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



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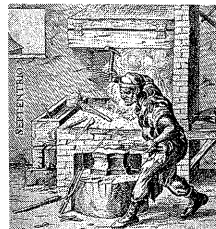
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STN
 Sci-Tech News



William Gilbert discovered that a piece of red-hot iron, hammered out in a north-direction, will point to the north, just like a compass needle. In his *Tractatus: sive, Physiologia nova de magnete* (Sedan, 1633), this discovery was illustrated with an etching that showed a blacksmith at work at his forge. The illustration was borrowed from a 16th-century engraving of Aesop's fable of the blacksmith and his ungrateful dog. The dog was removed, and the labels "septentrio" (north) and "auster" (south) were added, but the coarse blacksmith and his shop remained the same. This is the illustration reproduced on the cover. Interestingly, in the first edition of this book (*De magnete*, London, 1600), which is much better known, Gilbert had altered the illustration to disguise its origin. The shop was made to look more like a laboratory, and the blacksmith was elevated in social status and portrayed as an English experimental philosopher. Only in the third edition does the debt to Aesop become evident. (Photo and caption courtesy of the Linda Hall Library of Science, Engineering, & Technology, Kansas City, Missouri.)

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Editor

Bonnie A. Osif
Penn State University
University Park, Pennsylvania
bao2@psu.edu

Department Editors

Business Manager

Ann Koopman
Haddonfield, New Jersey

Subscription Manager

Barbara Parkinson
Chardon, Ohio

Advertising Manager

Bonnie A. Osif
Penn State University
University Park, Pennsylvania

Sci-Tech Book News Reviews

Selector: Ellis Mount
471Emerson Ave.
Teaneck, NJ 07666
EllisMount@cs.com

New Science and Technology Journals

Editor: Earl Mounts, Alcoa Technical Center
100 Technical Drive, Alcoa Center PA 15069
(724) 337-2396
earl.mounts@alcoa.com

Web Reviews

Christine L. Holiday
Defense Ammunition Center
McAlester, OK 74501
christine.holiday@dac.army.mil

David Hook

MD Robotics Ltd.
Brampton, Ontario L6S 4S3
dhook@mdrobotics.ca

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I find it hard to believe that this begins my fourth year as editor of *STN*. I must admit I took the position with a great deal of trepidation and still face each issue with some “fear and trembling.” However, we move ahead and 2003 is another opportunity. I think the theme for the year will be opportunity.

While I expect that all of our jobs have aspects that are not perfect, if we’re honest we’ll admit the good far outweighs the not so good. One of the truly wonderful things I get to do, largely due to my job, is travel. If you’ve read many of my editorials, you know I actually enjoy conferences and find almost every conference city is a wealth of cultural delights, gastronomic surprises, and all-around opportunities to learn and have fun.

As I write this I am in the National Theater in Prague. It is the interval at the ballet *Sleeping Beauty*. The theater itself defies description—paintings, carvings, gilt, balconies. The orchestra is perfect. The costumes are breathtaking. Last week I was sitting here watching an opera; later this week we go to another theater to hear native son Dvorák’s *New World Symphony*. In May I was honored to be asked to speak at a conference in Kaunas, Lithuania, sponsored by the Bureau of Transportation Statistics. I was joined by three other U.S. members of the Transportation Division and hosted by a Finnish SLA member during our tour of libraries in Finland, Estonia, and Lithuania.

I learned so much from these trips beyond the wonderful culture, historical and innovative buildings, new foods, customs, and different ways to do things. Even with language differences, it is so easy to communicate and most people want to share their interests, their city, their country and its charms. We are so much more alike than different. But the one thing that really stands out is that there is always so much to learn, that none of us knows it all, none of us can really “go it alone.” We are important to each other.

I specialize in transportation, so it is probably natural that I pay close attention to the means to get somewhere. On these trips I’ve used planes, trains, buses, subways, trams, cabs (I love Mercedes cabs!), and a ferry. I saw very efficient systems and people

using public transit as routine—a very good habit, I think. I saw a country that had survived devastating floods rebuilding at amazing speed. I saw ancient libraries graced with interiors so beautiful I wondered how anyone concentrated on the books.

But most important, I was able to speak with librarians and library workers who were dedicated to their profession and their patrons—individuals who may not have had the best working conditions or budgets, yet persevered. Buildings that date back hundreds of years may be architectural marvels, but aren’t necessarily conducive to the information age. Collections may be rich in historical texts but weak in recent books. However, the exchange of information was two-way and the friendships and professional relationships priceless. Travel broadens our knowledge and perspectives and is worth far more than the cost in dollars, time, and cramped muscles after the long flight.

As I begin this year I would like to encourage each of you to take the opportunity to learn more and share your ideas. Write with your article suggestions, send me articles, share what you are learning and doing that could benefit us all. Let’s hear from our colleagues around the globe. We are truly together in this endeavor.

Several have responded to the call. We have a great article by Stephanie Bianchi about a promotion at the National Science Foundation that is dear to my heart (I love science fiction). Read her article and see how she promoted her library. And Sara Tompson, Chair of the Engineering Division, writes about her journey as a pilot. This is an example of another topic dear to my heart: the myriad activities that librarians excel in. So, use these as examples for what you could write. We all have ideas—grab the opportunity!

Dr. Noit looks at skyscrapers and the New York skyline. It should be a good start to your preparations for the trip to the SLA Conference in June. I would also recommend you look at Rita Evans’ article on the U.S. Patriot Act and check out the excellent list of links she provides. This is a very important topic in the United States and deserves a very careful look.

Until next issue,
Bonnie

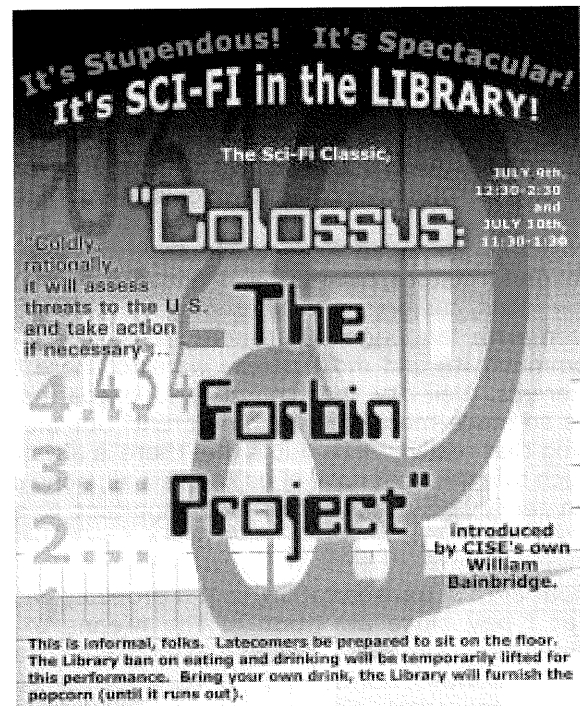
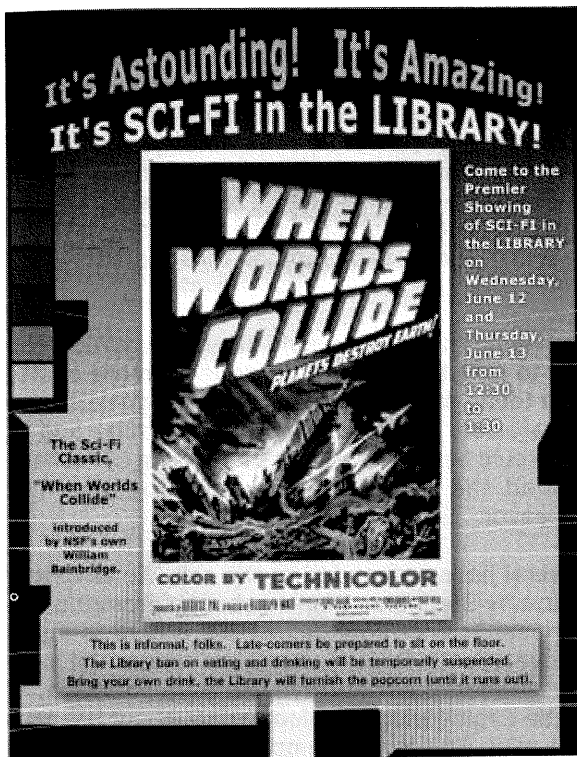
It's Amazing! It's Astounding! It's Sci-fi in the Library!

**Stephanie Bianchi, Director, Library
National Science Foundation**

The National Science Foundation Library started a new informal program last summer. The Library now shows classic science fiction movies over the lunch hour, each introduced by a staff scientist. The enthusiasm generated by this program among NSF staff at all levels has been enormous.

The videotapes of the movies have been acquired by donation. During the summer we showed one movie a month, during the rest of the year we are showing a movie every other month.

The first movie we chose was "When Worlds Collide", a movie that was one of a series that incidentally helped garner public support for the space program. It was chosen for its interest, and also for the fact that it was released in 1951 - the first full year of the National Science Foundation. A staff graphic artist, Jim Caras, made wonderful posters and flyers to advertise the movie, and the library staff promised to make free popcorn available and also lifted the ban on eating and drinking in the library so that folks could bring their lunches. We set up a "theater" in a corner of the library, dimmed the lights, and closed the blinds. One of our staff scientists, Bill Bainbridge, gave a wonderful introduction to the movie, accompanied by slides illustrating the fascinating



The idea came from a conversation with a librarian from NOAA, who remarked that several NOAA scientists had been consultants for the movie "The Perfect Storm", and that after the movie was released it was shown at NOAA. For that premier, the consulting scientists gave an introduction to the movie during which they talked about their parts in the production. The Library staff at NSF took this interesting idea and ran with it. Why not show classic sci-fi movies in the library on a regular basis?

"Coldly, rationally it will assess threats to the U.S. and take action if necessary..."

When we queried the scientists at the Foundation as to whether they would enjoy such a program, we received a resounding and enthusiastic response. Several scientists helped library staff select movies that contain some interesting science - good or bad - or have had an impact on the public's ideas about

aspects of the special effects, including the use of German WW II rocket science prototypes, and talking about the effect of the movie on public attitudes toward space research. The crowd loved it! When the "science" parts of these movies come on the screen, the crowd can get very raucous ...

Some folks want to see the movie all the way through, taking an hour of leave time as well as their lunch hour. Others only want to take their lunch hour. To accommodate this, we show the movie in its entirety two consecutive days, but we stagger the start time by one hour. The first day we start at 12:30, the second day we start at 11:30. That way folks can come at 12:30 both days to see the first half on the first day and the second half on the second day if they wish. Others can choose either day and watch the entire movie at one sitting. After the second day, we make the video available for check out. We also give a copy of one of the colorful posters to whichever scientist volunteers to give the movie introduction. People fight over those posters! Since the "host's" name is on the poster, they enjoy displaying them in their offices. We also have a gallery of the posters in the library on permanent rotating display.

There are a variety of books and websites available to give the scientists some ideas about points they might wish to cover during their introductions. We have no firm guidelines - the atmosphere is very relaxed. Volunteers aren't hard to come by - especially with a little individual "encouragement" from their friends. (I am shameless). Library staff provide support in helping to find and prepare any graphics they might want, or checking informational details. Introductions are kept to about 10 to 15 minutes - longer than that and the crowd would get restless!

The audience has been anywhere from 5 to 30 people - which is a big crowd for this organization. Folks have come into the library that have never been through the doors previously. Some just stay for the introductions and don't watch the movie. Some watch the movie two days in a row. But more than that, as many scientist as have attended the movies, that many and more have stopped library staff in the halls, the lunch room, wherever

Science and the Movies: A Select Bibliography

Phil Plait's Bad Astronomy: Movies

<http://www.badastronomy.com/bad/movies/index.html>

Bad Movie Science (Also by Phil Plait)

<http://www.techtv.com/callforhelp/features/story/0,24330,3359017,00.html>

Insultingly Stupid Movie Physics

<http://intuitor.com/moviephysics/index.html>

Sci-Fi Science Blunders Hall of Infamy

<http://www.geocities.com/naran500/index.html>

The Science of Star Trek

http://ssdoo.gsfc.nasa.gov/education/just_for_fun/startrek.html

Books:

The biology of science fiction cinema / Mark C. Glassy. Jefferson, N.C. : McFarland, c2001.

Fantastic voyages : learning science through science fiction films / Leroy W. Dubeck, Suzanne E. Moshier, Judith E. Boss. New York : American Institute of Physics, c1994.

Science in cinema : teaching science fact through sciencefiction films / Leroy W. Dubeck, Suzanne E. Moshier, Judith E. Boss. New York : Teachers College Press, 1988.

Chemistry and science fiction / Jack H. Stocker, editor. Washington, DC : American Chemical Society, c1998.

we might be, and said, with great enthusiasm, "I haven't made it to any of the movies, but I love the fact that you are showing them!" The program has been a very high visibility effort for the library, and has proved a great morale builder and source of camaraderie for the organization as a whole.

It has also been enormous fun.

Aviation in My Family: Good Training for a Scitech Librarian

By Sara Tompson, Chair,
SLA Engineering Division

The *STN* editor asked if I wanted to contribute an article on my aviation interest – as those who know me well can testify, its easy to get me talking about flying, hard to get me to stop! Hopefully this article will have a bit of new information for those patient friends who've heard flying stories before.

Tompson Aviation

I'm happily married to Kevin Williams, but I've kept my name – so I still have my Dad's (adopted) surname, Tompson. My Dad, Ernest Christian (Doucette) Tompson (ECT) was a pilot in the U.S. Army Air Corps in World War II. When I was very young, he still had his pilot's license, but he quit flying some time in the early 1960's. Dad taught me to look for and listen to planes, and taught me a lot about weather and clouds watching – key skills for pilots. He didn't explicitly encourage me to fly, but he certainly planted the seed.

ECT learned to fly in a Piper J3 Cub, a classic trainer; many of them are still around! I have some of his logbooks, including this first one, which notes he learned at "Bayside, Mass."

- First logbook entry - dated 8/9/1940
- First solo in the Cub - 8/27/1940 for 5 minutes
- He had 8 hours of flight time when he soloed.

I learned to fly in a Cessna 152 during 1980-81, at the DeKalb, IL Municipal Airport (when it just had one runway!). My CFI (certified flight instructor) was Diane Jones.

- First logbook entry – discovery flight on 9/23/1980
- First solo - 2/9/1981
- I had 15.5 hours when I soloed.

My dad was still living when I learned to fly, and I think he was proud of me, but he was somewhat ailing, and I don't recall him being interested in a ride, or if I even offered him one.

ECT went on to train in and fly some very cool aircraft, including Stearman PT-17s, Vultee BT 13s (his first variable pitch propeller, and first aircraft for

instrument work), AT-6-As Curtiss P-40 fighters, and B-25 bombers (twin engine). He later flew Douglas C-47 and C-53 troop transport planes (twin engines, versions of the DC-3s and 4s). He was stationed first in the Middle East, then in England, then back stateside ferrying planes. Many of these types of aircraft are still around and being flown by "Warbird" enthusiasts.

I learned in, and passed the Private Pilot Exam in, a Cessna 152 (high wing). Then I married and moved to Springfield. I flew 152s at Capital Airport and then learned to fly Piper Warriors (low wing) at Lincoln Airport, and flew both for awhile until I wanted to get my MLS. No way could we afford both aviation and grad school.



My dad passed away in 1984 and was buried with full military honors at the Rock Island Arsenal Cemetery. I have created a section of my personal Web site to honor my dad, especially his aviation career – the homepage is <http://home.xnet.com/~sarat/ect.html> if you want to check it out!

Fast forward to the year 2000 – we were back up in the Chicagoland area, and I started working as the Library Director at Packer Engineering in Naperville. Our founder and Chairman of the Board, Dr. Ken Packer, was and still is a pilot! That year he hired several engineers who were also pilots, and began building up an aviation group, which was augmented by his purchase of a Cessna 182. I mentioned to Dr. Packer and to Steve Meyers, an engineer and flight instructor, that I used to fly, and they got me started again! I had several lessons with Steve in the 182, and got "the bug" again. Repair delays with the plane and the hour drive from my house to the airport with the company hangar led me to start formal retraining lessons at DuPage Airport, right near our house.

CFI Chris Milford at Cougar Aviation at DuPage got me going again in his Cessna 150, and I soloed again November 3, 2001! I was taking instrument ground school at the same time, and passed the instrument written test on November 10, under the tutelage of

CFI Rodney Collins. On December 22, 2001, Chris signed me off to fly the 150 on my own! That (along with some paperwork) marked my reentry into "active duty" as a current Private Pilot with an Airplane Single Engine Land rating. In March 2002 he signed me off to fly Piper Warriors, and right before the SLA conference in June, Chris signed me off to fly Cessna 172s. My husband and I have now taken a number of flights together in the 172 to visit family and friends in Central Illinois – takes less than half the time that driving does! Since June I have been doing instrument training with Chris – I have until November 2003 to pass the practical instrument exam (in plane and oral tests) before having to take the written exam again.

Enhancement to Scitech Librarianship

How does my avocation of flying aide my vocation of technical librarianship? In lots of ways! Here are just some.

You have to know your aircraft and its capabilities very well to be a safe pilot – this study and learning has turned me into something of a "gearhead" (perhaps unusual for a former English major!) – I am interested in all sorts of engines and machines, which makes me a better and more engaged researcher for our transportation and mechanical groups.

My credibility with the engineers has certainly risen since I started flying again. It never hurts to have

your customers respect your abilities in a field close to their own!

The difficulty of the FAA examinations has made me more understanding of the difficult PE examinations. While there are sillinesses in both exams, both "tickets" are well worth having.

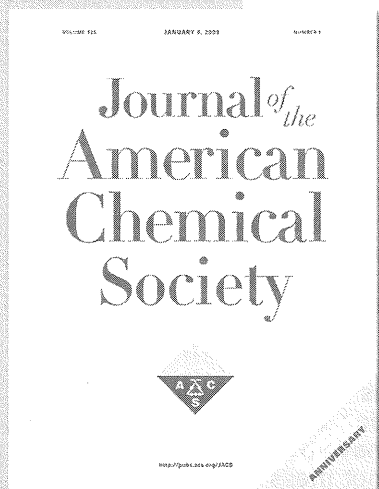
Checklists rule! You MUST be methodical to be a safe pilot. The discipline of following checklists is similar to the step-by-step problem solving techniques engineers use; especially those doing failure and root cause analyses. My understanding of my customers' work methods enhances our communication when they come to the library for information.

It is very challenging to learn to fly – the knowledge and the skills are not easily acquired. Focus and discipline are necessary to persevere. The ability to focus this intensely and learn skills this difficult has honed my thinking and confidence in every single area of my life.

The main reason I fly is that I am in love with the utter freedom of aviation that exists within harsh constraints. You don't have a really huge margin for error – you simply cannot mess up that much. The elegance and joy of being airborne and seeing the world from a different perspective are heightened by the serious risks that lie outside the controlled parameters of safe flight.

Blue skies!
Sara

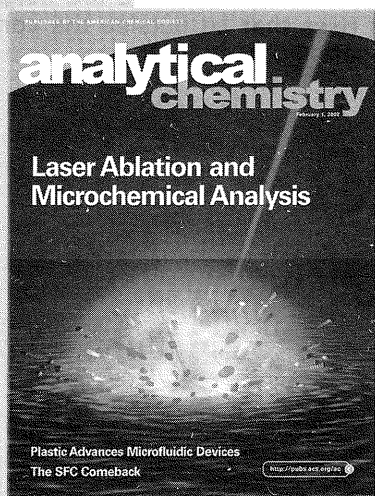
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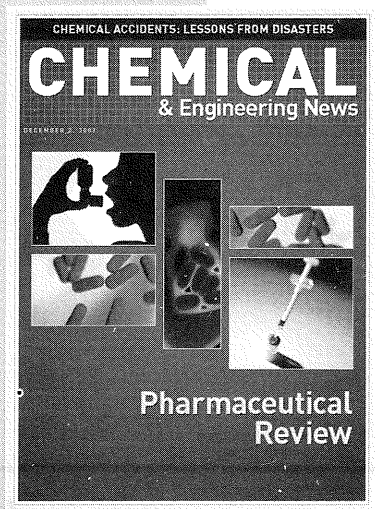
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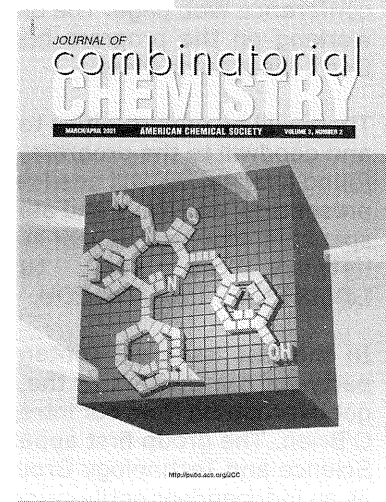
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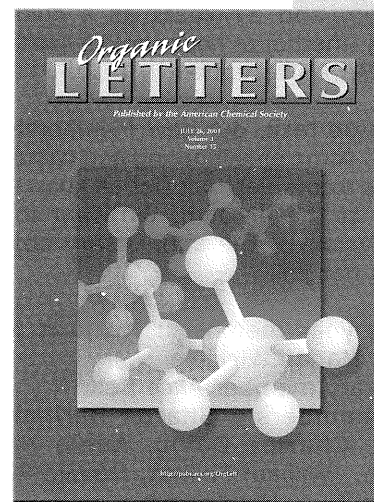
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By the time you read this, you will have gotten the SLA Annual Conference Preliminary Program. If the contents inspire you to register (cost for members is \$275 if paid by May 1 early-bird deadline; <http://www.sla.org/content/Events/conference/2003annual/2003reg.cfm>), it will have done its job. Just in case, this newsletter contains details about the Chemistry Division plans. If you still need to be persuaded, program plans are updated on the conference Web page. The division members already working on the program hope for a huge turnout. Don't disappoint them!

There will be opportunities to contribute your talents and goodwill to the program, if you have not already found a niche. We will need reporters, poster session presenters, and lively and attentive audiences for the speakers. More will appear in postings on the division listserv, so stay tuned to CHMINF-L@LISTSERV.INDIANA.EDU.

In the last issue we contemplated an anniversary party for the division at the New York meeting. We got information from our intrepid new archivist, Sylvia O'Brien. The group first appeared as a section of the Science and Technology Group in 1933. The Division as an independent entity came into existence in 1966. That makes us 70 years old, counting from the first incarnation, and 37 years as a division. We are discussing whether or not to hold a special celebration at the ACS/CAS reception.

On the same tack, our new Membership Chair, Jim Martin, did some investigating and came up with what we hope is a complete list (let us know) of long-term members of the division. We want to honor them here, especially if the anniversary observation this year does not jell.

Forty-five-year members: Marjorie Metcalf, Ivan Trombley, Marian Wickline
Life/honorary member: Alice Behr
Retired members : Sharon Beringhaus, Agnes Bongero, Charles Davis, Adele Hoskin, Ellen Mimnaugh, William Phillips, Donald Rickter, Arleen Somerville, Lucy Vandervort.

Jim also advocates incentives for the executive board to consider to increase membership. It's down 20 percent from last year. Which of these would spur you on to find a new member or two: dinner at a (fancy?) restaurant in New York during the conference? Payment for a CE course or tickets to division events at the conference? Or some other kind of recognition?

To continue the membership theme, Marian Wickline (Division Chair 1970-71) also wrote Sylvia O'Brien a note about the division's history. She concludes with the observation: "In looking at the roster of Chemistry Section and Division chairs between 1948 and 1972, there is only one person who was with an academic library. All the others were from corporation libraries. Then in looking at the roster of thirteen names of the current Chemistry Division officers ... there is only one corporation name ... Where are the representatives of corporation libraries now?" Susanne Redalje is working with Past Chair Marilyn Dunker on a survey of members for the strategic plan revision project. It could work to answer Marian's question, and will guide the division toward relevant activities and services for members in the coming years. Unfortunately, I have no report on the project to reach members between annual conferences with Web-based programs. I know work on this is under way, however. We also need to do something about the Web bulletin, which is languishing. We really need some fresh heads to focus on this. Any volunteers?

On the brighter side, Teri Vogel, our new Webmaster, diligently updated the division Web page over the past few months. Take a look! The tabular layout makes room for a lot more headings, which are crammed with good links. This is another place to check for updates about annual meeting: <http://www.sla.org/division/dche/chemdiv.html>

In the next issue (May) there will be news on the SLA Midwinter Meeting and I hope to make some reports about how the loose ends mentioned above have been tied up.

Collegially yours,
Suzanne Fedunok

CHEMISTRY DIVISION PROGRAM (Preliminary) New York City June 7-12, 2003

Saturday 6/7/03 - 6 P.M. - No-host dinner

Sunday 6/8/03 - 7:30 A.M. - Academic Roundtable Breakfast (with BIO and Sci-Tech) — Sponsored by British Medical Journal. \$5

Sunday 6/8/03 - 8:00 A.M. - CE Course: Chemistry for the Non-Chemist Librarian. Trainers: Judith N. Currano, Bartow Culp, Dana Roth. \$199 members \$249 Non-members

Sunday 6/8/03 - 1:00 P.M. - CE Course: Chemical Information Sources, Requests and Reference. Trainers: Judith N. Currano, Bartow Culp, Dana Roth. \$199 members \$249 Non-members

Sunday 6/8/03 - 3:30 P.M. - Board Meeting — Sponsored by American Chemical Society Publications Division

Sunday 6/8/03 - 8 P.M. - ACS/CAS Dessert Reception — Sponsored by American Chemical Society Publications Division and Chemical Abstracts Service

Monday 6/9/03 - 7:30 A.M. - Business Meeting/Breakfast — Sponsored by the Royal Society of Chemistry. \$10

Monday 6/9/03 - 1:30 P.M. - Vendor Roundtable — Sponsored by American Chemical Society Publications Division. Moderator: Kathy Whitely

Monday 6/9/03 - 3:30 - Medical Informatics (with BIO) — Moderator: Howard Fuller, Stanford Hospital and Clinics. Leading practitioner will speak.

Tuesday 6/10/03 - 7:30 A.M. - Corporate Roundtable — Sponsored by the Royal Society of Chemistry

Tuesday 6/10/03 - 11:30 A.M. - Poster Session — Sponsored by American Chemical Society Publications Division. Moderator: Bartow Culp.

Tuesday 6/10/03 - 1:30 P.M. - Personal Care Chemistry. "What's in this stuff?"

Tuesday 6/10/03 - 3:30 P.M. - Chemistry Content Linking: What does it take to create an integrated information system for chemists? — Sponsored by American Chemical Society Publications Division

Wednesday 6/11/03 - 7:30 A.M. - Board Meeting

Wednesday 6/11/03 - 12:00 P.M. - Genomics and Proteomics (with BIO)

Thursday 6/12/03 - 9:30 A.M. - Fine Art Conservation Field Trip. \$10
Behind-the-scenes to Metropolitan Museum of Art and NYU Fine Art Conservation Laboratories.

Suzanne Fedunok
Head, Coles Science Center
NYU-Bobst Library
70 Washington Square South
New York NY 10012
212-998-2698 (tel)
212-995-4283 (FAX)

Chemistry Division Membership Update Jim Martin, Membership Chair

As of the end of September 2002, DCHE has 333 members. (229 primary affiliates, 104 elective affiliates.)

Primary members	Elective members
11 Associate	07 Associate
03 Forty-five year	02 Sustaining
01 Sustaining	92 Member
01 Life/Honorary	03 Student
201 Members	-----
09 Retired	104
03 Student	

229	

Chemistry Division New Members

April Love University of California, Irvine	Mary Sullivan ExxonMobil Chemical Corporation	Lorraine Leff Labat Breweries of Canada
Susan Truong N/A	Joanne E. Braley Institute for Cancer Prevention	Danielle M. Crammer Firmenich Inc
Irwin C. Schreiman Cambridge Soft Corporation	Margaret E. Lafferty N/A	Deborah K. Oberlander Ferro Corporation
Frances L. Knudson Los Alamos National Laboratory	Tracy L. Primich Ford Motor Company	Brian F. Antos Bristol-Myers Squibb
Susan L. Payne West Virginia State University	Josee H. Schepper Merck Frosst Canada Inc.	Emily N. Wixson University of Wisconsin
Daniel D. Rohrback Vulcan Chemicals	Aileen L. Calimlim Anadys Pharmaceuticals	
Kristin M. Rokosky DuPont Marshall Laboratory	Pat Garman Northrop Grumman IT	

Report on the ASIST SIG-STI Planning Meeting By Ann Eagan, SLA Chemistry Division Liaison to ASIST

K. T. Vaughan, the outgoing chair of the Special Interest Group for Scientific and Technical Information Systems (SIG-STI) of the American Society for Information Science and Technology (ASIST), reported on the Seventh Quadrennial Trisociety Symposium, which was hosted this year in Los Angeles by SLA. ASIST provided \$500 out of the general funds for support of the symposium. Of the seventy-five people at the symposium, only two were ASIST members. The next Trisociety symposium is scheduled for 2006 and will be hosted by ASIST.

SIG-STI will continue to support CHMINF-L at the rate of one dollar per member. \$187 will be sent to CHMINF-L.

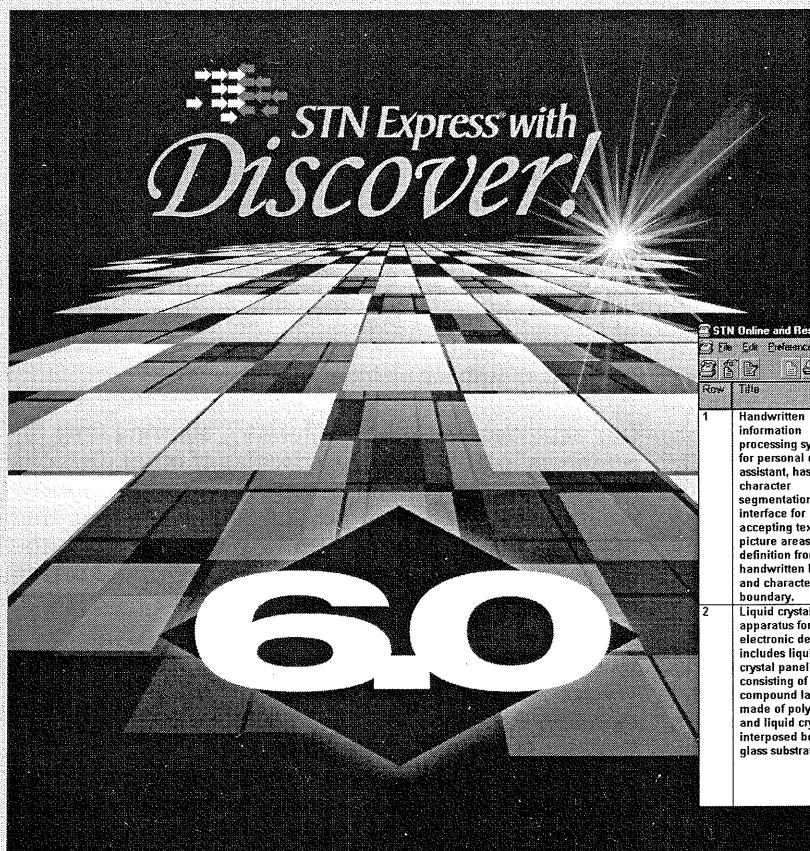
Members present at the meeting were asked if SIG-STI would be interested in a summit on digital libraries in science and engineering libraries. The members generally agreed there was interest but that content should focus on more than just technology.

Seven ideas for programs for the 2003 ASIST annual meeting were generated. The 2003 meeting will take place in Long Beach, California, October 20–23. The seven ideas are as follows:

1. Interactive roundtable discussion with end users of digital science materials (e.g. physicists, computer scientists, astronomers, etc) on how they use preprint servers, etc.
2. Subject-specialized virtual reference (e.g., NASA, ASEE)
3. Capturing "lessons learned" from government agencies—include issues of knowledge management, templates, markup language, information retrieval
4. Education of science librarians/information specialists—which is more important, science or librarianship? How to attract people to this segment of the profession
5. Biological informatics—integration of information in ecology, natural resources, and biology
6. NSDL (National Science Digital Library) one-year follow-up
7. Public domain information in the sciences—impact and stresses of homeland security, copyright, etc.

In other news, Ann Eagan and Molly Moss were elected chair-elect and secretary/treasurer, respectively.

If your search results look good, you look good.



New-V6.0

- the Table Tool
- the Report Tool
- the Predefined Reports feature

STN Online and Results: [Table (Untitled)]

Row	Title	Patent Assignee	Patent Information	Graphics
1	Handwritten information processing system for personal digital assistant, has character segmentation user interface for accepting text and picture areas definition from user, handwritten line and character boundary.	(IBM) INT BUSINESS MACHINES CORP; (IBM) IBM CORP	JP 2000227941 A 20000815 (200054)* 9p G06K009-62 CN 1260526 A 20000719 (200055) G06F003-02	
2	Liquid crystal apparatus for electronic device, includes liquid crystal panel consisting of compound layer made of polymer and liquid crystal interposed between glass substrate.	(SHH) SEIKO EPSON CORP	JP 2000227586 A 20000815 (200054)* 10p G02F001-1334	

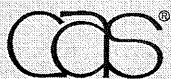
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In Japan:

Japan Association for International
Chemical Information (JAICI)
Phone: (03) 5978 3601
Telefax: (03) 5978 3600
E-mail: cas-stn@jaici.or.jp
Internet: www.jaici.or.jp

Japan Science and Technology

Corporation (JST)
Phone: (03) 5214-8414
Telefax: (03) 5214-8410
E-mail: helpdesk@mr.jst.go.jp
Internet: pr.jst.go.jp/db/STN/index.html

Elsewhere:

Chemical Abstracts Service (CAS)
Phone: 800-753-4227, 614-447-3700
Telefax: 614-447-3751
E-mail: help@cas.org
Internet: www.cas.org

Engineering Division

Sara Tompson, Chair



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

It's almost showtime, folks! That is to say, our annual SLA conference! By the time you read this, it will definitely be time to register for the June event in New York City and sign up for the sessions your Engineering Division and Aerospace Section have planned. SLA activity at the Division level is very much focused on the conference. Eileen, Cheryl, Mary, and I, with lots of help from Sara Davis, Chet Bunnell, Jeanne Trimble, and many others, have spent long hours lining up speakers and sponsors and coordinating with SLA headquarters. We know we cannot please everyone all the time in our diverse Division, but we hope you will like (and be able to attend) a number of our sessions. Following is an overview in chronological order as of January 2003:

Business Intelligence Toolkit 202: From Research to Intelligence for Non-Business and Finance Librarians
Track: Networking

Sunday, June 8, 2003 8:00 a.m.–4:00 p.m.

Tagline: Business Intelligence

Upon completion, participants will be able to: (1) use the competitive intelligence model in their library; (2) define meaningful modes of intelligent business information gathering; (3) analyze and prioritize critical information even when resources are limited; (4) learn and apply financial analysis tools; and (5) develop meaningful business information presentations.

Moderator: Amanda Kindall, professional development chair, Engineering Division

Speakers: Renee Daulong, knowledge broker, Dell Computer Corporation

Margaret (Peggy) Metcalf Carr, principal, Carr Research Group

We are very pleased to be able to offer this more advanced version of a previous CE course with our very highly rated presenters, Peggy Metcalf Carr and Renee Daulong. The Insurance and Employee Benefits Division and Materials Research and Manufacturing Division are co-sponsoring this Sunday course with our thanks. Hope you can start off the NYC experience with this practical and timely session!

After the CE session, our outgoing board will meet to touch base on conference activities. We will want to see many members there! We will have some small, special pieces of metal available to promote your Division (attend to decipher this mystery!). We will also have some tasks with which you can help, like vendor thank-you's, and may have last-minute

changes to announce. Snacks will be served to keep your energy going!

Engineering Division and Aerospace Section Outgoing Board Meeting

Track: Networking

Sunday, June 8, 2003 4:00–6:00 p.m.

Tagline: DENG/SENA Outgoing Board

Meeting of the outgoing Engineering Division and Aerospace Section board members and committee chairs. Get up-to-date info on conference activities. Division members welcome to attend!

Our activities are light on Monday, allowing time for members' participation in activities of other divisions to which so many of you belong. However, on Monday we do have the first of several of our sessions that leverage our own intellectual capital. We hope the summary below, and the *Information Outlook* article on the topic, will entice you!

Guerilla Marketing: Strategy Sharing for Agile Action
Track: State of the Art (Monday)

Monday, June 9, 2003 11:30 a.m.–1:00 p.m.

Tagline: Market, Market, Market!

Engineering Division members share strategies for agile, innovative, rapid-response information services marketing ideas for technical libraries. It's a jungle out there but you and your services can and must make an impact!

Moderator: Sara R. Tompson, Chair, Engineering Division

Speakers: Marilyn Redmond, International SEMATECH, Inc.

Thomas Nielsen, Hazen and Sawyer

Betty Lou Hicks, Library Director, Hanson Professional Services

Randall Reichardt, University of Alberta, Sci Tech Library

Amanda Kindall, Professional Development Chair, Engineering Division

Tuesday is busy for our Division and Section, with two meetings incorporating meals. Start the day out right with Aero, then join all of us for lunch!

Aerospace Section Business and Award Breakfast

Track: Networking

Tuesday, June 10, 2003 7:30–9:00 a.m.

Tagline: Awards, Business, Food

Join your Section colleagues for our annual business meeting and the presentation of the George Mandel Award.

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Project Manager's Guide to Software Engineering's Best Practices
0769511996 • March 2002 • \$65.00

Reifer
Software Management, 6th Edition
0769511007 • June 2002 • \$60.00

Thayer / Dorfman
Software Engineering: Part 1: The Development Process, Second Edition
076951555X • June 2002 • \$60.00

Thayer / Christensen
Software Engineering: Part 2: The Supporting Processes, 2nd Edition
0769515576 • June 2002 • \$60.00

ADDITIONAL TITLES OF NOTE

Abdelguerfi / Lavington
Emerging Trends in Database and Knowledge Base Machines: The Application of Parallel Architectures to Smart Information Systems
0818665521 • 1995 • \$19.95

Abdelguerfi / Wong
Parallel Database Techniques
0818683988 • 1998 • \$19.95

Aoe
Computer Algorithms: String Pattern Matching Strategies
0818654627 • 1994 • \$49.95

Arnold / Bohner
Software Change Impact Analysis
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Baeljer
Software As Capital: An Economic Perspective on Software Engineering
0818677791 • 1998 • \$20.00

Bender
Mathematical Methods in Artificial Intelligence
0818672005 • 1996 • \$50.00

Birman/Van Renesse
Reliable Distributed Computing with the Isis Toolkit
0818653426 • 1994 • \$59.00

Boslaugh
When Computers Went to Sea: The Digitizing of the United States Navy
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Bowyer / Ahuja
Advances in Image Understanding: A Festschrift for Azriel Rosenfeld
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Bowyer / Phillips
Empirical Evaluation Techniques in Computer Vision
0818684011 • 1998 • \$19.95

Brown
Component-Based Software Engineering: Selected Papers from the Software Engineering Institute
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Buell
SPLASH 2: FPGAs in a Custom Computing Machine
081867413X • 1996 • \$19.95

Chaudhury, et al.
Additive Cellular Automata: Theory and Applications
0818677171 • 1997 • \$34.95

Conrad / Mills
Stiquito for Beginners: An Introduction to Robotics
0818675144 • 2000 • \$30.00

Conrad / Mills
Stiquito: Advanced Experiments with Simple and Inexpensive Robot
0818674083 • 1997 • \$48.00

Chang
Digital Systems Design with VHDL and Synthesis
0769500234 • 1999 • \$55.00

Dhas, et al.
Broadband Switching: Architectures, Protocols, Design, and Analysis
0818689264 • 1991 • \$19.95

Druker / Avrutin
The Comprehensive Russian Computer Dictionary: English-Russian, Russian-English
0769500749 • 1999 • \$35.00

El Emam / Madhavji
Elements of Software Process and Improvement
0818685239 • 1999 • \$44.00

El Emam / Drouin / Melo
SPICE: Theory of Software Process Improvement and Capability Determination
0818677988 • 1998 • \$58.00

Gao / Bic / Gaudiot
Advanced Topics in Dataflow Computing and Multithreading
0818665424 • 1995 • \$19.95

Glass
In the Beginning: Software Pioneers
0818679999 • 1998 • \$19.95

Hauben / Hauben
Netizens: On the History and Impact of the Usenet and the Internet
0818677066 • 1997 • \$28.95

Hayes / Simmons / Brown / Read
Debugging and Performance Tuning for Parallel Computing Systems
0818674121 • 1996 • \$21.95

Herrmann
Software Safety and Reliability: Techniques, Approaches and Standards of Key Industrial Sectors
0769502997 • 2000 • \$55.00

Holzmann / Pehrson
The Early History of Data Networks
0818667826 • 1994 • \$39.95

Hunter / Thayer
Software Process Improvement
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Karolak
Global Software Development: Managing Virtual Teams and Environments
0818687010 • 1999 • \$40.00

Karolak
SERIM - Member Package
Software Engineering Risk Management LearnerFirst Software Package Set (Book & Software)
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Karolak
Software Engineering Risk Management
0818671947 • 1995 • \$40.00

Knepnell / Arangno
Simulation Validation
0818635126 • 1993 • \$40.00

Krishna
Performance Modeling for Computer Architects
0818670940 • 1996 • \$24.95

Kung / Hsia / Gao
Testing Object-Oriented Software
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Lewis
Microsoft Rising... And Other Tales of the Silicon Valley
0769502008 • 1999 • \$29.95

Mahoney
DSP-Based Testing of Analog and Mixed-Signal Circuits
0818607858 • 1987 • \$40.00

McClure
Software Reuse
A Standards Based Guide
076950874X • 2001 • \$55.00

Messnarz / Tulley
Better Software Practice For Business Benefit: Principles and Experience
0769500498 • 1999 • \$60.00

Moore
Software Engineering Standards: A User's Road Map
0818680083 • 1998 • \$42.00

Oman / Pflieger
Applying Software Metrics
0818676450 • 1997 • \$50.00

Pham
Software Reliability & Testing
0818668520 • 1995 • \$39.00

Phillips
Software Project Manager's Handbook: Principles That Work At Work
0818683007 • 1998 • \$40.00

Protic / Tomasevic / Milutinovic
Distributed Shared Memory: Concepts and Systems
0818677376 • 1997 • \$70.00

Sadr
Unified Objects: Object-Oriented Programming Using C++
0818677333 • 1998 • \$43.00

Sait / Youssef
Iterative Computer Algorithms with Applications In Engineering: Solving Combinatorial Optimization Problems
0769501001 • 1999 • \$65.00

Shirazi/Hurson/Kavi
Scheduling and Load Balancing in Parallel and Distributed Systems
0818665874 • 1995 • \$24.95

Sundararajan / Saratchandran
Parallel Architectures for Artificial Neural Networks: Paradigms and Implementations
0818683996 • 1998 • \$49.95

Tartajja / Milutinovic
The Cache Coherence Problem in Shared-Memory Multiprocessors: Software Solutions
0818670967 • 1996 • \$19.95

Thayer / Dorfman
Software Requirements Engineering
2nd Edition
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Software Engineering Project Management, 2nd Edition
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Tveter
Pattern Recognition Basis of Artificial Intelligence
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Vince / Earnshaw
Virtual Worlds on the Internet
0818687002 • 1999 • \$55.00

Williams
A History of Computing Technology, 2nd Edition
0818677392 • 1997 • \$52.00

Wolberg
Digital Image Warping
0818689447 • 1990 • \$55.00

Woodward
Communication and Computer Networks
0818651725 • 1993 • \$56.00

Wrobel
The MIS and LAN Managers Guide to Advanced Telecommunications
0769500994 • 1999 • \$50.00

Zimmer
TCL/TK for Programmers: With Solved Exercises that Work with UNIX and Windows
0818685158 • 1998 • \$45.00



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Engineering Division Awards and Business Luncheon
Track: Networking
Tuesday, June 10, 2003 11:30 a.m.–1:00 p.m.
Tagline: Awards, Lunch, Business
Join your Division colleagues for the annual business luncheon and presentation of the Engineering Librarian of the Year and Student Essay awards.
Meal Function: Three-Course Lunch

Our section's very special session comes Tuesday afternoon! Eileen has mentioned this in her column before. This cutting-edge "astronaut" session will include a reception; it is followed by the no-conflict time for visiting the vendors' exhibits.

Information in Space
Track: Future Directions
Tuesday, June 10, 2003 3:30–5:00 p.m.
Tagline: NASA Astronaut!
How does information get from space to earth and vice versa? How do space walkers keep in touch? A NASA astronaut will speak about information use in space. Program includes video footage of space walks and life on the International Space Station. Latter half of event will be a reception.
Hors d'oeuvres and cash bar.

Wednesday gets the new group of volunteers energized with a breakfast meeting and features the second session that will tap our own members' intellectual capital, as well as that of representatives from some vendor and other organizations. This standards panel promises to be lively, so don't miss it! Thanks to John Galloway and the Petroleum and Energy Resources Division for co-sponsoring the panel.

Engineering Division and Aerospace Section Incoming Board Meeting
Track: Networking
Wednesday, June 11, 2003 7:30–9:00 a.m.
Tagline: DENG/SENA New Board Meeting
Meeting of the incoming Division and Section board members and committee chairs. Division members welcome to attend and help us start planning for 2004!

Meal Function: Continental Breakfast

International Standards: Harmony, Dissonance, or Something Else?
Track: Globalization
Wednesday, June 11, 2003 1:30–3:00 p.m.
Tagline: Standards Roundtable
Our Standards Roundtable goes global this year! Navigating the international standards landscape can be a complex and confusing journey. Join information professionals and standards organization representatives as they share some strategies for understanding and accessing a variety of standards.
Moderator: Chester (Chet) Bunnell, committee chair, DENG Standards Committee

Thanks to the generosity of our longtime supporter Peter Katz and his company, we are pleased to end the conference Thursday on a collaborative note—a visit with our publishing colleagues at EI.

EI Field Trip: A Look at Publishing, A Key Point in the Information Cycle
Track: Networking
Thursday, June 12, 2003 8:00 a.m.–3:00 p.m.
Tagline: Field trip to EI/Elsevier
A look at database, new product, sales, and technical functions at publisher Elsevier's Hoboken, New Jersey, site, with an emphasis on EI/engineering information operations. EI is on the Stevens Institute campus; the institute will host a tour of their library after our lunch at EI.
Speakers: Bill Bartenbach, director, database and vendor relations, Elsevier Engineering Information
Richard Widdicombe, librarian, Stevens Institute
Peter Katz, senior VP, sales/marketing, Elsevier Engineering Information

See you in the "Big Apple"!
Sara T., M.S., PP ASEL, IGI
SLA-ENG Chair and Library Director,
Packer Engineering
srt@packereng.com or sarat@xnet.com

New Standards Website Announced

The Engineering Section of the Special Libraries Association wishes to announce the launch of a new site featuring links to standards. The intent is to provide URLs to sources and providers of standards, as well as those companies and associations involved in the development of them. While still very much under construction, the URL is <http://pages.slu.edu/faculty/bunnellcs/Standards.htm>. Please visit the site and try it out. Feedback and suggestions/ criticism are welcome. Send comments to bunnellcs@slu.edu.

Chet Bunnell
Pius Library, Saint Louis University
3650 Lindell Blvd., St. Louis, MO 63108
314-977-3908 (voice) 314-977-3108 (fax)

Nominees for SLA-ENG Offices 2003-04

The Engineering Division Nominations Committee is chaired by Carol Reese, Past Chair of the Division, and includes Division members Linda Musser, Jean Piety and Randy Reichardt. The Committee is pleased to announce the slate of nominees for Division offices that are open for the 2003-04 year:

Chair-elect: Sara Davis, Jacobs Engineering Group, Inc.
Mary Steiner, University of Pennsylvania

Secretary: Heidi Porth, DIALOG
Amanda Kindall, EMS Technologies, Inc

Treasurer: Sandra Goodwin, GlaxoSmithKline
Kathleen Nelson, University of Victoria

Division members should watch for candidate bios and ballots in the postal mail in March.

2003 Elsevier Engineering Information / SLA Engineering Librarian Award

Should you be an award winner?

The Engineering Division Awards Committee is now accepting nominations for the 2002/2003 Elsevier Engineering Information/SLA Engineering Librarian Award. This award is offered annually to honor a member of the Engineering Division. It is sponsored by Elsevier Engineering Information Inc. and highlights the accomplishments and contributions of members of the Engineering Librarian profession. Recognition comes in the form of a \$1,000 stipend, a plaque and a presentation at the annual business meeting luncheon held during the annual SLA conference. Based on criteria developed jointly with Elsevier Engineering Information, the year 2003 winner will be selected by members of the Engineering Division's Awards Committee. Prospective candidates are encouraged to nominate themselves, or an associate may nominate them. The Awards committee must receive completed applications by May 16th, 2003.

Now's the time!

Many of you may take for granted your work-related competencies and contributions, and not think of them as extraordinary. We'd like to be the judge of that. Please send your nominations to the Awards Chair at the address below. The Awards Committee must receive submissions by May 16th, 2003.

Criteria for entry are:

Membership in good standing for one year in the SLA Engineering Division as of January 1, 2002. Distinguished achievement in the engineering library profession, through an exceptional contribution on the job, within the SLA Engineering Division, or within the industry at large. This accomplishment should have taken place within the calendar year immediately preceding the nomination; however, in selected cases, based solely on the Award Committee's judgment, recognition may be given for an ongoing, long term contribution.

The 2001/2002 Elsevier Engineering Information/SLA Engineering Library Award Winner:

Last year, Marilyn Redmond (former chair of the Engineering Division) was honored with the Elsevier Engineering Information/SLA Engineering Librarian Award for both her outstanding work with the SLA Engineering Division and at International SEMATECH.

Nominations/More information:

Dave Hook, SLA-ENG Awards Chair
MD Robotics Ltd.,
9445 Airport Rd.,
Brampton, Ontario, Canada, L6S 4J3
dhook@mdrobotics.ca

Stacy Leistner of ANSI kindly contributed the slides from Standards Roundtable at the LA Conference. We have not been able to place them on the Division Web site, so the text is appearing in *STN*.

STANDARDS DEVELOPING ORGANIZATIONS (SDOS): CREATING STANDARDS AND SERVICES TO MEET USER NEEDS

**Stacy Leistner © 2002 ANSI
for SLA 2002**

Today's standards environment

Today's standards environment recognizes new challenges recognizes new challenges

- Global trade
- Safety and environmental issues
- Consumer involvement
- Public-private interaction
- Impact of consortia, forums, and other types of groups

In response, National Standards In response, National Standards
Organizations (NSOs) must . . .

- undertake a thorough re-evaluation of their activities in light of these environmental changes
- be open-minded and responsive to the needs of their customers
- provide "value-added" services

Where ANSI started . . .

- Hard-copy based communications system
 - Member news
- Monthly news magazine
- Bi-weekly reports of technical data
- Special publications
 - Committee member documents
- Technical data and policy issues for review, comment and approval
 - Document sales (including publication services, warehousing and inventory control)

Why we transitioned . . . Why we transitioned . . .

- Enhanced value of our "traditional" services
 - Web-based information significantly reduces time required for customer research
 - Expanded reach of product lines to global markets
 - "Time to market" for new products virtually eliminated
 - Improved cost effectiveness for both ANSI, as the service provider, and the final customer
- Increased opportunities for new product and service development

Where we are . . . Where we are . . .

- Electronic Tools
 - ANSI Online (www.ansi.org)
 - NSSN: A National Resource for Global Standards (www.nssn.org)
 - Electronic Standards Store (webstore.ansi.org)
 - List servers for document distribution
 - Standards Access Management (SAM)
- Custom, web-based document retrieval system
 - Online balloting system (under development)

Online information services - www.nssn.org

- Comprehensive search engine for standards and technical data
- A unique portal connecting users to up-to-date reference data and points of contact for subject matter experts in hundreds of industry sectors
- Providing multiple search options to facilitate quick document identification from more than 300,000 standards tracked by ANSI

>>> www.nssn.org <<<

Online information services

Standards Tracking and Automated Reporting (STAR) Service

www.nssn.org/star

- The ultimate "personal research assistant" for the standards
- An automated data management system, STAR compares user established profile(s) with "actions" registered in the NSSN
- STAR made history by becoming the first system to alert users to information critical to the success of their business
- Free single-user subscriptions for each ANSI member community

Online information services

webstore.ansi.org

- The Electronic Standards Store is the B2C (business-to-business center)
- Providing immediate access to an inventory of more than 40,000 domestic, regional and international standards
- Secure transactions available through credit card purchases and deposit accounts
- Site licenses are also available consumer) component of ANSI's website

News and Publications

www.ansi.org/reporter

- The ANSI Reporter is the Institute's quarterly magazine providing members with access to news and policy-level
- Available in both hard-copy and electronic formats.
- Free subscriptions for ANSI members; available to non-members via subscription (\$100/year).
- Now accepting display and classified advertising information.

News and Publications

- Standards Action is the Institute's free weekly newsletter report on domestic, regional and international standards activities and a wide range of related topics.
- Published in electronic format only (.pdf).
- A free e-mail notification service is available.

News and Publications available via e-mail only

- What's New is ANSI's latest communications vehicle.
- This is a bi-weekly e-newsletter distributed free to ANSI's
- ANSI Online news articles are summarized, along with information about upcoming events and new publications.
- Embedded hyperlinks connect users directly to the full-text of an article posted to ANSI Online (www.ansi.org).

Members and Constituents.

- Responsive to customer needs

Advantages of an Internet-Based Environment

- Global recognition
- Convenient medium for customers
 - Order what you want, when you want it
 - Faster delivery of product
 - Electronic copies are easier to search/use
- Less expensive for the vendor/re-seller
 - Lowers expense of customer service operations
 - Reduces shipping and handling costs
 - Reduces inventory costs and obsolescence

Some of the Challenges of an Internet-Based Environment

- The Old "hard copy" models may not apply in pricing and distribution (e.g., Web has no national boundaries)
- Users want ability to disseminate documents within their organizations worldwide
 - Availability of networking site licenses
- Document management systems may need to be created
 - Traditional "library" model must be revisited
- Download times vary depending on bandwidth and Internet traffic

Obligations to Members and Customers are based upon . . .

- Continual interaction
- Keeping customers informed of new advancements
- Asking for their feedback
- Following-up on comments received
- Responding accordingly

Continuous
Quality
Improvement

For more information:

- American National Standards Institute Headquarters
1819 L Street, NW
Fourth Floor Sixth Floor
Washington, DC
Tel: 202.293.8020
Fax: 202.293.9287
web.ansi.org | webstore.ansi.org | www.nssn.org
New York Office
25 West 43rd Street
20036 New York, NY 10036
Tel: 212.642.4900
Fax: 212.398.0023

Val Skelton of UK TFPL Ltd kindly contributed the slides from the Info Literacy presentation at the LA Conference. We have not been able to place them on the Division Web site, so they are appearing in *STN*.

INCREASING THE INFORMATION LITERACY OF THE ORGANISATION SLA – Los Angeles June 2002 TFPL FOCUS©

A polite start!

How organizations are changing

- ▶ Blurred boundaries, partnerships
- ▶ Networked and matrix working
- ▶ Attractive, sharing cultures, strong communication, common languages
- ▶ Satisfying demanding clients
- ▶ Knowledge and information strategy increasingly vital
- ▶ Increased awareness that people need guidance with complexity

What are we up against?

Our definition of IL

- ▶ ...talks of 'the skills...that enable an individual to play a full, effective and rewarding role in knowledge environments'

Skills for information literacy

- ▶ Understanding information impact and context
- ▶ Find
- ▶ Organize
- ▶ Create
- ▶ Use
- ▶ Share

Another approach – IL 101

- ▶ Understand level of your 'students'
- ▶ Test colleagues with a 'live search'
- ▶ Start with creating a shared IM language
 - ▶ And refer to this throughout the program
- ▶ Understand learning styles
 - ▶ Important when undertaking all training programs
 - ▶ It affects information behavior

IL 101 - continued

- ▶ Find a good web directory in their field and show them difference of searching this and a general engine
 - ▶ Time them searching
 - ▶ Offer search skills training
 - ▶ Truncation; synonyms; operators etc
 - ▶ Teach basics of classification schemes

IL at Unilever – a case study

- ▶ Established in 2000
- ▶ Targeted project teams
- ▶ Started with information theory but...
 - ▶ Theory, demo, practice
- ▶ Two modules – information discovery and information management
- ▶ Use work-appropriate examples and make it practical!
- ▶ Launched website 2002

Lessons from leaders – and losers!

- ▶ Use the right language – define it appropriately for the organisation
- ▶ Be flexible and evolve the offerings
- ▶ Piggyback with other training
- ▶ Make it practical and immediately applicable
- ▶ Offer a quick win
- ▶ Sell it by the cost of not doing it
- ▶ A happy customer is the best marketing tool

The punchline

- ▶ We need to take control of front line skills to move into the front line
- ▶ Offering this training is rewarding.
- ▶ Your clients will respect your skills even more

Thank you
Val Skelton
val.skelton@tfpl.com

Robert Meltzer kindly contributed the slides from Standards Roundtable at the LA Conference. We have not been able to place them on the Division Web site, so the text is appearing in *STN*.

Responding to Customer Needs: *Standards Development & Delivery*

An ASTM Perspective

Robert L. Meltzer

SLA - Los Angeles, 11 June 2002

About **ASTM International**

- Standards Development Organization
- Formed in 1898
- To Develop and Deliver Standards and Related Information in Response to Market Needs
- Local, National, Regional, Global Markets

- New Name and Logo to Reflect Global Scope
- Standards Accepted and Used Worldwide
- Members from 100 Countries

- Standards
 - Annual Book of ASTM Standards (Print or CD-ROM)
 - Separate Standards (Print or Web Downloads)
 - Special Collections (Print, CD, Web Downloads)

- Related Publications
 - Technical Journals
 - Special Technical Publications
 - Manuals, Monographs, Handbooks, Data
 - Distributed Publications
 - Adjuncts (e.g. Radiographs)

Customer **Needs**

- 24 x 7 Desktop Access
- All Employees, Worldwide
- Current and Historical Standards
- Project Information, Drafts
- Notice of New, Revised, Withdrawn
- Easy to Obtain
- Reasonably Priced

Customer **Needs**

- Digital Standards Development Tools
 - Balloting
 - Minutes
 - Meeting Agendas
 - Authoring

{The remainder of the slides explain the ASTM web site, unfortunately they cannot easily be reproduced here. The site is at <http://www.astm.org>. One tip is remember to look at the technical committees pages for additional information.}

Your resource for the
Sci-Tech News Division of the
Special Libraries Association is...



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Aerospace Section

Eileen Dorschner, Chair



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

As I sit here in January writing this, I can watch snowflakes swirl outside my window. The Boston area has had an unusual amount of snow this year and I feel like I have shoveled most of it! With the weather in mind, I have to say that I am looking forward to the winter meeting in New Orleans at the end of January. We will be finalizing our programs for the Annual Meeting in New York City June 7–19 and it looks to be a great meeting.

Interestingly, the Aerospace Section's activities will all take place on Tuesday, June 10. That is because SLA assigns a specific focus to each day of the meeting. Monday's focus is State of the Art, Tuesday's is Future Projections, and Wednesday's is International Focus. Our astronaut program seemed more at home in the Tuesday focus. Our business meeting, with the awarding of the George Mandel Memorial Award, will take place on Tuesday morning from 7:30 to 9:00. Several members who are also members of the Sci-Tech Division had asked me not to have our meeting on Monday morning, as it conflicted with the Sci-Tech business meeting. So we will try this new time and see how it works out. According to SLA rules, we need to have our meeting before the Engineering Division's, which is always on Tuesday at noon. Our astronaut speaker will talk on "Information from Space" on Tuesday afternoon from 3:30 until 5:00. The talk will be followed immediately by a reception generously sponsored by the Engineering Division. If you plan to attend for only one day, let Tuesday be your day! Be sure to check the SLA site, www.sla.org, to see all the great programs being offered.

Unfortunately the Big Apple is a very expensive place to meet, leading us to have to look harder than usual for support from our vendors and to increase the charge to our members for our programs. Our breakfast will cost \$15, only a fraction of the actual cost, with generous support from AIAA to make up the difference. The reception following the astronaut program will cost \$5 with Engineering covering most of the cost. There will be a cash bar. I hope many of you will be able to join us in New York. The programs look great, there are interesting tours planned, the three keynote speakers (Madeline Albright, David McCullough, and Stuart Brand) promise to be exciting, and this meeting is always a great time to meet with colleagues new and old.

This winter, the Aerospace Industries Association released publicly and sent to President Bush its report of the Commission on the Future of the U.S. Aerospace Industry. If you haven't had a chance to see it, you can copy and/or read it at www.aerospacecommission.gov. The commission makes nine recommendations to the president. In part, it recommends that the United States create a space imperative, make transformation of the U.S. transportation system a national priority, establish a national aerospace policy, and immediately reverse the decline in and promote the growth of a scientifically and technologically trained U.S. aerospace workforce. Now it is up to Congress and the president to act. We'll see what the future brings.

Here's another Web site to check out: www.science.gov. This site is a gateway to sci/tech information from across federal government organizations. Its goal is to make it easy for people to find scientific information created by the government by organizing it in one place. This site enables one to search the content within databases as well as across Web sites. Fourteen organizations from ten major science agencies are represented on this site, including DOT, DOE, EPA, NASA, and NSF. The site is organized into a dozen broad categories such as Applied Science and Technology, Computers and Communication, Health and Medicine, and our favorite, Astronomy and Space. There is even a Science Education link for homework help. Check it out—you may find it makes your work easier.

And finally, I welcome your ideas for the Section. What would you like us to do and be? Do you have ideas for programs and/or speakers? Are there ways you think we can better use our mail list (sla-aero@sti.nasa.gov) or links you'd like to see on our Web site? The site is under construction under the able hands of our own Susan Winstanley, who is revamping the Engineering Division at the same time. Now is a good time to think about what we'd like to see at that site. Maybe it is a good topic to discuss on our mail list. If you are not on the e-mail list and want to be, send me an e-mail and I will tell you how to join. If you have ideas to share, please feel free to contact me at edorsch@mit.edu.

Materials Research and Manufacturing Division

Ed Malloy, Chair

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

The Materials Research and Manufacturing Division Welcomes its New Members:

Kathy L. King
Appleton Papers
Research Info Ctr
714 Hancock St
PO Box 359
Appleton, WI 54912-0359

Cheer Tung Shih
Chung Shan Inst of Sci & Tech
Main Library
PO Box 2
Lung-Tan
Taoyuan 325
TAIWAN, ROC

Jennifer A. Luther
AMT Mgmt Svcs
7901 Westpark Dr
McLean, VA 22102

Chris L. Torrero
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www.wisc.edu/techsearch

Science-Technology Division

Mitchell Brown, Chair



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

As the calendar changes, plans are moving forward for the Annual Conference in New York June 8-12, 2003.

Chair-elect, James Manasco at the University of Kentucky, has been successful in attracting sponsors for our upcoming programs and we expect to be able to support this year's programs with sufficient funding.

The Annual Conference 2003 will have a different format from previous conferences. Programming will concentrate on specific topics each day of the conference, creating a mini-conference for each day. Monday, June 9 will concentrate on State-of-the-Art programs, Tuesday, June 10 will be for Future Projections, and Wednesday, June 11 will involve programs with an International Focus, with emphasis on topics of domestic and worldwide interest. Each day will have a keynote speaker: Monday, The Honorable Madeleine Albright, Former U.S. Secretary of State; Tuesday, David McCullough, Pulitzer Prize winning author; Wednesday, Stewart Brand, Futurist.

Online registration will be available from headquarters website after January 15; early bird registration is available until May 1st and conference registration materials will be mailed starting March 31. I encourage everyone to think of the New York conference as three mini-conferences, so if plans limit the time you can spend at Annual then know that each day will be a conference in itself. Each day will be complete with intriguing programs as Science-Technology Division has reached out to other divisions, such as Social Science and Legal, in addition to our traditional science and engineering related divisions to bring programs with a strong mutual interest. As technology becomes increasingly a part of our personal and professional lives the New York Annual Conference will be an opportunity for Sci-Tech members to help educate other division members on our role in collecting, codifying, and disseminating technical information.

In addition to program planning, our board has kept busy with a variety of tasks. The Nominating Committee, led by Janet Hughes, has put together a fine slate of candidates for chair-elect and secretary. The Awards committee, led by John Sandy, is soliciting submissions for our three awards, the Bonny Hilditch International Librarian Award, the Sci-Tech Achievement Award, and the S. Kirk Cabeen Student

Travel Stipend. There is still time to apply for the latter two awards as the deadline for submission is March 1, 2003. Other committees are working on various tasks and will have more to report later.

My email box is always open for suggestions, comments, and anything else you would like me to know. Email me at mcbrown@princeton.edu.

Program details are still developing but here is a glimpse of the preliminary program. Time slots are different from previous years to allow thirty minutes between programs, which will be spread between the Sheraton and Marriott, which are within one block of each other. Please note that a separate preliminary program will not be mailed, although you will be receiving a short flyer listing the conference hotels. Instead an abbreviated version will be published in February 2003 *Information Outlook*.

Sunday June 8, 2003

11:30 am - 01:00 pm Science Technology Newcomers Brunch

Join other First Time Attendees for this Newcomers Luncheon. All students and newcomers to the Science-Technology Division, as well as current members, are cordially invited to attend this informal brunch.

03:30 pm - 05:00 pm Science Technology Outgoing 2002-3 Board Meeting

Monday June 9, 2003

07:00 am - 08:30 am Science Technology Annual Business Meeting and Breakfast

The annual business meeting and breakfast of the Science-Technology Division is open to all division members. This is a great time to work with fellow division members, share in the accomplishments of the division, recognize our division award winners, and thank our sponsors.

03:30 pm - 05:00 pm Computer Science Literature Round Table (PAM lead; DST)

03:30 pm - 05:00 pm Serials Pricing: What do we pay? What do we get? (PAM Lead; DST cosponsor) Moderator(s): Robert Michaelson, Northwestern University

Speaker(s): Dana Roth, Caltech; Kenneth Frazier,
University of Wisconsin – Madison

9:00 pm –12:00 pm DITE Open House (DITE
lead; DST)
Science Fiction Author and Reception

03:30pm – 05:00 pm Contributed Papers Session -
Needs Assessment: Exploring Techniques & Studies
of Needs Assessment

Join science-technology librarians as they discuss
their unique issues, challenges, and best practices
in this contributed papers session.

Tuesday June 10, 2002

07:00 am - 08:30 am Academic Sci Tech Round
Table - (DCHE lead)

11:30am –1:00pm
Program Title: Visualization of Data in Science and
Social Science (DST lead with DITE)
Demonstration of visualization of information sources
in science and social science topics that translate
numeric data into graphical displays, using physics
simulation and social demographic data as examples.
The presenters will comment on how creating visual
displays of data can reveal underlying concepts and
the use of this data in communicating to broader
audiences.

Wednesday June 11, 2002

12:00 am - 01:30 pm Science Technology Incoming
2003-4 Board Meeting

11:30am –1:00pm Proteonomics, Genomics part 1

1:30pm –3:00pm Genomics and Proteonomics, Part
2 – Legal Licensing
Two speakers will discuss applications of genomic
research. From the perspective of a laboratory
researcher, a presentation on information developing
processes from someone who performs identification
and isolation procedures, followed by fundamental
research leading to applications. An intellectual
property rights attorney will discuss implications of
patents and licensing of genomic/proteomic data.

In Their Own Words - The Candidates for Sci-Tech Offices Speak Out

Each year *Sci-Tech News* asks the candidates for office four questions.
The answers are printed as received.

Chair-Elect

Leila B. Fernandez

Q. What role does SLA/STD have in the career of a new librarian in the Science/technology library?

A. The SLA / Science Technology Division is unique in that to the beginning librarian it provides broad exposure to the many roles that sci-tech information professionals may need to play in the workforce. Most important in this respect are the annual conference programs, mentorship and the division newsletter. Attending a conference is invaluable for establishing a network, but the continuing education sessions can also contribute immensely to achieving confidence and expertise in areas which may need some brushing up. The division's mentoring program can be truly rewarding from a beginner's perspective as well as for the mentor who is obliged to be both responsive and responsible. *Sci-Tech News*, the division's newsletter provides a much-needed function in keeping members informed and providing timely access to news and reviews, besides giving the newcomer a sense of belonging to a peer group.

Q. What is the most critical issue facing SLA and/or SLA/STD? What would you do about it?

A. I think the most critical issue facing SLA and STD is declining membership. We need new blood to bring in new ideas. To be truly representative of a global community of information professionals we need to actively recruit members in other countries. Some kind of subsidy may be necessary for members in countries where currency differentials may not allow active participation. More flexibility in charging fees may also encourage more attendance at conferences. I truly believe that if more information professionals could attend conferences they would become aware of the high quality programs that are offered and this will really help in membership retention. Committee participation is another way to give members a sense of belonging and an opportunity to share in the direction in which the division is moving.

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

A. I have found the annual conference with its continuing education sessions to be by far the most

significant contribution to my professional development. At my first conference, I attended as many of the programs offered by the BIO, CHE and STD divisions that I could pack into my conference schedule. As a science librarian who must wear many hats these sessions offered me a wealth of information. The continuing education sessions were also of exceptional quality. It was here that I got introduced to the bioinformatics databases and learned the complexities of chemical information sources. At the next conference, I promptly volunteered as professional development chair for the division which has been a truly rewarding experience. I hope to continue to serve the division in the future in more prominent roles.

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

A. The changing demands of the workplace require us to reinvent our roles as librarians and information professionals. In the case of sci-tech information professionals the common denominator is subject expertise which we need to leverage within an organization to achieve our goals and to further the profession. Advocacy appears to be a real need in today's world and that is only possible if we gain respect within the organizational structures in which we work. SLA can play an important role in our development as professionals ready to take on any challenges that may come our way.

Darra R. Combs

Q. What role does SLA/STD have in the career of a new librarian in the Science/technology library?

A. SLA and the Sci-Tech Division have important roles in providing continuing education for those librarians who are new to the sci-tech world. Annual conference sessions, formal classroom instruction, and teleconferences are all essential means of keeping up-to-date or understanding new areas of responsibility; SLA/STD does an exemplary job of offering such opportunities to members.

Involvement in a professional association like SLA shows that a librarian is serious about his or her professional development and is concerned about the health and viability of their profession. It is also one

of the best ways that I know of getting acquainted with your colleagues both locally and nationally; such networking opportunities are invaluable at any stage of a career.

Q: What is the most critical issue facing SLA and/or SLA/STD? What would you do about it?

A: Advocacy for librarians is a critical mission for SLA in this time of economic downturn and the aging of the profession. As librarians retire, and companies cut budgets and staff, our association needs to speak out about the importance of having information professionals as part of the business team or academic unit. The leadership of SLA should continue providing concrete ways that librarians can show their value to their organization, as well as speaking directly to the media as an advocate for information professionals.

Q: Let's turn the typical question around—what has been the most significant contribution of SLA to you?

A: SLA has given me a sense of community that I wouldn't have had otherwise. Being a member of SLA gives a librarian a world of contacts, resources, and knowledge. The relationships that I've built as a member of SLA, and other associations like it, have been invaluable to me in countless ways.

Q: What is the most important challenge that librarians will face in the next ten years?

A: There seems to be an undercurrent of panic in the profession since the Internet age began. The issue is not whether Google (or the next great search engine) will replace us, but how we will find our niche in the Internet world. Librarians need to look at themselves, analyze their skills, and market themselves as team members who can meet specific information needs within their organizations, better than anyone or anything else.

Secretary

Joseph R. Kraus

Q: What role does SLA/STD have in the career of a new librarian in the Science/technology library?

A: The major role for the Science-Technology Division (STD) is to create a forum for the communication of information and ideas between its members. The STD is in a unique position to foster communication between established and new librarians from a wide range of disciplines and institutions. If we could meet and talk with each other more often, I think that we would learn that our challenges are very similar, if not the same. We all have to deal with licensing issues, full text journal access issues, publisher mergers, management of staff, etc. As the Secretary

of the Division, I hope to better facilitate communication between our members.

Q: What is the most critical issue facing SLA and/or SLA/STD? What would you do about it?

A: The most critical issue for SLA and STD is our declining enrollment numbers and declining attendance at the Annual Conference. It starts with the need to recruit younger people into the library profession. If we can recruit more people into Librarianship, then we will then have an opportunity to show them the joys of science librarianship.

Q: Let's turn the typical question around - what has been the most significant contribution of SLA to you?

A: I have been a member of SLA and the Sci-Tech Division since 1995. Over the last 8 years, I have enjoyed becoming friends with many of the members. I thoroughly enjoy getting together with my friends, but I also look forward to meeting new members of the Division and of the Association. Without SLA, I would not have had the opportunity to meet other science librarians from all over the world, and to learn that my challenges are not unique.

Q: What is the most important challenge librarians will face in the next ten years?

A: Our biggest challenge is learning how to better market our talent and services. I have the feeling that many organizations will try (are trying) to phase out their library and/or information center. Upper management may think that the Computing Information Center can take place of the library. We need to show the upper management of the institution what kind of organizational skills and other talents we possess that CS/IT people do not have. The patrons of organizations that replace the library will only lose out. We need to better communicate and market our skills for the good of the organization.

Charlene M. Stachnik

Q: What role does SLA/STD have in the career of a new librarian in the Science/technology library?

A: The role of SLA/STD is to be a firm base where a new librarian can ask questions and be able to receive answers that are pertinent and explanative.

Q: What is the most critical issue facing SLA and/or SLA/STD? What would you do about it?

A. The most critical issue facing SLA/STD is interconnectivity. I want to be part of the process that keeps information flowing. With all the global challenges that are occurring the most important thing is keep standards high while also keeping the functions easily manipulative.

Q. Let's turn the typical question around – what has been the most significant contribution of SLA to you?

A. The most significant contribution of SLA to me is of SLA providing a venue to be able to discuss a concern or concerns with a broad array of people that have different levels of expertise. A lot of the time the ideas that are generated are ones that one wouldn't think of, but also, being able to discuss the solutions that have worked and why the people think that approach worked.

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

A. To me, this is the most important question of the four being asked. The most important challenge librarians will face in the next ten years is the ability to keep abreast of the constantly changing science and technology fields. Change is occurring at an ever-increasing pace. The last five years have had as much change as previous decades. The library must become better and more useable no matter which function it serves. The library must be what is most effective for its institution. What may work in one institution may not be appropriate in another. It is the role of the librarian to ascertain what is best. These days it seems like you began to understand what is really going on and then the technology changes and it feels like you're starting all over again. I envision the next ten years to change as rapidly as the past ten years. It is both invigorating and daunting to think what may come about in that time frame.

NEW PUBLICATIONS – NEW TECHNOLOGY from DEStech PUBLICATIONS



DEStech Publications, Inc. is a new publisher specializing in advanced technology and engineering. Its first offer of books, conference proceedings, CD-ROMs, and a patent/abstract service provide information on recent advances in advanced materials, ballistics, fire safety of materials, product and process engineering, and other subjects. Here is a sampling of recent publications.



Structural Health Monitoring 2002 — Proceedings of the First European Workshop

Paris, France.
Editor: Daniel L. Balageas, French National Aerospace Research Establishment
1-932078-08-8, 2002, 1317 pages, 6x9, hardcover
\$155.00

The first proceedings held outside the U.S. of a conference series devoted to smart materials and structures technology for structural health monitoring (SHM). The complete, illustrated texts of all 153 presentations are included. Applications include aeronautics, aerospace, buildings, and civil engineering structures.



BALLISTICS 2002 — 20TH International Symposium on Ballistics

Orlando FL.
Editors: Dr. Joseph Carleone, Aerojet Fine Chemicals, et al.
Sponsored by: Ballistics Division, National Defense Industrial Association (NDIA)
1-932078-11-8, 2002, Two volumes with CD-ROM
1298 pages, 6x9, hardcover
\$255.00

This is the most comprehensive new publication on ballistics technology. The two bound volumes and CD-ROM include the complete illustrated texts of all 160 reports from the recent symposium. The CD-ROM also includes advanced search tools for convenient research.



Proceedings of the Tenth U.S.-Japan Conference on Composite Materials

2002, Stanford University, CA
Editor: Fu-Kuo Chang, Aeronautics and Astronautics, Stanford Univ.
Organized by: • Air Force Office of Scientific Research
• American Society for Composites • National Science Foundation
1-932078-13-4, 2002, 1125 pages, 6x9, hardcover
\$155.00

Now in its tenth year, this is a major international conference with presentations by advanced materials specialists from around the world. Topics include automotive and civil engineering, nanomaterials, ceramic/metal composites, smart materials, and composite structures.



ACUN-4: Composite Systems: Macrocomposites, Microcomposites, Nanocomposites

Fourth International Composites Conference, 2002, University of NSW, Australia. Editors: Sri Bandyopadhyay, Materials Science and Engineering, University of NSW.
0-7334-1862-7, 2002, 585 pages, 8x11.5, softcover
\$149.50

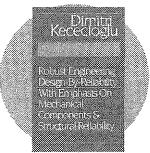
Sponsors: •Composites Institute of Australia • Canadian Association for Composite Structures and Materials • NASA Center for Aerospace Research • Swiss Federal Laboratories for Materials Testing and Research.
All 66 illustrated papers from the latest conference are included in this volume. The emphasis is on practical applications and new materials including nanomaterials and metal matrix composites



A New Century of FR Compounding

FRCA Proceedings, October 2002, Cleveland OH
1-932078-15-0, 2002, 176 pages, 8.5x11, softcover
\$99.50

Semi-annual conferences of the Fire Retardant Chemicals Association (FRCA) are focused on new developments in the fire retardance of product and structural materials. The 13 illustrated presentations from the latest conference are on the compounding of fire retardant (FR) additives for plastics, composites, and other polymeric materials.



Robust Engineering Design-By-Reliability with Emphasis on Mechanical Components and Structural Reliability, Volume 1

Dimitri B. Kececioglu, Ph.D., P.E., Aerospace and Mechanical Engineering, The University of Arizona
1-032078-07-X, 2002, 722 pages, 6x9, laminated hardcover
\$95.00

This new book is the first to provide an advanced methodology to achieve optimum designed-in reliability of products and components. All steps are clearly illustrated by worked practical examples. Specific applications feature mechanical components and structural members in wide use today.



2002 M&P—Ideas to Reality

34th International SAMPE Technical Conference, Baltimore MD.
Editors: Allan B. Goldberg, US Army Research Laboratory, et al.
Book: 0-938994-93-X-B, 1256 pages, 6x9 hardcover
\$110.00
CD-ROM: 0-938994-93-X-C, single CD-ROM in plastic case
\$110.00

The 107 illustrated papers in this new volume and CD-ROM present new developments in materials and process R&D and engineering. Applications include aircraft, electronics, civil infrastructure, transportation, and nanomaterials.

These and other recent publications are described in the current DEStech Publications catalog. To order publications or receive the free catalog, contact:



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Transportation Division

Roberto Sarmiento, Chair



The Transportation Division promotes the exchange of knowledge and information in transportation, both in general or in one of its many subdivisions including air, highway, rail, and water transport, and multimodal transportation.

A Look Forward, A Look Back

The beginning of a new year has always given me the frame of mind to reflect on what was accomplished the previous year and, more important, dream and plan for the coming year.

As Chair of our Division and a fortunate member of other transportation information-related activities, I would like to share with you my reflections and hopes.

SLA

What a tumultuous 2002 Winter Meeting we walked into. The presentation and discussion of our proposed bylaws was so divisive, it took until the annual meeting and a much-edited proposal to calm the members and leadership. By the fall vote, which turned out to be a resounding approval, (the actual vote count was: 2,231 ballots submitted; 2,081 in favor; 91 against; 59 invalid), the new association bylaws give chapters and divisions the ability to revise their operating documents, making it easier to modify as local conditions dictate. We feel the entire association will benefit by operating under these new bylaws.

The 2003 Winter Meeting will present us with another emotionally charged issue: recommendation for changing the association's name. This one is going to be interesting. I look forward to these discussions and will keep you posted.

The "smallish" Los Angeles Annual Conference was of particular interest to me, not only because of the programs and activities, but also because some afternoons and evenings were punctuated by L.A. riot police going to work and adoring Lakers fans having a good time.

The New York annual meeting was a constant preoccupation. Planning the programs, contacting speakers and volunteers, and worrying about sponsors and the astronomical cost of services appear to have consumed years out of my life. From now until June, the worries will continue, but the anticipation of our programs, speakers, and the actual meeting will make everything all right. I look forward to the contingent of European librarians that will talk about European librarianship in general and transportation information specifically. I also look forward to the attendance of a Division Chair from outside the United States.

Midwestern Transportation Library Consortium (now the Midwest Transportation Knowledge Network)

In the latter part of 2002, we saw the consortium develop from a paper project to a full-fledged program with officers, guiding principles, committees, goals and objectives, a contract with OCLC to catalog thousands of unique items, and the willingness of its members to work to make it a success. In addition, we changed our name to avoid confusion and better portray what we are trying to accomplish (hope SLA learns from us!).

This year is full of possibilities and challenges for the network. We look forward to working with OCLC to catalog our records and create our transportation union catalog. We also look forward to the network's possible expansion to include libraries outside the Midwest and, down the line, the creation of a national transportation union catalog. Personally, I look forward to, in the near future, stepping back from my network responsibilities and devoting all my energies to my library.

TRIS Online

In early 2002, members of the Transportation Research Board Information Services Committee (B-0002) concluded a very successful meeting with TRB and National Transportation Library (NTL) staffers to review and prioritize enhancements to TRIS and TRIS Online. Although some of the enhancements were put into practice throughout the year, I look forward to a much-improved system in 2003.

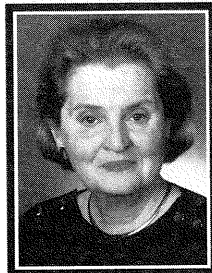
Conferences and Meetings

Continuing the trend of the last couple of years, in addition to the annual TRB and SLA meetings, the transportation information community was fortunate to have two other conferences in 2002: the OECD Second Information and Documentation Seminar on Transportation for Central and Eastern European Countries in Kaunas, Lithuania, and the First Midwest Regional Library and Information Services Conference in Madison, Wisconsin. All these meetings demonstrated the willingness of Division members to share their knowledge to make our world a richer transportation information community. Unfortunately, TRB and SLA are the only meetings I am aware of at this time taking place in 2003.

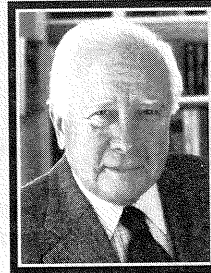


**Don't miss SLA's
94th Annual Conference
in New York
June 7-12, 2003**

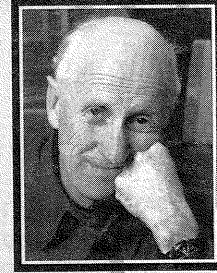
**This year's conference features three
dynamic keynote speakers.**



Madeleine Albright
Former US Secretary of State



David McCullough
Pulitzer Prize winning author



Stewart Brand
Futurist

www.sla.org/nyc2003

It's the Economy

Libraries have always worked close to their institution's budgetary edge, and 2002 proved a severe one for some of us. In my meetings and conversations with members and nonmembers throughout the year, budget reductions, travel restrictions, agency-wide cost-cutting measures, etc., were constantly repeated and referred to as a major factor of stress in our lives. Unfortunately, it appears that 2003 will bring more of the same and perhaps worse. Our NTL is up for reauthorization later this year, and some of us fear the fiscal climate in Washington may not be too healthy. Time will tell.

Division's Discussion List

What an exceptional year! We all know that our list is a great meeting place and tool for information exchange.

As list co-owner, I will share with you a little secret that is making me smile: We are experiencing a growth spurt. Every week we receive one or two new requests to join the list, from both the United States and abroad and mostly from non-Division members. What a great feeling. You are all to be congratulated for making our list such a success. Please keep it coming.

As I reflect on my accomplishments as your Chair and the honor entrusted in me, I would like to thank all Division members who volunteered their time to make the Division work. I look forward to 2003 and encourage those who have yet to share their time to join us.

Saludos,
Roberto

New Transportation Division Members December 10, 2002

Rebecca Ryzewski

Campbell-Ewald Advertising
Reference Ctr
30400 Van Dyke Ave
Warren, MI 48093-2368
UNITED STATES OF AMERICA
Phone: 1-586-558-6196
Fax: 1-586-575-9018
Email: rrydzews@cecom.com

Conrad Kartanas

7011 16th Ave NE
Seattle, WA 98115-5734
UNITED STATES OF AMERICA
Phone: 206-527-6610
Fax:
Email: sarunas_kartanas@
hotmail.com

Carol Kindle Lee-Roark

CKLR Research & Consulting
PO Box 90
Gallatin Gateway, MT 59730-0070
UNITED STATES OF AMERICA
Phone: 1-406-388-3450
Fax:
Email: roark@imt.net

Kaleidoscope

Division member Ernest H. Robl has self-published *Understanding Intermodal: A portable primer on today's multimodal transportation equipment and systems*. Topics include containers, other specialized equipment, intermodal terminals and railroad equipment. Contains a glossary and list of resources. For ordering information see <http://www.robl.w1.com/im-bk/index.htm>.

Roger Garren, formerly with the USDOT Transportation Library, has joined the National Transportation Library. While at USDOT Library, he worked as a reference librarian in the Aviation Branch. At NTL, Roger will work in both reference and technical services. He received his MLS from Catholic University of America in October 2002. Roger can be reached at the NTL at: roger.garren@bts.gov

New Version of TRIS Available

The National Transportation Library has released version 2.7 of TRIS Online. This new version has incorporated a number of features requested by users, including the ability to limit searches by date range or a specific year. Results can now be displayed in a printer-friendly format.

TRIS Online has about 10,000 full-text links and that number is growing monthly.

The Midwest Transportation Knowledge Network, TRIS Online, the Internet and the Three-Legged Stool: Excerpts

by Jerry Baldwin, Library Director
Minnesota Department of Transportation

Jerry Baldwin, Mn/DOT Library Director, has written a paper, "The Midwest Transportation Knowledge Network, TRIS Online, the Internet and the Three-Legged Stool" that reports on a study of access to recently published reports in the field of transportation, both print and electronic. (The Midwest Transportation Knowledge Network [MTKN] is being created to improve access to transportation-related information.) This article comprises excerpts from that paper. The full report is available online at www.dot.state.mn.us/library/mtnk.html. For further information, please contact Jerry at jerry.baldwin@dot.state.mn.us.

Among transportation officials and practitioners, one of the most frequently requested services is electronic access to the full-text of transportation-related reports. Although there is a general assumption that a large portion of transportation-related materials are available on the Internet, few, if any, studies have been done on the topic.

Findings [from Mn/DOT's recent study] show that of 100 recently published documents selected from the TRIS database, full-text, electronic copies of 35 could easily be located on the Internet. Access to an additional 47 titles, in print, could be provided through library networks. This gives a total of 82% of these reports that could be relatively easily accessed by anyone with access to the Internet and to library services.

...for these TRIS citations, using library services alone provides access to nearly double the number of resources as would using the Internet alone (67% vs. 35%) This result is especially surprising since items readily available through library services such as journal articles and conference proceedings were excluded from the study as were AASHTO and TRB publications, only a limited number of which are accessible via the Internet. Had citations to these resources been included, the numbers would have even more strongly favored library services.

Discussion

The focus of this study is, of course, access to the full-text of transportation related information resources. The results of this study show that, for the 300 citations identified in this study, only 108,

or 36% are readily accessible in electronic format. Library or other document delivery services would be needed to access the remainder.

...more vexing for the average member of the transportation community, is searching for information resources relating to a specific topic. Since the arrival of nearly universal access to the Internet and the availability of seemingly simple to use search engines such as Google, most people, including transportation officials and practitioners, rely on these resources to locate needed information. Unfortunately few of these experts in their own disciplines will ever become skilled at locating either known resources or identifying relevant materials on the Internet.

Conclusion

The transportation community, no doubt due to its orientation towards technological solutions, seems to be enamored with the concept of digital and virtual libraries. "The real challenge of the research library lies in creating a virtual library that is as tangible and functional as our physical libraries – embracing collections, services, and expertise." (Wendy Pradt Lougee, University of Minnesota Librarian, "Digital Library News," Spring, 2003, v.3:1, <http://www.lib.umn.edu/about/dln/dlnSpring2003.pdf>)

...[the Mn/DOT] study shows that, in order to provide the information and corresponding knowledge creation the transportation community needs, it cannot rely on just a single resource. It requires increased investment in and attention to its library collections, to services such as TRIS, and to the expertise needed in contributing resources to WorldCat and assisting its members in identifying and accessing information. Collections, services and expertise constitute the three-legged stool MTKN is working to develop that will provide a stable foundation for access to transportation knowledge.

USA PATRIOT Act: Information Sources for Librarians
American Library Association and the Association of Research Libraries
Rita Evans, Reference Librarian
Institute of Transportation Studies Library
University of California, Berkeley

Both the American Library Association and the Association of Research Libraries have extensive information on their Web sites about the USA PATRIOT* Act and homeland security issues of concern to librarians. These are excellent sources of both background and practical information.

ALA's site features a section within the Office of Intellectual Freedom titled "FBI in Your Library" at <http://www.ala.org/alaorg/oif/fbiinyourlibrary.html>. ALA's policies, information about the USA PATRIOT Act, and links to news articles about the FBI in libraries can be found here.

For more information about the practical implications of the USA PATRIOT Act, see the ALA's "Guidelines for Librarians on the USA PATRIOT Act—What to do before, during, and after a 'knock at the door?'" (<http://www.ala.org/washoff/patstep.pdf>) It reiterates the need to consult with your local legal advisers, review and update your written policies and procedures, and train your staff so they know how to respond appropriately to law enforcement inquiries.

ALA also has a page on "Libraries and the Patriot Legislation" (<http://www.ala.org/washoff/patriot.html>) that includes resources and links.

ARL's "Anti-Terrorism Legislation, Homeland Security, and Related Issues" page (<http://www.arl.org/info/frn/other/atl.html>) contains links to information on the Homeland Security Act, access to government information, the new FBI guidelines, the USA PATRIOT Act, and responses to proposed antiterrorism efforts.

Other Sources

Mary Minow, former librarian and now a consulting attorney, has written "The USA PATRIOT Act and Patron Privacy on Library Internet Terminals" (<http://www.llrx.com/features/usapatriotact.htm>), which contains a lot of useful information in a Q&A format about topics including record keeping and the need to train staff. She also has developed a grid that shows the types of court orders, types of information, legal standards, and legal authority regarding library records under recent legislation. See "Library Records Post-Patriot Act (Federal Law)" at <http://www.llrx.com/features/libraryrecords.htm>.

Geraldine Collins of the University of North Florida has published a paper in the fall issue of the newsletter of the Florida Chapter of the Association of College and Research Libraries, titled "The USA PATRIOT Act and Florida Libraries: Are we ready to greet the law at the public services desk?" (<http://www.unf.edu/library/facrl/article10902.html>). This is a good summary of points addressed in other sources: Plan ahead, review and update policies as needed, train staff, and designate a point person to respond to inquiries.

Leigh Stewart Estabrook, professor at the Graduate School of Library and Information Science at the University of Illinois at Urbana-Champaign, conducted a survey of more than 1,000 public libraries in December 2001 to determine their responses following the September 11 terrorist attacks, such as restricting patron access, reporting patron activity to the FBI, etc. Results of the survey are at <http://www.lis.uiuc.edu/gslis/research/national.pdf>. A report on and analysis of the Illinois results is published in the winter 2002 issue of *Illinois Libraries* (http://www.cyberdriveillinois.com/publications/pdf_publications/illlibrary_v84_n1.pdf).

First Monday published "Libraries, the Internet and September 11" in its December 2001 issue (http://www.firstmonday.org/issues/issue6_12/matthews/index.html). Written by Judy Matthews, librarian, and Richard Wiggins, senior information technologist, both at Michigan State University, the article looks at some specific responses by libraries and raises a number of thought-provoking questions.

The Electronic Frontier Foundation, an association dedicated to preserving digital rights, examines how the USA PATRIOT Act relates to online activities at http://www.eff.org/Privacy/Surveillance/Terrorism_militias/20011031_eff_usa_patriot_analysis.html. Librarians and systems personnel will be interested in their analysis of how law enforcement powers are expanded under the act.

You can find the full text of the USA PATRIOT Act at <http://www.ins.usdoj.gov/graphics/lawsregs/patriot.pdf>.

*"USA PATRIOT" stands for "Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism."

Gosh! I always wondered....

Dr. Juana Noit



Skyscrapers

Although Chicago is really the “birth city” of the modern skyscraper, most people see New York City as the capital city of skyscrapers. Its skyline is world famous, featured in numerous paintings, photographs, and movies. It is instantly recognizable by many around the world.

How did the buildings that touch the sky evolve? Historically, they date to structures such as the pyramids, the protective towers of early Italy, and European church spires. Whether built as a tomb and memorial, as protection from invaders and a vantage point for defense (for those who could afford them), or as a lofty testimony of faith (and often a competitive gesture between cities), the tall buildings were engineering marvels.

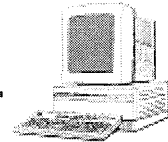
One of the problems with the early structures was the reliance on stone and the limitations inherent in their use. Walls had to be thick at the bottom to support their great weight. As a result, height was limited and usable interior space was very small in comparison to the building’s overall size. In addition, windows and wall openings had to be kept to a minimum for structural strength, resulting in dark, poorly ventilated interiors. This changed with the invention of the flying buttress, moving some of the support outward off one set of walls to another and allowing for more open interior space and larger windows. Dramatic increases in height became possible. Look at some of the European cathedrals for breathtaking examples of the fascinating architecture that allowed for the soaring and airy buildings of faith. In New York City, look at Trinity Church (Broadway and Wall Street) or St. Patrick’s Cathedral (Fifth Avenue and 50th Street). They may not be as tall or large, but represent wonderful inner-city examples of religious buildings.

Another major step forward was the use of metal skeletons with interior columns bearing the load. Now the external frame could incorporate lots of glass and windows without threatening structural integrity. Interior floor space was opened up for offices, commerce, and residences. The core became the building’s structural and utility backbone.

Almost literally, the sky was the limit. The skyscraper reached ever higher and the architecture became very imaginative. Innovation continued. There is interesting history in the competition between buildings vying for tallest at the time. One team built a spire inside the building and unexpectedly raised it on top to win. Another included a dirigible mooring station (used, I believe, once!) to add height.

In addition to mere height, the architects built for grandeur and beauty. The stone, marble, steel, and glass presented a statement and defined the architects and the companies that owned the buildings. In many ways, a skyscraper is much more than just a tall building. It is a statement.

Must-see buildings in New York include the Flatiron Building (23rd Street and Fifth Avenue), Woolworth Building (Broadway and Park Place), French Building (Fifth Avenue and 45th Street), Rockefeller Center (50th between Fifth and Sixth Avenues), Citicorp (53rd and Lexington), Chrysler Building (42nd and Lexington), and the Empire State Building (34th and Fifth). Don’t just look up—check out the façade and the lobbies. As you look, wonder about those people who walked on those girders, delivered the beams to these cramped city streets, and designed the building structure and operating systems. Really makes one wonder!



This time around, I'm going to have a look at a few fun and educational sites for science and engineering:

A Sightseer's Guide to Engineering
(<http://www.engineeringsights.org/>)

If you or your family are planning a trip in the United States and are interested in seeing some engineering-related sites, this site is for you. This site, sponsored by the National Society of Professional Engineers and National Engineering Week, lists great engineering accomplishments, technology museums, industrial facilities that provide tours, historical sites and several other sites. The sites are searchable by state, engineering discipline or type of site.

How Stuff Works
(<http://www.howstuffworks.com/>)

From microwave ovens to jet engines to yo-yos, this site contains several articles and illustrations to explain how things work. Not only does it explain modern technology, but also explains concepts such as e-commerce, religion, holidays and the origins of certain traditions. There are articles that explain movie special effects, and the differences between special effects and reality, and articles that explain how things will work in the future such as human cloning and nuclear fusion propulsion.

Wacky Patent of the Month
(<http://www.colitz.com/site/wacky.htm>)

Each month, the Law Office of Michael J. Colitz Jr. & Associates chooses a "wacky patent of the month" – an unconventional patent that has been granted. Examples of wacky patents include ones for an "eye protector for chickens" and a "pat on the back apparatus." This site includes previous wacky patent of the month picks back to 1995

Great Engineering Achievements of the 20th Century
(<http://www.greatachievements.org/>)

This site lists the top twenty engineering achievements of the 20th century, based on the nominations from sixty professional engineering societies. The great achievements range from the

automobile to spacecraft to household appliances to high performance materials. For each of the twenty achievements, a brief history and timeline are provided.

19th Century Scientific American
(http://www.history.rochester.edu/Scientific_American/)

Those familiar with the scientific publication *Scientific American* will find this site fascinating – the 19th century version of the publication is very different from the current version. The first volume was a 15 x 20 newspaper, that included poetry and religious news as well as scientific news and anecdotes from around the United States. This site gives an idea of what the content of the 19th century version was like.

Animated Engines
(<http://www.keveney.com/Engines.html>)

Using simple drawings and animated gif images, Matt Keveney shows how several types of internal combustion, steam and Stirling engines work – including rocket and jet propulsion engines. The moving diagrams and accompanying text make it easy to understand the basics of how engines work.

Bridge Building—Art and Science
(<http://www.brantacan.co.uk/bridges.htm>)

This site presents the art and science of bridge building including the basics of design, engineering and construction, and an index of bridges, bridge designs. There is even a location on the site where you can design your own bridges.

Discover engineering online
(<http://www.discoverengineering.org/eweek/main.htm>)

This site is a fun site to introduce engineering to children. The site has several articles explaining what engineers do and explains how engineering is used to create common everyday things. There are experiments and activities that kids can do themselves to learn more. The site also includes games, puzzles, frequently asked questions and links to other sites.

Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science. Editors: T. O'Toole and T.V. Inglesby. 1538-7135. Mary Ann Liebert, Inc. v.1, 2003. 4/year. \$324.00. <http://www.liebertpub.com/bsp/default1.asp>

Biodefense is a public health and national security issue of the highest priority. This new journal *Biosecurity and Bioterrorism* covers bioscience, medical and public health response, infrastructure and institutions, international collaborations, agroterrorism/food safety, and citizen response and responsibility. The journal provides an international forum for debate and exploration on the many issues posed by biological weapons and terrorism. *Biosecurity and Bioterrorism* will also play a significant role in establishing a cohesive and urgently needed vehicle for the establishment of major educational efforts and interaction on issues of research, policy, prevention, and preparedness. The journal will pull together national and international strategy, professional practice, and technical and scientific issues and integrate them in a way to foster communication within various professional communities, including medicine, public health, law, national security, bioscientific research, and vaccine and drug development.

Bulletin of Earthquake Engineering. 1570-761X. Editor: A. Ansal. Kluwer. v.1, 2003. 3/year. \$150.00. <http://www.kluweronline.com/issn/1570-761X/current>

Bulletin of Earthquake Engineering, the official publication of the European Association for Earthquake Engineering, is devoted to original and interdisciplinary, peer-reviewed papers on theoretical and applied research related to the broad spectrum of earthquake engineering. The journal provides a forum for the European Earthquake Engineering Community to present and discuss matters of major interest, such as important European damaging earthquakes, new developments in earthquake regulations, and national policies applied after the occurrence of major seismic events (for example strengthening of existing buildings, etc.). Topics that fit the broad spectrum of *BEE* include but are not necessarily restricted to: seismic hazard studies and methods for mitigation of earthquake risks; earthquake source mechanism and strong motion characterization and their use for engineering applications; response and analysis of geological and geotechnical site conditions under earthquake excitations; cyclic behavior of soils; response,

analysis and design of earth structures and foundations under seismic conditions; zonation and microzonation methodologies; earthquake scenarios and vulnerability assessments; earthquake codes and improvements; response, analysis and design of all man made structures under seismic conditions; performance based seismic evaluation and design; repair and strengthening; damage assessments; transportation and lifeline systems in seismic environments; seismic response of historical monuments and structures; seismic isolation, passive energy dissipation, active control of vibrations and other modern technologies for energy dissipation; and earthquake risk mitigation policies and methodologies.

Everyday Food. Editor: J. Hill. Martha Stewart Living Omnimedia. v.1, 2003. 26/year. \$18.00. <http://www.marthastewart.com/>

Everyday Food: It's small enough to fit in your purse, but big enough to simplify your life, with more than 50 fast recipes per issue, from entrées to desserts and side dishes, plus clever kitchen tips and techniques. All our recipes are special, but they use just supermarket ingredients and equipment you already own. You don't need special stores, special skills, special tools—or lots of time.

Information Visualization. 1473-8716. Editor: C. Chen. Palgrave Macmillan. v.1, 2002. 4/year. \$347.00. <http://www.palgrave-journals.com/ivs/>

Information Visualization is a central forum for all aspects of information visualization and its applications. The journal is essential reading for researchers and practitioners of information visualization and is of interest to computer scientists and data analysts working on related specialities. Articles in the latest issue include: Aesthetics versus functionality, Information visualization for advanced vehicle displays, Cognitive measurements of graph aesthetics, Representing high-dimensional data sets as closed, Sensitivity encoding to support information space navigation: a design guideline, Liver cancer detection system based on the analysis of digitized color images of tissue samples obtained using needle biopsy, and DEVID: a media design and software ergonomics integrating visualization for document retrieval.

International Journal of Science and Mathematics Education. 1571-0068. Editor: F. Lin. Kluwer. v.1, 2003, 4/year. \$180.00. <http://www.kluweronline.com/issn/1571-0068/current>

The objective of this journal is to publish original, fully peer-reviewed articles on a variety of topics and research methods in both science and mathematics education. The journal includes articles that address common issues in mathematics and science education and cross-curricular dimensions more widely. Contemporary educators highlight the importance of viewing knowledge as context-oriented and not limited to one domain. This concurs with current curriculum reforms worldwide for interdisciplinary and integrated curricula. Modern educational practice also focuses on the use of new technology in assisting instruction which may be easily implemented into such an integrated curriculum. The journal welcomes studies that explore science and mathematics education from different cultural perspectives.

International Journal of Web Engineering and Technology (IJWET) 1476-1289. Editor: L. Uden. Inderscience. v.1, 2003. 4/year. \$435.00. <http://www.inderscience.com/editorialindex.html>

IJWET aims to provide an interdisciplinary forum for the exchange of ideas concerning theoretical, technical, practical, social and pedagogical issues. It focuses on the evolution of the software engineering process and dedicated technologies, methods and models for Web applications. Subjects covered include: design methods and models; architectural, design and navigation patterns, and pattern mining; application processes and methodologies; integration with legacy systems; migration of legacy systems to Web environments; performance monitoring and evaluation; Web knowledge management; evaluation and metrics; mobile web services; Web engineering for wireless platforms; user interface design issues; advanced hypermedia functionality; ethical, cultural and societal issues associated with Web engineering and technologies, and their impacts; e-commerce and business; Web and universal accessibility; and Semantic Web.

Iterations: An Interdisciplinary Journal of Software History. 1541-843X. Editor: J.R. Yost. <http://www.cbi.umn.edu/iterations/tc.html>

Iterations is a new journal published by the Charles Babbage Institute (CBI) to provide an electronic forum for scholarship and other discourse on the history of software. It is launched as a component of CBI's NSF-sponsored software history project, "Building a Future for Software History." Established in 1977, the Charles Babbage Institute (CBI) is a research center and archives at the University of Minnesota dedicated to promoting study of the history of information technology. CBI conducts and fosters

research, preserves relevant documentation, offers graduate fellowships, and sponsors symposia, conferences, and publications. The NSF awarded a grant to CBI in September 1999 to develop, organize, and disseminate resources and knowledge on the history of software. The project has four components: organizing a knowledge network of individuals in the software community, creating a Web-based historical dictionary of software, publishing an online journal of software history, and conducting an oral history initiative to interview pioneering individuals in software from academe and industry.

Journal of Academic Ethics. 1570-1727. Editor: D.C. Poff. Kluwer. v.1, 2003. 4/year. \$220.00. <http://www.kluweronline.com/issn/1570-1727/current>

The *Journal of Academic Ethics* is an interdisciplinary, peer reviewed journal devoted to the examination of ethical issues related to all aspects of post-secondary education, primarily within a university context. The journal provides a forum for the publication and discussion of original research on a broad range of ethical considerations in research, teaching, administration and governance. Representative areas of investigation include ethical considerations in: selection of research subjects and research methods; treatment of human and animal subjects; treatment of diversity regarding race, gender, class, ethnicity; referencing and citation behaviour; grant and funding assessments; publication editing, refereeing processes and procedures; conflicts of interest; plagiarism, deception, fraud; and graduate training versus exploitation of graduate students.

Journal of Archival Organization. 1533-2748. Editors: R.C. Carter and T.J. Frusciano. Haworth Information Press. v.1, 2002. 4/year. \$120.00. <http://www.haworthpressinc.com/store/product.asp?sku=J201>

The *Journal of Archival Organization* is an international journal encompassing all aspects of the arrangement, description, and provision of access to all forms of archival materials. Included are articles on processing techniques and procedures, preparation of finding aids, and cataloging of archival and manuscript collections in accordance with MARC, AACR2, and other rules, standards, and cataloging conventions. The journal places emphasis on emerging technologies, applications, and standards that range from Encoded Archival Description (EAD) and methods of organizing archival collections for access on the World Wide Web to issues connected with the digitization and display of archival materials. Topics include: management and staffing issues relating to archival organizational functions; specifically, arrangement and description of historical records collections; innovative approaches to methods of intellectual and physical access; retrieval of historical records in information systems; and reviews of projects and procedures, standards, and

issues in organizing archival collections for storage and onsite use and availability through the Internet.

Journal of Grid Computing. 1570-7873. Editors: P. Kacsuk and I. Foster. Kluwer. v.1, 2003. 4/year. \$288.00. <http://www.kluweronline.com/issn/1570-7873/current>

Grid computing is an emerging technology that enables large-scale resource sharing and coordinated problem solving within distributed, often loosely coordinated groups—what are sometimes termed “virtual organizations”. By providing scalable, secure, high-performance mechanisms for discovering and negotiating access to remote resources, grid technologies promise to make it possible for scientific collaborations to share resources on an unprecedented scale, and for geographically distributed groups to work together in ways that were previously impossible. Similar technologies are being adopted within industry, where they serve as important building blocks for emerging service provider infrastructures. Even though the advantages of this technology for classes of applications have been acknowledged, research in a variety of disciplines, including not only multiple domains of computer science (networking, middleware, programming, algorithms) but also application disciplines themselves, as well as such areas as sociology and economics, is needed to broaden the applicability and scope of the current body of knowledge.

Journal of Tree Fruit Production. 1055-1387. Editor: W.R. Autio. Haworth Information Press. v.1, 2000. 2/year. \$95.00. <http://www.haworthpressinc.com/store/product.asp?sku=J072>

The *Journal of Tree Fruit Production* makes available the results of practical research on growing tree fruit. Covering training, growth regulation, pest management, sustainable production, harvesting, handling, storage, and marketing, the journal aids those in the fruit growing industry to keep up to date with current research. As a result, the journal helps the industry in its ability to change more rapidly, enhancing its profitability and environmental consciousness. The journal disseminates results of current research that are immediately applicable to researchers, educators, consultants, and growers in a useful, legitimate, scientific format. The journal focuses on new and innovative approaches and technologies related to the management and handling of apples, pears, peaches, plums, cherries, and other tree fruit. International in scope, the *Journal of Tree Fruit Production* presents findings on original research, practical topics in the culture of fruit, and lengthier review articles in a professional journal style and format.

Knowledge Management Research and Practice. 1477-8238. Editor: J.S. Edwards. Palgrave Macmillan. v.1, 2003. 2/year. \$163.00. <http://www.palgrave-journals.com/kmrp/index.html>

KMRP includes peer reviewed articles on all aspects of managing knowledge, organizational learning, intellectual capital and knowledge economics. This will include not just focus on the organizational level, but all levels from that of the individual to that of the nation or profession. This will include both theoretical and practical aspects, and especially the relationship between the two. There will be a particular emphasis on cross-disciplinary approaches, and on the mixing of “hard” (e.g. technological) and “soft” (e.g. cultural or motivational) issues. *KMRP* is the official publication of the OR (Operations Research) Society, which has members in 53 countries and which provides training, conferences, publications and information to those working in operations research.

Plant Biotechnology Journal. 1467-7644. Editor: K. Edwards. Blackwell Publishing. v.1, 2003. 6/year. \$488.00. <http://www.blackwellpublishing.com/journal.asp?ref=1467-7644>.

Published in association with the Society for Experimental Biology and the Association of Applied Biologists, the aim of the new *Plant Biotechnology Journal* is to publish substantial, world-class primary research articles in applied plant science, involving applications of plant biotechnology and plant biology across all industrial sectors. Applications include agriculture, horticulture, food and food processing, paper, pulp and timber, pharmaceuticals, medical, phytoremediation, marine applications, non-food uses of plants and industrial crops. With the rapid developments in genomic sequencing and analysis, and availability of new technologies to analyze functional genomics and proteomics, the combined powers of genetics, biochemistry and cell biology are leading to the very rapid production of new information. The journal will not publish improvements to technologies such as transformation efficiencies of particular cultivars and species.

Sleep and Biological Rhythms. 1446-9235. 3/year. <http://www.blackwellpublishing.com/journal.asp?ref=1446-9235>

Sleep and Biological Rhythms is the official English language journal of the Japanese Society of Sleep Research, and publishes original research articles dealing with sleep and wakefulness, including biological rhythm. Papers in basic science, medicine and social science relating to sleep and/or biological rhythm are included.

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

SCIENCE (GENERAL)

Q180 2002-19101 1-4020-7000-4
The economics of science and technology; an overview of initiatives to foster innovation, entrepreneurship, and economic growth.
 Feldman, Maryann P. et al.
Kluwer Academic Pubs., ©2002 135 p.
 \$79.50

To provide an initial reference to the economics of science and technology for students and policy makers, Feldman (Johns Hopkins U.), Albert N. Link (U. of North Carolina-Greensboro) and Donald S. Siegel (U. of Nottingham) overview key topics discussed in the literature. They believe that understanding the current science and technology landscape requires knowing how the institutions that support them evolved. Their focus is on the conclusions of the literature rather than its theoretical foundations.

Q183 2001-57962 0-306-46749-6
Evaluation of science and technology education at the dawn of a new millennium.
 Title main entry. Ed. by James W. Altschuld and David D. Kumar. (Innovations in science education and technology)
Kluwer Academic/Plenum, ©2002 277p.
 \$40.00 (pa)

Specialists in evaluating education examine how the practice has functioned in the past, and the potential roles it could play in the future. They consider the evolution of reform efforts, of science, of technology, of process and achievement, of teacher training programs, and research and methodology.

MATH, COMPUTERS

QA76 0-7695-1638-6
Database engineering and applications symposium; proceedings. International Database Engineering and Applications Symposium (6th: 2002: Edmonton, Canada) Ed. by Mario A. Nascimento et al.
Computer Society Press, ©2002 295 p.
 \$156.00 (pa)

Twenty-eight papers from the July 2002 symposium present new research on the engineering of database systems for new application domains, and the related areas of information retrieval, multimedia, human machine interface, and communication. The findings

include an algorithm for the simplification and normalization of search conditions in a relational database, a graphical query language for XML, a location dependent benchmark with mobility behavior, and an index structure for improving closest pairs and related join queries in spatial databases. No subject index.

QA76.57 0-13-047117-8
Intelligent systems for video analysis and access over the internet.
 Zhou, Wensheng and C.C. Jay Kuo.
Prentice Hall, ©2003 183 p.
 \$89.00

The latest advances in automated multimedia content analysis, indexing, and access for the next-generation multimedia Web are surveyed, and new algorithms are presented for analyzing the perceptual and conceptual contents of any multimedia stream. Intelligent software agents are introduced for processing and decomposing multimedia streams in real time, and integration of automated video analysis, clustering, and classification is demonstrated. Chapters cover on-line scene change detection of multicast video, knowledge-based video hierarchical classification, and video/audio/text feature representation and analysis. Zhou works in an information science lab. Kuo teaches electrical engineering and mathematics at the University of Southern California.

QA76.6 2002-19765 0-13-060928-5
Object-oriented defect management of software.
 Younessi, Houman.
Prentice Hall, ©2002 359 p.
 \$59.99

Describes techniques for both preventing design defects while code is being written, and uncovering defects through testing after the code is complete. Many of the approaches have been borrowed from traditional code development and modified to work with object-oriented programming. Younessi (Rensselaer Polytechnic) first discusses the importance of thoroughly identifying and documenting the user requirements, and reviews the principles of good software design. He then presents strategies for testing individual classes, clusters of classes, and the integrated system.

QA76.73 1-55570-441-7
The librarian's and information professional's guide to plug-ins and other web browser tools; selection, installation, troubleshooting.

Benjes-Small, Candice M. and Melissa L. Just.
Neal-Schuman, ©2002 171 p.
 \$45.00 (pa)

Librarians Benjes-Small and Just offer advice on web browser plug ins. They examine which ones are useful on public workstations, which ones may serve the library's purposes on their own web sites, and which ones might cause problems. System requirements, installation instructions, and trouble shooting tips are covered.

QA76.76 0-471-37737-6
Encyclopedia of software engineering, 2d ed.; 2v.

Title main entry. Ed. by John J. Marciniak.
John Wiley & Sons, ©2002 1911 p.
 \$695.00

The first edition of this two-volume reference, published in 1994, was 25 percent smaller (and less than half the price); but there's no way for a reference like this to shrink as the field mushrooms. A foreword by Victor R. Basili (U. of Maryland) sets the context by defining the discipline of software engineering and its unique characteristics: its inherent complexity, the lack of precedent models, and "the fact that software is developed (created), not produced (manufactured)." It has all been harder to work out than anyone anticipated. Editor-in-chief Marciniak shepherded the efforts of editorial board, contributors, and reviewers to produce this comprehensive and meticulously prepared reference to concepts and terminology, thus sparing students and professionals the necessity of time-consuming, head-spinning searches through scattered literature. Signed, alphabetically arranged articles, each with a bibliography, provide in-depth treatment. The index helps with navigation of the themes.

QA76.9 0-07-222282-4
Anti-hacker toolkit. (CD-ROM included)

Jones, Keith J. et al.
McGraw-Hill/Osborne, ©2002 711 p.
 \$59.99 (pa)

Explains how to use 100 plus software tools for auditing systems on a network, auditing a network, and investigating incidents. The authors also overview some of the most common hacking programs used in attacks, and how to detect them on a system. Topics include port scanners, vulnerability scanners, password crackers, and war dialers. Among the specific products described are Netcat, Nessus, Tripwire, John the Ripper, and the Forensic Toolkit. The CD-ROM contains demonstration and open source security tools.

QA76.9 2002-025668 1-4020-7054-3
Applications of data mining in computer security.

Title main entry. Ed. by Daniel Barbará and Sushil Jajodia. (Advances in information security; 6)
Kluwer Academic Pubs., ©2002 252 p.
 \$120.00

It is estimated that less than four percent of computer intrusions are detected or reported, but computer intrusions usually leave traces in audit data trails. This volume presents nine papers that explore the use of data mining for the creation of tools for the detection and analysis of intrusions and attacks. Topics include an architecture for anomaly detection, a geometric framework for unsupervised anomaly detection, fusing a heterogeneous alert stream into scenarios, adaptive model generation, and e-mail authorship attribution for computer forensics.

QA76.9 0-12-443895-4
Database and data communications network systems; techniques and applications; 3v.

Title main entry. Ed. by Cornelius T. Leondes.
Academic Press, ©2002 952 p.
 \$995.00

Though the use of databases and data communication networks has been expanding at an exponential rate, we ain't seen nothin' yet. Technologies for efficient data organization, data query, security, and load balancing are keys to the future. In this three-volume work, 25 carefully prepared and assembled contributions provide background and foundation basics as well as advanced information on how to appropriately select database organization, query strategy and network architecture. Volume 1 covers data processing techniques (object-oriented structure, multilevel organization, data compression, and security aspects) as well as query methods (e.g. data mining, fuzzy query processing, and geometric hashing). The second volume covers applications in the realms of scientific investigation (data visualization, virtual environments), manufacturing, engineering support, and corporate activities. The third volume includes coverage of networking, ATM, and the web and then brings all facets together for consideration of vertically integrated system design. The chapters are self-contained, written by experts in industry, government, and academia under the editorial leadership of Cornelius T. Leondes, well-known for his contributions to system analysis and design.

QA76.9 2001-025368 0-8493-0037-1
Managing and mining multimedia databases.

Thuraisingham, Bhavani.
CRC Pr., ©2001 327 p.
 \$74.95

The focus of this book is on managing and mining multimedia databases for the electronic enterprise. Database management system techniques for text, image, audio, and video databases are described, and issues and challenges regarding mining multimedia databases and integrating them with the Web are discussed. Written for technical managers, executives, and technologists, the book covers

underlying concepts, architectures, and data models, privacy issues, and emerging standards and products. Six appendices provide background on areas such as object technology, security, and e-commerce. The author is chief scientist in data management at a private sector company.

ASTRONOMY

QB539 0-8133-4037-3
Solar neutrinos; the first thirty years. (reprint, 1994)
 Title main entry. Ed. by John N. Bahcall et al.
Westview Press, ©2002 462 p.
 \$50.00 (pa)
 Updated with a new three-page introduction and three additional articles from 1998 and 2001, this collection of reprints focuses on solar models, neutrino experiments, nuclear reactions, neutrino oscillations and mixing, and helioseismology. The new papers (there are now 113 published between 1964 and 2001) report results of experiments at the Super-Kamiokande and Sudbury Neutrino Observatories and show that helioseismological measurements confirm the standard solar model predictions. There is no index.

PHYSICS

QC718 0-521-80389-6
Principles of plasma diagnostics, 2d ed.
 Hutchinson, I.H.
Cambridge U. Pr., ©2002 364 p.
 \$65.00
 Hutchinson (M.I.T.) gives a detailed analysis of the principles of plasma physics upon which plasma diagnostics are based. The second edition has been revised and updated to reflect changes since the publication of the first edition in 1987. New material includes neutral-beam-based diagnostics, flow measurement with mach probes, equilibrium of strongly shaped plasmas and fusion product diagnosis. For graduate students and professionals with little plasma physics background, and as a reference for experienced plasma physicists.

CHEMISTRY

QD39 2002-33823 1-59033-449-3
New perspectives in chemistry and biochemistry.
 Title main entry. Ed. by G.E. Zaikov.
Nova Science Publishers, ©2002 113 p.
 \$98.00
 Articles presented here were written by noted researchers of different Institutes of the Russian Academy of Sciences, and reflect the latest work in areas such as surfaces spin labeling, cryomobilization of biologically active compounds on a polymer carrier, the fractal analysis of the thermo-oxidative degradation process of polymeric melts, and the physical reasons for homogeneous and

nonhomogeneous reactions of haloid-containing epoxy polymer curing. Other topics include a fractal form of the Mark-Kuhn-Houwink equation, the multifractal analysis of the diffusion process in semi-crystalline polyethylene and its melt, and biodegradable Phb/Pva blends.

QD95 2002-72578 0-19-850953-7
Mapping the spectrum; techniques of visual representation in research and teaching.
 Hentschel, Klaus.
Oxford U. Pr., ©2002 562 p.
 \$125.00
 Historian of science Hentschel argues that spectrum analysis has always leaned heavily towards the image side of the image-logic dichotomy. He examines the way that scientists working in the area of spectroscopy of visually represented their work, from pencil drawing to photography and beyond. He combines this historical approach with an examination of the interplay between research and printing, on the one hand, and research and teaching, on the other.

QD469 2002-023398 0-521-80392-6
Valence bond methods; theory and applications.
 Gallup, Gordon A.
Cambridge U. Pr., ©2002 238 p.
 \$95.00
 Gallup (physics and astronomy, U. of Nebraska) presents this text on *ab initio* valence bond theory, one of two methods used in molecular quantum mechanics. Coverage includes simple examples of two-electron calculations and the necessary theory to extend these to larger systems, and a series of case studies of related molecule sets demonstrating the nature of the valence bond description of molecular structure. For researchers and students working on molecular electronic theory and computation in chemistry and chemical physics.

QD502 00-109666 1-58603-103-1
Mechanisms of fast reactions in solution.
 Caldin, E.F.
IOS Press, ©2001 329 p.
 \$123.00
 Published a few years after the author's death, this volume is a sequel to his 1964 book, *Fast Reactions in Solution*; the material is entirely new, extending investigation beyond now well-established fast-reaction techniques to consider their contribution to understanding events on the molecular scale. After an introductory chapter on origins, methods, mechanisms, and rate constants, coverage includes the rates of diffusion-controlled reactions, mathematical theory of diffusion, flash photolysis techniques, fluorescence quenching, Marcus theory involving proton-transfer and group-transfer reactions in solutions, and electron-transfer reactions.

QD503 1-86058-370-9

Handbook for process plant project engineers.

Watermeyer, Peter.

Professional Engineering Pub., ©2002 326 p.

\$112.00

Aiming his text at the project engineer involved in designing and building process plants, Watermeyer (executive director of engineering, Bateman BV) interweaves engineering and design considerations with the many commercial, construction, financial, and social issues important to the actual job content of the practicing engineer. The material advises on proper practice at four different organizational levels: activities of detailed design, procurement of parts, and delivery to site; technical focus and project control; the management system for the entire project; and project strategy.

QD544 2002-73994 0-8247-0837-7

Solvent mixtures; properties and selective solvation.

Marcus, Yizhak.

Marcel Dekker, ©2002 258 p.

\$150.00

Summarizes data on the properties, function, and behavior of mixtures with two, three, or more components in both the presence and absence of solutes. Marcus (emeritus, Hebrew University of Jerusalem) begins with the physical, thermodynamic, and chemical properties of binary solvent mixtures, then explains diffraction, computer simulation, and spectroscopic methods for determining the structure of mixtures. The second half of the book focuses on binary solvent mixtures without extraneous solutes, ternary mixtures of a binary mixed solvent with an additional foreign solute, and multi-component liquid systems. The parameters of preferential solvation and the use of chemical probes are highlighted.

TECHNOLOGY (GENERAL)

T50 2002-73665 1-55617-795-X

Measurement uncertainty; methods and applications; 3d ed.

Dieck, Ronald H.

Instrument Soc. of America, ©2002 252 p.

\$60.00

This engineering textbook explains the role played by measurements uncertainty analysis in any test or experimental measurement process. The measurement uncertainty model, the treatment of calibration errors, and the weighting method for multiple results are described. The third edition adds sections on the business impact of measurement uncertainty and the treatment of calibration uncertainty.

T58 2002-26131 1-58321-211-6

Decision support system for distribution system piping renewal. (CD-ROM included)

Deb, Arun K. et al.

Am. Water Works Assn., ©2002 278 p.

\$195.00 (pa)

Provides water utilities with a decision support system for selecting the technologies and materials to use during the rehabilitation or replacement of distribution system infrastructure. The report overviews cleaning, pipe lining, pipe insertion, pipe replacement, and other renewal options, as well as the properties of the most common pipe materials used in water supply applications. The decision support system developed as a result of the project consists of a technology selection module and a cost module. The CD-ROM contains the decision support system program for Windows 95/98, and an appendix provides instructions for using the program. No index.

T58 2001-45195 0-8493-1149-7

Enterprise systems integration, 2d ed.

Title main entry. Ed. by Judith M. Myerson. (Best practices series)

Auerbach Publishers, ©2002 812 p.

\$79.95

This book combines the perspectives of some 70 experts to describe strategies and technologies that span the range of enterprise computing and systems integration. Coverage includes integration drivers, enterprise architectures, enabling technologies, component-based development, and database servers in an integrated environment. Other themes are data warehousing, enterprise resource planning, enterprise networking, enterprise messaging, Internet commerce, and project and systems management. An appendix lists vendors. The editor is a system architect and engineer in the private sector.

T173 2001-32876 0-19-924553-3

The microeconomics of technological systems.

Antonelli, Cristiano.

Oxford U. Pr., ©2001 232 p.

\$60.00

Revising and joining presentations he has made at conferences over several years, Antonelli (economics, U. of Torino) contributes to the debate on the economics of technological knowledge and innovations with a number of qualifications and specifications about the hypotheses of increasing returns in the production of knowledge and hence in the economy at large.

T357 2002-31081 0-8247-8890-7

Integrated product design and manufacturing using geometric dimensioning and tolerancing.

Campbell, Robert G. and Edward S. Roth. (Manufacturing engineering and materials processing; 60)

Marcel Dekker, ©2003 323 p.

\$150.00

Applies the geometric dimensioning and tolerancing (GD&T) standard to the simultaneous definition and design of a manufactured product and the processes necessary to produce it. Additionally, the book advocates that the standard be used as the primary

medium of communication among concurrent engineering team members. Early chapters outline a six-step design layout methodology to guide system level design and a second methodology for developing the tooling and gaging designs. The second half of the book addresses product verification and the design of functional gages and fixtures. Campbell is a professor of engineering at William Rainey Harper College.

T385 2002-025151 1-56881-182-9

Real-time rendering, 2d ed.

Akenine-Möller, Tomas and Eric Haines.
AK Peters Ltd., ©2002 835 p. \$59.00

Real-time rendering is concerned with making images rapidly on a computer. The authors discuss visual transforms, the definition of materials and lights, texturing, advanced lighting and shading, non-photorealistic rendering, image-based rendering, acceleration algorithms, pipeline optimization, polygonal techniques, curves and curved surfaces, intersection test methods, collision detection, and graphics hardware. Basic understanding of computer graphics, computer science, and programming is assumed.

T385 0-9689929-0-0

SigmaPlot 2000/2001 for scientists.

Charland, M. Brent.

Riparian House, ©2002 442 p. \$39.95 (pa)

The SigmaPlot graphing package produces production quality graphics to accompany the tables and text of a scientific or engineering report. This guide to SigmaPlot walks through the procedures for opening notebook files, entering data into worksheets, defining graph parameters, modifying the axes, adding labels, and printing the output.

ENGINEERING (GENERAL, CIVIL)

TA168 981-02-4933-0

Chaos in circuits and systems.

Title main entry. Ed. by Guanrong Chen and Tetsushi Ueta. (World Scientific series on nonlinear science. Series B; v.11.)

World Scientific, ©2002 641 p. \$98.00

The growing importance of nonlinear circuits in electronic and mechatronic equipment has led to an increased interest in the ubiquitous presence of chaos in nonlinear circuits. These 29 articles survey chaos in circuits and systems, with a view towards suppressing chaos when harmful or, in a process called chaotification, enhancing existing chaos when it is beneficial. Specific topics include design methodology for autonomous chaotic oscillators, chaotic wandering in simple coupled chaotic circuits, chaotic neuro-computers, chaos in a pulse-type hardware neuron model, mechanisms for taming chaos by weak harmonic perturbations, and using nonlinear dynamics and chaos to solve signal processing tasks.

TA340 2002-74410 0-7844-0598-0

Degrees of belief; subjective probability and engineering judgment.

Vick, Steven G.

Am. Soc. Civil Engineers, ©2002 455 p. \$59.00 (pa)

Observing at a risk analysis conference for civil engineers that participants did not share a common language of probability, Vick, a consultant and geotechnic engineer, set out to not only examine why, but to also bridge the gap. He reexamines three elements at the core of engineering—the concepts of uncertainties in knowledge, inductive reasoning, and individual expertise—and describes the different manifestations of probability in reliability and risk management.

TA404 2002-29561 1-55899-667-2

Modeling and numerical simulation of materials behavior and evolution; proceedings.

Symposium on Modeling and Numerical Simulation of Materials Behavior and Evolution (2002: San Francisco, CA) Ed. by A. Zavaliangos et al. (Materials Research Society symposium proceedings; 731)

Materials Research Society, ©2002 322 p. \$86.00

This book contains 49 papers presented at an April 2002 symposium, addressing advances in numerical simulation and modeling of materials. The work showcased here reviews current capabilities in materials modeling and simulation that bridge length scales and time scale with a variety of physical phenomena to provide insight into fundamental aspects of materials structure and to predict material behavior. Papers are in sections on multiscale modeling, mechanical properties, transport phenomena, phase transformations, microstructure and its evolution, atomistic modeling, and materials structure and properties. Specific subjects include multiplicative noise in microstructure evolution, and base-catalytic properties of solid silicon imidonitrides. There is no subject index.

TA409 2002-101089 1-85312-927-5

Crack paths.

Pook, L.P.

WIT Press, ©2002 154 p. \$98.00

It is important to consider the growth of cracks or crack-like flaws in engineering structures and components when analyzing design and engineering failure. An important part of this is attempting to determine the factors controlling the path of the crack. Pook (University College London) summarizes the published material on the topic, with chapters on crack descriptions, geometric constraints, failure criteria and crack tip plasticity, directional stability of a mode I crack, fatigue crack growth from an initial mixed modes I and II crack, static crack growth from an initial modes I and II crack, and aspects of crack growth in three dimensions. Distributed in North America by Computational Mechanics Inc.

TA409 0-7918-1949-3

New and emerging computational methods; applications to fracture, damage, and reliability; proceedings.

ASME Pressure Vessels and Piping Conference (2002: Vancouver, BC, Canada). Ed. by Frederick W. Brust et al. (PVP; v.438)

ASME, ©2002 247 p. \$110.00 (pa)

Featuring 26 technical papers by engineers from Brazil, the Czech Republic, Iran, Japan, Korea, the United Kingdom, Germany, and the United States, this volume represents the proceedings of the August 2002 conference in Vancouver, British Columbia. The papers discuss meshless methods, novel fracture mechanics methods, damage mechanics, probabilistic methods, high-temperature mechanics, and creep damage and fatigue. Graphs, charts, diagrams, photographs, and other visual displays of information support the text throughout. Only authors are listed in the index.

TA418 2001-056795 0-471-17780-6

Encyclopedia of smart materials; 2v.

Title main entry. Ed. by Mel Schwartz.

John Wiley & Sons, ©2002 1176 p. \$695.00

Editor Schwartz provides a preface defining what is meant by *smart materials* and summarizing their enormous potential: tiny sensory computers, some no larger than a dust mote, will someday fundamentally impact a multitude of industries, products, and human activities. Presently, the technologies and applications are at various stages of commercialization: piezoelectric and electrorestrictive ceramics, piezoelectric polymers, and fiber-optic sensor systems are well established, while micromachined electromechanical systems (MEMS), magnetostrictive materials, shape memory alloys (SMA) and polymers, and conductive polymers are in early stages. In two volumes, in-depth articles on various aspects of this multidisciplinary field are arranged alphabetically and include substantial bibliographies; there are no cross-references, but thematic access is afforded by the subject index in the second volume. The cast of contributors is international.

TA445 2001-55028 0-419-23780-1

Fundamentals of durable reinforced concrete.

Richardson, Mark G. (Modern concrete technology series)

Spon Press, ©2002 260 p. \$75.00

Written for specifiers applying the principles of European Standard EN 206-1, researchers, and engineering students, this book provides background to the exposure classes outlined in EN 206-1 and considers future prospects for performance-based specification and the mathematical modeling of degradation. Chapters focus on the framework for durability by specification, the probabilistic approach, permeability and transport processes, corrosion of reinforcement in concrete, carbonization, chloride ingress, alkali-silica reaction, freeze/thaw effects,

sulfates, acid and seawater attacks, cracking, erosion and cavitation, and weathering and efflorescence. Richardson teaches at the University College Dublin. Distributed by Taylor and Francis.

TA645 2002-066196 1-4020-0443-5

Design-oriented analysis of structures; a unified approach.

Kirsch, Uri. (Solid mechanics and its applications; v.95)

Kluwer Academic Pubs., ©2002 236 p. \$97.00

Collecting selected topics of the literature of structure analysis in design and presenting them in a unified approach, Kirsch (Israel Institute of Technology, Israel) introduces computational procedures of the multiple repeated analyses (reanalysis) of structures. Formulations of linear, nonlinear, and eigenproblem reanalysis are presented. Local and global approximation techniques and closed-form solutions are examined. The above methods are then represented in the form of unified approach towards reanalysis.

TA715 2001-32252 0-419-21110-1

Groundwater lowering in construction; a practical guide.

Cashman, P.M. and M. Preene.

Spon Press, ©2001 476 p. \$128.00

Cashman explains how to manage and control water-bearing soils and surface water run-off during construction. Because the problem and its solution are generally temporary, they are usually left for the contractor to deal with, but he argues that they should be considered as part of the overall project from the very beginning, especially because conditions may in fact turn out to be very different than what initial testing indicated, and the entire project must be altered to account for the difference. He writes primarily for dewatering specialists and advisors, but also for engineers, contractors, clients, and graduate engineering students. The manuscript was well along when he died in 1996, and Preene, also a British consultant, completed it. Distributed in the US by Taylor and Francis.

TA775 2001-056093 0-7844-0601-4

Deep foundations 2002; an international perspective on theory, design, construction, and performance; proceedings; 2v.

International Deep Foundations Congress (2002: Orlando, Fla.). Ed. by Michael W. O'Neill and Frank C. Townsend. (Geotechnical special technical publication; no.116)

Am. Soc. Civil Engineers, ©2002 1566 p. \$160.00 (pa)

One hundred and eight papers, in two volumes, present the views of practitioners and researchers from 22 countries on deep foundation engineering. Presented at the February 2002 Deep Foundations Congress, the papers cover such areas as: foundation-geomedia interaction; the effect of construction techniques on performance; numerical

and physical modeling methods; new construction technologies; design and analysis for extreme events; new deep foundation systems; case histories; the use of pile foundations in wall structures; problematic soil and rock conditions; field testing of deep foundations; reliability based design; validation and verification of deep foundation design and construction; structural design; and geotechnical design methods.

TA10052002-018539 0-7844-0621-9

Cold regions engineering; cold regions impacts on transportation and infrastructure; proceedings.

International Conference on Cold Regions Engineering (11th: 2002 Anchorage, AK). Ed. by Kelly S. Merrill. *Am. Soc. Civil Engineers*, ©2002 1073 p. \$125.00 (pa)

The 92 peer-reviewed papers include 11 dealing with lessons learned from the Trans-Alaska Pipeline System (2002 marks its 25th anniversary). The others address all aspects of cold regions engineering, including street and roadway management systems, railway operations, bridges, passive cooling systems, frozen ground engineering, hydrology and hydraulics, environmental remediation, water and wastewater, and education and planning. Contributors include academics, researchers, and practitioners from the US, Canada, Russia, Japan, China, and Finland.

TA16322001-046915 0-471-33276-3

Encyclopedia of imaging science and technology; 2v.

Title main entry. Ed. by Joseph P. Hornak. *John Wiley & Sons*, ©2002 1549 p. \$695.00

Three types of articles comprise this two-volume reference: those giving overviews of the way imaging science is used in fields such as art conservation, astronomy, biochemistry, overhead surveillance, forensics and criminology, geology, medicine, and meteorology; those describing specific imaging system components such as spectroscopy, detectors, image processing, display, and the human visual system; and those describing imaging systems and techniques such as magnetic resonance imaging, television, optical microscopy, lightning strike mapping, and ground penetrating radar, among others. Such material has more commonly been addressed on a field-by-field basis, but this reference reaches across such boundaries, making available in-depth coverage from one source. The articles have bibliographies, but they are not cross referenced; indexing is in the second volume. This encyclopedia is also available online, where search capabilities give more powerful access to related material, and more color images are displayed (the print version's color images are limited in comparison).

TA1632 0-7695-1695-5

Pattern recognition; proceedings; 4v.

International Conference on Pattern Recognition (16th: 2002: Quebec City, Quebec). *Computer Society Press*, ©2002 1500p. \$544.00 (pa)

This four-volume set contains the proceedings of the August 2002 conference based on the theme of pattern recognition for humankind and the environment. The 250 oral and seven invited papers and the 555 poster presentations cover topics including human motion; pattern recognition; neural networks and document analysis; color and texture; indexing and retrieval; computer vision and robotics; document, facial medical image, medical and microscopic image analysis; audio and image, handwriting, and image and signal processing; biomedical and multimedia applications; tracking; coding, compression and enhancement; active vision and calibration; human factors; recognition; classification; indexing and grouping; interpretation and learning; speech and handwriting, structural pattern, and clustering and statistical pattern recognition; segmentation; structure estimation; classification and feature selection; image retrieval; face detection; motion estimation; face pose; and stereo. There is no subject index.

TA16372002-073595 0-8493-1142-X

The image processing handbook, 4th ed.

Russ, John C. *CRC Pr.*, ©2002 732 p. \$139.95

Russ (materials science and engineering, North Carolina State U.- Raleigh) describes methods for improving the visual appearance of images to a human viewer, and for preparing images to measure features and structures present in them. The intent is to allow users of computer-based system to understand those methods provided in packaged software, and to program additions that may be needed for particular applications. He compares different algorithms that may be used for similar purposes, using a selection of representative pictures from light and electron microscopes and macroscopic, remote sensing, and astronomical images. No dates are noted for earlier editions. A companion CD-ROM is available at an exorbitant price.

ENVIRONMENTAL TECHNOLOGY

TD159 2002-69355 1-56670-573-8

Water, wastewater, and stormwater infrastructure management.

Grigg, Neil S. *Lewis Publishers*, ©2003 242 p. \$109.95

This volume discusses life-cycle water, sewer and stormwater infrastructure management and includes the latest research on management practices such as asset management, vulnerability assessment, and

total quality management. In 12 chapters, Grigg (civil engineering, Colorado State U.) tells how to plan, budget, design, construct, and manage the physical infrastructures of large, small, and micro-level systems, including on-site and simple collection types. He also includes information on risk management and disaster preparedness, maintenance, information technology, and laws and regulations.

TD169 0-9720685-0-3

The environmental guidebook; a selective reference guide to environmental organizations and related entities.

Staudinger, Jeff.

Environmental Frontlines, ©2002 294p.

\$49.95 (pa)

This directory profiles environmental organizations and other entities involved with environmental preservation, focusing on the US and on national (rather than regional) groups and giving only limited coverage to research organizations within universities and to higher education listings (environmentally-related degree programs). Each of the 493 entries provides a summary of the organization's mission and programs, its budget numbers, and contact information. The guide primarily lists non-governmental organizations and government agencies, with smaller sections on the United Nations, business groups, labor unions, and opposing groups. An index would have improved the usefulness of the reference. The author is an environmental engineer and founder of the non-profit organization, Environmental Frontlines.

TD169 2001-093506 0-309-06243-8

Information systems and the environment.

Title main entry. Ed. by Deanna J. Richards, Braden R. Allenby, and W. Dale Compton.

National Academy Press, ©2001 228 p.

\$42.00 (pa)

This text presents a selection of papers from a July 1997 workshop focusing on the role of knowledge and information technology, held by the National Academy of Engineering as part of its program on technology and sustainable development. Fourteen essays are grouped into sections on the information technology revolution and industrial ecology, information systems within individual corporations, and examples of evolving relationships between corporations and society as a whole. A sampling of topics: intellectual property rights in data, knowledge sharing, environmental knowledge for competitive advantage, and public access to environmental information.

TD255 1-58321-222-1

Isotopic tracers in surface water.

Davison, M. Lee.

Am. Water Works Assn., ©2002 115p.

\$195.00 (pa)

Investigates the viability of using isotropic tracers to better understand the origins of non-point source pollution and their relation to industry standard water quality measurements. The study uses Oxygen-18 as a water tracer, and carbon-14, carbon-13 and deuterium as tracers of dissolved organic carbon (DOC). Carbon-14 and carbon-13 are also used as tracers of dissolved inorganic carbon, while chlorine-36 and uranium isotopes are tested as tracers of other dissolved salts. The author summarizes the results of samples taken from major rivers near St. Louis and San Francisco. No index.

TD255 1-58321-225-6

Removal of algal toxins from drinking water using ozone and GAC.

Title main entry.

Am. Water Works Assn., ©2002 133p.

\$195.00 (pa)

Presents results from a series of experiments designed to evaluate possible treatment options for a range of dissolved blue-green algal toxins. The first experiment assesses the conditions of ozone residual and contact time under which microcystin, anatoxina, and the saxitoxin class of toxins are destroyed. Two pilot studies test the expected lifetime of GAC filters, and the efficiency of GAC precede by ozone. Next, laboratory scale column trials are performed to determine the effectiveness of GAC for the removal of saxitoxins. The last chapter reports on the biodegradation of the toxins in the absence of activated carbon as an adsorbent. No index.

TD255 1-58321-226-4

Source water assessment; variability of pathogen concentrations.

Title main entry.

Am. Water Works Assn., ©2002 238 p.

195.00 (pa)

This report investigates Giardia, Cryptosporidium, microbial indicators, and water quality parameters in six large watersheds in an effort to understand pathogen variability and develop better monitoring programs. The study evaluates temporal variability in each watershed, the efficiency of method 1622 and the cell culture/PCR method for enumerating Cryptosporidium, and the relationship between protozoa and other water quality parameters. The findings suggest optimal sampling frequency and duration requirements for establishing a pathogen monitoring program. The presence of numerous typos is strangely uncharacteristic of the publisher. No index.

TD441 2002-28239 1-58321-234-5

Filter maintenance and operations guidance manual.

Logsdon, Gary S. et al.

Am. Water Works Assn., ©2002 — p.

\$195.00

Based on information provided by water utilities about their operating and maintenance practices, this

manual is intended to help utilities respond to regulatory requirements and traditional high-priority concerns of the industry related to providing high quality water economically and reliably. The 15 chapters provide guidance to filter operators and engineers in the optimization of the operation and maintenance of conventional filtration systems. Topics include the regulatory environment; filter operation, optimization, performance monitoring, inspection and maintenance, and media characteristics, selection and replacement; backwash management and optimization; filter ripening and controlling the initial turbidity spike; pretreatment; quality control and instrumentation issues; case studies; equations, example problems, and jar test procedures; and research needs. Presented in a three-ring binder. Oversize: 12.5x11.25".

TD481 2001-57369 0-471-06422-X
Reinventing water and wastewater systems; global lessons for improving water management.

Title main entry. Ed. by Paul Seidenstat et al.
John Wiley & Sons, ©2002 486 p.
 \$100.00

Contributors from utility companies, local governments, and the mysterious world of various Institutes and Groups discuss issues and impediments related to drinking and waste water primarily as capitalist enterprises. After an overview of private-sector participation in the US and around the world, they cover the regulatory framework, financing the water and wastewater infrastructure, reinventing public sector operations, restructuring operations in selected US cities, and topics from the past and future. Specific titles include water service reform in Latin America, the Manila concession as the largest water system privatization, and deregulating private water supplies as a policy option for developing countries.

TD485 2002-66486 1-58321-204-3
Surviving disasters in water utilities; learning from experience.

Grigg, Neil S.
Am. Water Works Assn., ©2002 169p.
 \$195.00 (pa)

Provides water utilities with guidelines for preparing for both natural and human caused disasters. Based on an October 2001 workshop, the report overviews vulnerability assessment, mitigation, engineering measures, emergency preparedness, and response. Grigg (civil engineering, Colorado State University) summarizes research and lessons learned from utilities that have survived earthquakes, floods, wind storms, waterborne disease, and drought. The chapter on human caused disasters identifies the possible causes and consequences of electric power failures, communications and computer failures, hazardous material contamination, and security threats. No index.

TD657 2001-29906 0-87371-924-7
Stormwater effects handbook; a toolbox for watershed managers, scientists, and engineers.

Burton, G. Allen and Robert E. Pitt.
Lewis Publishers, ©2002 911 p.
 \$149.95

Burton (Institute for Environmental Quality, Wright State U.) and Pitt (civil and environmental engineering, U. of Alabama) offer advice on the assessment techniques used to determine if stormwater runoff is causing adverse effects and beneficial-use impairments in local receiving waters. They approach the matter from a watershed-based perspective, focusing on sampling before, during, and after storms. The components of assessment are discussed from sampling and collection to ecosystem characterization and statistical analysis. Additional appendices examine specific assessment methods and considerations such as habitat characterization, benthic community assessment, fish community assessment, toxicity and bioaccumulation methods, laboratory safety and waste disposal, water quality criteria, and watershed modeling.

TD812 2001-23959 1-56032-842-8
Radioactive waste management, 2d ed.

Title main entry. Ed. by James H. Saling & Audeen W. Fentiman.
Taylor & Francis, ©2002 414 p.
 \$99.95

Written to promote a general awareness of the technologies developed for radioactive waste management and environmental restoration, but especially intended for students in nuclear and environmental engineering and radioactive waste managers, this book describes the current state of the technology. Chapters focus on topics like radiation sources and effects, spent fuel management, high-level waste management, disposal of spent-fuel and high-level waste, transuranic waste, low-level waste, uranium mill tailings management, mixed wastes, environmental restoration, transportation, and decontamination and decommissioning.

TD898 1-55899-598-6
Scientific basis for nuclear waste management; proceedings.

Symposium on Scientific Basis for Nuclear Waste Management (24th: 2000: Sydney, Australia). Ed. by Kaye P. Hart and Gregory R. Lumpkin. (Materials Research Society symposium proceedings; v.663)
Materials Research Society, ©2001 1232 p.
 \$86.00

This volume collects the 135 papers presented at the August 2000 symposium on nuclear waste management. Recent research is reported in the areas of glass and ceramic wasteforms, waste conditioning, spent fuel, canisters, engineered barriers, solubility, and transport modeling. The results of several repository studies are summarized. Specific topics include the influence of platinum group

metals on nuclear glass properties, the durability of zirconolite in hydrothermal fluids, the ion exchange behavior of FEBEX bentonite, the effects of lichens on uranium migration, and the SR 97 safety assessment of a deep repository.

TD899 2002-66487 1-58321-203-5

Fundamental methods for optimizing residuals dewatering.

Dentel, Steven K. et al.

Am. Water Works Assn., ©2002 138 p.

\$195.00 (pa)

Investigates strategies for reducing the volume and weight of water treatment plant residuals in preparation for disposal in landfills. The report begins with a six-step protocol for evaluating and improving polymer conditioning before water treatment residuals are dewatered. The research portion examines three online characterization techniques for monitoring and controlling the polymer dose used to condition water treatment residuals before dewatering. The results of laboratory jar tests and plant-scale studies are presented for liquid-stream viscosity, streaming current, and light obscuration techniques borrowed from the wastewater industry. No index.

MECHANICAL ENGINEERING & MACHINERY

TJ163 2001-25250 0-8493-0074-6

Distributed generation; the power paradigm for the new millennium.

Title main entry. Ed. by Anne-Marie Borbely and Jan F. Kreider. (Mechanical engineering series)

CRC Pr., ©2001 400 p.

\$94.95

People who have responded to the deregulation of the electric utility industry by buying stock in companies promising sexy new technology have missed the point, say the technology developers here. They argue that the key to the energy revolution is turning back from huge generating plants and thousands of transmission miles to creating energy at or near its point of use, primarily the household and workplace. In addition to reporting on the current status and potential of small-scale technologies such as combustion turbines, microturbines, photovoltaic systems and fuel cells, they look at such issues as the regulatory environment, distribution systems, installation and interconnection, and fuels. Readers who remember high school algebra should have little trouble with the technical level.

TJ255 2001-276424 3-527-30416-9

Ceramic materials and components for engines.

Title main entry. Ed. by Jürgen G. Heinrich and Fritz Aldinger.

Wiley-VCH, ©2001 668 p.

\$145.00

Emphasizing interdisciplinary aspects of ongoing research and development, this volume contains 120 scientific papers from a June 2000 conference in

Goslar. These include presentations on specific systems, including gas turbines, reciprocating engines, brakes, bearings, fuel cells, batteries, filters, membranes, sensors, and actuators, as well as on issues of performance, reliability, design, modeling, simulation, expense-effective manufacturing, material design, and process development. Particular attention is paid to new applications of ceramic materials in energy, transportation, and environment systems. An abstract is provided for each paper, and illustrations appear throughout.

TJ843 2002-027961 1-58053-343-4

Fundamentals and applications of microfluidics.

Nguyen, Nam-Trung and Steven T. Wereley. (Artech House microelectromechanical systems series)

Artech House, ©2002 471 p.

\$95.00

This introduction to the emerging field of microfluidics explains how to take advantage of the performance benefits of microfluidics and serves as a reference for technology and applications in this area. It offers practical guidance on how to model, design, and fabricate microfluidic devices, and discusses a range of microfluidic applications, including fluid control devices, gas and fluid measurement devices, medical testing equipment, and implantable drug pumps. Calculations, data tables, and rules of thumb are provided to help practitioners make design decisions and determine device characteristics. Nguyen is an assistant professor at the School of Mechanical and Production Engineering at Nanyang Technological University, Singapore. Wereley is an assistant professor of mechanical engineering at Purdue University.

TJ940 0-415-27351-X

Vacuum technique.

Rozanov, L. N. Ed. by M. H. Hablanian.

Taylor & Francis, ©2002 351 p.

\$96.00

This book overviews vacuum technology, beginning by summarizing the properties of low-pressure gases and then describing the theory of vacuum technology, including the mathematical modeling of gas transfer in vacuum systems, and considering vacuum production and measurement. The operation of pumps and gauges is examined and physical processes occurring within them are analyzed. Specific examples of problems are presented, different design methods are given, and the structure and characteristics of vacuum systems for low, middle, high, and superhigh vacuums are presented. The computer-aided synthesis and analysis of vacuum systems is of special interest. Rozanov is head of the Department of Information Machinery Technology at St. Petersburg Technical University. Hablanian has years of experience in the field.

TJ1185 2002-071619 0-8247-0704-4

Handbook of machine tool analysis.

Marinescu, Ioan D. et al. (Mechanical engineering; 144)

Marcel Dekker, ©2002 300 p.

\$135.00

Presenting new research in the domain of machine tools, this work looks at design methods, structural analysis, and algorithm formulation to reduce waste, noise, and breakage in system function, identify faults in system construction, and achieve optimal machine tool performance. Coverage includes vibroacoustic diagnosis of machine tools, experimental research in diagnostic analysis of the mechanical system of the feed kinematics chain, virtual instrument packages for diagnosis by vibroacoustic methods, a neural approach to diagnostics, and perspectives on continuing research. Marinescu is professor in the Mechanical, Industrial and Manufacturing Engineering Department at the University of Toledo, Ohio.

ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING

TK454 2002-073408 0-8247-0818-0

High reliability magnetic devices; design and fabrication.

McLyman, William T. (Electrical and computer engineering series; no.115)

Marcel Dekker, ©2002 339 p.

\$150.00

This reference serves as a pictorial guide to the design and fabrication of magnetic components, featuring step-by-step instructions on ordering raw materials, choosing construction techniques, conducting in-process inspection, performing end-item testing, and quality assurance. Useful to system and transformer engineers involved in the design and manufacture of transformers and inductors of high reliability, the book covers transformer and inductor design philosophy, magnetic materials, magnetic cores, magnet wire and insulation, coil winding, soldering and magnet wire terminations, packaging and enclosures, polymeric impregnate, high-voltage design, and testing. McLyman is a lecturer and consultant in the field of magnetic component design.

TK10412001-59204 0-88173-349-0

Combined heating, cooling and power handbook; technologies and applications; an integrated approach to energy resource optimization.

Petchers, Neil.

Fairmont Pr., ©2003 875 p.

\$195.00

Petchers' career has involved him in a few billion dollars worth of integrated energy efficiency projects throughout the world as he leads a company that develops, designs, finances, and installs such systems. Although he states in his foreword the importance of efficiency for the environment, he emphasizes that economic benefits coincide with such

efficiency and that this book describes how to do it, for engineers and policy makers, leaving the preaching about "greener" practices to others. Coverage begins with an overview of heat and power resources and discussion of selection of power generation systems before proceeding to thermal and prime mover technologies, environmental considerations, utility industry and energy rates, localized electric generation, mechanical drive services, refrigeration and air conditioning, and analysis and implementation. Fairmont Press publishes this book under ISBN 0-88173-349-0; Marcel Dekker publishes it under ISBN 0-8247-4233-8.

TK27872001-025727 0-8493-0838-0

Switched reluctance motor drives; modeling, simulation, analysis, design, and applications.

Krishnan, R. (Industrial electronics series)

CRC Pr., ©2001 398 p.

\$159.95

This reference provides an understanding of the converter and controller subsystems of switched reluctance machines (SRMs) and their integration with the machine. Balancing theory and implementation, the book covers the analysis and design of SRMs from first principles, introduces a variety of power converters for driving the SRM, and presents both low- and high-performance controllers. There is an in-depth case study of acoustic noise and its minimization, along with application examples that include comparisons between AC and DC drives and the SRM drive, and discussion of the use of SRMs and power converters with both sensor-based and sensorless controllers. Krishnan is a fellow of the IEEE and the Center for Organizational and Technological Advancement.

TK32262001-55792 0-471-97773-X

Transient electronics; pulsed circuit technology.

Smith, Paul W.

John Wiley & Sons, ©2002 272 p.

\$95.00

Deals with the analysis of the transient response of pulse electrical circuits capable of generating short electrical pulses at very high power levels for applications in experimental physics and defense. Smith (Pembroke College) first introduces the Laplace transform method and transmission line theory. He then surveys pulse forming line and pulse forming networks techniques, and describes the transient response of conventional wound transformers and transmission line transformers. The final chapters address the design of pulse generators based on the discharge of energy stored in either capacitors or inductors, and the new field of nonlinear pulse generators.

TK51022002-071326 0-471-41477-8

Fiber optic systems for telecommunications.

Freeman, Roger L. (Wiley series in telecommunications and signal processing)

John Wiley & Sons, ©2002 390 p.
\$79.95

Written for engineers who need information about the components and technologies that comprise fiber optic systems, the book begins by explaining the function and parameters of light transmitters, light detectors, cables, and connectors, and the causes of digital signal loss and dispersion in optical fiber. Following are chapters on regenerators and amplifiers, wave-division multiplexing, and the SONET and SDH standards. No-break power systems and hybrid fiber-coax systems also receive their own chapters. The very practical issues of planning cable installations in buildings and troubleshooting a fiber optic network round out the book.

TK51022001-25085 0-8493-2379-7

Handbook of multisensor data fusion.

Title main entry. Ed. by David L. Hall and James Llinas. (Electrical engineering and applied signal processing) *CRC Pr.*, ©2001 — p. \$169.95

Contributors from US universities and military agencies offer systems designers and researchers information on terminology, models, algorithms, system engineering issues, and examples of models. The technology is used primarily by the US Department of Defense in such areas as automated target recognition, identification-friend-foe- neutral recognition systems, battlefield surveillance, and guidance and control of autonomous vehicles; it is also used for surveillance and monitoring in civilian contexts. Among the applications described are predictive diagnostics for electromechanical systems, information technology for NASA, and a distributed ground-based sensing system.

TK51022001-046768 0-471-49904-8

Secure communications; applications and management.

Sutton, Roger J. (Wiley series in communications networking & distributed systems)

John Wiley & Sons, ©2002 322 p. \$60.00

Concentrating on the practical aspects of security policy, this book addresses the key problems faced by security managers, beginning with network connection, set-up, and maintenance. The book describes the workings of cryptography and its application to a variety of communications technologies, including telephones, GSM systems, radio networks, faxes, computers, and email. Military applications are emphasized and numerous diagrams illustrate key ideas. Sutton is a consultant.

TK5103 0-471-26905-0

DWDM; networks, devices, and technology.

Kartalopoulos, Stamatios V.

Wiley-IEEE Press, ©2003 487 p. \$74.95

This textbook introduces the optical components, communication technologies, and network structures that enable dense wavelength division multiplexing (DWDM) systems. Kartalopoulos (University of Oklahoma) reviews the relevant physics of light and

matter, and describes the function of optical filters, transformers, transmitters, receivers, optical amplifiers, and SONET/SDH networks.

TK51032002-111141 0-7695-1843-5

Mobility and wireless access; proceedings.

International Mobility and Wireless Access Workshop (2002: Fort Worth, Texas) Ed. by Mirela Sechi M.A. Notare and Azzedine Boukerche.

Computer Society Press, ©2002 95 p. \$132.00 (pa)

Emerging technologies surrounding mobile access devices, embedded Internet systems, ad hoc interaction, and wireless networking are explored in these 13 papers from an October 2002 workshop. Presenting research on themes of wireless access and mobility management, modeling, and mobile and wireless ad hoc networks, papers report on recent work in areas such as soft capacity modeling for third generation radio resource management, performance analysis for ad hoc QoS routing protocols, adaptive congestion control in infrastructure wireless LANs with bounded medium access delay, and a node-centric hybrid routing for ad hoc networks. Other topics include message relay in disconnected ad hoc networks, and mobile agent based network access for mobile electronic guidebooks. There is no subject index.

TK51032002-100203 0-12-171408-X

Undersea fiber communication systems. (CD-ROM included)

Title main entry. Ed. by José Chesnoy. (Optics and photonics)

Academic Press, ©2002 551 p. \$99.95

Provides a theoretical and practical background of the design rules of optical submarine communication systems and their enabling technologies. Related industrial developments are also describes, such as the definition of equipment and the installation process. Topics of the 14 chapters include optical amplification, unrepeated transmission systems, polarization effects in long-haul undersea systems, submerged plants, terminal equipment, and cable technology. The book is intended for both practicing engineers and students. The CD-ROM contains 48 color photos in PDF format of laying a cable system at sea, and an MPEG movie.

TK51032002-33084 0-470-84761-1

W-CDMA; mobile communications system.

Title main entry. Ed. by Keiji Tachikawa.

John Wiley & Sons, ©2002 418 p. \$89.95

Overviews the basic technologies that play a role in wideband code division multiple access (W-CDMA) for third generation mobile communications. Seven contributed chapters outline the mechanisms and characteristics of CDMA with respect to radio access systems, and explain radio access interfaces and radio system designs that form the foundation of W-CDMA technology. Other topics include ATM technologies, packet communication systems, network monitoring, and the processing schemes for

multimedia signals. All the contributors work for NTT DoCoMo of Japan.

TK51032002-107523 1-4018-1037-3

Wiring for wireless sites.

Wiesenfeld, P.E.

Delmar Pub., ©2002 260 p. \$39.95 (pa)

This resource offers information on installing equipment in a wireless site, for site planning engineers and technicians as well as professionals already in the radio and wireless installation and maintenance business. The book links generic electrical/electronic circuit theory to manufacturer-specific descriptions of cables, then moves on to actual installation, with coverage spanning equipment layout and wiring through grounding and lighting protection. Each chapter includes safety precautions, specific procedures and guidelines for testing and documentation, and objectives, summaries, and review questions. The author is a licensed professional engineer.

TK51032002-071657 0-201-76034-7

Wireless security and privacy; best practices and design techniques.

Swaminatha, Tara M. and Charles R. Elden.

Addison-Wesley, ©2003 276 p.

\$39.99 (pa)

Introduces a method for developing a security analysis process called I-ADD that involves four steps: identify targets and players, analyze attacks and vulnerabilities, define a strategy, and design security in from the start. The book also overviews the wireless application protocol, Bluetooth, types of wireless devices, cryptographic methods, virtual private networks, and tunneling.

TK51052002-1998 0-471-12090-1

Developing Web applications with ASP.NET and C#.

Meyne, Hank and Scott Davis.

John Wiley & Sons, ©2002 430 p.

\$39.99 (pa)

After a brief overview of the .NET Framework, step-by-step descriptions in this guide for programmers walk through every aspect of developing an ASP.NET application for the enterprise using C# as the programming language, from building the object model to implementing security and enhancing the ASP.NET Web application for optimal performance. Background in HTML is assumed, and knowledge of XML is helpful. Meyne and Davis are Microsoft insiders who have been working with the .NET technology since its announcement.

TK51052002-10673 0-8058-4222-5

Human factors and Web development, 2d ed.

Title main entry. Ed. by Julie Ratner.

Lawrence Erlbaum, ©2003 342 p.

\$37.50 (pa)

Outlines principles for designing web sites that are accessible and friendly to users. Topics of the 16

articles include a cultural comparison of web site design from a usability engineering perspective, eye-hand coordination during web browsing, a repertory grid technique for evaluating web sites, and designing improved error messages for web browsers. All the articles except one are new to the second edition.

TK51052001-094222 0-672-32306-0

Internet site security.

Schetina, Erik et al.

Addison-Wesley, ©2002 417 p.

\$39.99 (pa)

Explains the techniques and processes used to build and maintain a secure network, and provides examples of how companies have used these principles to protect themselves without closing the door on productivity and utility. Written by engineers at TrustWave Corporation, the book identifies the vulnerabilities in TCP/IP and Windows-based operating systems, and assesses the capabilities and limitations of the various types of firewalls and intrusion detection systems available.

TK5105 1-930110-52-9

JSTL in action.

Bayern, Shawn.

Manning Publications Co., ©2003 448 p.

\$39.95 (pa)

Assuming a working knowledge of HTML, this guide provides instructions for creating web pages without programming. The book explains each feature of JSTL and demonstrate its application with numerous examples. Charts, diagrams, and screen captures illustrate the techniques and principles described. The source code is available on a free companion web page. Bayern is a research programmer at Yale University.

TK51052001-055938 0-470-84493-0

Security for ubiquitous computing.

Stajano, Frank. (Wiley series in communications networking & distributed systems)

John Wiley & Sons, ©2002 247 p.

\$59.95

Written for developers and researchers, this book describes the current state of ubicomp research and provides a concise introduction to general issues in security and cryptology. Technical aspects of ubicomp security are then discussed, as are peer-to-peer and ad-hoc networking. Chapters concentrate on authentication, confidentiality, integrity, availability, anonymity, functions, and existing network solutions. The emphasis throughout is on security solutions. Stajano teaches engineering at the University of Cambridge.

TK51052002-009487 0-13-035813-4

Streaming media handbook.

Menin, Eyal.

Prentice Hall, ©2003 310 p.

\$34.99 (pa)

For readers without technical experience, this guide to adding streaming media to a Web site explains steps needed to prepare video or audio for streaming on the Internet or on private networks and guides readers in choosing the proper tools for using streaming media technology. Simple terms and illustrations lead readers step-by-step through the installation of hardware and software, and examples and case studies illustrate solutions for various situations for all three leading media formats: Real, Windows Media, and QuickTime. Menin is a partner in a technology consulting firm.

TK51052002-107711 0-201-76176-9

Web hacking; attacks and defense.

McClure, Stuart et al.

Addison-Wesley, ©2003 492 p.

\$49.99 (pa)

Since human error keeps computers vulnerable despite such precautions as firewalls, the lead author of *Hacking Exposed* (Osborne McGraw-Hill, 2001) and his colleagues at an enterprise vulnerability management firm introduce the "e-commerce playground," hackers' modus operandi, and "advanced Web kung fu" for protecting against such attacks. They list popular Web and database servers; method and field definitions for Http1.0 and 1.1; and Web resources and tools. The book includes cheat sheets for remote command execution and source codes, files, and directories.

TK66802002-070433 0-13-061621-4

The MPEG-4 book.

Title main entry. Ed. by Fernando Pereira. (IMSC Press multimedia series)

Prentice Hall, ©2002 849 p.

\$89.00

Explains the latest moving picture experts group (MPEG) standard for interactive multimedia, MPEG-4. The 16 chapters are divided into two sections that describe the technologies associated with the layers below the audiovisual coding layer, and the coding tools that generate compressed audio and visual streams. The major topics are the synchronization of streams in an MPEG-4 presentation, BIFS for scene description, the MPEG-Java architecture, the extensible MPEG-4 textual format, video coding of rectangular and shaped objects, synthetic- natural hybrid coding, speech coding, and testing for validation.

TK6680 0-321-13008-1

Premiere 6.5 for Windows and Macintosh.

Bolante, Antony. (Visual quickstart guide)

Peachpit Press, Inc., ©2003 522 p.

\$24.99 (pa)

Walks through the tasks involved in editing digital video and audio with the latest version of Adobe Premiere. Step-by-step instructions accompanied by screenshots are provided for importing clips, cutting clips into segments, the different styles of editing, mixing audio, adding effects, creating titles,

superimposing clips, and exporting the finished movie.

TK66802002-020606 1-4020-7011-X

Transporting compressed digital video.

Chen, Xuemin. (The Kluwer international series in engineering and computer science; SECS 674)

Kluwer Academic Pubs., ©2002 260 p.

\$120.00

This text covers the fundamental principles and technologies used in the design and analysis of video transport systems in digital networks. Video buffering, packet scheduling, multiplexing, and synchronization are among the more important topics covered. Other topics include system clock recovery, the generation of Presentation Time Stamps, and the prevention of decoder buffer under- and over- flows.

TK78702001-34086 0-7918-0168-3

Thermal management of microelectronic equipment; heat transfer theory, analysis methods, and design practices.

Yeh, L.T. and R.C. Chu. (ASME Press book series on electronic packaging)

ASME, ©2002 414 p.

\$95.00

Veteran researchers Yeh and Chu (both have worked in the field for decades and published extensively) describe the factors behind the thermal performance of electronics and provide details on the wide range of subjects and solutions necessary for different applications. The physics of heat transfer is described at length, including the fundamentals of various heat transfer modes and thermal interface resistances. Appendices provide property tables for solids and 16 types of fluids. This text will be useful for advanced undergraduate and graduate courses.

TK78712002-34844 0-8247-0851-2

Chemical solution deposition of semiconductor films.

Hodes, Gary.

Marcel Dekker, ©2003 376 p.

\$150.00

Summarizes current knowledge and literature on the chemical deposition of films, primarily onto semiconductors bathed in a solution. Hodes (Weizmann Institute of Science) first reviews the chemical principles and mechanisms involved in chemical deposition. Individual chapters then focus on the deposition of specific groups of semiconductors: II-VI semiconductors, PbS and PbSe, other sulfides and selenides, oxides, and ternary semiconductors. The book concludes with a survey of studies on photovoltaic and photoelectrochemical properties and the quantum size effect.

TK78712002-029524 1-55899-655-9

Defect and impurity engineered semiconductors and devices; proceedings.

Symposium on Defect and Impurity Engineered Semiconductors and Devices (3d: 2002: San Francisco) Ed. by S. Ashok et al. (Materials Research Society symposium proceedings; v.719) *Materials Research Society*, ©2002 493 p. \$90.00

Seventy-one papers from the April 2002 symposium explore the deliberate introduction and manipulation of defects and impurities for finding desired properties in semiconductor materials and devices. The papers are organized around the same lines as the symposium sessions, with separate sections covering defects and impurities in semiconductor growth; doping issues; gettering; defects in devices; defect characterization; semiconductor nanocavities and nanostructures; hydrogen-defect interactions; ion implantation; semiconductor interfaces, quantum wells, and super lattices; and point defects, impurities, and diffusion in semiconductors. Among the specific topics discussed are defect reaction problems related to precipitation and hydrogen passivation, interface control and passivation, application of ion implantation, and plasma treatment.

TK78722002-027962 0-89006-360-5
Electromagnetic modeling of composite metallic and dielectric structures.

Kolundzija, Branko M. and Antonije R. Djordjevic. (Artech House antennas and propagation library) *Artech House*, ©2002 408 p. \$125.00
 This book presents a unified approach to the electromagnetic modeling of practically arbitrary composite metallic and dielectric structures in the frequency domain, based on the method of moments (MoM), a general technique for solving numerical problems of electromagnetic fields. Specific topics related to the application of the MoM are considered, and techniques developed by various researchers in the past are compared or combined with the authors' original techniques, some published here for the first time. Based on these comparisons, optimal combinations of techniques are suggested. The power of the proposed approach is demonstrated on real engineering problems, such as a TV-UHF panel antenna with a radome, and a paraboloidal reflector antenna with a waveguide feed. Author information is not given.

TK78742002-27215 0-471-21247-4
Future trends in microelectronics; the nano millennium.

Title main entry. Ed. by Serge Luryi et al. *Wiley-IEEE Press*, ©2002 387 p. \$59.95
 Based on talks and posters delivered during the 3rd workshop on future trends in microelectronics, this collection of 31 papers explores the possibilities of new electronic materials, microlithography, optical interconnections, quantum computing, and other experimental technologies. Topics include rare earth metal oxides as gate insulators for MOSFETs, the first generation of FLUX-1 microprocessors, trends in

semiconductor laser design, and entanglement and quantum gate operations with spin-qubits in quantum dots.

TK78952002-27055 0-13-008465-4
Fault-tolerance and reliability techniques for high-density random-access memories.

Chakraborty, Kanad and Pinaki Mazumder. *Prentice Hall*, ©2002 426 p. \$95.00
 The latest research and techniques for every form of memory fault tolerance are surveyed here, integrating techniques for manufacturing, online, and field fault tolerance. Focus is on practical circuit and design solutions, with accessible explanations of device physics and circuit design theory. Some topics include embedded RAM for SoC design, mechanisms underlying soft and hard failures, the impact of scalability on reliability, and error-correcting codes and circuit techniques for field fault tolerance. The book is of interest to design engineers, test engineers, manufacturers, and researchers involved in the design and test of high-density next-generation RAMs. Chakraborty is a researcher in communications systems technology. Mazumder teaches in the Department of Electrical Engineering and Computer Science at the University of Michigan-Ann Arbor.

TK78952002-70028 0-13-093730-4
Smart cards; the developer's toolkit.
 Jurgensen, Timothy M. and Scott B. Guthery. *Prentice Hall*, ©2002 412 p. \$44.99 (pa)

Smart cards are mini-computers the size of a credit card with a metal interface. Written for IT managers and developers interested in the potential benefits offered by smart card technology, this guide overviews the physical structure and construction of smart cards, international standards, commercial commands, protocol stacks, and current applications. Both fixed command set and post-issuance programmable cards are covered.

AERONAUTICS, ASTRONAUTICS

TL1499 2002-067293 0-275-97749-8
Sky static; the space debris crisis.

Milne, Antony. *Praeger*, ©2002 187 p. \$49.95
 It must have been challenging to come up with a title for a book that covers so much territory—"sky static" seems to refer dually to the effects of solar events and gamma rays on Earth and satellite communications, and to the potential problem of broadcasting signals being disrupted as more space junk accumulates (ironically much of it is from defunct satellites). Milne, who is a senior associate with Spaceguard UK, addresses the danger of space debris to satellites and spacecraft as well as to Earth. He also touches on topics that sound even more sci-fi than space junk (e.g., NASA's studies of laser pulses on space debris, the development of shields to protect spacecraft from meteoroids, and warning and defense systems designed for large Earth-bound meteoroids).

MINING ENGINEERING, METALLURGY

TN690 0-87849-896-6

Shape memory materials and its applications; proceedings.

International Conference on Shape Memory and Superelastic...Shape Memory Materials (2001: Kunming, China) Ed. by Y.Y. Chu and L.C. Zhao. (Materials Science Forum; 394-395)

Trans Tech Publications, ©2002 591 p.
\$178.00

One hundred and thirty-one papers from the September 2001 conference discuss both the development of shape memory materials and the application of shape memory and superelastic technologies. Contributors explore the property improvement and fabrication of copper, iron, and high temperature alloys, as well as thin film, composite, and magnetic materials. Application papers address the bioperformance and surface modification of Nitinol, and other possible industrial and medical uses of shape memory alloys. Topics include superelastic stent design, factors affecting the transformation temperature, and the vibrational properties of adaptive polymer matrix composites with embedded shape memory alloy wire. The book is distributed in the US by Enfield.

TN870 2003-87396 0-13-091948-9

Applied subsurface geological mapping with structural methods, 2d ed.

Tearpock, Daniel J. and Richard E. Bischke.

Prentice Hall, ©2003 822 p.
\$120.00

Providing a guide to the use of subsurface interpretation, mapping, and structural techniques in the search for gas and oil resources, this book outlines the field's key principles, describes recent advances, and offers advice on both exploration and development activities. Field examples from around the world are included and illustrations (both b&w and color) are prominently featured, demonstrating the techniques described. Tearpock is a consultant and Bischke is a structural geologist.

CHEMICAL TECHNOLOGY

TP155 0-8493-1360-0

Developing an industrial chemical process; an integrated approach.

Mizrahi, Joseph.

CRC Pr., ©2002 229 p.
\$139.95 (pa)

Discusses the organizational and general engineering issues that arise during the development and first implementation of a novel industrial chemical process. The author, who is a consultant living in Israel, offers advice on defining the new process, executing feasibility tests, preparing samples, drawing process flow sheets, estimating operating costs and potential profit, and creating piping and instrumentation diagrams. Considerations for hiring

managers, training staff and commencing production at the new plant are also addressed.

TP155 1-86058-281-8

Optical methods and data processing in heat and fluid flow.

Title main entry. Ed. by C. Greated et al.

Professional Engineering Pub., ©2002 304 p.
\$188.00

Twenty-four contributions from international academics and industrialists discuss the use of optical techniques and data processing to quantify fluid mechanic and heat transfer properties. A sampling of topics includes laser Doppler anemometry and infrared thermograph methods; digital speckle photography applied to *in vivo* blood microcirculation monitoring; and automated fringe analysis for profilometric mass-transfer experiments. The editors are with the University of Edinburgh. The volume is not indexed.

TP156 00-67814 1-56032-825-8

Reactive separation processes.

Kulprathipanja, Santi.

Taylor & Francis, ©2002 251 p.
\$115.00

This edited book written by global experts examines the evolving technology of reactive separation processes, overviewing methods used commercially and methods still in experimental analysis. The six main areas discussed are: reaction/distillation, reaction/extraction, reaction/absorption/ reaction/adsorption, reaction/membrane, and reaction/crystallization. Emphasis is on applications, but fundamental principles and technical considerations in industry are also examined for each technology. The book is useful as a reference for professionals in the chemicals industry, petroleum refining, and pharmaceuticals. Santi works in research and development and is recognized as an expert in petrochemical technology.

TP201 2001-046659 0-471-31671-7

Handbook of chemicals and gases for the semiconductor industry.

Misra, Ashutosh et al.

John Wiley & Sons, ©2001 363 p.
\$125.00

Covering the properties, applications, and health and safety considerations of the chemicals used in semiconductor processing, this book provides a brief overview of each step in the process, followed by 270 chemical and gas entries. These entries include data on physical properties, emergency treatment procedures, waste disposal, incompatible materials, applications, and the chemical mechanism involved. Each of the book's eight chapters relates to a specific area of semiconductor processing: thin film deposition, water cleaning, photolithography, wet and dry etching, chemical mechanical planarizing, carrier gases, un-categorized materials, and semiconductor chemicals analysis.

TP1150 2002-108065 0-87263-582-1
Thermoforming; improving process performance.

Rosen, Stanley R.
Society of Mfg. Engineers, ©2002 328 p.
 \$85.00

Thermoforming is a processing technique involving air pressure applied to heated plastic, and combines the earlier terminology of vacuum-formed and pressure-formed operations. A specialist in thermoforming, mechanical engineer Rosen describes the roll-fed process, properties of plastic materials, designing products, thermoforming machines, trim presses, knife-like trim dies, and off-line punch-and-die trimming. Chapters on molds cover mold design, system components, layout and base design, and cost estimating.

PHOTOGRAPHY

TR267 2002-9377 0-7668-2079-3
Understanding digital photography. (CD-ROM included)

Ippolito, Joseph A.
Delmar Pub., ©2003 403 p.
 \$39.95 (pa)

Rather than taking a purely aesthetic or photo-science approach to digital photography, a community college instructor of photography who is president of the Photo Imaging Education Association explains this new technology to photographers (of all levels and computer platforms) from a fellow photographer's perspective. Includes color images, coverage of intellectual property rights, chapter review questions, and a glossary. The CD-ROM contains trial version software, an image gallery, and a list of Web links.

TR860 2002-007006 1-58450-098-0
The digital filmmaking handbook, 2d ed. (DVD included)

Long, Ben and Sonja Schenk.
Charles River Media, ©2002 575 p.
 \$49.95 (pa)

Explains how to shoot a movie on digital video and edit it on a computer. Storyboarding, lighting, sound, and software options are discussed. The second edition adds a tutorial that walks through the editing of an entire scene, and moves the chapter on financing to the DVD. The DVD contains demonstration versions of Adobe Premiere, After Effects, and Photoshop for Macintosh and Windows.

MANUFACTURES

TS155 2001-59337 0-13-078225-4
Operations management, 4th ed. (CD-ROM included)

Russell, Roberta S. and Bernard W. Taylor III.
Prentice Hall, ©2003 824 p.
 \$109.33

This text/CD-ROM integrates themes of operations strategy and competitiveness, e-business and

information technology, services and manufacturing, and qualitative and quantitative aspects of operations management. The reorganization of this fourth edition includes increased emphasis on the Internet, a new chapter on project management, expanded presentation of supply chain management, and a new section on quality. The CD-ROM contains animated figures and examples, active graphs linked to case studies, video clips, example files for activities, and Excel OM software. Russell teaches business information technology at Virginia Polytechnic Institute and State University. Taylor teaches management science and heads the Department of Business Information Technology at the same institution.

TS156 2001-269236 3-527-29558-5
Sensors in manufacturing.

Title main entry. Ed. by H.K. Tönshoff and I. Inasaki.
 (Sensors applications; v.1)
Wiley-VCH, ©2001 395 p.
 \$89.95

Contributors primarily from Germany, Japan, and the US address monitoring technologies in various manufacturing processes, focusing on the latest developments in those fields, along with the principles behind the developments. The volume begins with the role of sensors in manufacturing and application range, new trends in signal processing and decision making, and sensors in mechanical manufacturing. Sensors for machine tools and robots are covered, followed by sensors for workpieces. Sensors for process monitoring are addressed including casting and powder metallurgy, metal forming, cutting and abrasive processes, laser processing, electrical discharge machining, welding, coating processes, heat treatment, and other means. Finally, developments in manufacturing and their influence on sensors are covered.

TS236 2002-69363 0-306-46750-X
Science and engineering of casting solidification.

Stefanescu, Doru Michael.
Kluwer Academic/Plenum, ©2002 342 p.
 \$95.00

Stefanescu (U. of Alabama) explains the computational modeling of solidification of metal castings. He describes solidification theory through the complex mathematical apparatus that includes partial differential equations and numerical analysis. Some of the latest developments of solidification theory, even when they have yet to prove useful in the world of engineering application, are described. Basic concepts such as undercooling, local equilibrium and interface non-equilibrium are covered. Governing transport equations are examined and applied to the study of micro-scale phenomena. Finally, nucleation and growth at the atomic scale level, stochastic modeling of solidification, and the modeling of solidification for a number of commercial alloys are explored.

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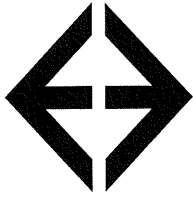
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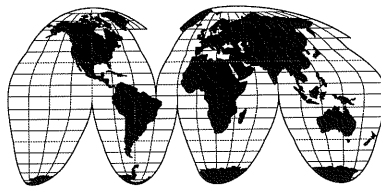


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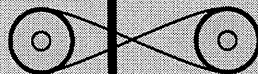
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