project documentation; using IEEE software engineering standards. (CD-ROM included)
Land, Susan K. and John W. Walz.
 Wiley-Interscience, ©2006 418 p. $89.95 (pa)
Two members of the IEEE Computer Society's Standards Advisory Board explain how IEEE standards may be used to facilitate the development of processes, internal plans, and procedures in support of managed and defined software and systems engineering processes for conformance to ISO 9001. The guide walks through each section of the IEEE 12207 primary life cycle processes (software life cycle selection and development), the eight supporting life cycle processes, and the four organizational processes. The CD-ROM contains 36 document templates.

Accelerated testing; a practitioner's guide to accelerated and reliability testing.
Dodson, Bryan and Harry Schwab.
Soc./ Automotive Engineers, ©2006 256 p. $79.95
Featuring a wealth of real-world examples, this resource for engineers and advanced students covers the practical aspects of accelerated development and quality assurance testing. Particular attention is paid to testing in the mobility industries. Professional engineers Dodson and Schwab begin with an overview of the limitations of accelerated testing. Subsequent chapters address such topics as parameter estimation, degradation testing, and environmental stress screening. Most examples have been worked in Microsoft Excel and are included on the accompanying CD-ROM.

TS191 2006-008220 978-0-8169-0952-0
Guidelines for mechanical integrity systems. (CD-ROM included)
Title main entry. Ed. by Center for Chemical Process Safety of the American Institute of Chemical Engineers. Wiley-Interscience, ©2006 283 p. $119.00
The Center was founded in 1985 after the chemical disasters in Mexico City, Mexico, and Bhopal, India to develop and disseminate technical information useful in preventing major accidents in the chemical and allied industries. Their major product has been a series of guidelines, this one dealing with how to design, develop, implement, and continually improve a mechanical integrity program as part of an overall process safety program. The disk contains sample documents, matrices, worksheets and other resources.

TS653 978-3-527-31532-1
Modern surface technology.
The demand of aerospace and high technology have greatly complicated the requirements for the surfaces of industrial components. In addition, considerations of tribological stresses, thermal conductivity and optical behavior have increased the need to turn to new coating technologies. This collection of 19 papers gives a broad and fundamental overview of coating technology, including diamond synthesis and cold gas spraying, and is designed for use by practicing materials scientists and engineers as a desk reference. It covers electroplating, surface-treatment technologies, stainless austenitic steel, thin film technology, plastics
including PVD, thermal CVD hard-material coating, hot-filament CVD diamond thin films, electrodeposition and other plating processes, thermal spraying, flame and arc spraying, spray materials, high-velocity oxygen fuel flame spraying, a plasma spray system, diagnostics in thermal spraying, sol-gel and hot-dip coatings, built-up brazed-wear coatings, applications of coating processes in brazing technology, surface protection through build-up welding, and non-destructive testing and assessment of coatings.

UG1310 2006-009611 1-56347-782-3

Tactical missile design, 2d ed. (CD-ROM included)
Fleeman, Eugene L. (AIAA education series)
Am. Inst. of Aero. & Astro., ©2006 468 p. $100.95
Written for aerospace engineering university students, missile engineers, and missile program managers, this text is intended as an integrated handbook on missile design, covering technical and systems issues. The author uses simple, closed-form, analytical, physics-based equations in order to describe the primary driving parameters and also provides example calculations of rocket-powered and ramjet-powered baseline missiles, typical values of missile parameters, examples of the characteristics of current operational missiles, and discussion of the enabling subsystems and technologies of tactical missiles. The CD-ROM contains PowerPoint slides intended to aid in using the text in a short course, in addition to six tactical missile design case studies and a spreadsheet that models the configuration sizing methods used in the text.
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Division and Section Sessions – Preliminary Announcements

Sessions
Academic Chemistry Librarian Roundtable (DCHE) Moderated discussion of topics of concern to academic chemistry librarians. [Ticketed Event]
Hybrid Vehicles (TRANS/ENG/MRM)
Science of Beer [ST, FAN, DCHE] Speaker: Charlie Bamforth, Anheuser-Busch Endowed Professor of Brewing Science, University of California Davis.
Collection Development in the Electronic Age (Papers/panel) (DCHE)
How to find spectra/crystallography (DCHE, PAM, ENG) Presenters: Elizabeth Brown (invited) (Spectra) & Dana Roth (Crystallography)
Environmental Chemistry issues of government sponsored weapons and energy industries (ERM, DCHE)
Corporate Librarian Roundtable (ENG, DCHE)
Poster Session - New technologies in instruction and training. (DCHE, ST, PAM)
Science Education via Graphic Books [DCHE, Educ]
Tom Henricks, former astronaut and now President of McGraw Hill’s Aviation Week –How my career as an Astronaut prepared me for a career in the Information Industry (AER)

Breakfast meeting - Edna Paulson, Principal Outreach Specialist for NASA CASI (AER)
Standards Update (ST)
Feeding the Fledgling Repository (ST)
Federated Searching, Part 1: the Good, the Bad, and the Ugly (ST)
Federated Searching, Part 2: Vendor Update (ST)
Computer Science Literature Roundtable (ST)
Science & Engineering Resources 101 (ST)
E-Books on Steroids (ST)
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IHS Standards Field Trip (ENG, MRM)
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