Plate 4

Elements

Sample

1  2  3  4  5  6  7  8
9  10 11 12 13 14 15 16
17 18 19 20

Binary

21  22  23  24  25

Ternary

26  27  28  29

Quaternary

30  31  32  33

Quinary & Sexenary

34  35

Septenary

36  37
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In *A New System of Chemical Philosophy* (1808), John Dalton introduced atoms into chemistry. He envisioned atoms as tiny spheres of different weights, to explain the different relative weights of the known elements. In this famous plate in his book, he proposed a new kind of chemical symbolism, in which each element is represented by a picture of its atom. The first atom, with a central dot, is hydrogen, the second, with a vertical line, is nitrogen, the dark atom (3) is carbon, and the empty atom (4) is oxygen. He could then combine these symbols to represent water (H₂O), ammonia (NH₃), and carbon dioxide (CO₂). Note that Dalton did not yet realize that water is actually H₂O and should have two hydrogen atoms in its symbol. (Photo and caption courtesy of the Linda Hall Library of Science, Engineering & Technology.)
SciTech News
Volume 61, Number 3  August 2007
ISSN 0036-8059

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SCITECH NEWS (ISSN 0036-8059) is published quarterly (February, May, August, November) by the Chemistry, Engineering, and the Science-Technology Divisions, the Aerospace Section of the Engineering Division, and the Materials Research and Manufacturing Section of the Chemistry Division of the Special Libraries Association, 11100 Johns Hopkins Road, Laurel, MD 20723-6099, (443) 778-4301. Periodicals postage paid at Laurel MD and additional mailing offices. POSTMASTER: Send address changes to SciTech News, Heidi Porth, 347 W. 2nd Avenue, Suite G, Colville, WA 99114. Printed in U.S.A.

Publication Policy: SciTech News is the official bulletin of the Chemistry, Engineering, Science-Technology Divisions, the Aerospace Section of the Engineering Division, and the Materials Research and Manufacturing Section of the Chemistry Division of the Special Libraries Association. The contents of articles and editorials are not to be construed as being or representing the official position of the sponsoring divisions.

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Manuscripts: The Editor solicits papers of interest to the community of science and technology-oriented special libraries. Manuscripts of articles should be sent via E-mail (Microsoft Word or Plain Text format) to susan.fingerman@jhuapl.edu or send by FAX to: (443) 778-5353.

Subscriptions: Special Libraries Association members in the Chemistry, Engineering, Science-Technology Divisions, the Aerospace Section of the Engineering Division and the Materials Research and Manufacturing Section of the Chemistry Division automatically receive subscriptions to SciTech News. Their annual subscription fee of $3.50 is paid from their annual dues to the Special Libraries Association. All others may subscribe for $20.00 (U.S. subscribers) and $22.50 (Foreign subscribers). Inquiries concerning subscriptions should be sent to the subscription manager.

Address Changes: These should be communicated to either the Special Libraries Association, Membership Department, 331 South Patrick Street, Alexandria, VA 22314-3501 USA, membership@sla.org by those who receive SciTech News as a consequence of their membership in one or more of the sponsoring divisions, or to the subscription manager, by all other subscribers.

From the Editor

This August issue positively exudes energy and enthusiasm from the Annual Conference in Denver in June. I don’t remember an issue in which so many Chair columns began with the same word — great! That word certainly expresses the feelings of SLA HQ staff, who proudly pronounced this conference to have exceeded planners’ expectations [with over 5000 attendees] and included, for the first time, SLA members from every chapter around the globe.” (18 June SLA press release)

If you felt overwhelmed in the EXPO hall, that too was explained and extolled by SLA as “the largest information and knowledge management exposition in North America, [which] was sold out this year and featured 275 companies and organizations and 445 total booths. SLA welcomed 38 new exhibitors.” (op cit) It was good to see companies like Google start exhibiting at our conference.

What I felt most promising were the over 800 first timers out of the approximately 4000 non-vendor attendees, and the fact that 41 countries were represented.

Do you think it was Al Gore? He did give a good performance, playing to the crowd with phrases right out of the SLA website, and starting with engaging humor. His passionate, dramatic final plea for the global warming cause was very moving. I had a fleeting thought that if he’d done more of that during his Presidential campaign, well........

My major disappointment with this conference was the seeming inability of us to live up to its futuristic theme. I found the Synergy General Session on Monday, moderated by Tom Hogan of Information Today, to be downright embarrassing.

Here were three stellar panelists, Eugenie Prime, formally of Hewlett Packard Libraries, Cliff Lynch of the Coalition for Networked Information, and Stephen Abram, of Sirsi/Dynix and President-Elect if SLA. These intelligent and articulate people were available to comment on our to quote the program, “leading-edge ideas and thought-provoking comments.”

What did we hear? How can I be more valued in my organization? How can I improve my catalog? How do I combat Google? etc. I’m hoping that these were just poor selections from the submitted questions. I couldn’t believe myself hearing Eugenie Prime say the same things I heard her say at another Annual Conference at least a decade ago, because she was being asked the same questions! If we can’t be more leading-edge than this we’re really in trouble.

Maybe some of the roundtable sessions brought out some better thinking. For example, did anyone hear about or comment on the increasing purchasing trend of our information suppliers by investment companies? To me that is an alarming situation. When the bottom line is the major consideration for an owner, instability usually follows in both product and personnel. We saw that not that long ago with Dialog, and I sure don’t want that to happen again. I’d love to hear from you, perhaps in a Letter to the Editor, with your thoughts on this and any related topic.

On a happier note, this was an extremely successful conference from the SciTech News point of view. Not only did we find new Advertising and Subscription Managers, but I have several interested Book News selectors.

Thanks to those who provided the session reports. They’re so good I didn’t have the heart to edit them down to the requested ½ page!

Susan Fingerman susan.fingerman@jhuapl.edu
2007 Annual Conference Session Reports

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Chemistry for the Non-Chemist Librarian, CE Course

Saturday, June 2, 2007
Presented by: Chemistry Division
Instructors: Bartow Culp, Chemistry Librarian at Purdue University and Judith Currano, Chemistry Librarian at the University of Pennsylvania
Reported by: Donna Beck, Carnegie Mellon University, donnab@andrew.cmu.edu

Bartow Culp, Chemistry Librarian at Purdue University and Judith Currano, Chemistry Librarian at the University of Pennsylvania, instructors for this all day session, both exuded enthusiasm and knowledge of the subject. Bartow quipped, when introducing his interest in chemistry, "Molecules don’t die when trying to do experiments on them...like fruit flies." He also exclaimed that people say that they want organic foods because they have no chemicals in them—"Well, that’s what they’re made of!"

Almost twenty-five years have passed since I had taken any formal chemistry so I was tentative about even a one day session. In fact, I thought that I should walk right out when I saw the piles of materials for us on the back table. These included: Access to Chemistry by Alan Jones, et al., Royal Society of Chemistry ©1999 and Stereochemistry by David G. Morris, Royal Society of Chemistry © 2001; as well as, a Molecular Visions ™ Organic Model Kit for each of us.

However, our instructors quickly created a comfortable, albeit fast-paced, environment for us eight participants. Their goal was to make us feel comfortable when researchers and scientists approach us with chemistry questions. One participant revealed that she had an interest in better understanding the chemistry questions that she is asked, rather than just feeling like a "document delivery" service. Another participant had a desire to "think in structures rather than words." I was most interested in "Methods of converting chemical questions into questions that reference sources can handle," one of the course objectives. I hoped to apply this type of knowledge when using SciFinder Scholar to search Chemical Abstracts. For instance, I learned that a structural formula is not good to use for information retrieval. Some compounds can be represented by different structural formulas but have the same molecular formula.

Our class had hands-on practice writing both structural and molecular formulae, including writing formulae in Hill order: carbon atoms are indicated first, hydrogen is next, then, all others follow alphabetically. We also learned to use our molecule kits—black balls representing carbon and red balls representing oxygen, keeping in mind that the carbon atom can form four bonds only. If only chemistry was presented to me in this manner back in my college years, I could have had a degree in chemistry today!

I was impressed with the use of slides for providing us an overview, describing chemistry as the "central science." The slides consisted of clear definitions. Analogies were also effectively used, for example the description for CAS Registry Numbers as being "like a Social Security number for a molecule."

Like the alchemists of old who did not want to give away any of their secrets, I do not want to "give away" the entire content of the course, but I do want to mention a few points from some of the topics that were covered. We had a lesson in one of the "tools of the trade"—the periodic table—arrangement of the elements by their properties. Here is a useful link from the Royal Society of Chemistry that was provided to us for the "Visual Elements Periodic Table":


We spent a fair amount of time learning about the various ways to identify compounds and about nomenclatures. Organic nomenclature
was introduced to us by the statement, "Organic chemistry is the chemistry of carbon and 'friends.'" We also had a hands-on activity to practice creating a structure for a compound by breaking down the chemical name. To study the structure of molecules three-dimensionally, in the stereochemistry part of the class, Judith led us to grasp the meaning of the chirality of a molecule by helping us to determine the chirality of common household objects.

In the physical chemistry section, we heard the common paraphrase about the Laws of Thermodynamics: 1st law: You can’t win—if you use energy, you won’t get it back; you can’t create energy. 2nd law: You can’t even break even! Biological chemistry and inorganic chemistry were touched on towards the end of our session, along with an introduction to spectroscopy and discussion of common spectroscopic techniques. We were reminded about the NIST Chemistry Web Book, amongst others, as a useful resource: http://webbook.nist.gov/chemistry/

This session left me with greater confidence to support our faculty and staff, especially the Chemical Engineering department to which I do liaison work. I encourage other science librarians and information professionals to take this course the next time around. I leave you with this question: What two elements are named after women?

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**Chemistry Division Academic Roundtable Breakfast**

Monday, June 4, 2007  
Presented by: Chemistry Division  
Sponsored by: ACS Publications  
Moderators: Brian Winterman, Indiana University and Janette Carver, University of Kentucky  
Speaker: Dana Roth, California Institute of Technology  
Reported by: Sue Cardinal, University of Rochester, scardinal@library.rochester.edu

Dana Roth shared his thoughts about the open access movement and the Federal Research Public Access Act (http://www.taxpayeraccess.org/frpaa/index.html). His main concern is that the FRPAA bill would jeopardize the value provided by scholarly publishers. Prepublication has not worked in the chemistry field. Articles benefit greatly from copy editing and linking that the publishers provide.

Only the wealthiest can afford access to the expensive commercial journals. Ironically, many less valued papers are published in the most expensive journals. In general, society journals are already reasonably priced and provide high value.

So what is the best way to transition from reader subscriptions to the author-pays model that will not have a devastating effect on scholarly publishers? Maybe the author and the subscriber need to share the cost. Maybe the html should be freely available while the PDF should be subscription.

After Dana’s talk we began discussing open access concerns. Brian and Janette kept the discussion on track. Attendees commented on the following topics. Faculty are not embracing open access and author costs. Performance-based publishing is still prominent. It is perceived to be critical for faculty to publish in prestigious journals in the least publishable unit. There is also an underground of sharing and posting articles between faculty. Some librarians, in collaboration with legal staff, are educating new faculty about copyright and copyright retention.

Library budgets are very tight and emphasis is often placed on use. With the current model our budgets may not stretch far enough. With the new model will we pay more for membership fees, author fees and subscription fees? Authors have asked libraries to become members of some societies so that they can get publication discounts. The exchange rate has to be factored in. Overall, we should aim for a sustainable model.

Open access articles are read and cited more now and may readily be data-mined. Publishers aren’t always willing to allow this with subscription articles. New projects like Project Prospect (Royal Society of Chemistry) and Sctopia are taking advantage of full text availability. Most people don’t use the html versions of articles. Is there any thought of providing links in PDFs? There are a vast number of articles being produced and journals are turning into full text databases.
Monday, June 4, 2007
Sponsored by: American Society of Civil Engineers (ASCE), Institute of Electrical and Electronics Engineers, Inc. (IEEE), and Thomson Scientific/Techstreet.
Moderated and Reported by: Lee Pharis, Manager, Information Resources, Exponent, Menlo Park, CA, lpharis@exponent.com.

The Standards Update, formerly the Standards Roundtable, featured nine speakers representing both standards developing organizations (SDOs) and distributors. Following are their updates.

**ANSI** – Leanne Lowry, Marketing Manager, llowry@ansi.org.
A new website for ANSI’s web store, [http://webstore.ansi.org](http://webstore.ansi.org), is planned for launch at the beginning of July 2007. Standards descriptions will include referenced standards and tables of contents, beginning with ISO standards. More descriptive records will be added to the store collection by collection (e.g. IEC, etc.). Standards updates will be more current, uploaded twice daily in 12-hour increments.

ANSI standards search engine, NSSN, [http://www.nssn.org/about.aspx](http://www.nssn.org/about.aspx), is being updated with additional content in descriptions, including related federal regulations, i.e. which standards apply to which regulations. More international standards are being added, e.g. Austria and Brazil, and ANSI is continuing to work with SDOs to provide more descriptive content for standards. ANSI is not an SDO, but instead accredits SDOs with expertise in particular subject areas to write and maintain technical documents relating to those industries. More information can be found at [http://www.ansi.org](http://www.ansi.org).

**ASME** – Phil DiVietro, Managing Director, Publishing, divietrop@asme.org.
The 2007 ASME BPVC (Boiler Pressure Vessel Code) is being released on time. BPVC Section VIII-Div. 2 has been completely rewritten. It updates and modernizes the Code to provide for major technical advances in pressure vessel analysis, design, construction, and related sciences. The new edition is also an attempt to make the Code more user-friendly for both users and committee members. Web site [http://www.asme.org](http://www.asme.org).

**ASTM** – John Pace, VP Publications & Marketing, jpace@astm.org.
New standards are being developed in expanded subject areas, e.g. homeland security, declarable substances in materials, and manufacturing of pharma products. ASTM has a new Digital Library product with more than 500,000 pages of technical papers that either supplement ASTM standards or served as the basis for standards development. Previously this information was not available, and is now offered for sale either as individual papers and chapters or subscriptions. Generous discounts are available to the academic community, and new data elements are planned for the Digital Library in the future. Click on the left-hand tab “ASTM Campus” on the ASTM website for a more in-depth review.

A series of new specialty compilations, available in HTML format with PDF backup, is being developed for ASTM’s interactive portal line. This new product uses newly implemented features and functions, allowing users to view referenced documents, linked regulations, full revision history, and applicable historical documents. Users can also annotate their copies of standards. Two completed portals are Environmental Due Diligence and Department of Transportation. Medical devices, petrochemical, and biofuel portals are planned for release this year.

East View Information Services – Ryan Tauer, Sales Representative, ryan.tauer@eastview.com.

East View provides standards online from Russia (State Standards of the Russian Federation, a.k.a. GOST), the former Soviet Union, and China using secure U.S. servers. Descriptions of the 23,000 Russian standards can be browsed in English. In addition to standards, the company also provides periodicals and books. If English is needed but not in stock, a translation can be obtained. Publications are provided in PDF, FTP, and hard copy. Orders can be placed online or by phone. Web site http://www.eastview.com.

IEEE – Michael Spada, Senior Marketing Manager, m.spada@ieee.org.

IEEE has nearly 1,300 standards. Individual standards or subscriptions are available online. The digital subscriptions have been reformatted from two platforms to one, with all subscriptions now on the IEEE Xplore platform. Standards drafts can be obtained in Xplore, and users can set up alerts. Web site http://www.ieee.org.

IHS – Alison Ruger, Director, Technical Publishing Business Development, Alison.Ruger@ihs.com.

Completing its first full year as a public company, IHS is redeveloping and redesigning its specifications and standards web-based information and delivery system. This year it implemented user studies and learning labs to observe how users utilize the IHS web site and to determine what works, or not, for users. Users can purchase not only single standards or set subscriptions, but also customized collections, and work with IHS on appropriate pricing.

Standards are updated on the web within the hour of receiving them. New products being launched are: Reference Linking, which allows corporations to link seamlessly between corporate documentation and the standards documents they reference; and digital SDO libraries. IHS is working with SDOs to offer academic pricing. In addition to DVD and Internet access, subscription products can be obtained for use behind corporate firewalls - intranets. [Note: the week after the conference it was announced that IHS had purchased Jane's Information Group.] Web site http://www.ihs.com.

SAI Global/ILI Publishing – Anne Scorey, General Manager, Anne.scorey@saiglobal.com.

Rebranding of ILI to SAI Global, its parent company, has occurred over the past year. SAI’s core businesses of publishing, compliance, and assurance, offer customers a complete suite of services and the opportunity to cross sell standards between the business divisions. SAI will continue to build a global business by continuing its acquisition strategy. The flagship standards management system, Standards Infobase, will be further enhanced this coming year. The Logicom database version 3 was launched this year. Web site http://www.illi-info.com/us.

NCSCI/NIST – Patricia Harris, Technical Information Specialist, patricia.harris@nist.gov.

A user of standards rather than an SDO or supplier, the National Center for Standards and Certification Information (NCSCI) serves the National Institute for Standards and Technology (NIST) staff. One-fourth of NIST staff are on standards committees and depend upon standards to do their work. NCSCI also serves the Department of Commerce by fielding standards-related questions from the public, including international requestors.

Pat remarked that “Standards are not bibliographically well-behaved. There are no standards for standards.” Revision history showing development progression is lacking on standards. A growing number of SDOs are giving standards away for free, e.g. NFPA for viewing only, although standards typically remain unavailable to the general public. There still is no comprehensive standards information database, leaving a lot of dot-connecting to be done by users. Information about NCSCI and how you can use their service can be found at http://www.nist.gov/ncsci.


In business for about 13 years, Techstreet is a business unit of Thomson Scientific and aggregates standards from about 350 SDOs worldwide in either print or PDF. DRM technology is used on standards when mandated by publishers, although Techstreet does offer a patent pending way to unlock a PDF to forward it to the user from the intermediary (this also disables the document on the original computer). A free tracking service for updates is offered, as well as a points-reward system for online ordering.

Their web-based subscription for enterprise
access uses the Web 2.0 platform. This is very fast, enabling collaboration among end-users, users can be located anywhere, and there is no extra cost for adding additional locations. The access model is based on simultaneous users. Subscriptions are customizable and there are six different real-time usage reports.

Techstreet has the entire collection of MIL specs in electronic and paper formats. It has recently completed an agreement with IEC to provide IEC standards subscriptions worldwide; previously the agreement was restricted to U.S. and to individual documents only. The ASME BPVC subscription service has been enhanced with links from section to section and redlining may be a feature in the future in the online subscription.


During the Q&A part of the session a caution was issued to those who use the Copyright Clearance Center (CCC) because the information pertaining to standards copyright coverage on the CCC web site is not always consistent with the SDOs.

Several people were less than satisfied about the manner in which SAE handles DRM with its publications.

It was pointed out that some members of the Software and Information Industry Association (SIIA) are trying out software embedded in publications that, instead of locking a publication, monitors how often it is printed, forwarded, or otherwise used, moving toward policing rather than protecting.

Thank you to our presenters for joining us and for supporting SLA, and thank you to my colleagues Jeanie Fraser at Allergan and Sara Davis at Jacobs Engineering Group, Inc. for assisting me at the meeting.

**Feeding the Fledgling Repository**

**Promotion**

Digital repositories have many benefits for special libraries. They are a home for dissertations, historical collections, research papers (including supplemental material such as graphs and data), teaching tools, company documents (such as meeting minutes or memos), special event materials (like podcasts, video, or posters), faculty publications (pre-prints and post-prints), and they can even serve as a venue for researchers to set up and manage a peer-reviewed electronic journal.

Once a library has established a digital repository, similar problems will surface regardless of the choice of software utilized: the capacity is generally greater than the demand. Koopman discussed the issue of recruitment and solicitation for submissions and reasoned that faculty have unique and well-established habits. Therefore we need to help them understand why they will benefit from change. A big selling point is that such a service will maximize their work by reaching new audiences and appearing in search engines like Google.

Following this logic, sometimes obtaining faculty and researcher support is a simple problem of discourse. Koopman reminded the audience that a slight change in language will go a long way with our faculty and researchers. Rather than "archival preservation," stress "getting cited"; don’t use "promotion of university," but
“professional visibility”; why not instead of “open access” say, “discoverability.” Overall, speak in terms that they understand and can respond to.

Finally, more often than not, the existence of an institutional repository is simply unknown by its potential users. To get the word out at Jefferson University, Koopman created a promotional handout that guides new users through the benefits of contribution. The repository itself can be a great promotional tool, with an interactive home page that includes a “Featured Author” area or by the transformation of your repository into an online journal or departmental newsletter. Good places to start your outreach efforts include: departmental meetings, invitation programs, receptions, new faculty and graduate student orientation, and subject liaisons. Koopman also emphasizes web editors and administrators as key partners in building your institution’s repository.

Expectations
Promotion is just half the battle; there is also an important need to establish expectations. A successful institutional repository is brought about by a librarian who takes the following steps:

First, measure your progress. How many items are you holding? Who is participating? What audiences are you reaching and how many successful downloads has your repository delivered? Use this information first as a starting point and build from there. Eventually, depositing work and research into the institutional repository will become an integrated part of the process, not a supplementary effort.

Second, faculty sometimes wonder about whether it makes sense to deposit their articles in more than one repository, such as the National Institutes of Health PubMed Central service and a local university repository. Jefferson has found it effective to support multiple deposits, using the argument that “lots of copies keep stuff safe,” along with selling local deposit as a way of showcasing personal or departmental achievement.

Third, pace yourself and use discretion. Koopman referred to Feeding the Fledgling Repository as “collection development with a twist.” This type of project requires the personal touch and a proactive attitude. So “go out there and get their stuff,” but use editorial control over the content, resolve copyright issues, such as prior publication rights, and work with departments to help provide quality checks on unpublished and student work.

Koopman closed her presentation with the parting advice: pace yourself. The successful project may soon demand additional staffing requirements, time constraints, and an unknown amount of material, so build slowly and build partnerships.

Chemistry Division Vendor Roundtable

Monday, June 4, 2007
Presented by: Chemistry Division
Moderated and Reported by: Dana Roth, CalTech, dzrlib@library.caltech.edu

For postings of the Power Point/PDF presentations summarized below see: http://units.sla.org/division/dche/2007/schedule.htm#vendor

This annual session featured presentations on new developments and soon to be released products from the following vendors.

Royal Society of Chemistry (RSC) - “Adding value to content; Enhanced HTML”.
As an introduction to the RSC’s new Project Prospect, Phil Abrahams contrasted their investment in HTML (CrossRef linking, etc.) with their readers preference for PDF (use at RSC ~80% PDF vs ~20% HTML)

Bio-Rad - “KnowItAll U”
Leo Collins discussed Bio-Rad’s KnowItAll U, which provides campus-wide access to over 1.3 million IR, NMR, MS, Raman, UV-Vis, and Near IR.

The annual site license includes: Bio-Rad Sadtler spectra, John Wiley & Sons spectra and the Wolfgang Robien spectra collection. The
KnowItAll Informatics System (Windows Client) includes structure drawing, reporting, processing, searching, data mining, chemometrics, NMR Prediction, and other analysis tools.

A new feature is the SpectraBase Community Database, a multi-technique reference spectral database created by designated members of the community, which allows optional addition of your own reference spectra and peer review.

Elsevier - “Scopus”
Ed Hueckel gave a quick overview of Scopus, abstracts and references from over 16,000 titles and 4000 different publishers which include ‘cited by’ references from articles, web pages and patents. He then discussed some special features: H-Index (similar to ISI but only from 1996+) and Chemical Structure Summaries (i.e. subscriber links to Bellstein for compounds and reactions, from 500 journals, as well as links from compounds back to Scopus). Scopus is integrated with Scirus for patent and web information.

Thomson Scientific - “Derwent”
Don Walter provided a reminder of the Derwent Patent Index enhancements both at the Invention Level, traditional DWPISM content such as patent family, value-add title, abstract and indexing, as well as the Member Patent Level, new additional data from each member (publication) listed in the invention (patent family) part of the record.

Enhancements for PatentWeb® & Aureka® include: Expanded patent coverage in existing authorities; more post-issuance information; number and assignee name normalization; consistent format for all IPC codes; improved indexing; and more stable Inpadoc families. Thomson Pharma enhancements include: homepage redesign and modifications; new target index (split into protein and gene targets); email alerts, personalization; and exporting

American Chemical Society - “ACS Publications: Responding to Our Customers”
Matt Price focused on long-term preservation and archiving. ACS participates in both Portico and CLOCKSS. 2008 pricing will be decoupled from historical print expenditure (tier-based pricing for Web Edition access).* He also described the market share, high impact and high value of ACS journals. The journals recorded more than 33% of all citations in the 7 core chemistry categories in ISI Journal Citation Reports. The median ISI Impact Factor for ACS journals is nearly twice that of its nearest commercial competitor.
*http://pubs.acs.org/valuebasedpricing/index.html

Chemical Abstract Service - “What’s New at CAS”
Christina Tomeo discussed CAS database enhancements, especially the new pre-1907 content, expansion of the PREP role to pre-1967 content, and the new ‘Restricted Chemical List(RSTR)’ search and display field now available in CHEMLIST. STN enhancements include various files and extended logoff hold. SciFinder/SciFinder Scholar features now include combining answer sets, new training resources, saving answers, and categorizing results. Coming STN Attractions include viewer, multicolor highlighting, notes option, AnaVist version 2.0, and no-cost teaching options.

The Science of Beer
Monday, June 4, 2007
Presented by: Science-Technology, Chemistry, and Food, Agriculture & Nutrition Divisions
Sponsored by: ACS Publications, Annual Reviews, CAS, Elsevier, Royal Society of Chemistry
Moderator: James Manasco, University of Louisville
Reported by: Nevenka Zdravkovska, University of Maryland, College Park, MD, nevenka@umd.edu

Professor Charlie Bamforth, Chairman of the Department of Food Science and Technology at UC Davis, and an Anheuser-Busch endowed professor, talked about the way beer is made. According to Bamforth, author of several books on beer (Essays in Brewing Science - 2006, Beer: Health and Nutrition - 2004, Beer: Tap Into the Art and Science of Brewing - 2003, Brewing Yeast Fermentation Performance – 2002) beer is as healthy—if not more healthy—than wine. Beer contains several types of vitamin B, especially folic acid, certain useful minerals, and fiber. Beer is the world’s oldest and favorite alcoholic beverage. In ancient times beer was used as mouthwash, an enema, and as a wound healer. Today, the United States is the second largest beer producer, after China. Yet, the Czechs drink

August 2007
SciTech News

http://jdc.jefferson.edu/scitechnews/vol61/iss3/14
the most, 158 liters per capita; whereas in the United States the consumption is 82 liters per capita.

Before his work in academia, Bamforth was prominent in the brewing industry in England. He worked for the Brewing Research Foundation and for Bass Brewer, as Research Manager and Quality Assurance Manager.

Bamforth’s presentation was very entertaining, light on chemical formulas and heavy on information. Through colorful charts, tables, and images, and with great admiration for “the golden nectar,” he presented the tedious process of producing the world’s favorite beverage. From his presentation, we learned that:

- Beer is made of four main ingredients: water, a starch source – usually malted barley, yeast, and flavoring – usually hops.
- The soul of the beer is the barley.
- Bass holds the oldest trademark.
- In Manet’s masterpiece, A bar at the Folies-Bergère (1881/1882), Bass Ale is depicted among other drinks.
- The nicest brewery, according to Bamforth, is the Sierra Nevada Brewery in Chico, California.
- Many phrases in use today come from the beer industry, for example: rule of thumb. Before the thermometer was invented, the thumb was used to ensure the boiled wort was not too hot to accommodate the yeast.

Bamforth made multiple references to wine, always concluding that beer is superior: for example, wine comes in three versions (white, red, and pink); beer has many more varieties.

Dr. Charles Bamforth, Anheuser-Busch Endowed Professor of Brewing Science at University of California, Davis. Photograph by Cody Hanson, technology librarian at the University of Minnesota.

Collection Development in the Electronic Age

Tuesday, June 5, 2007
Presented by: Chemistry Division
Sponsored by: ACS Publications
Moderator: Robert Buchanan, Auburn University
Reported by: Michael Peper, University of North Carolina, peper@email.unc.edu

This session was very well attended. The speakers were a well-balanced group of electronic resource enthusiasts and print loyalists all hailing from unique types of institutions.

“The Life Cycle of Digital Reference Resources: Asking the Right Questions” presented by Dr. Lesley Farmer

Dr. Farmer, from UC-Long Beach, began the session by laying out all the issues and considerations that we are now dealing with relating to electronic resources. She noted that most of the key issues to consider when selecting electronic resources are not concerned with the content, but instead revolve around the technological, legal and financial resources.

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Published by Jefferson Digital Commons, 2007
available to the institution. For example, she suggested that any interface be tested with all (especially the oldest) machines and software to ensure that all users will have an equal quality experience with the product.

Another key issue surrounds the demands placed upon each user who want to use a given product. Will users be required to download plug-ins? Is it accessible to users with special needs? And, can users do all that they need with the materials provided, such as downloading, printing, saving and viewing?

Instead of providing all the answers, this presentation encouraged librarians to constantly consider the important aspects of collection development (CD) decisions and to ensure that they attend to all relevant details. Some of these can be small, but all have big consequences for our users.

“Electronic Science Resources at the University of Auckland Library: The Impact on Collection Development and Service Delivery”, presented by Sonya L. Donoghue

Setting the scene, Ms. Donoghue described her institution, the University of Auckland, as a large university with over 38,000 students and a significant amount of electronic resources. She emphasized the importance of creating documentation for all CD decisions through established and explicit policies. While e-resources can solve the problem of space for many institutions, they create their own host of challenges as well. In many ways, the challenge changes from providing objects and making them accessible in a physical space to providing delivery of a service.

She demonstrated how quickly her institution has adopted these new services. In the past 8 years, the number of e-journals in their collection has increased 20 times and the number of e-books has increased 1000 times! Users have certainly followed and accelerated this trend and there is now an expectation that resources will be available and that full-text will be available from any computer.

“Til Death Do Us Part: Linda Hall Library’s Commitment to Print in the Electronic Age” presented by Michelle A. Lahey)

This presentation came as a bit of a shock to many of the attendees and certainly was unique for this session. Ms. Lahey set herself apart not only with the content of her talk, but by the fact that she eschewed the customary PowerPoint presentation as well (is that legal?). She presented the perspective of the Linda Hall Library in Kansas City, whose commitment to print resources provided a contrast to the other presenters and to most of those in attendance.

Linda Hall is a unique sort of public library. It is not publicly funded like a typical public library. It has continued as a print archive for scientific literature at a time when most libraries, especially science libraries, are shedding their print collections to save space and to meet users’ information-seeking behavior. The Library has added an additional 30,000 square feet to its facility, which it anticipates will allow for 50 years of growth. In addition, it is actively pursuing the discarded print collections of other institutions to make its own print collection even more comprehensive.

Linda Hall Library feels that this role is essential because of the enduring need for print materials. Ms. Lahey pointed to the increased restrictiveness of licenses for electronic resources and the benefit of serendipitous discovery that is more common with print materials than with electronic resources. While most libraries rush to clear their shelves of their print materials, Linda Hall Library provides an important alternative model for collection development.

“Journey into the Digital Age: Strategies for Developing and Managing Collections in a Federal Research Library” presented by Susan Makar

NIST’s Information Services Division (ISD), in contrast, is moving towards a model of electronic-only resources. They plan to begin by replacing missing items with e-books, focusing on materials in the IT sector, and related to the research priorities at NIST. They are also undertaking a series of pilot feasibility projects for certain methods of electronic resource collection.

The ISD is also interested in creating a better model for electronic resource collections. They have formulated a collection development policy for their electronic collection and have taken pains to create standards for their collection. They are being careful to ensure perpetual access to all their materials through

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licensing agreements with publishers, as well as partnering with independent organizations like Portico and LOCKSS.

The ISD has also implemented an extensive system for evaluation of their resources. Collection decisions are based upon usage statistics, impact factors, customer feedback, focus groups, lab liaisons and analysis of ILL requests. In addition, they have identified core journals which are essential to the mission of NIST and its research priorities.

[Editor’s Note: Handouts and presentations from this session have been posted on the Chemistry Division’s blog at http://dche.blogspot.com/2007/06/collection-development-in-electronic.html]

Tuesday, June 5, 2007
Presented by: Science-Technology and Food, Agriculture and Nutrition (FAN) Divisions
Sponsored by: Open Text Corporation, EBSCO Information Services
Moderator: Carol Lucke, Naval Research Laboratory Library
Panelists: Jina Choi Wakimoto, University of Colorado, Boulder, Doris Small Helfer, California State University, Northridge and Susan Fingerman, R.E. Gibson Library & Information Center, The Johns Hopkins University Applied Physics Laboratory, Maryland
Reported by: Vani Inampudi, UC San Diego, vinampudi@library.ucsd.edu

The California State University system has 23 campuses with 417,000 students, and 46,000 faculty and staff. The metasearch project was carried out by teams from the CSU system. Cal-State Northridge implemented Metalib, from ExLibris, version 2.0 in August 2004, and upgraded v3.0 in Spring 2005.

The Good: simultaneous searching on multiple databases; user attributes and access permissions can be controlled by library; integration with OpenURL; personalization - users can define and save their own database and e-journal lists.

The Bad: Metasearchable resources are intermixed with non-metasearchable resources (in California State implementation). Therefore the users need to be knowledgeable enough to understand the interface/s. Searching capability is limited, the user cannot limit the search by author abbreviation, audience level or document type. Duplicate records are not always recognized. Differences in thesauri and indexing between databases cause the results to be inconsistent. Simultaneous usage restrictions vary with each database.

The Ugly: Each database has different search time-outs. Searching can be extremely slow.

The interface is complex and not intuitive and help is insufficient.

Improvements are being made, including better search functionality, better clustering of results, and the separation of back end and front end interfaces. CSU San Marcos and San Jose State University are experimenting with implementing an X-server interface to dynamically drive library web pages while enhancing search functionality. Wakimoto says Google’s Universal Search could serve as an “ideal” metasearch model, as could USASearch.gov.

Doris Helfer presented the user assessment of Metalib done by CSU Northridge. The points covered in the 18 question web survey included comparing native database searching with metasearch, ease of use of Metalib, and knowledge about metasearching. The report gave both the librarians’ and the students’ perspectives.

Findings included:
- 62% of the users did not feel the need for library training; 68% of the users thought metasearching limited their search to scholarly journals, which is not true. Users were not aware that Metalib can do both multi or single source searching using one interface.
- User suggestions included the wish for overall easier navigation and easier navigation from MySpace (personal site in Metalib) to the current search. The users’ felt they needed a Boolean ‘cheat sheet’ and that it was more difficult to find full text articles in Metalib than individual databases.
- Librarian Assessment Survey: Most librarians were negative about using metasearch; They did not teach federated searching and did not feel confident in the technology.
- Students liked the one-stop-shopping experience but they lacked the knowledge to
judge the quality of results. The advantage of federated searching is encouraging usage of deeper scholarly content. Federated searching needs more development.

Susan Fingerman spoke from the perspective of a research lab librarian. She reminisced on her use of federated search systems like Dialog, Lexis-Nexis, and BRS and observed that science and technology content became widely disaggregated by individual vendors after 2000. Now, end-user federated search systems are being developed as the expectations of researchers to find all content online in fulltext increases.

Users at the Johns Hopkins University Applied Physics Laboratory are high level scientists and engineers. Focus groups were conducted at every campus, to assess the interface of federated searching products. The participants at APL were more concerned with how the back end worked than with the GUI.

APL receives the majority of database content jointly with the rest of JHU, but has some unique licenses, which makes it challenging for Metalib implementation. Susan suggests that content licensing and interface issues are two things that need to be considered before implementing Metalib.

Susan made the following points: the number of retrieved results on Metalib varies from the number of results actually shown; users have to go to individual databases to get more comprehensive results; results ranking does not make sense as most results are ranked at the same level – JHU turned off this feature; metasearch products cannot provide the limiting options (faceted indexing) now provided by individual databases such as Compendex or search products such as Scopus.

Future JHU/APL Metalib development includes customizing the product with content subsets suited to APL staff needs, making personalization possible through authentication, and the inclusion of the e-journals module.

Computer Science Roundtable

Tuesday, June 5, 2007
Presented by: Physics-Astronomy-Math and Science-Technology Divisions
Moderator: Daniel Dotson, The Ohio State University
Sponsored by: ACM
Reported by: Brian Quigley, UC Berkeley, bquigley@library.berkeley.edu

The Computer Science Roundtable for 2007 offered an opportunity for an open discussion of issues related to computer science information and resources.

Database issues
The first issue was duplication among IEEE, ACM, and aggregators. This topic generated little discussion, though some participants liked the duplication as long as it helped users find publications. Other participants stressed the importance of subscribing to the publisher platform since aggregators are more volatile, with no guarantees that specific publications will remain in their databases.

Some users have noted problems with IEEE Xplore and other resources on Macs. Problems seem to occur most often when patrons use Safari as a browser, so most of us recommended using Firefox on Macs instead. In its technical support, IEEE Xplore recommends using Internet Explorer 5.2.3 or Netscape 7.1 on Macs.

Serials issues
Some institutions have experienced problems loading MARC records for Lecture Notes in Computer Science. No one has heard about a resolution to this problem.

Most participants are adding open access journals to their electronic journals lists and/or catalogs. Institutions are mainly using the Directory of Open Access Journals (DOAJ) to identify these journals, though they also discover them through blogs, listservs, knowledgebases, and patron recommendations. Participants agreed that DOAJ does not include all open access journals, and not all of the journals it includes are robust. Participants generally felt it was worthwhile to catalog open access journals, but this cataloging does add to our backlogs.

One participant noted that a recent OCLC survey ranked the catalog low on the list of places people go to find information, which led the group to wonder if it is more important to keep our electronic journals lists and link resolvers updated. With more users finding articles online through search engines, we are also encountering more "appropriate copy"
and authentication problems. One participant mentioned that her institution's LibX toolbar includes a "reload through proxy" option.

**Ebooks**

Representatives from Safari (ProQuest) and Books24x7 attended the roundtable to answer questions. Some libraries would like to add local access to more titles on top of their consortial licenses to Safari, but this is not currently possible. One participant noticed that some Safari ebooks do not have MARC records. Another participant wondered if it would be possible to get RSS feeds of new subscribed titles only. The representative promised to look into these issues. Safari is also adding videos and podcasts on a limited basis, but these are not currently available to the academic market.

In response to a question about Microsoft Vista books, the Books24x7 representative described their philosophy on collection development as focusing on popular, high-demand titles. He also noted that RSS feeds are only available for corporate customers.

Most libraries have stopped buying print copies of books that they can access on Safari or Books24x7, though many still buy on request. Some still buy high-use titles regularly, in case they have to cancel their online subscriptions in the future or because they cannot afford enough simultaneous users. Some participants expressed interest in sharing subscription costs with their campus IT departments, but others were concerned about their ability to afford these subscriptions if the IT departments later pulled their support in tight budget years.

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**Annual Diversity Breakfast: Managerial Leadership and Diversity: Where Do You Fall?**

Tuesday, June 5, 2007
Presented by: Science-Technology Division and the Diversity Leadership Development Program Committee
Sponsored by: EBSCO, Thomson Scientific and Dialog
Speaker: Camila A. Alire, University of New Mexico, Albuquerque
Reported by: Sheila Rosenthal, Carnegie Mellon University, slr@sei.cmu.edu

The presentation at the SLA Annual Diversity Leadership Breakfast, "Managerial Leadership and Diversity: Where Do You Fall?" was extremely well received by the early morning audience. Dr. Camila A. Alire, Interim Library Dean at the University of Colorado at Denver, while covering all of the important aspects of managerial leadership, emphasized the difference between managers (people who do things right) and leaders (people who do the right thing). The main theme of Dr. Alire's presentation was "Transformational Managerial Leadership." Her premise was that a transformational managerial leader must be open to diversity so that he or she will influence and empower the library staff to embrace change, move forward, and work on a shared vision.

Transformational managerial leaders (TML) possess strong leadership competencies to mentor and coach their staff in order for them to deal successfully with diversity. Managerial leadership is color blind. The way in which diversity is valued by the managers will affect the staff's attitudes, especially when building teams. Managerial leaders need to empower minorities. Dr. Alire covered diversity implications for key transformational leadership components such as: relationship-building, communications, problem solving, innovation, awareness, collaboration, and the challenges that they present.

Transformational managerial leaders must help minorities build their networks by serving as role models and leading by example. Communication skills in minority managerial leaders are challenged by stereotypes that accompany tentative speech patterns and/or strong accents. These have been equated with lack of education and ignorance. We must get beyond those stereotypes and accept minorities as the leaders they are.

Values must embrace and encourage diversity for effective teamwork. Risk-taking is not necessarily a leadership trait in minorities, so an atmosphere that encourages them to take risks must be provided. Human Resources (HR) management is the key to diversity. HR must take the lead in finding and encouraging minorities to apply for positions and work with minority individuals in their professional development.

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Published by Jefferson Digital Commons, 2007
In conclusion, Dr. Alire left us with a case study showing how one Library and Information Center Manager, who thought she had done an excellent job recruiting minorities, still had a lot to learn about how to retain minorities on her workforce.

At the end of the presentation, the audience introduced themselves and discussed how diversity is addressed at their individual organizations. One member of the audience became so emotional that she actually began to cry.

Not only did Dr. Alire’s presentation keep us all awake, she succeeded in bringing out emotions and sensitive memories among many members of the audience. This was an extremely meaningful, thoughtful, and very worthwhile presentation.

Science and Engineering Resources 101

Tuesday, June 5, 2007
Presented by: Science-Technology and Engineering Divisions
Sponsored by: ASTM International
Speakers: Mary Frances Lembo, Pacific Northwest National Laboratory (mf.lembo@pnl.gov)
And James Manasco, University of Louisville (james.manasco@louisville.edu)
Reported by: Danny Dotson, Ohio State University, dotson.77@osu.edu

The focus of Science and Engineering Resources 101 this year was on geosciences. Each speaker discussed a variety of resources in their area and provided valuable screen shots from a number of online resources.

Mary Frances Lembo covered a variety of atmospheric sciences resources, including web sites, subscription databases, and relevant societies. Important web sites include:
- National Oceanic and Atmospheric Administration (http://www.noaa.org/)
- Department of Energy’s Science Accelerator search engine (http://www.scienceaccelerator.gov/)
- NASA Earth Observatory (http://earthobservatory.nasa.gov/)
- National Center for Atmospheric Research (http://www.ncar.ucar.edu/)

Important subscription databases include:
- GeoRef
- INSPEC
- Meteorological and Geophysical Abstracts
- National Technical Information Service (NTIS) database

Key societies include:
- American Meteorological Society (http://www.ametsoc.org/)
- Canadian Meteorological and Oceanographic Society (http://www.cmos.ca/)
- Royal Meteorological Society (http://www.rmets.org/)
- Australian Meteorological and Oceanographic Society (http://www.amos.org.au/)
- European Meteorological Society (http://www.emetsoc.org/)
- World Meteorological Organization (http://www.wmo.ch)

James Manasco focused on geology and geography. He recommended a number of background materials, several databases, indexes, and abstracts, society resources, and ended with Google Earth and some digital preservation initiatives. The background materials mentioned included a number of print items, such as the Macmillan Encyclopedia of Earth Sciences (ISBN 0028830008). He also mentioned a number of web resources such as Geological Guidebooks of North America (http://guide.georef.org/dbw-wpd/guidens.htm), which allows users to search for Field Trip guidebooks (with holding locations, if available).

Geology and geography databases include:
- GeoRef
- GEObase
- INSPEC
- Web of Science
- NTIS
- Geonames (http://gnswwww.nga.mil/geomames/GNS/index.jsp, non-U.S. geographic feature names)
- Getty Thesaurus of Geographic Names (http://www.getty.edu/research/conducting_research/vocabularies/tgn/index.html, names, coordinates, and physical details)

The United States Geological Survey (USGS) (http://www.usgs.gov), has several important databases, including:
- USGS Minerals Information (http://minerals.usgs.gov/minerals/)
- USGS National Geologic Map Database (http://ngmdb.usgs.gov/)
Water Resources Abstracts (http://waterdata.usgs.gov/nwis)

The Library of Congress's Geography and Map Division has a digitized collection of over 4.5 million items (http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html).

Several important societies were also mentioned:
- American Library Association Map and Geography Roundtable (http://magert.whoi.edu/)
- Association of Canadian Map Libraries and Archives (http://www.ssc.uwo.ca/assoc/acml/acmla.html)
- Geoscience Information Society (http://www.geoinfo.org/)
- International Federation of Library Associations and Institutions Geography and Map Libraries Section (http://www.ifla.org/VII/s6/index.htm)
- North East Map Organization (http://ublib.buffalo.edu/libraries/asl/maps/nemo.html)
- SLA Geography and Map Section of the Social Science Division (http://units.sla.org/division/dgm/index.htm)
- Western Association of Map Libraries (http://www.waml.org/)

Google Earth (http://earth.google.com/) and several digital preservation initiatives under the National Digital Information Infrastructure and Preservation Program, including one at North Carolina State University (http://www.lib.ncsu.edu/ncgdap/index.html) and the University of California at Santa Barbara (http://ngda.org/research.php) were discussed.

E-Books on Steroids

Wednesday, June 6, 2007
Presented by: Science-Technology Division
Sponsored by: CSI ProQuest, Ebrary, Knovel, CrossRef
Moderator: Sara Thompson, University of Southern California
Panelists: Cynthia Cleto, Springer; Chris Warnock, eBrary; Todd Fagen, ProQuest; and Chris Forbes, Knovel
Reported by: Vani Inampudi, UC San Diego, vinampudi@library.ucsd.edu

The vendor representatives were asked to address the following issues:
- Purchasing models and Pricing structures available for their products
- Digital Rights Management (DRM) concerning printing, cutting/pasting and page viewing
- Usability - readers and usage statistics available for their customers
- Steroids that make them bigger, better and faster

Knovel
- Purchasing and pricing models are fairly simple with annual or multi-year subscription. Pricing structure is tier based on usage for corporate customers and the size of the institution for academic models.
- Downloading, printing, cutting and pasting is unlimited. As a part of their DRM, Knovel is planning to add a digital watermark to all their content and building their backend system to restrict the use to authorized users. They have four experienced librarians on staff that look at security vs. usability, and check to see if the users are authorized.
- Usage statistics are delivered to customers on a monthly basis and are available in variety of formats.
- Knovel focuses on engineers and scientists. Through their specialized tools, content and complex formatting of information, they strive to make the engineers’ experience more productive. Content and user requests are continually reviewed by subject matter experts. 1500 unit converters are available online. Knovel will soon be including the Mathematica unit converter.

ProQuest (representing Safari Books)
- ProQuest has a subscription based pricing model based on FTE or the number of simultaneous users. There are two different options within the institutional model – subscription to the entire file or a two year rolling file. Their “Book Choose” option allows subscribers to choose the books in their collection based on discipline, publisher, or by date etc. Customers can also swap books in and out of the collection at any time.
- Safari offers unlimited printing and downloading at chapter level. Faculty can post up to two sections online.
- Reports on usage statistics are available online.
- ProQuest is striving to improve the search functionality and add more content.
eBrary
- Subscriptions are available to individual titles, a collection, or all the books. They offer a multi-user access model which allows customers to pay 1½ times the suggested retail price of a book. Users get unlimited simultaneous access to it. Pricing is tier based.
- eBrary has a simple DRM. Customers are limited to printing 20 pages per session. They have not received any complaints on this limit. They view downloading, which is equal to modern printing, as a violation of the copyright law. Warnock believes that copyright must be preserved.
- Requires a reader plug-in. Since many do not like the idea of a plug-in, eBrary is developing a Java application. They have 100,000 reader downloads per month.
- eBrary developed their own reader, that allows libraries to integrate other databases or resources from other vendors into the system and customize it to meet their needs.

Springer
- Springer’s pricing is based on FTE and the type of institution. Customers receive perpetual access upon payment of a one-time fee. Purchasing can be done by subject categories.
- Professors are allowed to integrate book sections into online courses. They feel they have a reasonable DRM.
- Usage statistics are available online to administrators. They have statistics down to the chapter level. The chapters are PDF versions and hence no plug-ins or additional software is required.
- Springer’s system is on steroids because of the sheer volume of books available. There are 17,000 books available online and the collection is growing by hundreds each year.

Corporate Roundtable

Wednesday, June 6, 2007
Presented by: Chemistry and Engineering Divisions
Sponsored by: Elsevier, IEEE and Royal Society of Chemistry
Moderators: Mary Crompton and Luray Minkiewicz
Reported by: Luray Minkiewicz, Luray.
M.Minkiewicz@USA.dupont.com

In 2007, the Roundtable format was changed as a result of the comments from last year’s evaluation forms. It was decided to try “Table Topics,” that is, having attendees discuss a particular topic while enjoying breakfast, after which each table reported on their topic, with time for additional comments.

The topics chosen for the discussions, based on attendee input before the conference, were:
- Corporate Archives
- Information Literacy Requirements for New Employees
- Library Management topics (Metrics, Marketing and ROI)
- Social Networking
- Traditional databases vs. Free databases
- Web Editions v. Print Editions
- Wikis and Blogs

While the group discussing Corporate Archives were grappling with questions such as “when should corporate archives be digitized?” and “what happens to these materials when people leave the organization?” (Sounds like some Knowledge Management case studies here!). The Information Literacy for New Employees topic generated some interesting outcomes. The group felt that new employees need to be re-trained on using the information tools specific to the organization. My interpretation of this for academic librarians is that information literacy should be more about the generalized concepts and criteria in searching, assessing, critiquing, organizing and analyzing information, not necessarily on the “tools” used, since these will vary from employer to employer.

At the Library Management topics table, book clubs, both in person and online, were mentioned as a unique marketing tool that could be used by the library. The online book club from Suzanne Beecher at www.dearreader.com was mentioned as one example. Methods for gathering metrics included using “simplified sign-on” data to track who uses various electronic information resources.

Wikis and Blogs are apparently not used extensively in corporate environments, with some exceptions for agendas, meeting minutes, etc. The Social Networking discussion centered on the use of other Web 2.0 features found in FaceBook, YouTube and MySpace as methods to help people in global corporations collaborate and get connected in a “knowledge network”.

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User education on the comprehensiveness and cost of traditional versus "free" Databases, (e.g. does "free" always mean "free"?) were the issues that surfaced at another roundtable.

Finally, the Web Editions versus Print Editions discussion centered around balancing the needs of our user groups along with the transition to "just in time" from "just in case" holdings. Concerns included having accurate date stamps on online versions for legal citation purposes and being able to access older editions of some important reference materials. Those older editions may be available in print only if updates supersede earlier content.

Science Education via Graphic Books

Wednesday, June 6, 2007
Presented by: Chemistry and Education Divisions
Sponsored by: Rittenhouse Book Distributors, Inc., Elsevier
Speakers: Lois Gresh & James Kakalios
Reported by: Theo Jones-Quartey, Grace Co, theo.s.jones-quartey@graced.com

Dr. James Kakalios, Professor of Physics and Astronomy at the University of Minnesota School of Physics, uses comics to free his students from the fear of science. He says an insecurity about science and math causes people to put up shields which come down when they are explained using comics. For years he has taught a popular freshman seminar titled "Everything I Know of Science I Learned from Reading Comic Books."

After his essay discussing the plausibility of Spider-Man’s powers was published in the May 2002 Minnesota Star Tribune, Kakalios was thrust into the limelight. He received calls from CNN, BBC and the London Times and numerous requests for interviews. He is the subject of a "Trivial Pursuit" question, and was featured in a 2003 People Magazine article. His book, The Physics of Superheroes was published in 2006.

Kakalios explores the science behind the powers of popular comic superheroes to illustrate real scientific principles and finds that comic books sometimes get the science right. He went on quite engagingly to illustrate this. Superman’s strength and ability to leap over a tall building in a single bound can be explained by understanding the gravity on Krypton, Superman’s home planet. The question to contemplate here is how strong gravity on Krypton would need to be for Superman’s muscles to be strong enough. All the factors needed to calculate this are provided in the comics.

In the Spiderman edition, “Amazing Fantasy”, Newton’s Laws of Motion can be examined when Wall Crawler’s girlfriend, Gwen, falls off the George Washington Bridge. The question here is: was it the fall or Spider-man’s webbing that caused her death? In Marvel Comics Universe, the magnetic properties of matter are illustrated when Magneto, the evil mutant master of magnetism, is able to levitate himself and others. He can do this because water molecules are diametric. When comic superhero’s feats fail to stand up to scientific scrutiny Kakalios calls them, “scientific bloopers”.

Lois Gresh, Creative-Technical Director, University of Rochester Science, Technology, Engineering, & Math, has authored 14 science fiction books, translated into many languages. She was nominated for the national fiction award six times and is a staff book reviewer for www.scifiweekly.com and the Science Fiction Cable Channel. Her mindset is similar to Kakalios’; she finds comics are filled with thought provoking science topics. Her two books The Science of Superheroes and The Science of Supervillains, co-authored with Robert Weinberg, explore the facts behind the comic superhero characters to determine what is logically possible or not. She explained that today’s comics were spawned from early science fiction and displayed a series of covers of modern comics such as Conan side by side with those of original/classic novels such as The Forgotten Planet to show the amazing similarity.

Gresh related some comic world situations she has explored. In Batman’s Poison Ivy, “can a woman kill a man using lipstick?” Chemistry offers a possibility of chloroform in the lipstick. In Spiderman, The Lizard, “can a person turn himself into a lizard?” Knowledge of biology, gene therapy and tissue regeneration can be used to examine this. In Vandal Savage and Apocalypse, “is it possible not to die?” Biology, nanotechnology, biotechnology, stem cell science and cryonics will help determine this. Some situations are downright impossible such as the case of The Hulk, alter ego of Dr. Bruce Banner, a nuclear physics genius who, exposed to gamma radiation, turned into the Incredible Hulk. Strength and gravity show it is scientifically impossible for Superman to be that strong. To
make his story work he had to be from another planet, Krypton. Donald Duck comics are loaded with thought-provoking scientific escapades. In the 1940s Sunken Yacht episode, a boat was raised after being filled with ping-pong balls. Subsequently in 1964, a patent claim by a Professor Kroeger dealt with using buoyant bodies to raise a sunken vessel.

Kakalios told us that comic books can teach us how to be scientists by challenging us to use our knowledge of scientific rules and laws and to use our critical thinking and problem solving skills. Gresh said comic books teach people about science. This session certainly proved both assertions. While on the surface it was a fun and entertaining hour and a half, I for one, quite painlessly learned a bit of science.

**New Technologies in Instruction and Training: Poster Sessions**

Wednesday, June 6, 2007
Presented by: Physics-Astronomy-Mathematics (PAM) and Science-Technology Divisions
Sponsored by: ACM
Reported by: Mitchell Brown, UC Irvine, mcbrown@uci.edu

This program was a lively session of twenty poster presentations. Blogs, wikis, podcasts, webinars, RSS feeds, and personal response systems (clickers) are just some of the technologies that have everyone talking. The posters gave a view of how colleagues actually use new technology to communicate with and educate their patrons. The session included two presentations on classroom teaching with "clicker" technology, video tutorials, survey tools using SurveyMonkey, and distance training using video and remote desktop software. Abstracts of the poster session are available at [http://units.sla.org/division/dche/2007/poster.htm](http://units.sla.org/division/dche/2007/poster.htm)

Titles of the sessions were:
1. Using Tegrity® for Instruction and Training: A Pilot Project and Results
2. The New Library Newsletter
3. WISPR - Blending Library Instruction and Inquiry Based Learning
4. Using SurveyMonkey for an Attitude Adjustment: A Comparison of Faculty, Graduate Student, and Librarian Opinions On Library Instruction.

5. Using Screen Capture Technology to Create a Video Catalog of "Frequently Asked Questions"
6. Remote Desktop Technologies: Using the Desktop as a Training Venue
7. Use of Educational Technologies by Science-Engineering Faculty
9. Blogging Faculty Publications.
10. Podcasts and Wikis for Communication and Collaboration
11. Make it a CHALLENGE! The use of StudyMate to create an interactive review of chemical information seeking skills.
12. Leaving a trail of bread crumbs.
14. Connecting with the Millennials.
17. Analyzing the student research cycle with ella, the Mount Holyoke College Electronic Learning Arena.
18. Enabling technologies in the corporate world.
19. Use of Wikis and Macromedia Breeze in Chemical Information and Cheminformatics Instruction at Indiana University.
20. Teaching in Two Places at the Same Time Using Macromedia Breeze (Acrobat Connect).

**Contributed Papers and Additional Sessions**


More session reports, from other Divisions, can be found at the SLA Conference Blog at [http://slablogger.typepad.com/sla_blog/](http://slablogger.typepad.com/sla_blog/)

**August 2007**
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Denver was fun, wasn’t it. Great weather, great food, great networking, and great programming. I will resist the temptation to give an extended report of the conference for fear of leaving someone or something out. It was gratifying to see everything go off with nary a hitch, an event that, for Marie Fraties-Block and I, was 18 months in the fashioning. My thanks to all the volunteers who lined up sponsors, made travel plans, organized one of the best open houses ever, moderated, and presented. We are in the process of getting permission to mount the presentations at our web site: http://units.sla.org/division/dche/2007/schedule.htm.

Congratulations are due our newly elected 2008 Chair-Elect, Luray Minkiewicz, and our 2008-09 secretary currently serving in the position, Margarete Bower. Margarete is in the process of finalizing the minutes to our June board meeting and annual membership meeting. Per usual, these will be posted to web as soon as they are reviewed.

So what will our Division be up to now that Denver is over? We are developing a central awards committee to review the criteria for and oversee the Sparks Award, the ACS Publications New Publications Award, and the newly authorized occasional DCHE Distinguished Service Award.

Jim Martin has agreed to lead the International Members Initiative Task Force to brainstorm ways to attract more international members to our Division. This dovetails perfectly with SLA’s goals to increase their international presence significantly.

Our Materials Research & Manufacturing (MRM) Section has developed a strategic plan. We need to play catch up and revise our Divisional strategic plan by early next year. By the way, please note above the correct name of our Section. There are several “creative” variants out there, sometimes even in official SLA material and directories.

We are planning a board meeting at the January 2008 Leadership Summit in Louisville, KY. This will help keep our Division moving forward. Please consider attending this summit if you are on the board, have any interest in leadership positions, or simply want to see how SLA operates. The summit is open to all members.

I hope to finally have time to contact members and potential members. We are a membership organization so this is fundamental. I know times are changing and are tough for libraries, but that is all the more reason to maintain a strong division and convince people of the value of the services and networking provided by our division. Again, many thanks to all who contributed to making Denver a great success. Feel free to pick up the phone or send me an email at any time.*

A. Ben Wagner
abwagner@buffalo.edu

* * * * *

The conference center welcomed us.
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Message from the Chemistry Division Chair Elect

Denver was a really superb conference in all respects. Ben Wagner and Marie Fraties-Block did a great job! I renewed old acquaintances and met many new people. I was excited to hear Al Gore speak. Scott Adams was hilarious. We ate at several top-notch restaurants and walked many miles between conference center, hotels and receptions.

The Division open house was held at the historic Byers-Evans House. Ted Baldwin and Judith Currano entertained us with their period costumes and songs.

If you are wondering about the programs, Meghan Lafferty did an excellent job of recruiting reporters to summarize them for us.

Not surprisingly, the major focus of my conference experience was planning for 2008! Rachel Ellison, Nora Stoecker and I met with other Seattle planners and shared our ideas and plans. Now we are actively collaborating and developing the following programs:

- Hot Science Technology Petting Zoo,
- Collaborative Communities in Physical and Virtual Environments Poster Session in conjunction with All Sciences Reception,
- E-notebooks,
- Nanomaterials / Nanotechnology,
- Science of Coffee,
- Alternative fuels,
- Corporate Round Table,
- Vendor Round Table on materials resources,
- Chemistry Academic Round Table: Exploring

the Generational Element,
- Speed Networking Reception or Happy Hour,
- Chemistry No-Host Dinner,
- Chemistry Open House,
- Newcomers lunch,
- MRM section breakfast or dine-around

We need your help in making these programs successful. We need speakers, poster presenters, moderators, reporters, social event planners and Seattle experts!

If you are feeling the urge to get involved with the Chemistry Division in a major way, we are looking for a new web manager and an assistant newsletter editor. Additionally a new Awards Committee is forming and needs members.

Let us know what you are interested in and we will find a spot for you.*

Regards,
Sue Cardinal
scardinal@library.rochester.edu

A non-human conference attendee who unfortunately had to participate from the sidewalk.
Beyond the Chemistry Web ...

Bob Buchanan, Physical Sciences Librarian, Auburn University

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

FUN

- Science with an attitude – anyone who has ever worked in a lab ought to be amused by the 74 badges of the Order of the Science Scouts of Exemplary Repute and Above Average Physique. Warning: some of the humor is a bit off-color. http://www.scq.ubc.ca/sciencescouts

- Want to listen to an audio version of an out-of-copyright book? Search LibriVox. The subtitle says it all: “acoustical liberation of books in the public domain.” http://librivox.org

GENERAL


- View a growing collection of free video podcasts from TED: Ideas worth spreading. The site covers a range of perspectives within the broad topics of technology, entertainment, and design. http://www.ted.com/index.php

- More than “simply ... another list of library websites”, libSite.org: A Recommendation Service for Library-related Websites aims to “explore different arrangements and combinations that the current state of our technology makes possible.” It is worth a look. http://libsite.org

GENERAL SCIENCE

- Is it too cloudy or bright where you live to see the stars? At WIKISKY.ORG browse the sky outside our solar system with over one-half billion astronomical objects found by the Sloan Digital Sky Survey (SDSS). Clicking on an object gives more information. Zooming in and out of an object is almost compelling as Google Earth. http://www.wikisky.org

- With an official launch date in mid-2008, the Encyclopedia of Life plans to be the encyclopedia of species, ultimately covering over 1.8 million named species. You can get an idea of the scope of the project and the type of content envisioned at the demonstration pages. http://www.eol.org

- At Inventors and Inventions, browse categories of inventors and inventions. http://www.enchantedlearning.com/inventors

CHEMISTRY

- Check out Depth-First: Walking the Web of Chemical Informatics, a thoughtful blog for Chemical Informatics. The author Rich Apodaca, a Blue Obelisk participant, includes some article-like pieces. http://depth-first.com

- Dr. David R. Lide, editor of the CRC Handbook of Chemistry and Physics, has provided a list of Tables Relocated or Removed from CRC Handbook of Chemistry and Physics, 71st through 87th Editions. http://www.indiana.edu/~cheminfo/CRC_Tables_relocated_or_removed_2007.htm

- See CHEMBIOGRID: Chemistry Databases on the Web for an annotated list of chemistry databases (most free). The list is maintained by the Chemical Informatics &
Cyberinfrastructure Collaboratory (CICC) at Indiana University.
http://www.chembiogrid.org/releted/resources/databases.html

- Search **eMolecules** by keyword, exact structure, or substructure. Results include links to selectable commercial suppliers, the NIST Chemistry Webbook, PubChem, and the Drug Bank. It appears to compete with ChemFinder.com.
http://www.emolecules.com

- Still in beta, **ChemSpider – Database of Chemical Structures and Property Predictions** ambitiously aims to be a free searchable database of chemistry structures that consolidates access to information in open and commercial chemical databases. See the link for Data Sources for a list of participants.
http://www.chemspider.com

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The Chamberlain Observatory at the University of Denver. Taken during the tour sponsored by the Physics-Astronomy-Math Division.
Materials Research & Manufacturing Section

Betsy Aldridge, Chair

Thanks to all for your involvement in the Section this year. The transition to Section is going well. The Chemistry Division officers, especially Ben Wagner, have been tremendously supportive.

I attended the 2007 Leadership Summit in Reno, NV on behalf of Materials Research and Manufacturing (MRM) Program Planner appointee Nora Stoecker.

Bette Finn, membership chair, reports that we have 57 members as of 5/2/07. This is up from January, when we had 41, and June 2006 when Bette found only 31 in the SLA membership directory. Progress has been made. Thanks to Bette and Jim Martin, Chemistry Division (DCHE) Membership Chair, for getting us this far.

Patricia Cromi, Listserv manager, reports 158 members (up from 149 last year) on the List. This is not an active forum but it gives nonmembers a chance to learn what we’re doing and some Section news. We encourage all members to join the MRM and DCHE listservs.

Thanks to Teri Vogel for updating the MRM webpage. Any MRM member(s) interested in being involved with MRM webpage design, content development, and coordination with the DCHE webmaster please contact Teri. Earl Mounts has a draft of the MRM strategic plan which members and DCHE board have had a chance to review. Thanks Earl.

I appointed Nora Stoecker as 2008 MRM Program Planner (she’s also been backup for 2007 planning) Nora has gotten involved in a wonderful way this year, including volunteering for the DCHE marketing initiative (Idea Showcase). Great job, Nora.

We have a 2009 Program Planner nominee lined up. Thanks to Marty Rhine and Linda Senkus for their efforts.

See Carol Tower’s findings on other associations’ resources about composites elsewhere in this issue. Good start, Carol! Is there interest in similar investigations for other material/manufacturing topics? Ideas? Volunteers?

I’ve brought several appointees/volunteers into a team to study mentoring activities for the Section. They have been very helpful to me with ideas and feedback. I think Nora will build on that foundation and hope you will all add in your hands so it’s lighter work for all (and more hands make it merrier, too).☆

Betsy Aldridge
PACCAR, Inc.
Betsy.Aldridge@paccar.com

Attendees at the Materials Research and Manufacturing Section Business Meeting and Breakfast. Left to right, Margarette Bower, Nora Stoecker, Linda Senkus, Earl Mounts, Betsy Aldridge, Lee Pedersen and Marty Rhine

SciTech News
August 2007

Published by Jefferson Digital Commons, 2007
Materials Research and Manufacturing (MRM) Section Business Meeting

The venue for the Materials Research and Manufacturing (MRM) Section Business meeting at the Denver conference lived up to its name of "The Delectable Egg". We had a very delicious meal and productive meeting.

By the time of the meeting, we had 36 signed up for the IHS tour. The report is also posted on our MRM website at http://units.sla.org/division/dche/mrm/index.htm and at the Chemistry Division (DCHE) website - http://units.sla.org/division/dche/2007/reports.htm. See Nora's report on page 32.

Attending the meeting were:
Margarete Bower, DCHE Secretary
Nora Stoecker, MRM 2008 Program Planner & Chair-elect
Linda Senkus, MRM Nominations/Search
Earl Mounts, MRM Strategic Planning
Betsy Aldridge, 2007 Chair, MRM of DCHE
Lee Pedersen, MRM member
Marty Rhine, Nominations/Search
and
Alan Engel, Paterra, DCHE program sponsor.

Formal minutes were taken by Margarete Bower, DCHE Secretary (thanks Margarete) and will be posted soon. Below are highlights.

It was great to be able to report a 40% Section membership increase so far this year. See a profile of one of our newer members, Richard Behling in this issue. Welcome, Richard!

We will soon post the updated Strategic Plan which was discussed, edited, and approved at this meeting and the DCHE Board meeting. Special bravo goes to Earl Mounts for compiling and presenting the plan both places and, especially, for a speedy updated version in time for the DCHE membership/business meeting.

Nora was voted unanimously as MRM Chair-elect. She was also approved at the DCHE Board meeting. There were also no objections in the MRM meeting to Catherine DiPalma's appointment as 2009 Program Planner (see a profile of Cathy). Congratulations to both Nora and Cathy. Marty Rhine and Linda Senkus were the Nominating/Search committee.

I reported for Carol Tower that she had compiled results of her search for associations' composites information. See page 30 for her "What's New in Composites from Associations" - we appreciate that, Carol. This is also posted on the MRM webpage at http://units.sla.org/division/dche/mrm/2007/composites.pdf. If other members would like to build on this beginning and provide similar hot "What's New" listings on other types of materials and/or manufacturing topics for our members, to be posted on the webpage and in SciTech News, please contact me (betsy.aldridge@paccar.com).

At the MRM business meeting, member Lee Pedersen volunteered to focus on the MRM website. Thanks, Lee.

DCHE Board Meeting: Our compliments to DCHE Treasurer Robert Buchanan on being responsive to a need we had felt about budgeting. The MRM Chair will be allowed to appoint a designee for the Leadership Summit, should that be necessary. We learned that virtual meetings are already paid for to some extent by SLA, so Nora will be looking more into that for future Section communications improvements. Our own Bette Finn will be part of an International Members Initiative Task Force instructed to make recommendations to the Board about recruiting new international members. A new Awards Committee was created to establish criteria, processes, etc. for DCHE Distinguished Service Award. Watch for details.

Nora's Idea Showcase poster for the Chemistry Division was very creative, featuring tag clouds about the Division, including the MRM Section. Super job. She also attended the DCHE Newcomer's lunch, meeting some wonderful new attendees. Nora rocks.

Opportunities abound to work with DCHE, if you are so inclined, in areas like the bulletin, apprenticing as webmaster, continuing education, international membership, etc. Please let us know if you'd like to get involved in one of these areas.

We enjoyed M&M candies, which were distributed at the MRM activities throughout the conference, just as a fun reminder of the Section to those who attended. 
Betsy Aldridge,
MRM Section Chair
Profile of Catherine DiPalma, MRM 2009 Program Planner

- 18 years as an information professional in corporate, government, academic and public libraries
- Past 8 years working with R&D science and technology focused information research
- Currently employed at Saint-Gobain NorPro in Stow, Ohio. She is in a solo position as a Technical Information Specialist, providing information services to the engineering R&D staff in the field of ceramics for the refining, chemical and petrochemical industries.
- Prior to joining Saint-Gobain was Science Librarian at the NASA Glenn Research Center in Cleveland, Ohio. At NASA Glenn she was responsible for research, reference and outreach services primarily for the Research and Technology Directorate.
- Member of the Patent Information Users Group and takes special interest in patent analysis and dissemination. Other professional interests include intellectual freedom issues, literacy programs and the group Librarians Without Borders. ♦

New Materials Research and Manufacturing Section Member Profile:

Richard Behling
Senior Information Researcher
Nalco Energy Services
7705 Highway 90A
Sugar Land, TX 77478
rleblng@nalco.com
Office: 281-263-7445

I have been working as a solo librarian for Nalco Energy Services in Sugar Land, TX for 15 years. The company invents and produces specialty chemicals for the petrochemical and oilfield industries worldwide. I graduated from LSU with an MLIS in 1990.

The Nalco Energy Services library houses about 4,000 books and several shelves of back journals. We use online resources including: SciFinder, Dialog, STN, Encompass API Literature database, Corrosion Abstracts online, etc. ♦

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

Micheline Demont
Merck Serono International SA
Library
9, chemin des Mines
1202 Geneva
Switzerland

Luray Minkiewicz
E I DuPont de Nemours Co Experimental Station
PO Box 80301
Wilmington, DE 19880-0301

Nicole Robinson
MPR Associates
Library
320 King St
Suite 400
Alexandria, VA 22314

Patti McCall
Library Director
AMRI
PO Box 15098
Albany, NY 15098

Marge Rhodes
Seagate Technology Research
1251 Waterfront Place
Pittsburgh, PA 15220

SciTech News August 2007 29
What's New - Composites Information from the Associations

Compiled by Carol Tower, Society of Manufacturing Engineers, ctower@sme.org

American Ceramic Society
http://www.acers.org


Co-published by the American Ceramic Society and John Wiley, this volume includes papers from the Second International Conference on Characterization and Control of Interfaces for High Quality Advanced Materials, and Joining Technology for New Metallic Glasses and Inorganic Materials (ICCCI2006) in Kurashiki, Japan, 2006. Interfaces are critically important to a broad spectrum of materials and technologies. This Proceedings of ICCCI 2006 features 71 peer-reviewed papers on interface characterization and control technology for materials synthesis, powder processing, composite processing, joining, and to control airborne particulates.


Co-published by the American Ceramic Society and John Wiley, this CD-ROM is a compilation of seven published print issues of the Ceramic Engineering & Science Proceedings (Volume 27, Issues 2-8, 2006), presented at the 30th International Conference on Advanced Ceramics and Composites (ICACC). The 30th ICACC attracted more than 900 scientists and engineers from 27 countries.

American Composites Manufacturers Association
http://www.acmanet.org/

2006 Midwest Composites Conference Proceedings CD-ROM

2006 Structural Composites Conference Proceedings CD-ROM

Society of Manufacturing Engineers (SME)
http://www.sme.org

Composites Manufacturing Update Series CD-ROM
http://www.sme.org/cgi-bin/get-item.pl?CD07PUB1&2&SME8

Non-member price $60, Member price $50

The CD-ROM contains more than 500 SME technical papers, journal, newsletter, and magazine articles detailing recent advances in composites materials, manufacturing processes, and applications. This CD describes the use of composites in aerospace, automotive, construction/civil engineering, consumer products, marine, medical, and military applications. Papers on quality/reliability/durability and affordability and justification of composites materials will help determine if they are right for a particular application. The CD-ROM also covers how smart composites and nanocomposites are being used in novel applications and how these high-tech materials hold promise for even wider use. Articles and papers on manufacturing processes, such as filament winding, pultrusion, thermoforming, resin transfer molding, compression molding, and electrospinning, as well as post-manufacturing processes are also featured.


Completely new and enhanced, this second edition includes chapters on matrix properties, polyesters, epoxies, specialty and high performance resins, thermoplastics, ceramic & metal matrix composites, reinforcements, testing & properties, design, sandwich structures, joints & finishing, open molding, compression molding, resin infusion technologies, filament winding & fiber placement, pultrusion, thermoplastic molding, damage prevention/repair, factory issues, and economics.
Libraries of every type have two common problems: **SPACE** There’s never enough space to keep every book.

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Selected papers from the Composites Manufacturing Conference, Salt Lake City, April 11-12, 2007.
http://www.sme.org/cgi-bin/get-evdoc.pl?&0016908000007802068888&SME&
Seventeen papers from this conference are available to download free of charge.

Composites Manufacturing Technical Group
http://www.sme.org/cgi-bin/communities.pl/?communities/cma/cmahome.htm&&SME&
This group within the Plastics, Composites & Coatings Technical Community of SME provides a forum for members to connect, learn and develop educational resources in composite materials, tooling, processing, post fabrication, joining and assembly, finishing and composite repair.

The Minerals, Metals & Materials Society (TMS)
http://www.tms.org

Advanced Metallic Composites and Alloys for High Performance Applications

U.S.–Japan Conference on Composite Materials XII (Print Format)
- Composite materials—special attention to cars and other vehicles
- New work on Japanese materials science advances
- Organized by the Center for Lightweight Automotive Materials and Processing

Design, Manufacturing, and Applications of Composites

This new volume covers the most up-to-date activities on research and development on composites in Canada and Japan. It contains 45 original papers and 11 shorter articles on composite research first presented in summer 2006 by scientists from leading schools and industry in Japan and Canada. Special attention is given to new work on natural fiber composites and their applications, as well as the role of fibers and other natural materials in nanocomposites.

2007 Chair-Elect/2008 Program Planning Notes

Please see the list of Chemistry Division (DCHE) Seattle conference topics in this issue of SciTech News [Chemistry Division Chair Elect’s message] and on the online Chemistry Division Bulletin. If you have comments or ideas, please contact Nora at nstoeker@nksinfo.com, nkshtoe@sandia.gov or at 505/715-0607

Betsy Aldridge is also working on a program on alternative fuels, which we will co-sponsor with the Transportation and Food, Agriculture and Nutrition (FAN) Divisions. If you have ideas please send to Betsy at (360)757-5234 or betsy.aldridge@paccar.com. We have some tentative speakers already lined up.

Please, all MRM members, join the DCHE email list and check the DCHE website, as well as the MRM page, for ongoing communications and information.

Nora K. Stoecker
nstoeker@nksinfo.com

[Ed. note: See Nora’s full report at http://units.sla.org/division/dche/mrm/documents.htm]
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.

The 2007 SLA Annual Conference in Denver was a great event for the Engineering Division. We had a lot of excellent sessions and the feedback I’ve received on our events has been very positive. I had a lot of fun at the meeting and met lots of new colleagues from around the country and the world. I hope you had a good meeting, too.

I would like to take this opportunity to thank the many people who helped us put on all of our sessions. First, thank you to the SLA Conference Planners for their help and for making sure I remembered to get the things done that I needed to get done. I would also like to thank our co-sponsoring divisions: Chemistry, Food, Agriculture & Nutrition, Information Technology, Petroleum & Energy Resources, Physics-Astronomy-Mathematics, Science-Technology, and the Solo Division. And we couldn’t have run our sessions without the individuals who instructed, moderated, spoke, and otherwise contributed.

The Engineering Division could not put on its sessions without the financial support of our sponsors. I would like to thank the following for their contributions:

**Terabyte Level (contributions of $1000+)**
- American Institute of Aeronautics and Astronautics (AIAA)
- American Society of Mechanical Engineers (ASME)
- Institute of Electrical and Electronics Engineers (IEEE)
- Morgan & Claypool Publishers
- SPIE: International Society for Optical Engineering
- Thomson Scientific

**Megabyte Level (contributions of $500-$749)**
- American Society of Civil Engineers (ASCE)
- Elsevier
- Jane’s Information Group
- Linda Hall Library

**Kilobyte Level (contributions of $250-$499)**
- Wiley

Finally, I would like to thank the Engineering Division Advisory Board for their help and support during the meeting. In particular I would like to thank Amy Smith, Chair of the Aerospace Section, for all her help with the planning for Denver; Jackie Florimonte, our Vendor Relations Chair, for all her work communicating with our sponsors; and Kathy Nordhaus, Past-Chair of the Division, for all her advice and support during the planning process.

Congratulations to our Engineering Division award winners: Sara Davis, 2006/2007 Elsevier and Engineering Division Librarian of the Year; Donna Beck, 2007 IEEE/SLA Engineering Division Continuing Education Travel Stipend Award; and Michael Pepper, 2007 InSpec Travel Stipend Award.

Elections for the Engineering Division Advisory Board are coming up soon after you receive this issue, so look for information on the discussion list in the coming weeks. [Ed. Note - See the May SciTech News for candidate profiles] Dee Magnoni, Library Director, Olin College of Engineering, is running for Chair-Elect. The nominees for Treasurer are Elizabeth Grossman, Senior Librarian, QUALCOMM Inc., and Andy Shimp, Engineering and Applied Science Librarian, Yale University.

Sara Tompson informed me about the current issue of Science and Technology Libraries (v, 27, no.1/2 2006) which is on “Recruitment and Retention of Science and Technology Librarians.” This is an important topic and some of our Engineering Division colleagues have contributed to this special issue, so take a look at it if you get a chance. (stl.haworthpress.com)

Next year the Engineering Division will be celebrating its 40th anniversary. Chair-Elect Daureen Nesdill is already working on our programs for next year. If you have any ideas
for our fortieth, or for any other sessions, please contact Daureen at daureen.nesdill@library.utah.edu.

Once again, thanks to everyone who helped out with our programming in Denver. Thanks to everyone who attended our sessions and filled out our surveys so we can continue to offer excellent programs at the annual conference.

Have a good summer.

Bob Tolliver
diabob@umich.edu

********

Engineering Division New Members as of June 2007

Karl A. Bender
NASA-Dryden Flight Research Center
Edwards, CA

Marie T. Latino
Exxon Mobil
Annandale, NJ

Sandra Tucker
Texas A&M University
Engineering & Applied Sciences
College Station, TX

Scott W. Emerich
Thomas Publishing Company
New York, NY

Danielle Linden
Raytheon Company
El Segundo, CA

Karin Ward
Northrop Grumman Space Tech
Redondo, CA

Nancy Hill
Bureau of Reclamation
Denver, CO

Gretchen M. Peterson
Eaton Corporation
Milwaukee, WI

Gabrielle S. Wiersma
Lafayette, CO

Helen B. Josephine
Stanford University Libraries
Engineering Library
Stanford, CA

Ann Sides
4406 FM 2947
Greenville, TX

Terri Zimmer
R. V. Anderson Associates Ltd.

********

Inspec Travel Award Winner - Michael T. Peper – Winning Essay

While working at the Chemistry Library at the University of North Carolina, I have seen the power of the scientific databases firsthand. As print materials cede importance to online databases, librarians continue to play an important role as the conduit between the information resources of the library and the scientific community served by the library. Because use of online databases is still relatively new for many users, one of the most important functions of today’s librarian is to make all the library’s resources available and understandable to its user group.

The Chemistry Library has had great success promoting workshops for various databases taught by library staff. The library has been able to cultivate personal relationships with faculty and students of natural and health sciences and the library is a trusted partner at the university. If it is actively promoting a database and taking the time to provide personal training, it encourages user groups to add the database to their pool of information resources.

It is especially important to illustrate the advantages of a specific scholarly database over options such as Google or Wikipedia to students, who instinctually use these general searching methods for research. A good database is such a focused and rich information source that a librarian often needs only to demonstrate its power and utility to convince a user of its advantages.

Having a good database and creating a good training program is only half of struggle to encourage use of library resources. A librarian must attract users to the workshop or else they are of no use. A good librarian will be involved with the departments that they serve. This interaction will inform the marketing methods for workshop promotion. This can be done through personal contacts, posting to appropriate listservs, making brief presentations to classes or flyers, but each department communicates in a different manner and the librarian must understand the culture of communication in each organization and select the most effective methods.

Continued on page 36...
The IET Digital Library contains all IET journals, magazines, conference publications and seminar digests, encompassing a wide range of essential information in electrical and electronic engineering, telecommunications, computing, power, control, radar, circuits, materials, life sciences related research and IT.

IET Digital Library Publications (1994 onwards)
- Electronics letters
- Micro & Nano Letters
- IET Research Journals - 20 titles
- (formerly IEE Proceedings)
- Engineering & Technology
- IET Magazines - 7 titles
- IET Conference Publications
- IET Seminar Digests
- * including 5 new titles for 2007:
  - IET Computer Vision
  - IET Image Processing
  - IET Signal Processing
  - IET Synthetic Biology
  - IET Renewable Power Generation

New for 2007 -
IET Digital Library Archive (1872-1993)
The Institution of Engineering and Technology is digitising its journal archive from the start of IEE publications in 1872 up to 1993 adding a further 70,000 articles to the IET Digital Library. Also available online for the very first time is 'Electronics Letters' from 1965-1993.

IET Digital Library - Benefits and Features
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- All articles can freely browse the table of contents and abstracts for all publications
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- Advanced search capabilities: Search by Author, Title or Abstract words, Journal Name, Issue or Volume, Inspec indexing terms and Inspec classification codes and free indexing
- Table of contents email alert service
- COUNTER Compliant usage statistics
- Email article abstract links to colleagues
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SciTech News
August 2007

Published by Jefferson Digital Commons, 2007
Generally, good channels of communication facilitate promotion of appropriate databases to any user group. If users may contact the librarian in-person, via Instant Messenger, chat services, email, phone, presence within labs, etc., the opportunity for promotion will increase. Within any of these reference contexts, a librarian should take advantage of their time with the user to display and explain the features so that they have the capacity to use the database in the future.

If a user becomes aware of and is comfortable with a database, its use will increase and the user will expand the resources at his or her disposal. Finally, within an academic setting, librarians should use their influence with faculty to help develop curricula that includes library instruction or assignments that require library and database use. Once students observe how these resources support their work, they will be more likely to continue to use them to improve their research.

Database producers also have their role to play in increasing the use of their products. The first is to create effective training programs and materials. These training materials can take various forms. The first is for representatives from the database producers to come personally to the users and display the features and advantages of the resource. Their strength is as an expert for the particular database and the ability to demonstrate all its relevant features.

In-house staff, however, has the strength of familiarity with the user group and its particular needs and being viewed as an objective and trusted information provider. Producers can still aid in-house staff by providing materials that can demonstrate the information niche and usability features of a given database so that the librarian can more fully explain its utility to its users.

In addition to training programs, producers should make the product itself easily navigable and inform the user through in-product help and services. Publishing search aids within the database’s interface, specifically aimed towards search and use of the different areas of the database help users to discover its full possibilities for themselves. Having responsive customer service available for librarians or users allows for immediate support for any problems. This effort can eliminate long-term lags in use which can permanently discourage use.

The elimination of the barriers to trial and adoption that frustrate users will increase the future use of that resource.

The use of a library’s resources is one of the most important criteria for evaluating the overall utility of the library to the organization. The promotion of the library as the source of satisfaction of the organization’s information needs increases the relevancy of the library to the organization. In turn, this emphasizes the communication channels between users and library making it responsive to the information needs of the institution.

Scientists’ or any worker’s ability to access information is critical to their professional success. Information databases are created to improve work effectiveness and their widespread use will certainly improve the productivity and success of any organization.†
Engineering Division at SLA2007

Left to Right, Back Row, Gale Harris, Susan Smith, Cheryl Hansen, Amy Smith, Bob Tolliver, Michael White. Front Row, Joan Dubis, Vani Inampudi, Daureen Nesdill, Kathy Nordhaus, Lee Pharis

Vendor and Award Sponsors at the Engineering Division Business Meeting and Luncheon. Left to right, Eric Pepper, SPIE, Colby Ellis and Ross Graber, Elsevier Engineering Information, Joan Dubis, Division Awards Chair, Enca Mobley, Inspec, Fran Staples, IEEE, and Janet Lerch, IEEE

Sara Davis receives the Elsevier Engineering Librarian of the Year award from Colby Ellis, Elsevier EL

Donna Beck receives the IEEE Continuing Education Stipend from Fran Staples, IEEE

SciTech News

August 2007

Published by Jefferson Digital Commons, 2007
Aerospace Section

Amy C. Smith, Chair

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

Denver! What a great venue for SLA 2007. Thank you so much to the Denver planning committee, SLA and the local Denver Chapter for making us so welcome. I hope you all had as much fun reconnecting with colleagues, session hopping, learning, schmoozing with vendors and partying as I did. So much fun, in fact, that I’m still trying to catch up on all my work.

The Aerospace Business Meeting and Breakfast was a great success. We had a total of 38 attendees – an excellent turnout. The Aerospace Section has increased its membership this past year from a total of 98 members in 2006 to 114 members in 2007. Thank you all for your recruitment efforts, and please continue.

During the Aerospace breakfast it was my great honor to present the George Mandel Memorial Award to Mary Crompton of Northrup Grumman. Breakfast attendees also had the pleasure of listening to Edna Paulson of NASA/CASI talk about her organization and briefly discuss the Aerospace Database. If you have more questions, please contact Edna at epaulson@sti.nasa.gov.

I would like to take this opportunity to reintroduce you to Kathryn Breninger, currently Aerospace Chair-Elect. Kathryn is a corporate librarian and information scientist at The Boeing Company. She manages Boeing’s CENTRAL Registry, a system designed for registering and discovering XML schemas, DTDs, XML namespaces, web services and other electronic assets that enable electronic interchange of information. Her work has focused on registry development and implementation for the past six years, as well as taxonomy development and management. Kathryn’s other areas of expertise cover information and content management, cataloging, registry development, and metadata. Her goals include using emerging technologies and information management theories and practices to increase efficiency in information discovery and retrieval.

Kathryn received her MLIS from the University of Washington. She is Chair of the Organization for the Advancement of Structured Information Standards (OASIS) ebXML Registry Technical Committee and is a member of the Special Libraries Association (SLA) and the American Society for Information Science and Technology (ASIS&T).

Also during the breakfast, Gale Harris of Lockheed Martin Aeronautics was nominated as the candidate for Aerospace Chair-elect. Gale graciously accepted and received a unanimous vote of the attendees. Gale will have the pleasure of programming for the SLA 2009 Centennial celebration in Washington, DC.

Gale earned her B.A., B.S., and M.L.S from Texas Woman’s University. Her early library experience included working at Bauder Fashion College, where she initiated their first library. Next she spent several years as Acquisitions Librarian at Texas Wesleyan University. For the last 20+ years she has been employed at Lockheed Martin Aeronautics Company, formerly General Dynamics, in the Company Research Library. She is Chief Librarian, and supports three locations of Aeronautics in three states. She is proud to be the third generation in her family to work at this facility. Gale has also served the Engineering Division since 2005 as the Government Relations Chair.

Those of you who could not attend the Aerospace Section session with speaker Tom Henricks, former astronaut and currently President...

Continued on page 40...
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SciTech News

August 2007
of McGraw-Hill's *Aviation Week and Space Technology*, missed out on a spectacular presentation. Tom flew four Space Shuttle missions and was the first person to log over 1000 hours in space. He shared video clips and still photos from his missions, describing what it was like to be an astronaut. Tom spoke of his passion for recruiting young people into the aerospace industry.

There are many people to thank for the success of the Aerospace Section events this year, I’ll start with Jackie Florimonte, Vendor Relations Chair of the Engineering Division, for her hard work and support. I would also sincerely like to thank our sponsors - AIAA, Linda Hall Library, Jane's, McGraw-Hill, SPIE and Thomson Scientific 

& Dialog - for their continued support of the Aerospace Section, Engineering Division and SLA. Without their generous contributions, we could not continue to offer quality programming for the annual conference.

Amy C. Smith
Amy_C_Smith@Raytheon.com

Amy Smith, AIAA Mandel Award Winner Mary Crompton (with the crown) and Dug Greevy, AIAA

Vendor and Award Sponsors at the Aerospace Section Business Meeting and Awards Breakfast. Left to right, Matt Donohue, Erin Henry, Janie Bridgeman, and Ben Tatterson from Janes, Dug Greevy from AIAA.
**Call for Nominations – George Mandel Memorial Award**

The Aerospace Section of the Engineering Division invites nominations from its membership for candidates for the 2008 George Mandel Award. The award, sponsored by AIAA and Dr. David Mandel, is given each year to the Aerospace Section member who meets one or more of the following qualifications:

1. A nominee must have been a current member in good standing of the Aerospace Section for at least a year.
2. Current members of the nominating committee are ineligible to be nominated.
3. Past recipients of the award are generally ineligible for nomination, except for momentous contributions.
4. Nomination or application of an Aerospace Section member (either a peer or oneself) should be based on at least one of the following criteria:
   a. Present a paper at the Special Libraries Association (SLA) annual conference; serve on the annual conference program planning committee; be a speaker or panel member (but not a moderator) of a program at the conference; or lead a continuing education segment at the conference.
   b. Become or be elected as chair of the Section, an officer of the Engineering Division, or a member of any of the boards or committees of the SLA, or have participated actively in or contributed significantly to Aerospace Section activities.
   c. Make significant contributions to the profession through place of employment or publications.
   d. Receive an award for outstanding service from his/her employer in the aerospace industry.

To nominate a peer, or yourself, for this award please send a brief justification to the Aerospace Section Chair-Elect 2008, Gale Harris by December 31, 2007. Questions can be sent to Gale. E-mail address (preferred) gale.harris@lmco.com or by U.S. mail to:

Gale Harris  
Lockheed Martin Aeronautics Company  
Company Research Library  
P.O. Box 748  
MS 2246  
Fort Worth, TX 76101

For more information about the Award, please see:  
http://units.sla.org/division/deng/Aerospace1.html
Science-Technology Division  Ann Koopman, Chair

What a wonderful conference we had in Denver! It was really an energizing experience, with excellent topical programs, fun networking receptions, lots of member activities to celebrate, and a humming exhibits hall. Even the weather cooperated. And the Science of Beer speaker was so good that the attendee evaluations were the most enthusiastic I have seen in all my years of programming. There turned out to be NO TRUTH TO THE RUMOR that Mary Frances and I would be carried up to the hall by firemen at the All Sciences Reception (at the Firefighters' Museum), though I have to confess to a certain disappointment when that turned out not to be the case.

Many thanks to the planners who made it possible (Michelle Wilde, Dale Riordan and Roger Beckman) and their committees. Of course, our vendor friends made it possible financially. Look for the honor roll of Sci-Tech sponsors in this issue; if any are vendors of yours, please tell them you noticed and that you appreciate their support of your Division.

If you were unable to attend this year's conference, this issue of SciTech News contains session reports on the Division's programming. A few of our sessions will be available on the conference CD from SLA, or posted on our Division website http://units.sla.org/division/dst/. You may also want to take a look at the conference-related posts on the SLA Blog (http://slablogger.typepad.com/sla_blog/).

Some committees and their chairs deserve special recognition.

- Janet Hughes and her Membership Committee arranged for some creative Divisional swag – Sci-Tech magnets ("Sci-Tech stick to us"); logo stickers for the badges; and combination key rings/tape measures/levels ("Sci-Tech helps you take your measure and keeps you on the level"). Yes, we had to practice saying the slogans with a straight face.

- Janet also managed the Sci-Tech portion of the newcomers' luncheon (shared with Chemistry and BIO), worked with the Student Relations Committee to draft a promotional poster for outreach in library schools, and identified our most experienced members for special certificates in appreciation of their tenure with Sci-Tech.

- Hilary Davis and the Student Relations Committee have resuscitated our mentoring program, recruiting and making matches between mentors and mentees.

- Sheila Rosenthal and her Awards Committee were able to select recipients for all 3 of our monetary awards. They also produced recognition certificates for our Impossible and Appreciation awards. Adding our special celebratory certificates for long-term members this year increased their workload, but everyone had a lot of fun with this. Richard Hulser and Wilda Newman were present to receive their certificates and share both some reflections on their years with Sci-Tech and some encouragement for the future.

- Anna Ren (the deserving recipient of our Impossible Award) and her Communications Committee prepared for the meeting by comparing practices of other divisions, so the board could make decisions about new ways of handling Division communications.

- Darra Ballance and the Nominating Committee recruited our candidates for 2008: Pamela Enrici for Chair and Christy Caldwell for Secretary. Their biographies are included in this issue of SciTech News, so you'll have a chance to "meet" them before the casting of ballots this fall.

- Charlene Stachnik and the Strategic Planning Committee reviewed our aging plan and conducted an open board session for general comment. Look for the completed revision of the plan in the November issue of SciTech News.

And, of course, Chair-Elect Christine Whitaker and her committee of program planners are already hard at work on Seattle plans. Since SLA is shaking up the way the conference is conducted, our Division is using the opportunity to try out some changes in the way we handle networking and programs.
Your Board was busy at this meeting. We agreed to participate in a joint survey with ALA's Science & Technology Section, and to do a survey of SciTech News subscribers about electronic publication preferences. We agreed to allow the Board the option of extending terms of committee chairs & members beyond 6 years on a case-by-case basis.

Communication was a hot topic at the Board meetings. It turns out that only about 25% of our listserv subscribers are actually paying members of the Division, and that only about 20% of Division members subscribe to it. Since we need a method of communicating with members effectively electronically, we agreed to move our listserv to be hosted by SLA, and to subscribe all of our members to the list (with an option to opt out, of course). Several other divisions have gone this route (BIO, for example). Once we see how that works out, we'll consider adding a blog.

The strategic planning session addressed our marketing and outreach efforts as we look for ways to build up the Division. Given the fact that our Division membership has declined by about 50% over the last dozen years, we need to focus a lot of energy on recruitment and retention. Janet and the Membership Committee will be spending some quality time with our outreach practices.

So look for some surveys soon – these are a real opportunity to let your leaders know what YOU want from YOUR Division. We genuinely want to know what you need and expect from Sci-Tech so the Division can respond.

See you in Seattle! ✪

Ann Koopman
Ann.Koopman@jefferson.edu

Sci-Tech Board Members at the Division Breakfast. Left to right, back row, Chuck Wenger, Nevenka Zdravkovska, Charlene Stachnik, Cheryl Hansen, Wei Wei, Christine Whitaker Front row, Susan Fingerman, Mary Frances Lembo, Catherine Lavallée-Welch, Janet Hughes, Ann Koopman, Anna Ren

**The Science-Technology Division Welcomes Our New Members**

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<td>Robin Howard</td>
<td>Ren Martin</td>
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<td>Gregor Carter</td>
<td>Drexel University</td>
<td>El Lago, TX</td>
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**SciTech News August 2007**

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2007 Sci-Tech Division Award Winners

On behalf of the Sci-Tech Division Awards Committee, I would like to announce our 2007 Sci-Tech Division Award Winners. The awards were distributed at the SLA Conference in Denver Colorado, during the Annual Business Meeting & Breakfast.

Bonnie Osif, Engineering Reference and Instruction Librarian at Pennsylvania State University, was the recipient of the 2007 Sci-Tech Achievement Award. Bonnie has been a member of the Science-Technology Division for many years, most recently serving with distinction in one of the most demanding positions, SciTech News (STN) Editor. In addition to her 6-year stint as STN Editor, for which she was recognized with the Impossible Award in 2004, she has contributed to the profession with numerous publications. Bonnie also recently won an award for her reference work Using the Engineering Literature. This “Best Reference Work Award” was presented by the Engineering Libraries Division of the American Society for Engineering Education. In a statement, it noted that the award-winning reference work, of which Bonnie is the editor, was chosen “from a very competitive pool.” Bonnie has a wonderful ability to write not only for her own professional colleagues, but for information consumers in other professions as well.

Lisa Johnston, a graduate student at the School of Library and Information Science of Indiana University and a member of the Sci-Tech Division of SLA, received the 2007 S. Kirk Cabeen Travel Stipend Award. Lisa holds a Bachelors of Science degree in Astronomy/Astrophysics from Indiana University and has 5+ years of experience in four science libraries, 3 years as a magazine editor and journalist. She has computing/programming skills in (X)HTML, CSS, XML and database experience in PHP, MS Access, MySQL. At the Chemistry Library in Bloomington, Indiana, Lisa was the recipient of the 2006-2007 Chemistry Library Graduate Fellowship and the Charles H. Davis Science Library Scholarship. Since 2006, she has assisted the head librarian with reference desk duties and special projects, and she teaches an introductory library course to undergraduate students. She also performs bibliographic instruction and information retrieval on the web.

Demisssew Tsigemelak Gebreyohannes, Science Librarian (Assistant Head), Addis Ababa University, Faculty of Science Library, Addis Ababa, Ethiopia, was the winner of the 2007 Bonnie Hilditch International Science-Technology and Engineering Divisions Librarian Award, which was co-sponsored by the SLA Engineering Division. Demisssew is dedicated to librarianship in biology, chemistry, computer science, earth science, mathematics, physics and statistics at Addis Ababa University. He is Assistant Head of the Science Library, as well as being responsible for electronic resources on science and science related fields that are provided through the PERI (Programme for Enhancement of Research Institute - UK)

Due to problems with his visa, Demisssew was unable to attend the SLA Annual Conference in Denver.

Sheila Rosenthal
Awards Committee Chair

Lisa Johnston (left), winner of the S. Kirk Cabeen Travel Stipend, with Sheila Rosenthal, Awards Committee Chair
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"Climbing to New Heights" with the Sci-Tech Division
by Lisa Johnston, Winner, 2007 S. Kirk Cabeen Travel Stipend Award
Presented at the 2007 SLA Denver Conference Sci-Tech Business Meeting

I've encountered several inspiring themes since joining the SLA in the last year. "Broadening our Horizons," "Make your future happen at SLA," and, of course, the theme to this year's conference and the topic of my essay, "Climbing to New Heights." But before I gear up to tackle my first route up to New Librarian Summit, I wanted to first take a moment, catch my breath, a little difficult in the thin, mile-high air, and discover what all these great euphemisms are really trying to say. In other words: What makes a division like Sci-Tech so valuable for climbing to those New Heights?

It appears that special libraries, like most libraries, face a difficult time. As I enter into the profession of library science I find that most of my graduate school readings address the same question: What does the future hold for libraries? As a newbie to the sport of Climbing to New Library Heights, I am a bit frightened, scared that the tether to help me and my new colleagues ascend may not be as strong as it used to be. Or worse, perhaps the view from the top is nothing but another mountain, another up-hill battle toward retaining the support of our institutions and adjusting to the changing climate of information sharing.

Fortunately for young librarians-to-be, we have professional organizations like the SLA to scout out the route ahead and help prepare us for the challenges that libraries face. But more importantly, we have a division of people, our colleagues and friends, who navigate common challenges and share their unique solutions. Technologies change and scientific discovery advances, but groups like the Sci-Tech Division prepare us with the best tools and knowledge to keep us on top of the field and ready to face the next difficult climb.

Sci-Tech librarians blog the latest advancements and RSS feed their newest acquisitions, but they also retain close professional ties which built a community of supporters that the new and inexperienced can turn to. In the Sci-Tech Division, answers are but an email away because our librarians have devoted their careers to not only organizing the latest information sources but also expanding their own scientific and technological knowledge, to become a better librarian, and to make our libraries better information centers.

To sit at the edge of new sci-tech advancements is exactly why I aspire to become a librarian. And this year’s theme, "Climbing to New Heights," might also speak of learning new skills and taking professional development courses. But for those in the science and technology fields, these words mean more than just another slogan on a booklet, they present a challenging and exciting information mountain to climb. Staying on top of this ever-growing mound of sci-tech information could be the most beneficial and rewarding expedition of all. And it’s comforting to know, as I find my first foothold in the profession, that there is an entire group of people already at the top who are more than happy to lead a helping hand along the way. Thank you! ✤

Left to right, First time conference attendees and Sci-Tech members Meredith Saba, Lisa Johnston, and Suzanne Switzer

August 2007

http://jdc.jefferson.edu/scitechnews/vol61/iss3/14
Sci-Tech Division Call for Mentors/Mentees

The Student Relations Committee of the Sci-Tech Division is reviving the Mentoring Program and is looking for members to serve as mentors as well as those who are seeking a mentor. We already have 5 mentorships ongoing between Sci-Tech mentors and both students and new career professionals. As we kick-start this program back into existence, we'd like to hear from as many of you as possible who are interested in being involved.

The Mentoring Program matches students, new members or new career professionals with an experienced member of the profession in their area of interest. The mentor is a contact person who can act as a guide and field questions about job searching, preparation for the profession, making one’s way into SLA, and career development. Time involved is minimal - typically, the mentor will contact the mentee several times during the year just to touch base and will be available for questions during the year.

Topics may be diverse and may include specifics about subject-based collections or reference service, job search and interview tips, outreach advice, guidance with professional development, SLA involvement, ideas for jump-starting research projects, how to turn a research project into a poster or publication, etc.

Join the Sci-Tech Student Relations Committee group in Facebook (http://ncst.facebook.com/group.php?gid=2406631102) to talk about science & technology librarianship, mentoring, and supporting the "Next Generation" of the library community.

If you are interested in being a mentor or are seeking a mentor, please contact:
Hilary Davis
Tel: 919.513.0654 | Fax: 919.513.1108
hilary_davis@ncsu.edu

Honor roll of Sci Tech Sponsors

We are grateful to all of our information partners for their financial support in bringing you our ambitious program at the SLA Annual Conference in Denver.

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SciTech News August 2007
2007 Science-Technology Division Board Candidates

Pam Enrici – Candidate for Chair-Elect
Engineering Librarian, University of Minnesota Duluth Library
penrici@d.umn.edu

1. What role does the SLA/Sci-Tech Division have in the career of a new librarian in a sci-tech library?

I've been the Engineering Librarian at the University of Minnesota Duluth Library (we're on the shores of Lake Superior) for over twenty years. In the past few years I've added responsibilities for music (for me it's a fit!) and for medicine and pharmacy as well as overseeing our library instruction program. Before coming to Duluth, I was an engineering librarian at the University of Florida and before that I was the cataloger for science serials and music at the San Jose State University.

I became active in SLA when I was at San Jose State. I started going to national meetings when I was in Florida and over the years I have done committee work, been a mentor, and evaluated a student for an SLA scholarship. I received the 1999 Sci-Tech Division Impossible Award for planning the Division's 75th anniversary program at the annual SLA meeting in Minneapolis.

I believe the role of the Sci-Tech Division in the career of a new librarian in a sci-tech library is to help that librarian understand how their users think, what they expect from us, get the subject information they need and find ways to market their library. Networking and mentoring are the most important services we can offer to new librarians as well as seasoned ones. The librarian should know that they can ask questions of other librarians, without prejudice.

2. What is the most critical issue facing SLA and/or the Sci-Tech Division? What would you do about it?

Dwindling membership is the most critical issue facing the Sci-Tech Division. The obvious answer to this is to recruit more members but the question behind that is how. The Sci-Tech Board is already looking at our mission statement and how to market our Division more effectively. These measures, are, I think, the best way to start increasing our membership.

3. Let's turn the typical question around-what has been the most significant contribution that SLA has made to you?

The most significant contribution that SLA has made to my career is the opportunity to learn - both on subject information and vendor information. Without this information I would have been left far behind in my subject areas and not been an effective advocate for those subject areas to my library administration.

4. What is the most important challenge that librarians will face in the next ten years?

There are many challenges coming up in the next ten years but I think the most important one that librarians will face is how to communicate with our users. With the advent of Web 2.0, and whatever new technologies that may come along, our users are interacting with one another in a variety of new and old ways. There will be additional challenges for those librarians that work behind strong firewalls or in high security environments. We need to be able to anticipate which direction(s) our users will go and make our services available to them in the way the users feel most comfortable.

Christy Caldwell – Candidate for Secretary

B.S. Biological Sciences, 1995
MLIS, San Jose State University, 2000
Interim Head, S&E Library, U.C. Santa Cruz, 2007-present
EpiCenter Director, ETR & Associates, 2000-2001

1. What role does the SLA/Sci-Tech Division have in the career of a new librarian in a sci-tech library?

Networking with colleagues is invaluable for a new librarian. Most of us in libraries have unique assignments within our institutions. Being able to connect with other libraries with similar assignments is one of the most valuable aspects of belonging to SLA/Sci-Tech.

2. What is the most critical issue facing SLA and/or the Sci-Tech Division? What would you do about it?

Declining membership is a critical issue, which
is a symptom of corporate down-sizing. At one of the annual conference sessions, a panelist mentioned how SLA needs to begin marketing to the non-librarian. How keeping competitive isn’t settling for whatever information everyone else has. How information retrieval and information management isn’t “free”. This is also useful advice for academic libraries, whose science departments are competing for grants and for people. We can help them, but only if we can let them know in a way they would understand.

3. Let’s turn the typical question around-what has been the most significant contribution that SLA has made to you? The ability to meet other colleagues from around the country and discuss the wonderful work they are doing. It’s inspiring.

4. What is the most important challenge that librarians will face in the next ten years? Ensuring that the people who hold the purse strings perceive us as essential.

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Roger Beckman receives his Appreciation Award from Ann Koopman for his leadership of the contributed paper series.

Mary Frances Lembo (left) with Impossible Award winner Anna Ren

Marty Jamison, retiring SciTech News Advertising Manager, receives his Appreciation Award from Susan Fingerman

Sponsors at the Sci-Tech Division Business Meeting and Breakfast Left to right, George Zajdel, ASTM, Diane Hoffman, ProQuest, Kurt Griesmann, Nature Publishing Group, Lisa Vaccaro, Nature Publishing Group, Bob Brand, Knovel

Tamika Barnes McCullough (left) receives her Appreciation Award as Membership Chair from Ann Koopman
Web Reviews

This issue we take a look at a selection of open access sci-tech electronic journal sites.

General

**DOAJ - Directory of Open Access Journals**
http://www.doaj.org/
The DOAJ, maintained by the Lund University Libraries Head Office, links to over 2700 journals of which more than 800 can be searched down to the article level. Subject coverage includes: chemistry, mathematics and statistics, physics and astronomy, science general, earth and environmental, technology and engineering and more. Rigorous selection criteria include titles that are relevant, peer reviewed and available for free in full text. Search this extensive directory by journal, article, or browse by subject.

**SciTech News, Vol. 61 [2007], Iss. 3, Art. 14**

**E-Journals.Org**
www.e-journals.org/
A part of The WWW Virtual Library (http://vlib.org/), this site provides links to directories of free electronic journals and to significant journal titles. Sci-tech fields covered include: astronomy & astrophysics, chemistry, electrical & electronics engineering, and top 500 scientific journals.

**HighWire Press**
http://highwire.stanford.edu/
Billed as the "Earth's Largest Free Full-Text

Science Archives", Stanford University's HighWire Press provides a directory to over 1050 journals and links to more than 4.3 million full text articles. Search by keyword, author, citation and dates. Browse by journal name, subject, and publisher and other lists like "Journals with free full-text articles". Journal entries indicate whether the title is available for free, free for a range of years, or free for a trial period. Article entries include an image of the journal, citation, brief KWIC, links to the abstract, full text or PDF. If the article is not available for free the cost is posted.

Internet Public Library - Online Journals
http://www.ipl.org/div/serials/
With hundreds of links to free full text electronic journals, the Internet Public Library's magazine directory can be searched or browsed by subject. Drill down through the Science and Technology section to see subheadings ranging from Astronomy to Transportation. Search results can also be viewed in the Grokker format.

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August 2007

SciTech News

http://jdc.jefferson.edu/scitechnews/vol61/iss3/14
Intute: Science, Engineering and Technology E-Journals Search Engine
http://www.intute.ac.uk/sciences/ejournals.html
The University of Manchester and Heriot-Watt University maintain this keyword only search engine to 250 full-text computing, mathematics and engineering journals. Search result entries include a citation, short abstract, URL to the cited data and a link to Intute’s internet catalog resource record. Unfortunately an A-Z listing of the 250 journal titles is not provided.

Chemistry
Chemistry Central Journal
http://journal.chemistrycentral.com/
A broad coverage of chemistry research is featured in this open access, peer-reviewed, online journal published by BioMed Central. Divided into 55 subject sections, readers can post comments, access additional files, link to other articles by authors, and view most accessed articles. Also provided are browse, advanced, boolean and stored search options.

ABC Chemistry
http://www.abc.chemistry.bsu.by/current/fulltext.htm
Alexander Ragoisha of the Belarusian State University maintains the ABC Chemistry directory to open access chemistry or chemistry related journals. The directory is divided in two parts: Part A - Permanently available chemical journals and Part B - Trials and temporarily available chemical journals. Arranged in an A-Z listing, each entry includes a link to the journal, years available to view and whether the title is available in PDF or HTML format. This site also includes a section for new entries, journals in Russian and educational titles.

Physics
Journal of Physics: Conference Series
http://www.iop.org/EJ/conf
The Journal of Physics: Conference Series, published by the Institute of Physics, is an open access journal for conference proceedings. International proceedings, not limited to physics, are published within 3 months of being accepted. Full search options, linked references, email alerts, RSS feeds, archives back to 2004, and a link to forthcoming conferences approved for publication are offered.

New Journal of Physics (NJP)
http://www.iop.org/EJ/njp
The Institute of Physics and Deutsche Physikalische Gesellschaft publish this monthly open access peer reviewed journal. Covering all areas of physics, articles must include work that is original and significant. Only available electronically, all issues 1998-present, can be viewed and searched by subject category, author, title/abstract, keyword and affiliation. Focus issues and links to multimedia enhancements are offered.

Optics Express
http://www.opticsexpress.org/Issue.cfm
Published by the Optical Society of America, Optics Express, is a bi-weekly web only journal available for free full text viewing. Browse and search ten years of optical science and technology articles. Sign up for RSS feeds and TOC alerts. An "E-first" feature displays upcoming papers, allowing for quick publication of the latest research.
New Science and Technology Journals
Earl Mounts


ACS Nano includes articles on the synthesis, assembly, characterization, theory, and simulation of nanostructures (nanomaterials and assembles, nanodevices, and self-assembled structures), nanobiotechnology, nanofabrication, methods and tools for nanoscience and nanotechnology, and self- and directed-assembly. In addition to full-length research articles, invited perspectives and commentaries written by leading experts help define the current state of the science, what type of new research is needed, and where the field is heading.


Animal seeks to attract the best research in animal biology and animal systems from across the spectrum of the agricultural, biomedical, and environmental sciences. It is the central element in a collaboration between the British Society of Animal Science (BSAS), Institut National de la Recherche Agronomique (INRA) and the European Federation for Animal Science (EAAP) and represents a merging of three scientific journals: Animal Science; Animal Research; Reproduction, Nutrition, Development. Animal publishes original cutting-edge research, 'hot' topics and horizon-scanning reviews on animal-related aspects of the life sciences at the molecular, cellular, organ, whole animal and production system levels. The main subject areas include: animal breeding and genetics; nutrition; physiology and functional biology of systems; behavior, health and welfare; livestock farming systems and environmental impact; product quality, and human health and well-being.


APT Aluminium International is a biannual review specifically designed to promote the latest industry developments, applied processes and product technology to decision making executives in the international aluminum industry. Every issue includes technical presentations and significant developments in smelting, molten metal processing, forming processes - rolling, casting, extrusion, finishing processes, product technology and features on new products. Its companion publication, APT Aluminium News, is published four times a year.


Beeradvocate is the only monthly beer magazine dedicated to advocating beer through a unique exploration of beer style, culture, and respect.


Carbon Control News provides exclusive, in-depth coverage of ongoing efforts to develop mandatory controls of greenhouse gases. Both proponents and opponents of such controls agree that regulations are inevitable, and that every sector of the U.S. economy will be affected. Carbon Control News has joined the Inside EPA family to serve the burgeoning need for news about the coming debate over climate change controls.

Defense Tech Briefs is the evolution of the Air Force’s Technology Horizons magazine and reports engineering innovations not only from the Air Force Research Lab, but also from the Army, Navy, Missile Defense Agency (MDA), DARPA, and defense contractors. Subjects span electronic systems, photonics, software, testing, and manufacturing.

http://www.ecotextile.com/WhatsIsp.php

Ecotextile News is dedicated to the production of sustainable and ethical textiles and apparel. The journal targets the textiles, apparel and footwear supply chain and allows forward-thinking fibre growers, yarn spinners, textile manufacturers, nonwovens companies, garment suppliers and apparel retail executives to keep their fingers on the pulse of sustainability and discover how it will influence their businesses going forward. Sustainable manufacturing is not just a short-term trend. Heavyweight legislation in Europe, the USA and increasingly in the Far East, will ensure that manufacturers take the issue of responsible and ethical production ever more seriously.


eEarth (eE) uses an open access interactive format to publish short, topical papers in all disciplines of the earth sciences. Its scope ranges from processes in the deep interior of the earth and the terrestrial planets; magmatism, metamorphism and volcanism; the creation, deformation and destruction of lithosphere; fluids, fluxes, and reservoirs of mineral and energy resources; surface processes such as erosion, transport, deposition of sediments and resulting geomorphology; and the response of the earth to climate change. The length of papers is limited to four journal pages.

http://www.erlbaum.com/journals_new.htm

The International Journal of Strategic Communication (IJSC) aims at fostering understanding of the processes, prospects, and challenges of communication for organizations in a changing global society. Case studies and other research centered in a particular nation or area of the world are invited, but should address implications for other organizations, including (but not limited to) organizations that operate across nations or regions. This journal provides a forum for multidisciplinary research on the role of communication, broadly defined, in the management of organizations. The Journal places a premium on provocative and insightful ideas from around the world. All methodological approaches are welcomed, including commentaries. Qualitative or quantitative research can draw on management science, behavioral science, communication science, other social sciences, or the arts and humanities.

http://www.haworthpress.com

As the digital world for libraries quickly evolves, librarians need a dependable resource to find the latest and best information on how to fulfill their diverse roles and responsibilities within the virtual world. The Journal of Web Librarianship provides a forum for exploring the multidimensional applications of the Web in the library setting in the twenty-first century. This quarterly journal presents peer-reviewed theoretical, research, and practical articles from leading experts related to Web librarianship in its many facets. Topics focus specifically on the issues that relate to the Web, including the integration of the Web into various aspects of library functions, Web page design, search engines, information architecture, and future aspects of Web librarianship.

http://www.manitobabee.org/newsletter.html

The mission of the Manitoba Beekeepers’ Association is to represent and promote the welfare of the entire Manitoba honeybee industry and to promote a better understanding of beekeeping and honey to the general public. Articles in the latest issue of The Manitoba Beekeeper include "Shaking Bees, a

**State of the Universe.** Springer-Praxis. v.1, 2007. Annual. $30.00. [http://www.praxis-publishing.co.uk/sotu.htm](http://www.praxis-publishing.co.uk/sotu.htm)

The aim of *State of the Universe* is to provide an annual astronomy update suitable for the popular science level reader. The annual will cover all major astronomical news on topics beyond the solar system, and place them in the context of the longer term goals of astronomers and astrophysicists around the world. The aim is to capture the excitement and vibrancy of modern astronomical research. Regular features, which will appear every year, will include an annual chronological list of the latest discoveries announced during the previous 12 months; a review of the major new stories of the year, together with the people behind them; a list of launches of major astronomical observatories and satellites during the past year; a list of planned future astronomical satellites; basic data on all astronomical observatories currently in operation, with web links for the reader to dig deeper; a list of anniversaries and landmarks; and the latest from the Bad Astronomy website by Phil Plait.

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**SLA Click U Course of the Month**

These free courses are available to all members. For more information, go to [http://sla.learn.com/learncenter.asp?page=207&mode=preview](http://sla.learn.com/learncenter.asp?page=207&mode=preview)

**Upcoming courses:**

- Active Listening: 15 July - 14 August 2007
- Develop a Strategic Plan: 15 August - 14 September 2007
- Building Strong Customer Relationships: 15 October - 14 November 2007
- Writing for Publication: 15 November - 14 December 2007
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.

**PSYCHOLOGY**


This update of the 1991 and 1984 editions is designed to be useful to graduate students and researchers in fields from biology and business to school psychology and statistics. Psychologists Rosenthal (U. of California, Riverside) and Rosnow (emeritus, Temple U., Philadelphia) present deeper discussions of methodological and philosophical issues. While their approach remains intuitive and concrete rather than strictly mathematical, they integrate basic concepts with recommendations by a 1999 task force (e.g., a greater emphasis on reporting and interpreting confidence intervals, a method to make inferences from non-random data). The text includes hypothetical rather than real-world data examples to facilitate conceptual understanding, a summary list of chapter equations, statistical tables, and a glossary.

**GEOGRAPHY, HYDROLOGY, ENVIRONMENT**


This collection of articles explains the theory and practices behind this popular remote sensing technique. Contributors describe tutorials, specifically hyperspectral imaging systems and information-processed matching filters for hyperspectral target detection and classification, theory, including an optical real-time adaptive spectral identification system, stochastic mixture modeling, unmixing hyperspectral data through independent and dependent component analysis, maximum volume transform for end member spectra determination, hyperspectral data representation, optimal and selection and utility evaluation for spectral systems, feature reduction for classification purposes, and semi-supervised support vector machines for classification of hyperspectral remote sensing devices. Applications include decision fusion of hyperspectral classification, morphological hyperspectral image classifications in a parallel processing perspective and three-dimensional wavelet-based compression of hyperspectral imagery.


From "adaptation and evolution" to "zooplankton and krill," the 495 alphabetical entries in this encyclopedia assembled by Riffenburgh (Scott Polar Research Institute, U. of Cambridge, UK) provide a cross-disciplinary summary of the field of knowledge concerning the Antarctic. They range from short 500-word factual entries to longer 6,000-word thematic and analytical discussions. Thematically, the entries cover atmosphere and climate; birds; conservation and human impact; geography; geology; glaciology; history, exploration, and history of science; marine biology; marine mammals; oceanography; research programs, international organizations; and the Atlantic Treaty System; sea ice; solar-terrestrial physics and astronomy; technology and transport; and terrestrial biology and limnology. Each entry includes a list of references and further reading. Also included are 16 maps; an analytical index; and appendices providing the texts of the Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty, a list of treaty signatories, a chronology of Antarctic exploration, a list of Antarctic academic journals, a list of scientific research stations in the region as of the austral winter of 2005, and the SCAR Code of Conduct for Use of Animals for Scientific Purposes in Antarctica.
PRODUCTION, INDUSTRY, COMMERCE

HD9696 2006-016793 978-0-8155-1536-4
China's electronics industry; the definitive
guide for companies and policy makers with
interest in China.

Pecht, Michael.

$345.00 (pa)

Electronics is now China's largest industry and is
growing at a rate of nearly 20 percent annually.
Pecht (founder and director, Center for Advanced
Life Cycle Engineering, U. of Maryland) describes
the technologies, manufacturing, capabilities,
and infrastructure that have made this possible.
Chapters cover economic conditions and policy;
China's science and technology organizational
structure, infrastructure, and development
programs; and the historical development
of the electronics industry. He then provides
reviews of current conditions among the
various electronics sectors: semiconductors;
electronic manufacturing service industries;
connectors, cable assemblies, and backplanes;
computers; telecommunications; software; and
select others including avionics and military
electronics. A final chapter addresses pros
and cons of conducting business in China.

HV551 2006-929179 1-58603-631-9
Scientific networking and the global health
network supercourse.

Title main entry. Ed. by Faina Linkov and Ronald LaPorte.
(NATO Security through science series; D: Information
and Communication Security; v.5)

IOS Press, ©2006 207 p. $144.00

The Global Health Network Supercourse, supported by NASA and the National Institutes of Health, created a network of some 600 scientists in the former Soviet Union region. As part of the Supercourse project, the directors of an August 2005 NATO Advanced Research Workshop held in Lithuania networked 31,000 public health professionals in 151 countries researching in the area of natural and man-made disasters. Papers from the workshop are presented, offering insight on improving existing global health networks and finding new cost-effective information distribution channels. They demonstrate how to use Internet-based information distribution channels to share disaster preparedness and mitigation research information using a free library of 2,500 low-bandwidth Supercourse lectures. Research and research models from NATO countries are also presented, on issues such as biosecurity, the impact of environmental factors on psychiatric disorders, radionuclide contamination of the

marine environment, and seismic risk reduction. The editors are affiliated with the University of Pittsburgh. There is no subject index.

KF8961 2006-031576 978-0-8493-0561-0
Computer forensics; evidence, collection, and
management.

Newman, Robert C.

Auerbach Publications, ©2007 404 p. $79.95

This work by Newman (information systems,
Georgia Southern U.) is intended to give
computer users in the business, government,
and education communities a basic technical
competency in computer forensics, which
essentially involves the identification, retrieval,
and protection of electronic evidence found
on computers for litigation and prosecution.
Topics addressed in the first section include
investigation basics; policies, standards, laws,
and legal processes; types of crimes and
incidents involved in computer forensics; the
computing environment and types of evidence;
and investigative tools, technical training,
and forensic equipment. The second half of
the text focuses on evidence collection and
management and includes chapters on managing
the crime/incident scene, investigating computer
center incidents, computer systems disks and
file structures, the computer and electronic
forensic lab, extracting computer and electronic
evidence, e-mail and Internet investigations,
mobile phone and PDA investigations, and court
presentations and testimony. Where the topics
are nation-specific (laws, regulations, and such),
the material is geared towards a US readership.
Distributed in the US by Taylor & Francis.

SCIENCE (GENERAL)

Q183 978-0-471-38734-3
Excel for scientists and engineers; numerical
methods.

Billo, E. Joseph.

Wiley-Interscience, ©2007 454 p. $50.00

(pa)

Billo, a former professor of chemistry at Boston
College, describes how to use Microsoft Excel for
calculations in chemical, biochemical, physical,
engineering, biological, and medicinal problems.
He covers using worksheets and formulas, using
the tools in Excel, and writing programs using
Visual Basic for Applications (VBA) programming
language (introduced in the first two chapters).
No background in programming is needed—so
the text can be used by undergraduates and
graduate students—and mathematical theory
is kept to a minimum. The CD-ROM contains
spreadsheets, charts, VBA code for examples, solutions to problems, and a workbook.

Q185 2006-035871 0-13-145835-3
The labVIEW style book.
Blume, Peter A.
Prentice Hall, ©2007 372 p. $89.00
LabVIEW (Laboratory Virtual Instruments Engineering Workbench) is a platform and development environment or the visual programming language "G" from National Instruments used for data acquisition, instrument control, and industrial automation. Here, Blume (who wrote the LabVIEW development guidelines for Bloomy Controls Inc., of which he is also founder and president) presents a reference manual covering recommended LabVIEW development practices. He presents style rules intended to optimize the ease of use, efficiency, readability, maintainability, robustness, simplicity, and performance of applications. Explanations of each rule include examples and illustrations. The text assumes a working knowledge of fundamental LabVIEW principles and terminology and experience developing and deploying applications.

MATH, COMPUTERS

QA76.5 2006-938348 978-0-7695-2770-3
Computing; theory and applications; proceedings.
Computer Society Press, ©2007 740 p. $270.00 (pa)
Held in Kolkata, India, in March 2007, the International Conference on Computing: Theory and Applications was organized by the Computer and Communication Sciences Division of the Indian Statistical Institute on the occasion of the Institute's platinum jubilee. According to the conference organizers, the primary goal was to "present the state-of-the-art scientific results, encourage academic and industrial interaction, and promote collaborative research and developmental activities in computing-involving scientists, engineers, professionals, researchers, and students from India and abroad." The conference covered algorithms and architectures in sessions on parallel and distributed computing, mobile and wireless networks, VLSI design, high performance computing, architectures, and algorithms. It also discussed pattern recognition and soft computing in sessions devoted to artificial neural networks, fuzzy sets, support vector machines and clustering, data mining and soft computing, bio informatics, classification and prediction, and application in image analysis. Document, language, and signal processing were discussed in another track of sessions, and the final track explored image processing, computer vision, and graphics, with individual sessions dedicated to graphics, content based image retrieval, image processing, motion and three-dimensional vision, watermarking, biometrics, and remote sensing and image analysis. Including the keynote speech on oncological image analysis and the plenary and invited lectures accompanying each of the four tracks, 126 contributions are presented in all.

QA76.58 1-60021-202-6
Advanced parallel and distributed computing; evaluation, improvement and practice.
Dai, Yuan-Shun et al. (Distributed, cluster and grid computing)
Nova Science Publishers, ©2007 321 p. $89.00
This work showcases novel tools and approaches for realizing parallel and distributed systems. Several early chapters review recent technologies, various models useful in the study of parallel and distributed systems, research on SGC, and work on survivability. Later chapters cover Grid environments, models for creating Grid applications, and stochastic models for evaluating proactive fault management in operational software systems. Other subjects examined include autonomic management of space missions, the next-generation wireless Internet, and Grid-email. Dai is affiliated with the Department of Computer and Information Science at Indiana University, Purdue University.

QA76.73 2007-921515 978-0-7695-2769-7
Model-based methodologies for pervasive and embedded software; proceedings.
Computer Society Press, ©2007 137 p. $182.00 (pa)
This proceedings volume contains 12 papers from the 4th International Workshop on Model-Based Methodologies for Pervasive and Embedded Software (MOMES 2007). It opens with a discussion of the applicability scope of model driven engineering (MDE). Other topics include (for example) a generic execution framework for models of computation, and the design of a unified process for embedded systems. The volume lacks a subject index.
New trends in software methodologies, tools and techniques; proceedings.
International Conference on New Trends in Software Methodologies, Tools and Techniques (5th: 2006: Quebec, Canada) Ed. by Hamido Fujita. (Frontiers in artificial intelligence and applications; v.147)
*IOS Press*, ©2006 475 p. $138.00
In one of the world’s fastest-growing technologies, researchers and developers are coming up with more ideas than they can shake a stick at, if that is their idea of a good time. These proceedings of the October 2006 conference include plenty of those ideas, as contributors present their work in software specification and comprehension models, software development and related methodologies, network security and applications, software security and program bugs, validation and diagnosis, practical artifacts, program conversion and related software validation, intelligent software design and maintenance, and end user requirements engineering and testing. Specific papers include new theory, cryptography, system development lifecycle support issues and a common criteria approach to J2ME CLDC security requirements.

Game writing handbook.
Chandler, Rafael.
Chandler draws from seven years of game writing experience, as well as interviews with others in the industry, to create this guide on creating, developing, and organizing video game storylines. Fourteen chapters discuss the differences between game and screen writing and teach readers to develop concept, context, and characters; structure the narrative, understand the technical parameters and technical writing demands, work with cinematics; integrate dialogue; direct voice actors; and get a job in the field. Sample spreadsheets, screenplays, and fictional projects support the text.

Six Sigma software development, 2d ed.
Tayntor, Christine B.
*Auerbach Publications*, ©2007 458 p. $64.95 (pa)
This guide describes the application of Six Sigma concepts to various aspects of the system development process, including the waterfall model, legacy systems, and recent innovations like rapid application development, packaged software implementation, and outsourcing. A case study details the applications of Six Sigma to the system development process, quality assurance, and the Software Engineering Institute Capability Maturity Model. The elimination of defects and improved customer satisfaction are stressed. The second edition adds six chapters on Design for Six Sigma. Distributed by Taylor & Francis.

Availability, reliability and security; proceedings.
International Conference on Availability, Reliability and Security (2007: Vienna, Austria)
*Computer Society Press*, ©2007 1259 p. $308.00 (pa)
The 212 papers of this enormous volume of proceedings were first presented at the April 2007 Second International Conference on Availability, Reliability, and Security, held at the Vienna U. of Technology, in Vienna, Austria. The papers are organized by their session or workshop, with major topics that include trust model and management, software security, security models, access control, authentication, and fault-tolerant distributed computing. The papers present current research and methods. Authored by a fully international group of contributors, each paper includes an abstract and list of index terms, and list of references. Author indexed only.

Cluster computing and the grid; proceedings.
IEEE International Symposium on Cluster Computing and the Grid (7th: 2007: Rio De Janeiro, Brazil)
*Computer Society Press*, ©2007 907 p. $253.00 (pa)
This dense volume contains the 72 papers selected for the May 2007 symposium as well as the 38 papers presented during the seven workshops. The symposium papers explore distributed storage, collaboration, scheduling, cluster technologies, replica management, workload modeling, communication infrastructure, and reliability. Topics include a semantic framework for integrated asset management in smart oilfields, processing mesoscale climatology in a grid environment, profiling computation jobs, a distributed query execution engine, and standardization of an API for distributed resource management systems. The workshops focus on agent-based grid computing, biomedical computations, peer-to-peer computing, programming models, and context-awareness in grid computing. No subject index is provided.
et al.: Full Issue: vol. 61, no. 3

QA76.9 2006-940978 978-0-7695-2811-3
Informatics research for development of knowledge society infrastructure; proceedings.
Int'l Conference on Informatics Research for Development of Knowledge Society... (2007: Kyoto, Japan) Ed. by Masao Fukushima et al.
Computer Society Press, ©2007 193 p. $185.00

The Second International Conference on Informatics Research for Development of Knowledge Society Infrastructure (ICKS'07) was held in Kyoto, Japan on January 29, 2007. Attendees included those who had just completed a five-year informatics research project at Kyoto U. as well as several invited guest speakers. This proceedings volume contains 23 papers discussing such topics as modeling the dynamic structure of human communication; stochastic and robust approaches to optimization problems under uncertainty; and efficient query evaluation in XML information subscription systems. The volume lacks a subject index.

QA76.9 978-1-59693-113-8
Role-based access control.
Ferraiolo, David F. et al. (Artech House computer security series)
Artech House, ©2007 381 p. $89.00

Role-based access control (RBAC) helps simplify the security administration of large networked applications by using roles, hierarchies, and constraints to organize access privileges. Bringing together the research literature on RBAC into one volume, the authors (all of the Computer Security Division at the National Institute of Standards and Technology) explain the technology, describe its cost advantages, and discuss issues related to implementation and migration from conventional access control methods. For the second edition they have added chapters on privacy and regulatory issues and on role engineering. Intending the treatment to be useful to security professionals, technology managers, and users in industry and government; software developers for database systems, enterprise management, security, and cryptographic products; and computer science and information technology students and instructors, they have relegated mathematical descriptions of RBAC properties to sidebars and the text is understandable without reference to them.

QA247 2006-052720 978-1-58488-851-2
Simple extensions with the minimum degree relations of integral domains.
Oda, Susumu and Ken-ichi Yoshida. (Lecture notes in pure and applied mathematics)
Chapman & Hall/CRC, ©2007 277 p. $169.95

This comprehensive treatment of an understudied aspect of commutative algebra describes various simple extensions and their properties, in particular properties of simple ring extensions of Noetherian integral domains. Oda (mathematics, Kochi U.) and Yoshida (mathematics, Okayama U. of Science) explore anti-integral, super-primitive and ultra-primitive extensions along with other subtopics such as flatness, integrality and “unramifiedness.” They focus on simple algebraic extensions and show that simple extensions of a Noetherian domain \( R \) can be complicated even if they are bi-rationally equal to \( R \). They also provide many recent results and facts so

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readers can keep up with related research. This is directed at graduate students and researchers.

QA274 2006-045837 1-58488-659-5
Analytical methods for Markov semigroups.
Lorenzi, Luca and Marcello Bertoldi. (Monographs and textbooks in pure and applied mathematics; 283) Chapman & Hall/CRC, ©2007 526 p. $99.95
This is the first full-length look at Markov semigroups both in spaces of bounded and continuous functions as well as in Lp spaces relevant to the invariant measure of the semigroup. With plenty of examples of techniques and results, this also offers and updates a review of the literature on Markov semigroups. The text covers the elliptic equation and the Cauchy problem under certain conditions, one-dimensional theory, uniqueness results, conservation of probability and maximum principles, properties of \{T(t)\} in spaces of continuous functions, uniform estimates for the derivatives of \{T(t)\}, point-wise estimates for the derivatives of \{T(t)\}, certain invariant measures in semigroups, the Ornstein-Uhlenbeck operator, a class of nonanalytic Markov semigroups, the Cauchy-Dirichlet problem, the Cauchy-Newman problem in the convex and nonconvex case, and a class of Markov semigroups associated with degenerate elliptic operators.

QA274 2006-045490 1-58488-646-3
A course on queuing theory.
Jain, Joti Lal et al. (Statistics; textbooks and monographs; v.189) Chapman & Hall/CRC, ©2007 461 p. $89.95
As science becomes increasingly interdisciplinary, researchers are finding that engineering has much to offer those working in such diverse fields as management science, communications as well as in theoretical work and aspects of computation. This text is evidence of the inroads engineering is making, covering a broad range of theory and applications and emphasizing Markovian structures and the techniques of different models. The bank of international authors cover the basics of queues, including their features and characteristics, graphical methods, modeling, scope and organization, Markovian queues, including optimization, regenerative non-Markovian queues, computational methods, statistical inference and simulation, general queues, discrete-time queues in transient solutions, and miscellaneous topics such as priority queues, queues with infinite servers, design and control of queues, and networks. Each chapter includes exercises and the authors provide appendices with basic information on such topics as random variables, stochastic processes and statistical processes.

QA278 2006-029955 978-0-470-02423-2
Structural equation modeling; a Bayesian approach.
Lee, Sik-Yum. (Wiley series in probability and statistics) John Wiley & Sons, ©2007 432 p. $120.00
Lee (statistics, Chinese U. of Hong Kong) describes this multivariate method that allows the evaluation of a series of simultaneous hypotheses about the effects of latent and manifest variables on other variables, taking measurement errors into account, and shows how a Bayesian approach allows the inclusion of prior information. The results are improved parameter estimates, latent variable estimates, and statistics for model comparison with more reliable results using smaller samples. He describes standard structural equation models, such as exploratory factor analysis and the Bentler-Weeks model, examines covariance structure analysis, then presents the Bayesian approach. He covers model comparison and model checking, structural equation models with continuous and ordered categorical variables, structural equation models with dichotomous variables, nonlinear structural equation models, two-level nonlinear structural equation models, multisample analysis, finite mixtures, structural equation models with missing data, and structured equation models with an exponential family of distributions.

QA280 1-58488-613-7
Nonlinear time series; semiparametric and nonparametric methods.
Gao, Jiti. (Monographs on statistics and applied probability; 108) Chapman & Hall/CRC, ©2007 237 p. $79.95
Although useful in the theoretical and empirical analysis of nonlinear time series data, recent research has shown that semiparametric methods may be applied to dimensionality problems arising from fully non-parametric models and methods. Gao (mathematics, U. of Western Australia) focuses on various non-parametric methods in model estimation, specification testing and selection of time series data, covering estimation in nonlinear time series, nonlinear time series specifications, model selection in nonlinear time series, continuous time diffusion models and long-range dependent time series. He uses a number of examples and provides both bibliographical and technical notes for each chapter along with author and subject appendices.
et al.: Full Issue: vol. 61, no. 3

QA402 2006-016018 978-0-470-08188-4
Advanced dynamic-system simulation; model-replication techniques and Monte Carlo simulation.
Korn, Granino A.
John Wiley & Sons, ©2007 221 p. $89.95
Recent advances in technology have made it possible to conduct advanced simulation programming for interactive modeling and simulation on standard personal computers. Here practitioner Korn demonstrates software that can handle large simulation studies for interactive modeling and simulation of dynamic systems for such applications as aerospace vehicles, control systems and biological systems. Korn introduces dynamic-system simulation to graduate students and professionals, then describes models with difference equations as well as limiters and switches, programs with vector-matrix operations and submodels, parameter-influence studies, model replication, Monte Carlo simulation, random-process simulation and Monte Carlo studies with noisy signals, vector models of neural networks, and applications of vectors models such as vectorized simulation with logarithmic plots, modeling fuzzy-logic function generations, and partial differential equations.

QA402 2006-040842 1-57524-283-4
The Volterra and Wiener theories of nonlinear systems.
Schetzen, Martin.
Krieger Publishing Co., ©2006 595 p. $72.50
Schetzen (mathematics, Northeastern U.) has updated his work on the analysis, design and characterization of these non-linear systems by adding a new chapter on the method of using Gate functions for the construction by which optimum systems can be determined for any input and desired output for any proper weighted or unweighted error criterion. With more material on likely applications in biology and engineering in new appendices, Schetzen covers first-order linear systems, second-order and higher-order Volterra systems, second-order and higher-order Kernel transforms, the pth order inverse, the application of Volterra theory to nonlinear system analysis, the motivational basis for the Wiener theory of nonlinear systems, system responses, the Wiener G-functionals, determining Wiener kernels of a system by cross-correlation, the average of a product of two G-functionals, nonlinear system identification, orthogonal representations and development of the Volterra G-functionals, the detailed Wiener model (including from a statistical standpoint), Hermite polynomials, and optimization.

QA433 2006-938300 978-1-84564-093-4
Advanced vector analysis for scientists and engineers.
Rahman, M.
WIT Press, ©2007 306 p. $165.00
This text illustrates the application of vector calculus to physical problems, and provides a wealth of solved problems to demonstrate the application of the theory. Coverage progresses from the algebra of vectors and vector functions of one variable, through integral theorems and orthogonal curvilinear coordinate systems. Learning features include chapter summaries and exercises, plus appendices of solutions for selected exercises, a summary of important vector formulae, and an overview of the historical background of vector analysis. The text is suitable for a one-semester course for senior undergraduates and beginning graduate students in science and engineering. The author teaches applied mathematics and fluid mechanics at Dalhousie University, Canada. The US office of WIT Press is Computational Mechanics.

QA927 2006-938301 978-1-84564-157-3
Solitary waves in fluids.
Title main entry. Ed. by R.H.J. Grimshaw. (International series on advances in fluid mechanics; v.47)
WIT Press, ©2007 183 p. $130.00
Solitary waves, or solitons, were first described in the middle of the 19th century, but remained an obscure curiosity until the 1960s and the rise of nonlinear wave equations. Interest has leaked since then from mathematics to the physical sciences. Here mathematicians and physicists discuss how the theory of solitons has been exploited in several fluid flow contexts, primarily in a geophysical and environmental framework. Their topics include solitary waves in water and in rotating fluids; and internal, planetary, and envelope solitary waves. The US office of WIT Press is Computational Mechanics.

ASTRONOMY

QB462 2006-938400 978-1-58381-227-3
Numerical modeling of space plasma flows; proceedings.
(Astronomical Society of the Pacific conference series; v.359)
Astronomical Soc./Pacific, ©2006 312 p. $77.00
In these proceedings of the March 2006 conference, the first in a series on this topic, contributors keep specialists in applied mathematics, space physics, astrophysics and
computer science in mind as they cover topics related to the solar structure, the heliosphere, the sun-earth connection, and astrophysical phenomena. Papers cover numerical methods, algorithms and frameworks (including central finite volume methods in multidimensional MHD, turbulence and cosmic ray transport (including particle acceleration in galactic winds), large-scale fluid-based simulations (including MHD models), large-scale kinetic and hybrid calculations (including hybrid simulation applied to space plasmas), data handling and visualization (including virtual observatories).

QB476 978-1-904868-29-3
Radioastronomical tools and techniques.
Kardashev, N.S. and S.A. Dagkesamanskii.
Cambridge Scientific Publisher, ©2007 405 p. $111.00
Dagkesamanskii and Kardashev (with the Astro Space Center, Lebedev Physical Institute, Russian Academy of Sciences) compile 42 papers on tools, technologies, and current discussions in radio astronomy for postgraduates and researchers. The works are divided into two main parts: the first covers topics related to space projects such as Radioastron, Millimeteron, and Submillimeteron; the second addresses ground-based radio telescopes. Sample topics include: new orbit and new possibilities of the Radioastron Project, VLBI observations of sources of maser radiation by a ground-space interferometer, the use of lens antennae in radio astronomy, multichannel spectrum analyzer for observation of pulsars, and synthesis of VLBI images using the regularization methods. This book is distributed by Enfield.

PHYSICS

QC173 2006-002295 1-60021-023-6
New topics in condensed matter research.
Title main entry. Ed. by John V. Chang.
Nova Science Publishers, ©2007 219 p. $129.00
The field of condensed matter is more than active and ranges from superfluidity and magnetism to the optical, electronic and mechanical properties of materials such as semiconductors, polymers and carbon nanotubes and virtually every hard surface you can name. Given its reach and relationship to profitability, the range of papers in this collection is also wide and also at the leading edge of research. Topics include the structure and properties of a specific John-Teller polaron, GaN-based spintronics, a new compound and its homologues exhibiting strong magnetic frustration, the nonlinear dynamics of 2D classical magnetic systems, anisotropic domain walls in magnetic nanostructures with perpendicular anisotropy, the use of polarized neurons in condensed matter research in Australia and solid state cathodoluminescence.

Introduction to quantum information science.
Vedral, Vlatko. (Oxford graduate texts)
Oxford U. Press, ©2006 183 p. $70.00
This compact introduction to the field of quantum information began life as a series of lecture conducted at various universities. Vedral (quantum information, U. of Leeds) packs a great deal into a small space as he describes classical and quantum information, including elements of quantum mechanics, the basics of quantum information, quantum communication with entanglement, entanglement itself, witness quantum entanglement, quantum entanglement in practice, measures of entanglement and issues of quantum computation, including quantum algorithms, entanglement with computation and quantum measurements, and quantum error correction. Each section includes examples and a summary, and Vedral includes a summary of the outlook for the field.

QC374 2006-018372 1-60021-289-1
New research on optical materials.
Title main entry. Ed. by Sherman J. Litchtika.
Nova Science Publishers, ©2007 255 p. $129.00
Covering the physical properties of crystals, glasses, polymers, metals, liquids and gases, the contributors of these seven articles describe materials used in all types of optical systems, including lasers. They analyze linear and nonlinear optical properties as well as mechanical, thermal, electrical, magnetic and elastooptic properties as they describe recent advances in the study of single crystals in micro-pulling-down methods, the preparation and properties of microcapsules in electronic inks used in display applications, studies of Group-IV semiconductor nanostructures for optoelectronic applications, silicon-based nanostructures (including the diazo derivatives of the amphiphilic, monomeric and polymer characters) for integrated photonic devices, the efficacy of light emission properties of lanthanide-doped novel optical glasses in photonic devices, and unconverted visible luminescence under infrared excitations in certain laser hosts, especially those doped with rare earth. The articles are well-illustrated.
et al.: Full Issue: vol. 61, no. 3

QC443 2006-030741 978-0-470-01608-4
Spectroscopic ellipsometry; principles and applications.
Fujiwara, Hiroyuki.
John Wiley & Sons, ©2007 369 p. $180.00
Spectroscopic ellipsometry is a contactless optical technique for the investigation of the dielectric properties of thin films that has grown to wider use because rapid advances in computer technology in the 1990s have allowed the automation of ellipsometry instruments and ellipsometry data analyses. Writing for researchers unfamiliar with the technique, Fujiwara (National Institute of Advanced Industrial Science of Technology, Japan) introduces the fundamentals of its measurement and data and analysis methods. Coverage include the data analysis of anisotropic materials; data analysis examples of insulator materials, semiconductor materials, biomaterial, metals, and other materials; and applications of spectroscopic ellipsometry for growth monitoring and feedback control of processing. Aiming for simplicity, he has eliminated unnecessary equations for electromagnetics and quantum mechanics, relying instead only on the derivations of important formulae.

QC482 2006-037726 978-1-905209-21-7
X-ray diffraction by polycrystalline materials.
Guinebretière, René.
ISTE Ltd., ©2007 351 p. $140.00
Guinebretière (X-ray diffraction, Ecole Nationale Supérieure de Céramiques Industrielles, Limoges, France) provides graduate students, engineers, and active researchers with a physical approach to the diffraction phenomenon and its applications in materials science. Following an historical overview of the discovery of X-rays and the first studies in X-ray diffraction, the author focuses on the description of the basic theoretical concepts, the instrumentation and the presentation of traditional methods for data processing and the interpretation of the results, and the quantitative study of the microstructure by X-ray diffraction. The text contains a large number of figures and results taken from international literature, and presents the most recent developments in the views discussed. It contains an extensive bibliography of some 400 references for individuals interested in further reading. Distributed in the U.S. by the Independent Publishers Group.

QC665 2006-049684 978-0-470-09771-7
Fundamentals of the physical theory of diffraction.
Ufimtsev, Pyotr Ya.
Wiley-Interscience, ©2007 329 p. $120.00
A pillar of research into the theory of the diffraction and propagation of electromagnetic and acoustic waves, Ufimtsev explains a high-frequency asymptotic technique for investigating antennas and scattering problems, and presents the first complete and comprehensive description of the modern physical theory of diffraction based on the concept of elementary edge waves. He writes for industrial and academic researchers working on antennas and scattering problems, but also includes chapter-end questions for use in an undergraduate course.

QC981 2006-934137 978-1-84542-944-7
Europe and global climate change; politics, foreign policy and regional cooperation.
Title main entry. Ed. by Paul G. Harris.
Edward Elgar Publishing, ©2007 415 p. $165.00
This collection of 16 articles by international and multidisciplinary contributors take a single environmental issue, climate change, and explore responses at the European Union (EU) level, providing extensive commentary on projects, studies and policies. Contributors examine national political approaches to global climate change issues from a variety of angles, describing domestic sources of German foreign policy on the issue, the awkward role of the United Kingdom, the reliance on middle power leadership in foreign policy negotiations in the Netherlands, Polish and Swedish policies in the EU context, Spain's new enthusiasm and Norway's traditional NGO approach. Topics on the EU acting as its own entity include creating consensus, creating common policy, developing policy diffusion, meeting the Kyoto commitments, tracking policy shifts as the EU expands, sharing ideas and burdens, and explaining how domestic aims and international policy work together.

CHEMISTRY

QD75 2006-030737 978-0-470-01686-2
Applied chemometrics for scientists.
Brereton, Richard G.
John Wiley & Sons, ©2007 379 p. $100.00
Chemometrics, which began primarily as a method of using multivariate statistical methods for the analysis of analytical chemistry data, has developed over the past decade or so into a valuable tool for a wide range of disciplines and research. Brereton (chemistry, U. of Bristol)
has revamped his popular articles appearing on ChemWeb from 1999 to through 2003 to produce a primary text that maintains his primary themes while presenting the most up-to-date information. He keeps the practical clearly in sight as he covers the history of chemometrics, experimental design, statistical concepts, sequential methods, pattern recognition, calibration, coupled chromatography, equilibria, reactions, process analysis, improving yields and processes using experimental designs, biological and medical applications, biological macromolecules, multivariate image analysis and food applications, including how to determine the origin of a food product using chromatography.

QD341 978-0-470-87171-3
Title main entry. Ed. by Zvi Rappoport. (Patai series; the chemistry of functional groups)
John Wiley & Sons, ©2007 1139 p. $945.00
Contributors from ten countries have written the 17 chapters of this two-volume handbook, which will be essential for researchers and graduate students in the field. Three initial chapters provide detailed treatment of the historical background of anilines, their general and theoretical aspects and their structural chemistry. Subsequent chapter topics include mass spectrometry and gas-phase chemistry, NMR spectra, substituted anilines as solvatochromic probes, and the hydrogen bonds of anilines. Aspects of the manufacture and uses of anilines and their toxicological and environmental aspects are the topics of two chapters in the second volume. Each chapter is illustrated with b&w and color diagrams and includes both a detailed table of contents of the chapter and a full list of references. Rappoport is at the Hebrew U. in Jerusalem, Israel.

QD75 2006-014548 978-0-19-516212-7
Quality assurance in the analytical chemistry laboratory.
Hibbert, D. Brynn.
Although their industries may vary widely and their expectations and intentions may fluctuate to suit, as Hibbert (chemistry, U. of New South Wales) notes all analytical chemistry labs have the same concerns about quality assurance. He comes to the rescue starting with a general introduction, in which he describes measurement, the generally accepted definition of quality, and statistical tools. He also covers the relationship of quality to experimental design, general quality control tools, including control charts and other graphics, laboratory studies, including those of an international nature for accreditation, measurement uncertainty, metrological traceability, validation and collaborative studies. Hibbert intends this to be an overview, so he frequently refers to other materials so students can study further. The graphics are particularly helpful.

QD79 2006-026963 978-0-471-74043-8
Columns for gas chromatography; performance and selection.
Barry, Eugene F. and Robert L. Grob.
John Wiley & Sons, ©2007 298 p. $100.00
Gas chromatography is a standard analytical technique for separating chemicals in a complex sample. Barry (chemistry, U. of Massachusetts Lowell) and Grob (d. 2006, emeritus, analytical chemistry, Villanova U.) point out that the last decade has seen innovations in this method. They focus on the selection of the core of a packed gas chromatograph, the gas chromatographic column, especially the use of computer software assistance for optimizing column separations. Among the reasons given for this emphais is the considerable expense involved, the lack of an update of Supina’s classic textbook, The Packed Column in Gas chromatography, and available Web resources (listed). Appendices consist of guides to column selection.
et al.: Full Issue: vol. 61, no. 3

QD509 2006-021794 978-1-57444-513-8
Powders and fibers; interfacial science and applications.
Title main entry. Ed. by Michel Nardin and Eugène Papirer.
(Surfactant science series; 137)
CRC / Taylor & Francis, ©2007  660 p.  $199.95
This text on the materials science of powders and fibers is presented, as the editors (both of the Centre National de la Recherche Scientifique, Institut de Chimie des Surfaces et Interfaces, France) note in their preface, for the purposes of presenting modern methods for their surface characterization; describing important applications; and discussing the formation and role of solid-gas, solid-liquid, and solid-polymer interfaces and interphases in relation to the performance of powder and fiber materials. Following an introduction to the thermodynamics of interfacial systems with special reference to powders and fibers, 15 contributions examine such topics as surface properties characterization by inverse gas chromatography applications, application of inverse gas chromatography to the study of rubber reinforcement, probing the molecular details of the surfaces of powders and fibers using infrared spectroscopy, chemical characterization of silica powders and fibers, an application for the characterization of wear or comfort properties of modern fabrics, wettability of fibers and powders and its application to reinforced polymeric materials, principles and applications for scanning probe microscopy of micro- and nanofibers, polymer dynamics at solid-liquid interfaces, rheological properties in reactive resin systems, surface characteristics and the biocompatibility of powdered materials, and computer simulation of silicate glass surfaces.

BIROLOGY

QH324 2006-049140 1-58488-569-6
Introduction to bioinformatics.
Tramontano, Anna. (Mathematical and computational biology series)
Chapman & Hall/CRC, ©2007  174 p.  $59.95 (pa)
“Bioinformatics,” a term that emerged in the early 1990s, refers to the discipline that “uses the instruments of informatics to analyze biological data in order to formulate hypotheses about life.” But in introducing a field made possible by high-speed computers and the Web, Tramontano (biochemistry, U. of Rome La Sapienza, Italy) notes that an operational definition is in order. Therefore, she describes the rationale; biological, statistical, and programming knowledge required; and limitations and future evolution of the tools and methods used for such applications as genomics (gene sequencing), modeling, and other “omics” projects. The book includes chapter problems and a list of commonly used Web sites.

QH541 2006-049394 1-56670-634-3
Ecological risk assessment, 2d ed.
Title main entry. Ed. by Glenn W. Suter.
CRC Press, ©2007  643 p.  $99.95
Aiming to provide scientifically sound advice on ecological risk assessment to environmental decision makers (who have a basic knowledge of biology, chemistry, mathematics, and statistics), Suter (science advisor, USEPA’s National Center for Environmental Assessment) and colleagues provide an introduction to the field, focusing on risks for chemicals and chemical mixtures. Introductory chapters discuss risk assessment frameworks; ecological epidemiology and causal analysis; variability, uncertainty, and probability; dimensions, scales, and levels of organization; modes and mechanisms of action; mixed and multiple agents; and quality assurance. Planning and problem formulation is explored, followed by chapters on the analysis of exposure which cover source identification and characterization; sampling, analysis, and assays; mathematical models of chemical transport and fate; and exposure to chemicals and other agents. Exposure-response relationships, testing, biological surveys, organism-level extrapolation models, population modeling, and ecosystems effects

GEOLOGY

QE538 2006-100346 978-0-87590-435-1
Earthquakes; radiated energy and the physics of faulting. (CD-ROM included)
Title main entry. Ed. by Rachel Abercrombie et al.
(Geophysical monograph; 170)
American Geophysical Union, ©2006  327 p.  $88.00
Abercrombie and her coeditors from the American Geophysical Union (Washington, DC) present 28 chapters on the energy changes associated with earthquakes for use by Solid Earth scientists, researchers, and students—particularly those working in seismology, tectonophysics, rock mechanics, and geodesy. The chapters cover current research and theory in the following main subjects: how earthquake energy is measured, effects of earthquake size and tectonic setting, geological fault zone research, insights from numerical simulations, and the efficiency of the "earthquake machine." The text is also provided on the accompanying CDROM.
modeling are explored under the “analysis of effects” heading and concluding chapters discuss risk characterization and risk management.

QP360 2006-032060 978-1-59385-404-1
Social neuroscience; integrating biological and psychological explanations of social behavior.
Title main entry. Ed. by Eddie Harmon-Jones and Piotr Winkielman.
Guilford Pr., ©2007 512 p. $65.00
Good social neuroscience, assert Harmon-Jones (psychology, Texas A&M U.) and Winkielman (psychology, U. of California at San Diego), avoids the charges of reductionism and can benefit both parent fields of neuroscience and social psychology by deriving novel psychological hypotheses, testing these policies using a broad range of methods from both fields, and providing cross-disciplinary perspectives that provide better understanding in problems found other domains. They present 22 papers that provide programmatic overviews of recent research into emotion processes; motivation processes; attitudes and social cognition; person perception, stereotyping, and prejudice; and interpersonal relationships. The papers have been selected to represent a wide variety of theoretical approaches, including social, cognitive, clinical, biological, personality, and evolutionary perspectives, and authors have been asked to write such that their work is accessible to researchers in other fields.

QP519 2006-015412 1-58829-571-0
Quantitative proteomics by mass spectrometry.
Title main entry. Ed. by Salvatore Sechi. (Methods in molecular biology; 359)
Humana Press Inc., ©2007 218 p. $99.50
According to Sechi (National Institute of Diabetes and Digestive and Kidney Diseases), recent advances in mass spectrometry have dramatically improved the throughput in protein identification and quantification and mass spectrometry quantitative proteomics promises to become an essential tool for studying complex biological systems and diseases. In this work, he presents 14 contributions that describe recent methods and protocols in this growing field. Topics include using stable isotope tagging and mass spectrometry to characterize protein complexes and to detect changes in their composition, stable isotope labeling by amino acids in cell culture for quantitative proteomics, quantification of proteins and metabolites without isotopic labeling, an isotope coding strategy for proteomics involving both amine and carboxyl group labeling, tandem mass spectrometry in the detection of inborn errors of metabolism for newborn screening, computational analysis of quantitative proteomics data using stable isotope labeling, and quantitative proteomic analysis of phosphotyrosine-mediated cellular signaling networks.

QP535 2006-022828 978-0-470-01671-8
Nickel and its surprising impact in nature.
Title main entry. Ed. by Astrid Sigel et al. (Metal ions in life sciences; v.2)
John Wiley & Sons, ©2007 702 p. $355.00
Forty-six internationally recognized experts contribute 17 chapters focusing on the vibrant research area surrounding nickel and its complexes and their role in nature. Coverage includes the biogeochemistry of nickel and its release into the environment; the impact of nickel on the metabolism of cyanobacteria and eukaryotic plants; the complex formation of nickel with amino acids and peptides, and with sugar residues, nucleobases, phosphates, nucleosides, and nucleic acids; synthetic models for the active sites of nickel-containing enzymes; the role of nickel in enzymes such as ureases, hydrogenases, superoxide dismutases, acireductone dioxygenases, acetyl-coenzyme A synthases, carbon monoxide dehydrogenases, and methyl-coenzyme M reductases; chaperones of nickel metabolism; the role of nickel in environmental adaptation of the gastric pathogen Helicobacter pylori; nickel-dependent gene expression; and nickel toxicity and carcinogenesis. Intended as a resource for scientists in a wide range of fields, from inorganic biochemistry to medicine.

**MICROBIOLOGY**

QR35 2006-051256 978-1-57808-434-0
Modern industrial microbiology and biotechnology.
Okafor, Nduka.
Science Publishers, Inc., ©2007 530 p. $85.00
These fast-growing and potentially extremely profitable fields concentrate on the most valuable microbes but one of the results of such research has been a greatly enhanced understanding of molecular biology. Okafor (industrial microbiology, Clemson U.) covers the range of basic science and applications associated with these fields, and writes for advanced undergraduates and beginning graduate students as he covers the changing scope of biotechnology and industrial microbiology, some organisms commonly used, molecular biology and informatics, industrial media and nutrition of industrial
organisms, metabolic pathways, overproduction of metabolites, screening for productive strains, preservation of the gene pool and culturing, and information relative to such products as vinegar, single cell protein, yeast, microbial pesticides, innoculents, fermented foods, organic acids and industrial alcohol, immobilized cells and enzymes, mining microbiology, antibiotics and anti-tumor agents, ergot alkaloids, steroids, vaccines and drug discovery. He then covers the use of microbes in industrial waste management.

QR69 2006-031854 978-1-55581-392-5 Antisepsis, disinfection, and sterilization; types, action, and resistance. McDonnell, Gerald E. ASM Press, ©2007 361 p. $119.95 Targeting an audience that includes microbiologists, chemists, facilities managers, health care professionals, infection and contamination control practitioners, and application engineers, McDonnell (vice president of research and European Medicines Agency affairs, STERIS Limited, UK) intends this work to give a basic understanding of microbial control methods and technologies of chemical and physical antisepsis, disinfection, and sterilization. He opens with a discussion of general microbiology, subsequently describing methods of physical and chemical contamination control and disinfection, antiseptics and antisepsis, physical and chemical sterilization, mechanisms of action, and mechanisms of microbial resistance.

QR186 2006-047535 0-8493-3528-0 Making and using antibodies; a practical handbook. Title main entry. Ed. by Gary C. Howard and Matthew R. Kaser. CRC / Taylor & Francis, ©2007 394 p. $139.95 Scientists at US companies and universities provide detailed recipes by which biomedical researchers and students can whip up a batch of antibodies in the laboratory and use them to study a wide range of phenomena in biology and medicine. Among their topics are producing polyclonal antibodies, the quantitative production of monoclonal antibodies, making antibodies in bacteria, immuno-histo-chemical methods, flow cytometry. Though new methods for making and using antibodies are certain to emerge, the ones currently being used are so embedded in their application that they will remain current for a long time. The plastic claw binding allows the book to lie flat on the bench.

MEDICINE (GENERAL & PUBLIC ASPECTS)

R853 2006-012326 0-8018-8501-9 Evaluating the science and ethics of research on humans; a guide for IRB members. Mazur, Dennis J. Johns Hopkins U. Press, ©2007 252 p. $29.95 (pa) Using his experience as with the IRB of the Department of Veteran Affairs Medical Center in Portland, Oregon, Mazur (medicine, Oregon Health and Science U.) aims to help members of institutional review boards—especially new ones—understand their role in judging whether research projects should be allowed to proceed. He focuses on the areas of drugs, medical devices, survey research, behavioral research, and genetic information, and goes over the questions asked, process of decision-making, and approaches to protecting participants. Coverage also includes a discussion of the scientific protocol and informed consent form, ethical issues, feedback, and minimizing mistakes.

R853 2006-030225 978-1-57444-610-4 Handbook of regression and modeling; applications for the clinical and pharmaceutical industries. Paulson, Daryl S. (Biostatistics, 18) Chapman & Hall/CRC, ©2007 503 p. $99.95 Writing for researchers in the pharmaceutical, applied microbiological, and healthcare-product-formulation industries, Paulson (Bioscience Laboratories, Inc) describes the use of linear regression models that are more complicated than the simple models he included in his 2003 Applied Statistical Designs for the Researcher (Marcel Dekker, Inc). After introducing basic statistical concepts and simple linear regression, he discusses multiple linear regression procedures and matrix algebra, aspects of correlation analysis and partial correlation analysis, common problems of multiple linear regression such as multiple collinearity and ridge regression bias, polynomial regression and its uses, residual analysis, the use of indicator or dummy variables, forward and stepwise selections of $x^{in}$ and backward elimination in statistical software, and covariance analysis.

R856 2006-038741 978-0-470-01595-7 Medical device epidemiology and surveillance. Title main entry. Ed. by S. Lori Brown et al. John Wiley & Sons, ©2007 501 p. $225.00 Medical device epidemiology is a developing field that encompasses the use and public
health impact of medical devices, device use in various populations, post-market studies on medical device safety and effectiveness, and the development of research methodology to describe and study medical device issues. Surveillance refers to the monitoring of medical device safety by the US Food and Drug Administration. Brown (Center for Devices and Radiological Health) collects perspectives on the field from contributors representing the medical device industry, academia, and consumer advocacy. In addition to general information, the book offers epidemiological studies on specific devices, including cochlear implants, drug-eluting stents, hemostatic devices, contact lenses, breast implants, and electronic fetal monitors. The book will be of interest to clinicians, researchers, device manufacturers, and regulatory agencies.

R857 978-3-527-31388-4
Nanomaterials for biosensors.
Title main entry. Ed. by Challa S.S.R. Kumar. (Nanotechnologies for the life sciences; v.8)
Wiley-VCH, ©2007 408 p. $175.00
Scientists mostly from the US and East Asia explore biomolecular sensing using a variety of nanomaterials, such as carbon nanotubes, nanowires, nanocantilevers, fullerenes, dendrimers, and metallic and quantum dot nanoparticles. Some look at using nanomaterials for enhancing the capabilities of conventional biosensing platforms, while others consider newer approaches such as biomimetic and reagent-less biosensing. The series is projected to comprise 10 volumes.

R857 2006-031905 978-0-8493-3759-8
Smart biosensor technology.
Title main entry. Ed. by George K. Knopf and Amarjeet S. Bassi. (Optical science and engineering; 118)
CRC / Taylor & Francis, ©2007 636 p. $139.95
A smart biosensor, as Knopf (mechanical and materials engineering, U. of Ontario, Canada) and Bassi (chemical and biochemical engineering, U. of Ontario) define it, is “a compact analytical device that combines a biological, or biologically derived, sensing element with an electrical, optical, or chemical transducer.” Stressing that it is the synergistic functional integration of component parts that makes a biosensor “smart,” they present 23 chapters that together provide a multidisciplinary perspective on the field. Opening chapters discuss the intelligent properties of biological macromolecules, optical methods of single molecule detection, nanoscale optical biosensors and biochips for cellular diagnostics, conducting polymer nanowire-based biomolecular field-effect transistor, machine learning and smart biosensor functions, and neuronal network biosensors. Seven chapters then address issues of material design and selection, followed by a section on bioelectronics. The volume concludes with six chapters on applications in detection and monitoring, including optical biosensors in foodborne pathogen detection, multarray biosensors for toxicity monitoring and bacterial pathogens, approaches to allergy detection using aptasensors, biosensors for virus detection, and detection of influenza.

R857 978-1-59693-124-4
Systems bioinformatics; an engineering case-based approach. (CD-ROM included)
Title main entry. Ed. by Gil Alterovitz and Marco F. Ramoni.
Artech House, ©2007 386 p. $95.00
Beginning from an engineering perspective and written for engineering students, this textbook presents applications in systems bioinformatics, the intersection of systems biology and bioinformatics. The approach adopted by the editors (both of Harvard Medical School) is to match familiar engineering ideas, such as analysis, design, and reverse engineering with their applications in systems bioinformatics. Thus, a section on signal processing addresses biological signal processing and signal processing methods for mass spectrometry, a section on control and systems explores modeling cellular networks, and a section on probabilistic data networks and communications contains chapters on topological analysis of biomolecular networks and on Bayesian networks for genetic analysis. Other topics addressed include fundamentals of design for synthetic biology, applied cellular engineering, DNA/RNA sequence hybridization, biomolecular computing and cryptography, and chemotaxis. The CD-ROM contains a variety of computer programs for data analysis, modeling, and other purposes.

HEALTH, MEDICINE

RA652 2006-053118 978-0-470-06812-0
Disease surveillance; a public health informatics approach.
Title main entry. Ed. by Joseph S. Lombardo and David Buckneridge.
John Wiley & Sons, ©2007 458 p. $105.00
The AIDS pandemic, emerging diseases, proliferation of antibiotic-resistant microbes, and possibility of bioterrorism have made complacency about having conquered dread diseases of the past dangerous. Following an
introduction to the growing role of informatics in public health disease surveillance, Lombardo (bioinformatics systems, Johns Hopkins U., Applied Physics Laboratory) and Buckeridge (epidemiology, biostatistics, and occupational health, McGill U., Montreal, Canada) present a dozen North American perspectives on surveillance systems utilizing the latest analytical tools and information technology. Issues discussed include data acquisition, sharing, and comparison via algorithms approaching real-time analysis. Chapters include screen captures from computer simulations of the spread of diseases, case studies from developed and developing countries, and study questions.

TECHNOLOGY (GENERAL)

T11 978-0-471-72509-1
How to prepare defense-related scientific and technical reports; guidance for government, academia, and industry.
Rice, Walter W.
John Wiley & Sons, ©2007 342 p. $59.95
Rice (applied physics laboratory, Johns Hopkins U.) provides a comprehensive guide to the exacting art and craft of preparing technical reports to the DoD, right down to the page formats and approved abbreviations. He covers the official standards, organization and design, including visuals, front matter such as the title page and authoring, notices, intelligence control markings, abstracts, logos, tables of contents, the body of the report including the executive summary, and back matter such as indices, appendices and bibliographies. The references are well-chosen and the appendices include an explanation of the workings of the Defense Technical Information Center.

T55 2006-922867 1-58603-599-1
Intelligent textiles for personal protection and safety.
Title main entry. Ed. by Sundaresan Jayaraman et al. (NATO security through science series; D, Information and communication security; v.3)
IOS Press, ©2006 147 p. $108.00
These textiles will not warn you that your tie clashes with your shirt, or that this is the same dress you wore to last year’s Christmas party. Rather, they are designed for combating terrorism and protecting ordinary citizens, first responders, and soldiers from danger. New materials are sorely needed, because the old ones are somehow not getting to the people who need them. Nine papers look at the wearable motherboard, flexible displays on textiles, optical chemical sensors, the ergonomics of protective clothing, and other topics. There is no subject index.

T56 2007-004422 978-0-9792343-8-5
The road to integration; a guide to applying the ISA-95 standard in manufacturing.
Scholten, Bianca.
ISA, ©2007 235 p. $99.00 (pa)
The ISA-95 standard of integrating enterprise and control systems was developed in the 1990’s to reduce the risks, costs, and errors involved in implementing manufacturing control systems and integrating them with enterprise resource planning (ERP) systems. This work explains how to apply ISA-95 in manufacturing enterprise systems (MES) and vertical integration projects, and covers the latest ISA-95 models and terminology. The book’s discussion of ISA-95 in the broader context of modern information exchange technologies will be useful for project managers, consultants, programmers, and information architects. Scholten is a consultant in information and communication technology and management.

T174 2006-032327 978-1-905209-55-2
Innovation engineering; the power of intangible networks.
Title main entry. Ed. by Patrick Corsi et al.
ISTE Ltd., ©2006 400 p. $190.00
Contributors in such diverse areas as engineering, technology transfer, artificial intelligence, and marketing look at the historical and theoretical bases of innovation engineering, detail the methods and technologies used to apply innovation in enterprises, and explore the human and social dimensions of innovation projects. Some specific topics discussed include community-based collaborative environments, virtual reality technologies for innovation, intellectual property for networks and software, financing innovation, and a virtual decision support system for innovation. Corsi is affiliated with Angers University, France. The book is distributed in the US by the Independent Publishers Group.

T385 2006-027649 978-0-471-78629-0
Enhanced visualization: making space for 3-D images.
Blundell, Barry G.
Wiley-Interscience, ©2007 425 p. $100.00
Physicist and engineer Blundell continues his long interest in three-dimensional display and interactive systems by focusing on two general classes of such displays: volumetric systems in which images may be depicted within a transparent physical volume, and varifocal systems that support the formation
of images within a virtual space. Chapters discuss such topics as aspects of the visual system, subtypes such as low parallelism swept-volume systems, and the graphics pipeline and interaction issues. The Investigations at the end of each chapter could well serve as exercises for graduate or undergraduate classroom use.

**ENGINEERING (GENERAL, CIVIL)**

**TA168 2006-007920 1-60021-119-4**
Systems engineering using swarm particle optimisation.

Title main entry. Ed. by Nadia Nedjah and Luiza de Macedo Mourelle. (Intelligent systems engineering)

*Nova Science Publishers*, ©2007 135 p. $89.00

The "ant colony optimization" (ACO) is a probabilistic technique for solving computational problems which can be reduced to optimal paths, in the manner of ants finding the shortest path to food by laying down pheromone trails. Particle swarm optimization (PSO), in contrast mimics fish with particles in multidimensional space; the particles have a position and a velocity. This collection of articles describes both processes as they are planned and engineered with topics such as a meta-heuristic for subset selection problems, beam angle optimization, fast exponentation, dynamically reconfigurable sensor electronics and diffusion controlled cellular automaton performing mesh partitioning.

**TA355 2006-100170 978-1-4200-5317-3**
Computer techniques in vibration.

Title main entry. Ed. by Clarence W. de Silva.

*CRC / Taylor & Francis*, ©2007 $69.95

This is a reference guide for engineers, technicians, researchers, and others on computer techniques, tools, and signal analysis for understanding mechanical vibration. De Silva (U. of British Columbia, Canada) presents six chapters covering numerical techniques, vibration modeling and software tools, computer analysis of flexibly supported multibody systems, finite element applications in dynamics, vibration signal analysis, and concepts and applications of wavelets. Significant information and results are summarized in windows, tables, graphs, and lists and application examples are provided throughout.

**TA417 2006-032329 978-1-905209-69-9**
Advanced ultrasonic methods for material and structure inspection.

Title main entry. Ed. by Tribikram Kundu.

*ISTE Ltd.*, ©2007 393 p. $180.00

Kundu (civil engineering and engineering mechanics, U. of Arizona) compiles 10 chapters that cover new developments in ultrasonic research for material and structure inspection, with application in engineering and biological materials, including ultrasonic NDE and other areas that go beyond traditional imaging techniques of internal defects. New inspection and material characterization techniques are presented as well. Contributors from the US, Europe, and Japan who work in the fields of engineering discuss failure mechanisms, current techniques, the analysis of impact damage, the measurement and interpretation of the ultrasonic properties of soft biological tissues, monitoring corrosion and erosion, modeling, wave propagation characteristics, health monitoring, acoustic signal modulation, and measuring the dynamic response of materials. Distributed in the US by the Independent Publishers Group.

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applications, optical applications, electronic and
electrochemical applications, and inorganic/
organic hybrid coatings.

TA418 2006-299261 0-470-03188-3
Microporomechanics.
Dormieux, Luc et al.
John Wiley & Sons, ©2006 328 p. $175.00
Microporomechanics is concerned with the
investigation of the mechanics and physics of
multiphase porous materials at the micro scale.
Aimed at research scientists and engineers as
well as graduate students, this text provides a
thorough introduction to the field, describing
its fundamental concepts and exploring some
more recent theories. A sampling of topics
includes micro-to-macro diffusive transport of
a fluid component; linear microporoelasticity;
non-saturated microporomechanics; and
microporofracture and damage mechanics.
Dormieux is affiliated with the Ecole
Nationale des Ponts et Chaussées, France.

TA418 2006-027643 978-0-471-77276-7
Microbiologically influenced corrosion.
Little, Brenda J. and Jason S. Lee. (Wiley series in
corrosion)
Wiley-Interscience, ©2007 279 p. $80.00
Little and Lee (marine molecular processes
and materials and corrosion engineering, Naval
Research Laboratory, Stennis Space Center)
discuss microbiologically influenced corrosion
in a volume meant for scientists, engineers,
researchers, designers, managers, and operators.
They summarize material from several disciplines
that use electrochemical, metallurgical, surface
analytical, microbiological, biotechnological,
and biophysical analyses. This material relates
to biofilm formation, causative organisms,
electrochemical techniques, diagnosing and
monitoring, the impact of alloying elements, and
design features. Case histories for general and
specific environments and industries are provided.
Also covered are nonmetallics and the control
or prevention of microbiologically influenced
corrosion. It is assumed that readers have a
basic understanding of corrosion processes.

TA418 2006-024024 978-0-471-72405-6
Synthesis, properties, and applications of
oxide nanomaterials.
Title main entry. Ed. by José A. Rodríguez and Marcos
Fernández-Garcia.
Wiley-Interscience, ©2007 717 p. $135.00
Due to their limited size and high density of
corner or edge surface sites, oxide nanoparticles
can exhibit unique physical and chemical
properties that promise potential in a broad
range of technological applications, including
sorbents, sensors, fuel cells ceramic materials,
photo-devices, as well as catalysts for
reducing environmental pollution, transforming
hydrocarbons, and producing H<in>2. The 22
chapters presented in this volume by Rodríguez
(senior chemist, Brookhaven National Laboratory,
US) and Fernández-García (Institute of Catalysis
and Petrochemicals, Spain) cover a number of
topics related to these materials, beginning
with fundamental quantum-mechanical and
thermodynamic aspects determining the
behavior and growth modes of nanostructured
oxides. Following these fundamental issues,
it offers chapters examining liquid-solid and
gas-solid transformation in the synthesis and
preparation of metal-oxide nanoparticles and
techniques for their study and characterization.
Chapters on physicochemical properties discuss
oxide particle stability and chemical reactivity,
adsorption of probe molecules on nanostructured
oxides, surface adsorption studies from gas-
and liquid-phase environments, and transport
properties and oxygen handling. Finally,
industrial and technological applications are
reviewed, including all of those mentioned above.

TA459 2006-044676 1-57444-634-7
Advanced structural materials; properties,
design optimization, and applications.
Title main entry. Ed. by Wole Soboyejo. (Materials
engineering)
CRC Press, ©2007 512 p. $139.95
In aerospace, biomedical, automotive, sporting
goods, and other industries, structural metallic
materials and their fracture properties are
becoming increasingly important to designers,
engineers, and researchers. This collection of 14
articles takes the needs of the variety of disciplines
and applications involved with structural metallic
materials into consideration by using accessible
language and examples to describe new research
into such topics as small scale contact and
adhesion in nano- and bio-systems, mechanical
characterization of thin film materials for
MEMS devices and porous metallic materials.
Advances presented include glass formation
abilities of certain alloys, applications of shape-
memory alloys, cobalt alloys and composites,
aluminum alloys, metal matrix composites and
titanium alloys, with special attention to
high-temperature materials such as niobium alloys
and composites, Mo-Si-B alloys for ultrahigh
temperature applications, and nickel-based alloys.
TA460  2006-929310  978-1-84564-065-1
Plasticity of cold worked metals; a deductive approach.
Paglietti, A.
WIT Press, ©2007 173 p.  $125.00
Plasticity theory is a tool used in structural analysis to evaluate the ultimate strength and the postelastic behavior of ductile structures, explains Paglietti (strength of metals and engineering, U. of Cagliari, Italy), but its application to real materials is undermined by the evolution law of the yield surface, also known as the workhardening rule, which lacks realistic rules that can be entered into analysis algorithms. He addresses the work-hardening problem starting from a few elementary facts and working out their inescapable consequences until a practical solution is obtained. He focuses on von Mises materials, a class to which most metals belong, but the wily engineer should be able to apply his method to other ductile materials as well. The US office of WIT Press is Computational Mechanics.

TA492  2006-020963  978-1-905209-54-5
Fatigue life analyses of welded structures.
Lassen, Tom and Naman Récho.
ISTE Ltd., ©2006 407 p.  $170.00
Taking most of the examples from the offshore oil industry, this text by Lassen (U. of Stavanger, Norway) and Récho (National Center for Scientific Research, France) introduces fatigue analysis of steel structures made by fusion welding. They describe basic understandings of fatigue behavior based on theoretical considerations and experimental results and present a fracture mechanics approach with numerical computations together with the S-N approach, which measures the magnitude of a cyclical stress (S) against cycles of failure (N). Uncertainties in crack growth and life predictions are discussed in terms of reliability modeling and risk assessments, as well as the random nature of the fatigue damage process and stochastic modeling. Finally, recent advances are covered in chapters on a new type of S-N curve, physical modeling of the entire fatigue process, a notch stress field approach to the prediction of fatigue life, multi-axial fatigue of welded joints, and the effects of overloads on fatigue life. Distributed in the US by the Independent Publishers Group.

TA640  2006-026708  978-0-7844-0850-6
Modeling complex engineering structures.
Title main entry. Ed. by Robert E. Melchers and Richard Hough.
Am. Society of Civil Engineers, ©2007 359 p.  $120.00
This work gives an overview of the latest developments in computational theory and techniques as currently applied in various fields of structural analysis in the US and around the world. A discussion is also included, at a practical level, of concepts of uncertainty in system representation and the implications for performance and safety. Material is accessible to readers with experience at the student or practitioner level in at least one area of structural analysis. The book's cross-disciplinary presentation is designed to stimulate cross-fertilization of modeling approaches, computational techniques, and ways of viewing satisfactory performance. Melchers teaches civil engineering at the University of Newcastle, Australia. Hough teaches multidisciplinary design at the University of New South Wales, Australia.

TA1630  978-1-59693-092-6
Statistical multisource-multitarget information fusion.
Mahler, Ronald P. S. (Artech House information warfare library)
Artech House, ©2007 856 p.  $139.00
Mahler applies his decades of experience in tactical systems along with his expertise in theory to this all-inclusive resource on finite-set statistics (FSST), a new method that unites much of information fusion under a single Bayesian paradigm. He focuses on the needs of practitioners for complete information on unified single-target multisource integration, including single-target filtering, general data modeling, random set uncertainty representation, measurements of UGA and AGA as well as AGU, generalized state estimates and finite-set measurements, then covers unified multitarget multisource integration in terms of conventional filtering, calculus, likelihood functions, Markov densities, and the Bayes filter. He closes with approximate multitarget filtering including particle and moment approximation, and Bernoulli approximation. Each chapter includes exercises, and Mahler supplies support information for such complex topics as Dirac delta functions, mathematical proofs, probability theory, gradient derivatives and Gaussian identity.
BUILDING CONSTRUCTION

TH1074  2006-024023  978-0-471-73426-0
Flame retardant polymer nanocomposites.
Morgan, Alexander B. and Charles A. Wilkie.
John Wiley & Sons, ©2007 421 p. $125.00
Materials scientists, chemists, and related
researchers explore polymer nanocomposites
designed for flammability applications for
newcomers to materials flammability research
and to polymer nanocomposites. They discuss
the fundamentals of flammability and of
nanocomposites, several specific flame retardant
systems, recent developments in the science and
technology, and current and potential applications.

MECHANICAL ENGINEERING &
MACHINERY

TJ163  2006-016748  1-60021-261-1
Artificial intelligence in energy and renewable
energy systems.
Title main entry. Ed. by Soteris Kalogirou.
$79.00
Various applications of artificial intelligence are
described for use in the modeling, prediction,
and control of energy and renewable energy
processes. International contributors in computer,
electronics, and systems engineering explore
areas such as artificial neural networks in solar
thermal energy systems, the application of
control algorithms for wind speed prediction
and active power generation, learning control
of fluidized-bed combustion processes for power
plants, and the application of computational
intelligence techniques to architectural and
building acoustics. The editor is affiliated
with the Higher Technical Institute of Cyprus.

TJ1058  2007-003333  978-1-905209-29-3
Mechanical vibrations; active and passive
control.
Krysinski, Tomasz and François Malburet.
ISTE Ltd., ©2007 367 p. $180.00
Krysinski, a dynamics specialist in industry
and Malburet, (engineering, l'Ecole Nationale
superieure d'arts et metiers, France) use
studies of helicopters as primary examples of
suppression or reduction of vibration.
Without extensive use of mathematics they
describe sources of vibrations, unbalance and
gyroscopic effects, the effects of piston engines,
the dynamics of a rotor, rotor control, non-
homokinetic couplings, aerodynamic excitations,
suspensions and active suspensions, self-tuning
systems, absorbers and self-adjusting absorbers,
active absorbers, resonators and self-adapting
resonators, and active systems. Distributed in
the US by the Independent Publishers Group.

ELECTRICAL ENGINEERING,
ELECTRONICS, NUCLEAR ENGINEERING

TK1081  978-0-470-10709-6
Elements of tidal-electric engineering.
Clark, Robert H.
Wiley-Interscience, ©2007 280 p. $130.00
While the rest of us were consuming fossil fuels
distinguished practitioner Clark was studying
and developing systems that use the tides to
generate electricity, and has done so since
1950. One result is this, the first comprehensive
treatment of tidal-electric power generation
focusing on the feasibility study, including
understanding the types and workings of
tides, assessing the potential for tidal power
and selecting an appropriate site, managing
and organizing investigations, developing
tidal power schemes and modes of operation,
collecting and analyzing basic data, choosing
hydraulic and numerical models, performing
civil engineering and selecting electromechanical
equipment, optimizing output, integrating
output with electric utility systems, evaluating
the economics of the project and its social and
regional impact, and determining environmental
aspects. Clark provides working case studies
and describes potential developments and
describes tidal generation optimization models.

TK5101  2006-033562  978-0-470-02441-6
Network convergence; services, applications,
transport, and operations support.
Hanrahan, Hu.
John Wiley & Sons, ©2007 461 p. $110.00
Diminishing separations between fixed
networks, mobile telephone networks, data
communications, and enterprise networks have
led to the development of the concept of next
generation networks that will incorporate both
telecommunications and information technology
characteristics for new services and applications.
Rather than simply describe these emerging
technologies, Hanrahan (U. of Witwatersrand,
South Africa) provides an analytic treatment of
next generation networks that aims to establish
concepts, principles, and architectural frameworks
that can help guide the evolution of present day
networks, services, and operations towards
the future forms of next generation networks.
Chapters discuss software methodologies for
converged networks and services; managed
voice over Internet Protocol networks; integrated
enterprise information and communication
technology systems; broadband Integrated

SciTech News  August 2007  73
Services Digital Network, Telecommunication Information Network Architecture, and Telecommunications Internet Protocol Harmonization Over Networks; third generation mobile communication systems; opening the network using application programming interfaces; and operation support systems.

TK5103 2006-036016 978-0-8493-3924-0 Microwave photonics. Title main entry. Ed. by Chi H. Lee. (Optical science and engineering series; no.124) CRC / Taylor & Francis, ©2007 422 p. $129.95 Microwave photonics is the study of photonic devices operating at microwave or millimeter wavelengths and even terahertz frequencies, and their use in microwave or photonic systems. Electrical and electronic engineers, practicing and research, review the current status for the benefit of people just entering the field, which began slowly during the 1980s and in many ways is still not mature. Their topics include femtosecond all-optical devices for ultrafast communication and signal processing, concepts and prospects of hybrid fiber radio, and tera sampler-per-second time-stretched analog-to-digital conversion.

TK5103 978-1-58053-641-7 OFDM towards fixed and mobile broadband wireless access. Jha, Uma Shanker and Ramjee Prasad. (Artech House universal personal communications series) Artech House, ©2007 200 p. $119.00 Practitioners and managers Jha and Prasad describe what works behind the next wave of broadband wireless access technology, including the standards developed in IEEE 802.16. With accessible text and illustrations they introduce wireless network classifications, range, signaling, infrastructure, WiMAX, WiBri, and new high-data rate wireless communications technologies. They describe and analyze orthogonal frequency division multiplexing systems and their issues, including frequency-hopping, orthogonal frequency division multiple access schemes, broadband wireless access fundamentals, fixed broadband wireless access, and mobile broadband wireless access, giving a wide variety of current and future applications for each, along with relevant standards. The result is a well-balanced approach to learning complex concepts and standards, so this will serve as a text, self-study guide and reference for some time to come.
TK5103 2006-100063 0-8493-8771-X
Wireless security and cryptography; specifications and implementations.
Sklavos, Nicolas and Xinmiao Zhang.
CRC / Taylor & Francis, ©2007 400 p. $89.95
Researchers in electronics and computer science point out key issues that need to be addressed in order to achieve desirable levels of security in wireless communications, where devices are becoming a bit cramped for security software developed for systems with a little more leg room. Their goal is to help develop protocols and approaches that can be used in the next several generations of wireless systems. Among the topics are hardware design issues in elliptic curve cryptography, a security enhancement layer for Bluetooth, and binary algorithms for multiplicative inversion.

TK5105 978-0-470-08460-1
Collaborative process improvement; with examples from the software world.
Yeaakley, Celeste Labrunda and Jeffrey D. Fiebrich.
Wiley-Interscience, ©2007 178 p. $60.00 (pa)
Designed as a guidebook with plenty of practical advice, this puts quality awareness into human terms, something you do not always see in the software world. Practitioners Yeakley and Fiebrich take readers step by step through the process of creating and running a process improvement program, starting with thoroughly understanding the situation onsite and preparing the first steps, including proposing the process and establishing leadership. They describe finding advocates and champions, initiating the program, training the organization, addressing quality issues, acknowledging cultural diversity, managing change, encouraging perpetual process improvement, engaging with supporters and detractors, assessing and evaluating progress, rewarding and recognizing wok, building meaningful quality indicators, and realigning your site with the world. This could also serve as an in-service or seminar text.

TK5105 2004-108262 1-58705-208-3
Penetration testing and network defense.
Whitaker, Andrew and Daniel P. Newman. (Cisco Press networking technology series)
Cisco Press, ©2006 598 p. $60.00 (pa)
Also known as "ethical hacking," penetration testing aids in the assessment of an organization’s network security by simulating a malicious attack. This text guides practitioners through the development of a testing plan and then discusses a number of commonly used methods.

These include (for example) performing social engineering, attempting session hijacking, cracking passwords, using Trojan horses, and penetrating wireless networks. A template for creating a security policy is provided in the appendix. The authors are consultants specializing in Cisco and security technologies.

TK6590 978-1-59693-206-7
Dielectric resonator antenna handbook.
Petosa, Aldo. (Artech House antennas and propagation library)
Artech House, ©2007 308 p. $119.00
The final two decades of the 20th century saw the emergence of the dielectric resonator antenna as a viable alternative to conventional low-gain elements such as dipoles, monopoles, and microstrip patches. Petosa (antenna design and development, Communications Research Centre, Canada) synthesizes the growing body of knowledge about them into a single volume that can serve as a textbook or a design handbook. The example designs use simple equations for graphs to allow rapid design without resort to complex analytical or numerical calculations.

TK7868 978-0-470-10761-4
Instantaneous power theory and applications to power conditioning.
Akagi, Hirofumi et al.
Wiley-Interscience, ©2007 379 p. $100.00
The concept of instantaneous active and reactive power was first elaborated in Japan in 1982, and has been considerably modified since then for three-phase four-wire circuits, circuits more than three-phase, and power electronics equipment. Electrical engineers Akagi (Tokyo Institute of Technology), Edson Hirokazu Watanabe, and Mauricion Arede (both Federal U. of Rio de Janeiro, Brazil) have been among the pioneer researchers, and here undertake what is apparently the first comprehensive reference on the theory and its applications in controllers of compensators that are generically classified here as active power line conditioners.

TK7871 2006-299994 978-0-470-03255-8
Ultra-wideband; antennas and propagation for communications, radar and imaging.
Title main entry. Ed. by Ben Allen et al.
John Wiley & Sons, ©2007 475 p. $135.00
The proper design of commercial ultra-wideband (UWB) devices of civil areas of data communication, imaging, and radar requires an in-depth understanding of the both the UWB communication channel and the antenna elements. Combining theoretical treatment with practical examples, the editors (affiliated with
France Télécom R&D and the UK's U. of Oxford, U. of Manchester, and BAE Systems Advanced Technology Centre) present 21 chapters, beginning with discussions of fundamental electromagnetic theory, basic antenna elements, antenna arrays, beamforming, and antenna diversity techniques. They then present a section on antennas for UWB communications covering the theory of UWB antenna elements, antenna elements for impulse radio, planar dipole-like antennas for consumer products, UWB antenna elements for consumer electronic applications, UWB arrays, and UWB beamforming. Propagation measurements and modeling is discussed in chapters on analysis of UWB signal attenuation through typical building materials, large- and medium-scale propagation modeling, small-scale UWB propagation modeling, antenna design and propagation measurements and modeling for UWB wireless body area networks, and UWB spatial channel characteristics. The remaining contributions introduce localization in non-line of sight scenarios with UWB antenna arrays, antennas for ground-penetrating radar, wideband antennas for biomedical imaging, and UWB antennas for radar and related applications.

TK8360 2007-000344 978-0-8194-6535-1
High-operating-temperature infrared photodetectors.
Jozef Piotrowski and Antoni Rogalski. (Press monograph; 169)
SPIE, ©2007 240 p. $69.00 (pa)
Cryogenic cooling has always been a challenging part of sensitive infrared (IR) systems, adding weight, size, cost, power consumption and inconvenience to what is otherwise an efficient and efficacious design. Concentrating on the latest developments for efficiently cooling detectors that operate in the middle- and long-wavelength IR spectrum, practitioner Piotrowski and Rogalski (applied physics, Military U of Technology, Warsaw) describe innovations in the cooling of many types of IR photodetectors with emphasis on HgCdTe alloy based detectors. They describe the fundamental performance limitations of IR photodetectors, materials used for and the operation of intrinsic photodetectors, and applications to a range of devices including photoconductors, photoelectromagnetic and Denber effect detectors and photodiodes. They include commentary on the innovations to date and a summary of what we can expect shortly. Although written primarily for graduate students, this can also serve as a reference for practitioners.

MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS

TL152 2006-016747 1-60021-260-3
Intelligent vehicle systems; a 4D/RCS approach.
Title main entry. Ed. by Raj Madhavan et al.
Nova Science Publishers, ©2006 342 p. $79.00
The editors (all presently or formerly of the Intelligent System Division of the Manufacturing Engineering Laboratory at the National Institute of Standards and Technology) present ten chapters that describe current autonomous mobility capabilities for ground vehicles together with anticipated advances and explain the theoretical foundations and engineering approaches underpinning these capabilities. Topics addressed include a methodology for the derivation and organization of knowledge for real-time control systems, behavior generation, world modeling and knowledge representation, sensory processing, temporal registration of sensed range images for autonomous navigation, advanced laser detection and ranging for driving unmanned ground vehicles, standards-based architectural framework for intelligent autonomous vehicles, performance evaluation of autonomous mobile robots, and the development of the Department of Defense's autonomous robotic ground vehicles.

TL573 2007-001438 978-1-56347-875-8
Modeling and simulation of aerospace vehicle dynamics, 2d ed.
Zipfel, Peter H.
Am. Inst. of Aero. & Astro., ©2007 567 p. $94.95
Aerospace engineer Zipfel (U. of Florida) takes a two track approach to teaching modeling and simulation to aerospace students and professionals. First, he deals with invariant modeling of flight dynamics, laying out the mathematical foundations of modeling with Cartesian tensors, matrices, and coordinate systems. This part of the text uses the rotational time derivative and the Euler transformation of frames to formulate equations of motions in tensor form, Newton's law to yield the translational equations, and Euler's law to produce the attitude equations. Perturbation equations and aerodynamic derivatives complete the discussion of modeling. The second part applies these concepts to computer simulations of aerospace vehicles, from simple three-degrees-of-freedom trajectory simulations of hypersonic aircraft, rockets, and single-stage-to-orbit
vehicles to six-degrees-of-freedom simulations of hypersonic aircraft and missiles. He matches aerodynamics, autopilots, actuators, inertial navigation systems, and seekers with the full translational and attitude equations of motion.

**CHEMICAL TECHNOLOGY**

TP9 978-3-527-31605-2
Ullmann’s modeling and simulation.
Title main entry.
*Wiley-VCH*, ©2007 443 p. $190.00
Based on the latest online edition of Ullmann’s Encyclopedia of Industrial Chemistry (including some unpublished articles), this volume serves as a comprehensive survey of mathematical fundamentals, complementary computational approaches, and applications of modeling and simulation in chemistry and engineering. Contributors in sciences and engineering from the US and France provide articles on mathematics in chemical engineering, model reactors and their design equations, mathematical and molecular modeling, molecular dynamics simulation, computational fluid dynamics, the design of experiments, and micoreactors. Both subject and author indexes are provided.

**MANUFACTURES**

TS228 2007-060365 978-0-87170-840-3
Friction stir welding and processing.
Title main entry. Ed. by Rajiv S. Mishra and Murray W. Mahoney.
*ASM International*, ©2007 360 p. $199.00
First applied to aluminum alloys about 15 years ago, friction stir welding/processing (FSW/P) has built up an impressive amount of data but until now that data has not been compiled into one set of detailed references. This accessible review of the state of the art describes a young technology but does so in depth, with 15 chapters covering friction stir tooling, temperature distribution and resulting metal flow, microstructure development in aluminum allow friction stir welds and the alloys’ mechanical properties, friction stir welding of ferrous and nickel alloys, microstructure and mechanical properties of friction stir welded titanium and copper alloys, corrosion in welded aluminum alloys, process modeling, robots and machines for FSW/P, friction stir spot welding, application of welding to related technologies, friction stir processing and the future of FSW/P.

**MILITARY SCIENCE**

UG479 978-1-59693-081-0
Concepts, models, and tools for information fusion.
Bossé, Éloi et al. (Artech House intelligence and information operations library)
*Artech House*, ©2007 376 p. $129.00
The ever-increasing amount of raw data and information in the contemporary world poses a significant challenge to command and control systems for military and public security operations, necessitating practices of data and information fusion, broadly characterized by the authors (of DRDC Valcartier, a Canadian military research organization, and the Defence Science and Technology in Organisation in Australia) as "the process of utilizing one or more data sources over time to assemble a representation of aspects of interest in an environment." These “aspects of interest” include traditional issues of military target tracking and newer issues pertaining to biography, economy, society, transport and telecommunications, geography, and politics. Drawing on concepts from psychology, human factors, knowledge representation, artificial intelligence, mathematical logic, and signal processing, they provide an explanation of data and information fusion for command and control systems. Concepts, definitions, and models are introduced, followed by discussion of quantitative, qualitative, and hybrid approaches to information fusion. Finally, the authors review computational implementation of information fusion, covering such topics as the design and performance of information systems and concepts in knowledge-based and artificial intelligence systems that impact higher-level fusion processes.

UG479 978-1-58053-935-7
Counterdeception principles and applications for national security.
Bennet, Michael and Edward Waltz.
*Artech House*, ©2007 335 p. $119.00
Bennet (an intelligence consultant with both government and private sector experience) and Waltz (Intelligence Innovation Division, BAE Systems Advanced Technologies) provide a technical overview of the principles and practices of deception and counterdeception when dealing with foreign intelligence organizations. They first introduce the topic of deception, covering cognitive aspects and technical methods. Turning to counterdeception, they offer chapters on nontechnical approaches, technical methods, and organizational architectures and technologies.
Science-Technology Discussion List Moves to SLA

At the conference in Denver, the Sci-Tech Division Board decided to move the SLA-ST e-discussion list from the Northwestern University Library server to the SLA headquarters' server. SLA-DST, the new list name, provides features that are not available on the Northwestern server, including reading list messages over the web and managing your personal settings. Please visit http://www.sla.org/content/community/lists/index.cfm for details.

SLA-DST has been activated since July, 2007. If you were a member of the previous list, your name has already been added to SLA-DST. If not, and you would like to subscribe, please send an e-mail to lyris@sla.lyris.net with the SUBSCRIBE command in the body of the message:

Subscribe SLA-DST your-e-mail_address "FirstName LastName"

To post to the SLA-DST, please send an email to: sla-dst@lists.sla.org

Please note that SLA-ST e-discussion list on the Northwestern University Library server will be deactivated on August 31, 2007. Any messages posted to sla-st@northwestern.edu after that date will be bounced.

Anna Ren
List Owner, SLA-DST
annawu@northwestern.edu

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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:
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