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**President's Letter**

**Q**uantifying impact on the federal government is a daunting task for any organization, especially a relatively small one like AEESP. However, I would like to think that our energies, coupled to those of many other groups and individuals, have made a difference. As evidence, I offer the recent proposed boost to environmental science funding. The Clinton Administration has proposed increasing the National Science Foundation budget by \$675 Million (+17%) to \$4.57 Billion for fiscal year 2001! The four major NSF budgetary initiatives include Biocomplexity and the Environment (+136.3 M from \$50M this year). The intent of the BE initiative is to bring together interdisciplinary teams of scientists to understand dynamic interactions within biological systems and the physical environment. Another \$747 M (+14%) has been requested for Integrated Science for Ecosystem Challenges focused on gaining a greater understanding of the causes and consequences of environmental stressors. Funding has been requested for research on global change, increased budgets for EPA and the U.S. Geological Survey, National Oceanographic and Atmospheric Administration, and NASA'S Earth Science Enterprise. These initiatives will require multi-disciplinary teams, scientists and engineers, to address the targeted research challenges. And where the research is moving, so too our educational offerings must adjust to train our students to meet the anticipated challenges of the future. AEESP, although a small organization, has the potential, coupled with its members, for great impact through our educational and research institutions.

To help insure that we are pointed in the right direction, the Executive Committee voted in its January meeting to retain the services of a consultant experienced in government relations! This may seem like a bold move, but we are proceeding cautiously and conservatively. Ms. Kathi Ream directed the government relations and science program for the American Chemical Society just before forming her own consulting firm. She represents other professional societies and has agreed to provide targeted services for AEESP. The primary objective in retaining the services of Ms. Ream is to identify arenas in which AEESP can promote the importance of Environmental Engineering and Science. Our Liason Committee made excellent progress articulating the objectives of AEESP, but figuring out how best to take this message to the government became a stumbling block. Through Ms. Ream's guidance, we should be able to make efficient use of our time as she will provide guidance for offices to be visited, contacts to make, and issues to be addressed. We will then be calling on our members to lend their expertise as needed with more assurance that your valuable time has the greatest potential for impact!

The next few months will be a busy time for the Membership and Graduate Register committees. Thanks to all of you who so promptly renewed your membership. And if you haven't yet sent in the renewal, you still can. The response to the survey has been very active and the Membership Committee will be summarizing the results in the next couple of months to provide guidance to the Board. We will discuss the survey results at the May Board meeting to decide how to implement recommended changes. Information is being compiled on the graduate environmental programs through the Graduate Directorate update requests that are being returned. The format is available on the AEESP web page. The abbreviated format was adopted to take advantage of the move to providing information via the web. One of the most striking aspects of this generation of students is their reliance on the internet for information. If information is not available on the web, students may not look elsewhere! The new directorate is being adjusted to make that next step where a student can access the AEESP web page, scroll through for specific areas of research or program emphasis, and get a list of schools whose web pages will be linked. I urge all programs to recognize that your web page will soon be, if it isn't already, the "face" of your program. I appreciate your responsiveness in updating the directorate.

Should AEESP sponsor a conference every year? Should the AEESP conferences be tied to another organization's conference? How can AEESP conferences be sure to address the needs of the

**August 1, 2000**  
is the  
submissions  
deadline for the  
September 2000



(continued from page 1)

entire membership? These and many other questions will be discussed by the newly formed Conference Needs Task Force that is being headed up by Mike Aitken. Several among the membership have expressed the frustration that there is no one conference for all of the Environmental Engineering and Science community. In response to these concerns, this Task Force has been formed. Please forward questions and ideas to either Mike or myself. And, I remind you that the call for proposals for our 2002 Conference has been issued. The details of which are described in this issue of the newsletter. Please consider hosting this event.

Building alliances with other organizations has been one of the objectives of my term as president. The Executive Committee has decided to work with several organizations in developing Memorandum of Agreements. I will be drafting these agreements with AIDIS, WERF, ASCE, AAEE, and possibly others. These will have to be approved prior to adoption. Basically these agreements are meant to strengthen our ties and combine our efforts in common goals. At this time, the American Academy of Environmental Engineers is embarking on a restructuring of the organization and has drafted a plan. Several of the AEESP Executive Committee will be meeting with AAEE in April to discuss future plans.

Finally, I am pleased to report that our membership is at least maintaining and appears growing with several new members from the science community. This is at a time when many organizations' membership is shrinking. I take this growth as a very positive indicator for our organization. I again ask that you encourage those among your faculty who are not members to consider joining. As always, I welcome your comments and ideas and encourage you to get involved in your organization. Please contact me to find out how you can participate in AEESP activities.



Robin Autenrieth  
Texas A&M University  
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## AEESP Board Highlights

- On January 30, 2000, the AEESP Executive Committee met at the O'Hare Hilton for its annual meeting. Present were Robin Autenrieth (President), Kimberly Gray (Past President), Domenico Grasso (Vice President), Gerald Speitel (Treasurer), and Kurt Paterson (Secretary).
- Of the 56 new members that joined AEESP in 1999, most were Assistant Professors and students. Approximately 25% of this total was comprised of international and non-environmental engineering faculty members.
- As of mid-January, 171 (31% of the eligible members) have voted on changes to our Mission Statement and Objectives, with most (162) supporting suggested changes. The By-Law amendments have met the criteria for passage.
- The recent AEESP Research Frontiers Conference at Penn State resulted in a \$2500 profit. These funds tentatively will be used to support travel for junior faculty to the next conference. The Association will encourage all conference proposal sites to include a plan to support junior faculty travel to the conference. A task Force will be established to explore the possibility of having more AEESP sponsored Conferences.
- The firm of KAR Associates, Inc. was hired to act as Washington Representative to AEESP beginning immediately. They will explore AEESP joining policy groups like the Coalition for National Science Funding (CNSF) and the Science, Engineering, and Technology Work Group (SETWG) among other activities.
- There will be two Educator awards this year (funded by McGraw-Hill and Wiley). As this funding was unexpected, the top two candidates will be chosen to receive these awards this year.
- The membership survey was to be mailed out in early February. It was designed to help the Association better serve its members.
- The WEFTEC Luncheon Speaker will be William Mills, general manager of the Orange County Water District. The title of his presentation will be "OCWD Projects to Meet Future Water Needs Through Water Research and Technology."
- The WEFTEC Research Symposium Speaker will be Walter J. Weber, Jr. The title of his presentation will be "Technologies and Strategies for Sustainable Water: A Forward View from a Position of Hind-sight."
- The next Board meeting is tentatively scheduled for 6-7 May 2000, in Chicago, Illinois.

Respectfully submitted,  
Domenico Grasso  
Vice-President

## 2000 AEESP Lecture

Professor Philip C. Singer, University of North Carolina at Chapel Hill, will present the 2000 AEESP Lecture at the AWWA conference in Denver, at 1:00 p.m. on Monday, June 12. The title of his presentation is "Disinfection By-Products in Drinking Water: Some New Perspectives."

## 2002 AEESP/AEE Conference

Proposals are solicited for the 2002 AEESP/AEE Conference on Education and Research Needs in Environmental Engineering and Science. This will be the first such conference to combine sessions on education and research needs. Institutions proposing to host the conference should address the following criteria: (1) Conference planning, organization, and advertising; (2) Themes, if any, and tentative session topics for education, research needs, and applications of research to environmental engineering practice; (3) Timing (target dates and duration of the conference); (4) Location (accessibility; capacity; availability of housing and conference facilities); and (5) Budget (overall budget, estimated on-site costs per participant, and potential cost sharing, if any).

Three copies of each proposal should be submitted by June 9, 2000 to Michael D. Aitken, Department of Environmental Sciences and Engineering, CB 7400, University of North Carolina, Chapel Hill, NC 27599-7400. Proposals will be evaluated by a joint AEESP/AEE committee and final approval of the host institution will be made by the AEESP Board of Directors. Final approval is expected by Aug. 1, 2000.

## AEESP offers two outstanding educator awards in 2000

As an association of Environmental Engineering and Science professors, we recognize that our entire membership aspires to outstanding teaching. While there are several who have achieved the status of "master teacher," a few individuals stand at the pinnacle of teaching effectiveness and work diligently to help other professors. Our association is deeply indebted to these individuals. Consequently, AEESP will begin offering two teaching-related awards in 2000, one for "Outstanding Teaching in Environmental Engineering and Science" sponsored by McGraw Hill, and one for "Outstand-

ing Contribution to Environmental Engineering and Science Education" sponsored by Wiley Interscience.

The stated purpose of these awards is "to honor individuals who are making outstanding contributions to the teaching of environmental engineering, both at the individual's home institution and beyond." The selection process for the "Outstanding Teaching ..." award will favor nominations of faculty at the assistant and associate professor level who are actively teaching large undergraduate classes and developing innovative instructional methods, although all nominations will be considered. The selection process for the "Outstanding Contribution ..." award will place less emphasis on academic rank and more emphasis on the development of innovative methods, including the dissemination of such methods to peers. Only members of AEESP are eligible to receive either award. An individual may receive either award only once; previous winners are ineligible. Each award will consist of a plaque and a check for \$1000, to be presented at the WEFTEC Conference in October.

The nomination package should include the following items: a) a Curriculum Vitae, preferably tailored to highlight contributions to environmental engineering education; and b) any relevant information related to teaching not included in the CV. Moreover, some of the following additional materials will be helpful in judging the candidate's qualifications for these awards: a) input from undergraduate and graduate students; b) summary teaching evaluations by faculty and/or students, c) supporting letters from colleagues intimately familiar with the nominee's contributions to environmental engineering education, d) demonstrated innovation and success in teaching; e) demonstrated effort at dissemination of methods to the academic community. Letters from colleagues outside the nominee's home institution documenting application of software, innovative teaching ideas, textbooks, course notes, mentoring or other significant contributions will be given special consideration in this analysis. A single nomination package will be automatically considered for both awards in 2000.

The deadline for nominations to receive full consideration has been extended to June 1, 2000. Nominations can come from either former students or professional colleagues, and should be sent to: Marc Edwards, Chair, AEESP Awards Committee, Department of Civil Engineering, 407 NEB, Virginia Tech, Blacksburg, VA 24061-0246.

### Format for Newsletter submissions

Please note that the preferred file format for newsletter submissions is Microsoft Word. Photos may be sent as prints or on a disk scanned at 300 dpi resolution and saved in .tif format. Please identify subjects in all photographs, providing names, date, event and location. Submissions should be sent to Roger Ely, AEESP Newsletter Editor, roger.ely@yale.edu, Department of Chemical Engineering, P.O. Box 208286, Yale University, New Haven, CT 06520-8286; phone (203) 432-4386; fax (203) 432-2881.

# **AEESP Liaison Committee Report, March 2, 2000**

## **Universities Council on Water Resources (UCOWR) - James P. Heaney**

The annual meeting of the Universities Council on Water Resources will be held at the Hilton New Orleans Riverside from July 31-August 4, 2000. The theme of this year's meeting is *Living Downstream in the Next Millennium: Reconciling Watershed Concerns with Basin Management*. More information about this meeting and other UCOWR activities can be obtained from <http://www.uwin.siu.edu/ucowr>.

## **Air & Waste Management Association - Sarina J. Ergas**

The annual meeting of A&WMA will be held in Salt Lake City Utah from June 19-22nd 2000. Once again, the conference will have a variety of formal and informal activities of interest to Environmental Engineering and Science faculty and students. Don't miss the annual AEESP/A&WMA meet and greet breakfast, which will held on Tuesday morning. Mackenzie Davis of Michigan State University will speak on, "Teaching the Theory and Practice of Engineering." Student activities will include student poster sessions (with cash prizes), a career center, local tours and a student social. Student registration is highly discounted and relatively low cost housing is available.

The A&WMA web site ([www.awma.org](http://www.awma.org)) has been recently updated and now includes a listing of North American colleges and universities offering advanced degrees in Environmental Engineering, Environmental Science, Air Pollution Meteorology and Environmental Health. If your University is not listed or if you would like to link to your department home page contact Joel Anne Sweithelm ([jsweithelm@awma.org](mailto:jsweithelm@awma.org)).

A&WMA is updating their Environmental Resource Guides (ERGs) and putting them on CD ROM. The ERGs are directed at middle and high school teachers and contain information, activities, and experiments on the topics of air

and non-point source pollution. I've recently started giving workshops with my students for middle and high school teachers on Non-point Source Pollution Prevention. The Civil and Environmental Engineering students learn about non-point source pollution as they participate in a rewarding community service activity. The ERGs make it relatively painless since all of the experiments are so well laid out. Feel free to contact me if you would like more information.

## **American Water Works Association (AWWA) - Steve Randtke**

Arrangements have been made for this year's AEESP Lecture at the AWWA Conference. Professor Philip C. Singer, University of North Carolina at Chapel Hill, will give a lecture entitled "Disinfection By-Products in Drinking Water: Some New Perspectives," on Monday, June 12. The conference will be held in Denver, Colo.

## **American Society of Civil Engineers (ASCE) - Debra R. Reinhart**

The Environmental & Water Resources Institute was created on October 1, 1999. This institute is a semi-autonomous organization within the American Society of Civil Engineers that will integrate former ASCE Environmental Engineering, Water Resources Engineering, and Water Resources Planning and Management Divisions. The mission of the institute is to "provide the technical, educational, and professional needs of its members and serve the public in the use, conservation, and protection of natural resources and in the enhancement of human well-being...." A seven-member governing Board administers EWRI affairs, presided over by Conrad G. Keyes, Jr., ScD, PE/PS.

Upcoming events include the following:

- .. Specialty conference on Watershed and Operations Management, Fort Collins, Colo. June 21-23
- .. Convergence 2000 Pipelines and Environmental Engineering Conference, Kansas City, Mo. July 23-26.
- .. 2000 Joint Conference on Water Resources Engineering and Water Resources Planning & Management, Minneapolis, Minn., July 30-Aug 2.
- .. Environmental and Water Resources Congress, Orlando, Florida, May 20-24, 2001

2000 ASCE-EWRI Student Activities include the following:

- .. Parsons Brinckerhoff Water Resources Student Design competition, Due March 24, 2000
- .. EWRI-ASCE Tenth Annual Water Resources Photo Contest, Due March 30, 2000
- .. 2000 EWRI-ASCE Environmental & Water Resources Engineering Student paper competition, Due March 3, 2000.

For more information refer to the EWRI website: <http://www.ewrinstitute.org>.

### **Letters to the President may be addressed to:**

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## Clemson University

The Department of Environmental Engineering & Science at Clemson University is pleased to announce the appointment of **Professor James D. Navratil**, starting January 2000. Dr. Navratil has more than 20 years of experience in radioactive, hazardous, and mixed waste management, acquired primarily at the Department of Energy's (DOE's) Rocky Flats Plant and through assignments with the International Atomic Energy Agency, DOE's Energy Technology Engineering Center, and Chemical Waste Management's Geneva Research Center. Dr. Navratil has also taught chemical engineering and extractive metallurgy subjects at the University of New South Wales, Australia and held an adjunct appointment at the Colorado School of Mines.

Accomplishments in the development of separation, recovery, and treatment processes for contaminated soil, waste water, and solvent and metal wastes have earned Dr. Navratil numerous honors, including Rockwell Corporate Engineer of the Year (1977), R&D 100 Awards in 1983 and 1985, and the American Chemical Society Colorado Section Award (1984). He has several patents to his credit and has given more than 200 presentations, including lectures in 30 countries. He has co-edited or co-authored 25 books, more than 200 scientific publications, and has served on the editorial boards of over a dozen journals. His most recent book, "Separation Chemistry," was published in 1993.

Dr. Navratil is a native of Colorado and received his Bachelor's, Master's, and Doctoral degrees in Chemistry from the University of Colorado in Boulder. An active member of the American Chemical Society since his undergraduate days, he is also a member of the American Institute of Chemical Engineers, the American Nuclear Society, and Sigma Xi, and a Fellow of the Royal Australian Chemical Institute and the American Association for the Advancement of Science. Dr. Navratil was instrumental in the founding of the ACS Subdivision of Separation Science and Technology, the Actinide Separations Conferences, the Glenn T. Seaborg Award, and the journal *Solvent Extraction and Ion Exchange*.

At Clemson University, Dr. Navratil joins Drs. Tim DeVol and Bob Fjeld in the Nuclear Environmental focus area within the Department of Environmental Engineering & Science. Dr. Navratil will also be working with the Chemistry Department and DOE's Savannah River Site to develop a comprehensive educational and research program in the chemistry of actinides as it applies to radiochemical separations, radioactive waste management, and environmental fate and transport.

## Georgia Institute of Technology

The Environmental Engineering Program in the School of Civil and Environmental Engineering at Georgia Institute of Technology is pleased to announce the appointment of three new Assistant Professors in 1999-2000. **Ching-Hua Huang**, Ph.D., will be joining the school in January 2000. Dr. Huang received her Ph.D. in Environmental Chemistry at Johns Hopkins University in 1997 and continued her research as a postdoctoral researcher at the University of California at Berkeley. Her expertise is in environmental and aquatic chemistry, transformation and fate of organic chemicals, chemical kinetics and mechanisms, speciation and transformation of metals in aquatic systems, environmental applications of chromatography and spectroscopy and bioanalysis. **Frank Löffler**, Ph.D., joined the school in April 1999. Dr. Löffler received his Ph.D. in Microbiology in 1993 from the University of Hohenheim and the Technical University Hamburg-Hamburg, Germany. Dr. Löffler continued his research as a research associate at Michigan State University before joining Georgia Tech. His expertise is in ecology, physiology and biochemistry of microbial degradation processes, reductive dechlorination as a respiratory process, dehalogenating enzyme systems, development of DNA probes for the detection of tetrachloroethene (PCE) - dechlorinating bacteria, biodegradation of pollutants with low aqueous solubilities, isolation of bacteria with novel enzymatic activities, and biotransformations. **Michael Bergin**, Ph.D., joined the school in Winter 1999. Dr. Bergin received his Ph.D. in Civil and Environmental Engineering from Carnegie Mellon University in June 1995. Dr. Bergin continued his research as a research scientist at the University of Colorado before joining Georgia Tech. His expertise is in aerosol formation, transport and deposition; aerosol measurement; light absorption and scattering by aerosols; fog and cloud formation and chemistry; air/snow exchange of aerosols and gases; and estimation of past atmospheric chemistry based on the chemical composition of ice cores.

## Louisiana State University

**Dr. Kalliat T Valsaraj** has been appointed the **Ike East Professor of Chemical Engineering** in the Gordon A. and Mary Cain Department of Chemical Engineering at Louisiana State University, Baton Rouge. Professor Valsaraj is active in the areas of chemodynamics and environmental separations process design and is the author of more than 100 papers. He has been a faculty member at LSU since 1986 after receiving a Ph.D. in chemistry from the Vanderbilt University, Nashville, TN in 1983. The second edition of his book "Elements of Environmental Engineering – Thermodynamics and Kinetics" from CRC Press is due to be released in Spring 2000.

## **University of Massachusetts, Lowell**

**Mr. John Daniels**, a doctoral student in civil and environmental engineering supervised by Prof. Hilary I. Inyang, professor and director of the Environmental Engineering Research Center, won the 1999 Clay Minerals Society Research Grant. Mr. Daniels was selected from a national pool of applicants based on his academic credentials and the quality of his proposed research on *Enhancement of clay-based barrier material resistance to freeze-thaw cycling via polymer amendment*.

The College Board, which administers the Advanced Placement testing programs, has appointed **Prof. Hilary Inyang** as a faculty consultant on AP Environmental Science. The AP reading will be hosted this year in June at Clemson University, Clemson, South Carolina. The Educational Testing Service (ETS) estimates that this year, the full AP program will be taken by more than 770,000 outstanding students from 80 countries and 13, 400 high schools.

## **Michigan State University**

We are pleased to announce that **Syed Hashsham** has joined the Department of Civil and Environmental Engineering as an Assistant Professor in August 1999. Hashsham received his Ph.D. degree from the University of Illinois at Urbana-Champaign and his M.S. degree from the Indian Institute of Technology, Bombay, both in Environmental Engineering and Science. He obtained his B.S. degree in Civil Engineering from Aligarh Muslim University, India. He has worked as a post-doctoral fellow with us and at Stanford University on issues related to the stability of function and community structure in anaerobic microbial communities. His current research interests include applications of microarray-based and molecular techniques to manage mixed microbial communities, modeling microbial ecosystems, and bioremediation. He is closely associated with the Center for Microbial Ecology at Michigan State University. His contact information is: Dr. Syed A. Hashsham, A126 Research Complex-Engineering; Michigan State University, East Lansing, MI 48824. phone: (517) 355-8241; fax: (517) 355-0250, email: hashsham@egr.msu.edu.

### **AEESP Members,**

Does AEESP have your correct address? Send address changes to: Joanne Fetzner, AEESP Business Office, 2208 Harrington Court, Champaign, IL 61821; e-mail: jfetzn@uiuc.edu; phone: (217) 398-6969; fax: (217) 355-9232.

## **University of Missouri-Rolla**

**Xiaoqi (Jackie) Zhang** recently joined the faculty of the Department of Civil Engineering at the University of Missouri-Rolla (UMR) as an Assistant Professor. She replaces the recently retired **Dr. Purush TerKonda**.

Dr. Zhang recently received her Ph.D. from the University of Cincinnati; her academic advisor was Dr. Paul L. Bishop. She holds a B.S. from Tongji University and a M.S. from Tsinghua University. Dr. Zhang's research interests are biofilm-based wastewater treatment processes, biofilm structure, properties of extracellular polymeric substances (EPS), and pollutant transport/removal mechanisms.

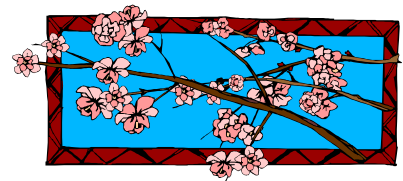
UMR has revitalized the Environmental Engineering Program within the Department of Civil Engineering. This effort includes adding four new faculty in the last four years, substantial investment in state-of-the-art equipment for the 6500-square foot Environmental Research Center, and the recent onset of construction to renovate the existing Civil Engineering building, resulting in the addition of 13,260 square feet of environmental engineering laboratories.

## **Northwestern University**

Northwestern University is pleased to announce that **Dr. Matthew Parsek** joined the faculty as an Assistant Professor of Environmental Engineering in October 1999. Dr. Parsek received his Ph.D. degree from the University of Illinois at Chicago, where he worked with Dr. Al Chakrabarty on the genetics of aromatics biodegradation. He then held an NSF post-doctoral position in the laboratory of Dr. Peter Greenberg at the University of Iowa, where he established himself an international leader in cell-to-cell signaling in biofilms. Dr. Parsek's research and teaching will focus on environmental microbiology.

## **Other associations...**

**Dr. Gene McCall** is pleased to announce the opening of McCall Environmental, P.A. Gene will continue his practice in the areas of environmental law and environmental/chemical patents. He was formerly with Leatherwood Walker Todd and Mann where he was the head of their environmental practice group. Prior to Leatherwood he was an Asst. Prof. of Civil Engineering and Adjunct Asst. Prof. in the School of Public Health at the University of South Carolina. His new contact information is: P.O. Box 10005, Greenville, SC 29603-0005, 864-370-1550 phone, 864-370-1551 fax, and email genemccall@home.com.





## Arizona State University

POST-DOCTORAL RESEARCH POSITION. A position in the Department of Civil and Environmental Engineering is open for post-doctoral research to conduct work on a new drinking water related project. The goal of the project is to understand the transformations in dissolved organic carbon (DOC) and disinfection by-products during recharge and recovery of chlorinated surface water into aquifers. The primary focus will be on Aquifer Storage and Recovery (ASR), recharge and recovery from the same well. Applicants should hold a Ph.D. in environmental engineering or closely related field, and have experience with chlorination and analysis for disinfection by-products. Send a letter of interest, resume, and name of three contacts to: Paul Westerhoff, Arizona State University, Box 5306, Tempe, AZ 85287; or e-mail: p.westerhoff@asu.edu. Candidates should be able to start around May 1, 2000 and funding is available for two-years.

## University of Connecticut

Ph.D. FELLOWSHIPS in ENVIRONMENTAL BIOTECHNOLOGY, FALL 2000, supported by the U.S. DEPARTMENT OF EDUCATION, GAANN PROGRAM. Up to ten (10) Ph.D. fellowships are available starting Fall 2000 for graduate students to pursue an interdisciplinary course of study in Environmental Biotechnology. The intent of the program is to train graduates who will excel as teachers and scholars in their field. The interdisciplinary training is provided by the participation of Faculty in the Environmental Engineering and Microbiology Programs. Fellows will receive a cross-disciplinary academic training including courses in microbial biochemistry, physiology, diversity, and genetics, as well as courses in environmental process engineering and design. Fellows will perform scholarly research under the advisory of one of the Program Committee Faculty. The Fellowships will be awarded based on prior academic performance and financial need. Applicants must either be United States citizens, U.S. nationals, have or be in the process of attaining permanent resident status, or be citizens of any of the Freely Associated States. Successful candidates will receive a GAANN fellowship supplemented with a partial University of Connecticut graduate assistantship for a total of \$22,745 for the first year, renewable for three years, including tuition and fee deferment and comprehensive health care benefits. Applicants from groups traditionally underrepresented in Environmental Engineering and Microbiology are *strongly* encouraged to apply.

For additional information about the GAANN Fellowship Program, contact Ms. Kristina Lazzaris, GAANN Program Assistant at 860-486-3548, University of Connecticut, Storrs

CT 06269-2037 or nature@engr.uconn.edu or visit [www.engr.uconn.edu/environ/gaann.htm](http://www.engr.uconn.edu/environ/gaann.htm).

GAANN Program Director: Prof. Barth F. Smets, [barth.smets@uconn.edu](mailto:barth.smets@uconn.edu).

GAANN Program Co-director: Prof. Kenneth M. Noll, [kenneth.noll@uconn.edu](mailto:kenneth.noll@uconn.edu).

## Michigan Technological University

Ph.D. FELLOWSHIPS IN ENVIRONMENTAL ENGINEERING AT MICHIGAN TECH. Seven to ten fully supported fellowships are available for study toward the Ph.D. in Environmental Engineering at Michigan Technological University. We seek students interested in research on the sources, fate, transport, and impacts of pollutants that have large scale (ecosystem to global scale) environmental impacts. This fellowship program is funded by the U.S. Department of Education's Graduate Assistance in Areas of National Need (GAANN) program, to educate engineers who can contribute to Risk Reduction of Persistent and Global Change Compounds.

Research opportunities are available in ongoing and new projects in a range of topics in the fields of atmospheric chemistry and transport, fate and transport of persistent organic compounds, surface water quality modeling, biogeochemical processing of pollutants, physical and chemical treatment processes, and sustainable engineering practices. Students will be encouraged to consider potential research topics in several of these areas, and will be allowed to choose among available research topics for their dissertation work. The Environmental Engineering Ph.D. program is interdisciplinary, and collaboration with multiple departments and with scientists at other universities is encouraged.

These GAANN Fellowships will support Ph.D. study through a total award of \$25,500, including a stipend of \$15,000, full tuition and fees, and an allowance for travel to national meetings and for other educational expenses. We solicit applications from highly qualified students who are interested in developing the scientific understanding or engineering methods necessary to define and implement sustainable engineering practices. For more information, contact Richard Honrath, GAANN Program Co-director, (906) 487-3202, [reh@mtu.edu](mailto:reh@mtu.edu), or see <http://www.cee.mtu.edu/~reh/grad-programs/gaann/>. Applicants must be U.S. citizens or permanent residents; see the web site for full details. Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

## **University of Oklahoma**

DOCTORAL FELLOWSHIPS IN ENVIRONMENTAL ENGINEERING AND SCIENCE/UNIVERSITY OF OKLAHOMA. The School of Civil Engineering and Environmental Science (CEES) at OU has received a grant from the U.S. Department of Education GAANN Program to support 10 Ph.D. fellows. They will be affiliated with a newly-formed research center, whose vision is to study novel reactive and pro-active measures for dealing with chemicals in the environment. We are seeking qualified applicants with an interest in pursuing a Ph.D. in environmental engineering/science or geoenvironmental engineering to participate in this exciting research and education program. Successful applicants will receive a generous stipend, full tuition waivers, and an educational allowance. Details may be found on our web site (address below).

Dear AEESP members,

Have you or a colleague been recently promoted? Received an award? Moved? We want to know about it. Please share items of professional achievement with AEESP members in the AEESP Newsletter. Send a brief note in an email to:

**Roger Ely**  
**AEESP Newsletter Editor**  
**Environmental Eng. Program**  
**Dept. of Chemical Engineering**  
**P.O. Box 208286**  
**Yale University**  
**New Haven, CT 06520-8286**  
**phone: (203) 432-4386**  
**fax: (203) 432-2881**  
**roger.ely@yale.edu**

For more information or to request application materials, visit our web site at <http://www.ou.edu/cees> or contact Prof. Robert C. Knox, CEES, 202 W. Boyd, Room 334, University of Oklahoma, Norman, OK, 73019, 405-325-4256, [knox@mailhost.ecn.ou.edu](mailto:knox@mailhost.ecn.ou.edu).

## **University of Tennessee**

GRADUATE RESEARCH ASSISTANTSHIP IN ENVIRONMENTAL ENGINEERING. The University of Tennessee's Civil and Environmental Engineering Department, <http://www.engr.utk.edu/civil/>, in association with the Center for Clean Products and Clean Technologies (CCPCT), <http://eerc.ra.utk.edu/clean/>, is accepting applications for a one-year graduate research assistantship beginning fall semester, with an additional year's extension likely. Undergraduates in civil or environmental engineering, environmental science, or other engineering and science disciplines considering graduate study in environmental engineering are invited to apply. Applications will be accepted until the position is filled with review of applications beginning April 1. The position carries a \$1,300 per month stipend, provides tuition and fees, and offers research opportunities applicable to a master's thesis or special project.

The CCPCT is one of the few research centers in the U.S. working with industry and government to develop, evaluate and promote cleaner products and production technologies. This assistantship will give the successful applicant experience in cleaner production, pollution prevention, design for the environment, and/or risk assessment. For example, CCPCT projects have involved the U.S. Environmental Protection Agency's Design for the Environment program and cleaner technologies substitutes assessment; Saturn Corporation and development of a life-cycle design tool for automakers; and Green Seal product evaluation for environmental labeling.

Interested candidates may contact Chris Cox, Associate Professor, Department of Environmental Engineering, 73 Perkins Hall, The University of Tennessee, Knoxville, TN 37996-2010 (Ph: 865-974-7729; FAX: 865-974-2669; [ccox9@utk.edu](mailto:ccox9@utk.edu)) or Mary Swanson, Research Scientist, 311 Conference Center Building, The University of Tennessee, Knoxville, TN 37996-4134 (Ph: 865-974-0642; FAX: 865-974-1838; [mswanso1@utk.edu](mailto:mswanso1@utk.edu)).



# Organizations of Interest

## AWRA

**Janet L. Bowers, PG.**, has been elected to serve as President of the American Water Resources Association for 2000. Bowers is Executive Director of the Chester County Water Resources Authority in West Chester, Penn. She is responsible for the preparation of the county's Water Resources Management Plan, management of the cooperative program between the Authority and the U.S. Geological Survey, managing the county's drought/flood warning programs and she also manages the operation and maintenance of four multi-purpose dams in the Brandywine Creek Watershed. She has 17 years of environmental and engineering consulting services experience and is a Registered Professional Geologist. She received a bachelor's degree in geology from Catawba College and a master's degree in geology from West Virginia University. She has served in numerous leadership capacities both on the national and state levels of AWRA. **John S. Grounds, III**, has been elected to the position of President-Elect. Grounds is employed by Halff Associates, Inc. as a senior engineer responsible for the management,

design, and analysis of hydraulic and hydrologic engineering projects. He holds a Ph.D. in civil engineering from the University of Houston. Grounds will become the Association's President in 2001. Elected to three-year terms on the Board were: **Robert J. Moresi**, who is a senior hydrologist with Moffat & Nichols Engineers in Tampa, Florida, where he is responsible for conducting water resources studies and **Ronald A. Yates**, chief of engineering and water management in the Lakes and Rivers Division of the Army Corps of Engineers in Cincinnati, Ohio. Continuing on the Board is Secretary/Treasurer **Isabel B. Gonzalez-Jettinghoff**, Principal, Planning & Economics Group, Inc., Miami; Past President **John J. Warwick**, University of Florida, Gainesville; and Directors **David R. DeWalle**, Penn State University, University Park; **Kathryn J. Hatcher**, University of Georgia, Athens; **Patricia H. Lodge, P.E.**, Lodge Environmental Consulting, Inc.; and **Jane L. Valentine**, School of Public Health, UCLA, Los Angeles.

## Reminder:

The AEESP Newsletter is on-line at:  
<http://www.uidaho.edu/aeesp>.

The AEESP Membership Application is on-line at:  
<http://www.aeesp.org>.



# Employment Opportunities

## Michigan Technological University

**WATER RESOURCES ENGINEERING.** Michigan Technological University invites applications for a tenure-track faculty position in the Department of Civil and Environmental Engineering beginning January 2001. The position will be filled at the rank of Assistant or Associate Professor depending on the applicant's qualifications and experience. Particular areas of interest are watershed management modeling, hydrologic applications of geographic information systems and remote sensing, sediment transport modeling, and cold regions hydrology. The candidate should demonstrate a strong commitment to excellence in teaching, with ability to teach courses in hydraulics/fluid mechanics, open channel flow, hydrology, and water resources design. A doctoral degree in civil or environmental engineering or closely related field is required for employment. Registration or the ability to become registered as a Professional Engineer is highly desirable.

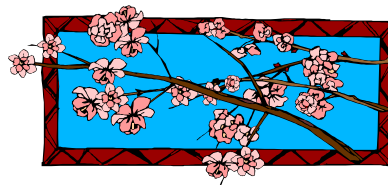
The Civil and Environmental Engineering Department at Michigan Tech includes 25 faculty, 26 professional staff, over 80 graduate students, and 680 undergraduate majors. Research funding exceeds \$4.0 million per year, with major research efforts in environmental and transportation engineering. The department is housed in the new \$44 million Dow Environmental Science and Engineering Building, which overlooks Portage Lake, and Dillman Hall. Michigan Tech has a very robust program in water quality engineering and the candidate will also have the opportunity to interact with the Remote Sensing and Ecosystem Science Institute (RSI). RSI comprises more than 35 faculty members from seven departments and currently holds approximately \$10 million of external research funding.

Michigan Tech is located in Houghton, MI on the south shore of Lake Superior. This rural area is known for natural beauty, pleasant summers, heavy snow fall, and abundant all-season outdoor activities. In addition, the university maintains its own downhill and cross-country ski facilities. There are also numerous cultural activities available on campus at a new 1,100-seat Fine Arts Theatre and off campus at the historic Calumet Theatre. To apply, please send a resume and names of three references to Dr. James R. Mihelcic (Search Committee Chair), Department of Civil and

Environmental Engineering, Michigan Technological University, 1400 Townsend Drive, Houghton, Michigan 49931. Applications will be reviewed as they are received and will be accepted until the position is filled. Women and under-represented groups are especially encouraged to apply. Michigan Technological University is an equal educational institution/equal opportunity employer.

## Smith College

Smith College invites applications and nominations for several faculty positions in the new Picker Engineering Program starting in the fall of 2000. Opportunities exist for tenured, tenure-track and temporary appointments. Successful candidates will be instrumental in structuring and launching the new curriculum and be able to teach in one or more of the following areas: continuum mechanics (solid & fluid), thermochemical processes (thermodynamics, heat & mass transfer), electromagnetics (fields, waves, circuits). They will also be expected to sustain nationally respected research programs in environmental engineering, computer/electrical engineering, biotechnology, material science, or other appropriate area allied to strengths in Smith's existing programs in environmental science, biological sciences, computer science, and physics, chemistry and mathematics. We are especially soliciting applications from scholars who will develop innovative approaches to engineering education that capitalize on an intimate liberal arts environment. Smith College, consistently ranked as one of the nation's top liberal arts colleges, is the first women's college to offer a major in engineering. A rigorous program of study will lead to a B.S. degree in Engineering Science. ABET accreditation will be sought. Send a curriculum vitae, list of five references and personal career statement that includes the candidate's philosophy regarding the teaching of engineering in a liberal arts environment to: Chair, Engineering Search Committee, Picker Engineering Program, Smith College, Northampton, MA 01063. Applications from members of underrepresented groups are especially welcomed.



## NRC Report on Natural Attenuation Published

In May, The National Academy Press will publish "Natural Attenuation for Groundwater Remediation," a report resulting from a two-year study conducted by a committee of the National Research Council tasked with providing guidance on when and how natural attenuation can be used as remedy for groundwater contamination. The report describes the unique technical and policy issues surrounding natural attenuation. It reviews the scientific underpinnings for natural attenuation and provides guidance on how to evaluate whether or not natural attenuation protects public health and the environment. The report also reviews existing protocols for natural attenuation. The NRC committee was chaired by AEESP member Bruce E. Rittmann, John Evans Professor of Environmental Engineering at Northwestern University. Other AEESP members on the 14-person committee were: Richard Luthy of Carnegie-Mellon University (recently moved to Stanford University) and Perry McCarty of Stanford University. "Natural Attenuation for Groundwater Recharge" can be ordered from the National Academy Press, 2101 Constitution Avenue, Washington, DC 20418.

## IWA

Dear Colleague:

It is with great pleasure that I inform you that IWA, with the recent merger of IAWQ and IWSA, will be publishing the Journal of Water Supply: Research and Technology-Aqua, beginning January 2000. Effective January 1, I am the Regional Editor (the Americas), and have as a goal to make Aqua a high quality International journal. I believe it will become the premier journal in the field. I am entertaining submissions of papers in any topics related to water supply including but not limited to: supply and water resources, modeling, treatment, distribution, economics, microbiological and chemical quality aspects, and analytical developments. Your manuscript will undergo a rigorous peer review process, such that if published in Aqua, you will be most proud.

Besides upgrading the quality of the Journal, we expect an increase in the number of submissions and published papers. When this occurs, IWA will consider publishing the Journal on a monthly schedule instead of the present bimonthly one.

Best Regards,

James K. Edzwald

Regional Editor, Journal of Water Supply: Research and Technology-Aqua

Department of Civil and Environmental Engineering

University of Massachusetts

Amherst, MA 01003-5205

Phone 413-545-5396; Fax 413-545-2202

E-mail Edzwald@cs.umass.edu

## AWWA

In March 2000, the American Water Works Association (AWWA) in Denver, Colo. will publish a 516-page book, *The Drinking Water Dictionary*. This 8-1/2" x 11" illustrated, hardback reference, including a free searchable CD-ROM for both IBM-compatible and Macintosh users (Adobe Acrobat Reader included), contains about 15,000 entries from "A-See ampere" to "zwitterion," including many common acronyms and abbreviations. Definitions related to 41 different water-supply topics ranging from "analytic instrumentation" through "health effects" to "water rights" (complete list below) were provided by a panel of 23 professional experts.

- analytic instrumentation
- analytic methods
- chemistry
- computer automation
- computers
- corrosion
- corrosion control
- data handling
- desalting
- disinfection by-products
- distribution systems
- emergency preparedness
- engineering
- epidemiology
- finance
- fluid mechanics
- geographic information systems
- geology
- groundwater
- health effects
- hydraulics
- instrumentation
- legislation
- management
- membrane technology
- microbiology
- modeling
- monitoring
- protozoology
- rates
- regulations
- risk assessment
- safety
- small systems
- statistics
- toxicology
- treatment
- virology
- water resources
- water reuse
- water rights

The book also includes all of the drinking water terms from the 1981 "Glossary-Water and Wastewater Control Engineering," updated and improved as necessary. In addition, it contains an extensive list of "Units of Measure" entries, covering both U.S. customary and SI units, as well as a "Table of Conversion Factors," mostly from U.S. customary to SI units. Started in late-1993, the dictionary is current as of mid-summer, 1998. If a dictionary with this breadth of coverage would be useful to you, to your organization's library, or to both, it can be ordered from AWWA now by calling 1-800-926-7337 or by e-mailing AWWA at [custsvc@awwa.org](mailto:custsvc@awwa.org). Ask for catalog number 10070. This way you will have your book without delay after it is published. If you know of colleagues to whom this reference book would also be useful, please pass this information along to them.

Thank you,

Dr. James M. Symons, Editor and Project Supervisor,  
University of Houston (Retired), email: [dr.water@att.net](mailto:dr.water@att.net),  
home page: <http://www.egr.uh.edu/CIVE/symons/>.

# Book Reviews by P. Arne Vesilind

## **Engineering Ethics: Concepts and Cases**, Charles E. Harris, Jr., Michael S. Pritchard, and Michael J. Rabins, (2nd Ed.) Wadsworth, Belmont, CA, 2000

For the past 12 years, I have been teaching a course in professional ethics. It's an eclectic bunch, with law students, business majors, pre-meds and engineers. We go through the essentials of ethical reasoning and professional responsibilities. All this is good and useful, but in the end the question still remains: "All things considered, what ought I to do?" This is a question normative ethics tries to answer, and fails miserably to do so. What normative ethics tries to do is develop models for solving moral dilemmas, much like our computer models try to solve engineering problems. The problem with ethical models, just like with engineering models, is that often different models give contradictory answers, and one is never sure what the truth really is.

Being omniscient, however, I have answers for all dilemmas, including the problem of trying to decide what to do. If confronted by a moral dilemma, I suggest the use of two models which always give the same answer. Model A, the presumptive phase (as in a coliform test), is the "New York Times Model." If confronted by a moral dilemma, imagine whatever you do will be on the front page of the New York Times the next morning. Would you be proud of your actions? Model B is the "Beer Model" and is the confirmation phase. After you have made the decision, you go home and have a beer. If the beer tastes good, you have made the right decision.

I do not mean to trivialize engineering ethics. I continue to be amazed how ready engineering upperclassmen are to enter into substantive discussions of professional ethics. The main problem preventing the growth in professional ethics courses, as I see it, is that so few engineers have the

time or interest to study ethics to the level where they can help students learn it. (You never teach ethics, by the way. Ethics can only be learned.)

The book by Harris, Pritchard, and Rabins is a solution to this problem. Written by a team of engineers (Harris and Rabins) and a philosopher (Pritchard), the book is an expanded and greatly improved second edition of the original. Chapters 1 and 2 successfully make the case for studying engineering ethics and present some fundamentals of ethical thinking such as morality. Chapters 3 and 4 consider the methods of ethical problem solving and present some normative ethical theories. Chapter 5 is on responsible engineering. Chapter 6 covers honesty, integrity, and reliability, while Chapter 7 is devoted to risk, safety, and liability. The last part of the book is on specific topics like engineering and the environment, international engineering, and some professional issues such as licensure. The book comes with a CD-ROM disk that has the case studies in an iterative format. Students make choices and the results of those choices are presented (e.g., an interactive structural engineering program might ask for how many bolts to use, and if the number is inadequate, the structure collapses).

If you are interested in learning about engineering ethics and want to feel more secure in leading such discussions in your class, this is the book for you. It is beautifully written and nicely balanced between ethical theory and practicality.

Ed Harris and Mike Rabins are professors of mechanical engineering at Texas A&M University, and Mike Pritchard is professor of philosophy at Western Michigan University.

## **Fundamentals of Environmental Engineering**

James R. Mihelcic, John Wiley & Sons, New York, 1999

Peppermint Patty and I have a lot in common. We both have a hard time staying awake in class. There is this memorable room on the top floor of the physics building at Lehigh where the seats are right up close to the blackboard so one has to look up to the board. Heat in that building would rise to the top floor and at 8 a.m. the room would be beastly hot. I invariably woke up at the end of the period with my head tilted way back, fast asleep. It goes without saying that I did not distinguish myself in that physics course. I haven't improved much with age when it comes to falling asleep. Just a few weeks ago I was attending an international conference in Athens when after lunch (ah, the baklava!) I was trying to listen to a paper on sludge dewatering, and rapidly losing consciousness. But then through the haze I started to hear what the man was saying. He was mixing sludge with woodchips and dewatering the mixture. He reported that by mixing the chips and sludge he was able to get a dryer cake than with sludge alone. I was now fully awake, and did a

rough calculation using mass balance, to discover that the addition of chips to the sludge had had no effect whatever on sludge dewatering. He would have got the same dry sludge cake by simply adding the (dry) chips to the (wet) sludge after the dewatering operation. The researcher had obviously never done a materials balance! I came back to Duke to my students in the graduate level sludge management class and we had a good discussion of how to do science. I reiterated my three rules of doing good work: 1. Always run controls, 2. Always do a mass balance, 3. Always prove steady state. These are the fundamentals of research. The speaker with the chips simply did not understand how flawed his work was. It was a neglect of fundamentals that did him in.

The importance of fundamentals is what the beautiful little book by Jim Mihelcic and friends (Martin Auer, David Hand, Richard Honrath, Judith Perlinger, Noel Urban -- all at Michigan Tech -- and Michael Penn -- University of Wisconsin-

sin at Platteville) is all about. This is not a copy-cat book in environmental engineering with all the old stuff but rather a compilation of the essence of the natural sciences necessary for a fundamental understanding of environmental engineering. Chapter 1 is an argument as to why students need to study fundamentals before tackling environmental engineering problems. Although I agree with everything they say, I wonder if they could not have done a better job on this chapter. The three case studies discussed are very general and are followed by questions that begin by asking "How do I design...?" Is this not too much for students at this stage? I wonder if there could not have been better environmental mystery stories that would have required the use of fundamentals. One such story might have been how the formation of photochemical smog was discovered. Another might have been the Broad Street pump handle incident in London that first proved that cholera was transmitted by water. I would have used neat stories here if I wanted the students to get hooked.

Chapter 2 is on units and conversions which may be old hat to some students but a review of normality and molarity is never a waste of time. Chapter 3 is on chemistry and includes

a discussion of the difference between activity and concentration, chemical kinetics, chemical thermodynamics, equilibrium processes, oxidation/reduction, and photochemistry in the atmosphere. Chapter 4 is on physical processes, emphasizing mass balances (!), reactor analysis, energy balances, and mass transport processes. The last chapter is on biology, and includes ecosystems, population dynamics, energy flow in ecosystems, biochemical oxygen demand, materials flows in ecosystems, and eutrophication.

I believe this book would be an ideal text for a course preceding the first environmental engineering course, much like structural analysis precedes structural design. I only wish the authors had used a better title to describe their book. Perhaps a more accurate title would have been "Fundamentals of the Natural Sciences Applied to Environmental Engineering" but the marketing guys would have hated it. Whatever the title, this is a really neat book. Well done, guys.

Jim Mihelcic is an associate professor of civil and environmental engineering at Michigan Technological University.

## ***Combustion and Incineration Processes: Applications in Environmental Engineering***, Walter R. Nissen, Marcel Dekker, New York, 1995 (2nd Ed.)

I believe in the existence of little people. They are called by different names in various cultures, but they are basically the same people. In Ireland, for example, it is the Leprechaun, in England, the Gnome, in Estonia, the Tont. We don't know what they call themselves, of course, because they never allow us to see them and they don't talk to us. But they can either help us, or make our lives miserable. For example, just this morning my resident tont stole my scissors. I know he did. I laid them down on my desk, and he took them. I'll probably find them in the refrigerator or some such place. Tonts do love to play practical jokes.

They also help, of course. How else can I explain all the good things that have happened to me? Luck has nothing to do with it. With your favorite little person helping, all is possible. When I tell people about my tont they either laugh, smile in a condescending way, or shake their head as if to say how sorry they are that I have lost my marbles. And yet, why is the belief in little people any different from a belief in any other supernatural being? People seem to have no difficulty in believing in a god (of whatever flavor) and yet laugh at me when I tell them I believe in little people. Maybe the difference is in the concept of authority. Little people have no authority over me, but most gods have authority. That's why they were created. Interesting why people need such authority in their lives. Until just 200 years ago, to have a country without a king was unthinkable. Someone had to tell us how to live, and to protect us. The Jeffersonian idea that we could do this for ourselves was truly revolutionary.

And yet many of us even today require an authority figure to lead our lives. Authority figures provide us with

guidance as to how we should conduct our lives. And in engineering, authority figures tell us how to solve engineering problems. These people got to be authority figures because enough of us decided that we trust their knowledge and are willing to defer to their judgment. One such authority figure in environmental engineering is Walt Nissen. Walt has been, for most of his illustrious career, working with CDM in Boston. He is, without a doubt, an authority on combustion. This revised and expanded second edition of his classic book is the best book we have on incineration. The book begins with a discussion of stoichiometry, including combustion kinetics. The next chapter is on the combustion of gaseous, liquid and solid fuels. Following more basic principles such as fluid flow, the book introduces a discussion of material preparation and handling. The following chapter, clearly the heart of the book, is on incineration systems for municipal solid waste. Other chapters are on the incineration of waste sludges and other liquids. The chapter on the incineration of hazardous wastes is followed by a discussion of air pollution aspects of the incineration processes. This is not a textbook but rather a technical monograph on the topic by a recognized authority. If you are teaching a course in solid waste management or need to bone up on incineration technology for some other course, this is a great book, full of graphs and tables, and well-written discussions with lots of examples.

Walt Nissen is Senior Vice President at Camp, Dresser & McKee in Cambridge.

# Calls for Papers

## **Chemical Speciation and Reactivity in Water Chemistry and Water Technology**

*A Symposium in Honor of James J. Morgan*

*Division of Environmental Chemistry / 220th American Chemical Society National Meeting  
Washington, DC*

*August 20-25, 2000*

Major advances have been made in the understanding of the behavior of chemicals in natural and engineered aquatic systems because of the recognition of the importance of chemical speciation. The mobility of chemical species in surface- and groundwater, the effects of chemicals on the biota, and the efficiency of contaminant removal in treatment processes are all governed by chemical speciation. The fields of water chemistry and water technology have greatly benefited from the work of Jim Morgan, founding editor of *Environmental Science and Technology*, and his many scientific associates. This symposium will address current research and prospects for future advances in topic areas including: redox processes, surface chemistry, aggregation processes, interaction between the biota and the chemical environment, mobility of chemicals in surface and groundwater, and contaminant removal in water treatment.

Keynote talks will be presented by the following invited speakers:

- Jim Morgan, California Institute of Technology
- Alan Stone, Johns Hopkins University
- Yigal Erel, Hebrew University
- Jim Pankow, Oregon Graduate Institute of Science and Technology
- Charlie O'Melia, Johns Hopkins University

- François Morel, Princeton University
- George Jackson, Texas A&M University

Short abstracts (required by ACS) and extended abstracts no longer than 4 pages (required by the Division of Environmental Chemistry) must be submitted by **April 7, 2000** to one of the organizers listed below:

Prof. Janet Hering  
California Institute of Technology  
Environmental Engineering Science  
1200 E. California Blvd. (138-78)  
Pasadena, CA 91125  
(tel) 626-395-3644  
(FAX) 626-395-2940  
(e-mail) [jhering@cco.caltech.edu](mailto:jhering@cco.caltech.edu)

Prof. Jerry Schnoor  
University of Iowa  
Civil and Environmental Engineering  
116 Engineering Research Facility  
Iowa City, IA 52242  
(tel) 319-335-5649  
(FAX) 319-335-5585  
(e-mail) [jschnoor@cgrer.uiowa.edu](mailto:jschnoor@cgrer.uiowa.edu)

## **Membrane Separation Processes in Aquatic Systems**

*Division of Environmental Chemistry / 220th American Chemical Society National Meeting  
Washington, DC*

*August 20-25, 2000*

Increasingly stringent regulations have stimulated interest in the use of membrane separation processes. Membranes are being used in diverse applications, including desalination of seawater and brackish waters, removal of dissolved species from natural and waste waters, removal of natural organic matter from drinking water supplies, and solid-liquid separation. Our symposium will focus on basic research on the use of pressure-driven membrane processes in environmental separations. These processes include microfiltration (MF), ultrafiltration (UF), nanofiltration (NF), and reverse osmosis (RO). Possible topics are: chemical and physical

characterization of membranes, process sustainability, colloidal fouling, natural organic matter fouling, precipitate fouling, biological fouling, characterization of fouled membranes, concentration polarization phenomena, transport of inorganic and organic solutes through membranes, membrane selectivity, membrane-chemical interactions, membrane integrity, and rejection of dissolved, macromolecular, colloidal, particulate, and microbial contaminants.

Short abstracts (required by ACS) and extended abstracts no longer than 4 pages (required by the Division of Environmental Chemistry) must be submitted electronically



by April 7, 2000 to one of the organizers listed below. Abstract forms and instructions for extended abstracts are available at: <http://gemini.tntech.edu/~mjw5030acspage.html>.

Organizers:

Prof. Menachem Elimelech  
Environmental Engineering Program  
Yale University  
New Haven, CT 06520-8286  
Tel: (203) 432-2789  
Fax: (203) 432-2881  
[menachem.elimelech@yale.edu](mailto:menachem.elimelech@yale.edu)

Prof. Gary L. Amy  
Dept. of Civil & Environ. Eng.  
University of Colorado  
Boulder, CO 80309-0428  
Tel: (303) 492-6274  
Fax: (303) 492-7317  
[gamy@spot.colorado.edu](mailto:gamy@spot.colorado.edu)

Professor Mark Clark  
Dept. of Civil & Environ Eng.  
University of Illinois  
Urbana, IL 61801-2352  
Tel: (217) 333-3629  
Fax: (217) 333-9464  
[m-clark3@uiuc.edu](mailto:m-clark3@uiuc.edu)

***Molecular Biology Tools in Environmental Engineering Microbiology***  
*Division of Environmental Chemistry / 221st American Chemical Society National Meeting*  
*San Deigo, CA*  
*April 1-6, 2001*

Techniques and tools from the rapidly expanding field of molecular biology are becoming increasingly valuable in environmental engineering and environmental biotechnology research. Indeed, their application to these fields represents a promising and exciting research frontier. They are being used in diverse research applications, making possible the understanding of complex biological systems and processes, both in natural and in engineered systems, in much greater detail than previously has been feasible. This symposium will focus on current uses of molecular biology methods in environmental engineering microbiology. These uses include general topics such as assessment and indication of environmental quality, potential for and effectiveness of environmental bioremediation, and evaluation of engineered treatment systems. More specifically, the symposium will address environmental engineering applications of methods for obtaining DNA, RNA, and protein samples from environmental matrices; techniques for acquiring information about microbial community composition; and techniques for acquiring information about microbial metabolic activities.

Relevant topics for this symposium include environmental engineering research applications of techniques such as amplification of DNA by PCR, RT-PCR, RAPD, or cloning; probing of genetic materials by, for example, FISH assays; separations of DNA and RNA materials by techniques such as gel electrophoresis, DGGE, and other methods; identification of organisms by their DNA or rRNA sequences; evaluation of gene expression by examining mRNA or protein synthesis; methods involving biosensors, bioreporters, and

fluorescent activity indicators; and emerging techniques, for example, DNA arrays and TRFLP.

Short abstracts (required by ACS), and extended abstracts no longer than 4 pages (required by the Division of Environmental Chemistry) must be submitted electronically by October 15, 2000 to one of the organizers listed below:

Prof. Roger L. Ely  
Dept. of Chemical Engineering  
Environmental Engineering Program  
Yale University  
New Haven, CT 06520-8286  
Tel: (203) 432-4386; Fax: (203) 432-2881  
[roger.ely@yale.edu](mailto:roger.ely@yale.edu)

Prof. Alfred M. Spormann  
Dept. of Civil & Environmental Engineering  
Stanford University  
Stanford, CA 94305-4020  
Tel: (650) 723-3668; Fax: (650) 725-3164  
[spormann@ce.stanford.edu](mailto:spormann@ce.stanford.edu)

Prof. David A. Stahl  
Dept. of Civil Engineering  
Northwestern University  
Evanston, IL 60208  
Tel: (847) 491-4997; Fax: (847) 491-4011  
[d-stahl@nwu.edu](mailto:d-stahl@nwu.edu)

# Conferences

## **Health Effects of Drinking Water**

*Hotel Roanoke and Conference Center*

*Roanoke, Virginia*

*April 16-18, 2000*

When drinking water is plentiful and pure, we generally take it for granted. Plentiful is easier to measure than purity because there are so many agents that can contribute to impurity. Of course, if the water has an off-flavor or odor, we immediately begin to question its quality. The problem of assessing and evaluating chemical and microbiological purity can be much more complicated. As the detection limits for measurement techniques improve, we are discovering that our water is not as pure as we once thought. The key questions are: What contaminants cause short and/or long term health effects? What are the health effects? What are the associated risks? What are the current regulations, and what regulations are on the horizon? This symposium provides a forum for sharing answers and perspectives related to the above questions. Nine experts present current

information about the health effects of various organic and inorganic chemicals and waterborne pathogens. The conference fee of \$589 includes a symposium notebook with materials authored by the presenters, two lunches, continuous refreshment breaks, two receptions, and certificate awarding 1.4 continuing education units (CEUs). Full-time students may register at a reduced rate of \$295. The student fee includes all activities, food, and materials.

For information or assistance, please contact: Greg Boardman, Department of Civil and Environmental Engineering, Virginia Tech, 540-231-2013, email: gboard@vt.edu

For more information, including registration information, you may view the brochure on line at this address: <http://www.conted.vt.edu/calendar.htm>.

## **Water Resources in Extreme Environments**

*AWRA's International Spring Specialty Conference*

*Anchorage, Alaska*

*May 1-3, 2000*

Anchorage, Alaska will be the site of the American Water Resources Association's Spring Specialty Conference. The venue is ideal for the theme which is "Water Resources in Extreme Environments." The Conference will be held May 1-3 at the Sheraton Anchorage Hotel.

"The role of the Conference," states Douglas Kane, Technical Program Chair, "is to facilitate information exchange on the major water related issues of extreme environments. Over 80 water related technical presentations spanning the Arctic to the Antarctic will address a range of management issues, applied research, and modeling." In addition to the technical papers, field trips to Turnagain Arm and Portage Glacier, Prudhoe Bay Oil Field and a glacial flightseeing trip have been planned. Also, the Alaska State Section will host

two short courses; one on winter stream flow measurement and the other on the analysis of fish passages for hydraulic structures.

Conference General Chair James Thrall observed that "this meeting will provide an ideal opportunity to explore and understand what some of the extreme environments may foretell both in terms of issues to be faced and potential solutions available." A Preliminary Program and registration information may be obtained by contacting the American Water Resources Association, phone: (540) 687-8390, fax: (540) 687-8395, e-mail: [info@awra.org](mailto:info@awra.org), or by accessing the association's web site, [www.awra.org](http://www.awra.org). The mission of the American Water Resources Association is to advance multidisciplinary water resources management and education.

## **Environmental Engineering Education Workshop - 2000**

*St. Louis, Missouri*

*May 20, 2000*

"This course is an excellent opportunity for those with accredited environmental engineering programs or considering accreditation, or other programs with an environmental option."

--Robin Autenrieth, AEESP President

Sponsored by the American Academy of Environmental Engineers and the Association of Environmental Engineering & Science Professors for Environmental Engineering Faculty and Department Chairs, this workshop provides an explanation of:

- The organizations involved in accreditation and their relationships
- The scope of Environmental Engineering and its relationship to education programs
- The accreditation process in detail
- Experience-based answers to individual programs' concerns

The instructor for the workshop is Larry A. Esvelt, Ph.D., P.E., DEE, ABET EAC Member.

The cost *before* April 18, 2000 is \$125; the cost *after* April 18, 2000 is \$200. The registration fee includes Administrators' and Faculty Guide to ABET Accreditation in Environmental Engineering (a \$75 value) and ABET Evaluator Training Course Notes. Hotel cost is \$74/day, plus taxes.

For a Workshop program and registration form, contact AAEE, phone: (410) 266-331; fax: (410) 266-7653; e-mail: JSOlmo@aee.net.

## ***5th International Symposium on Environmental Geotechnology and Global Sustainable Development***

*Belo Horizonte, Brazil*

*August 17-23, 2000*

Advances in geoenvironmental engineering research, technological innovation, and adoption of a systems approach to the implementation of engineering infrastructure are necessary elements of global sustainable development. From August 17 to 23, 2000, geoenvironmental researchers, design engineers and policy-makers from more than 40 countries will meet in Belo Horizonte, Brazil, to present and discuss advances in geoenvironmental research and explore approaches to applying such advances to the development of infrastructure to promote sustainable development. This 5<sup>th</sup> International Symposium on Environmental Geotechnology and Global Sustainable Development will cover technical sessions on such issues as site remediation techniques, contaminant monitoring techniques, waste containment systems, ecosystem and site characterization, site selection for industrial facilities and waste utilization/recycling. Several short courses and technology exhibits will be presented.

This symposium which will be regarded as a key event for celebration of "500 Years of Brazilian Discovery" will be chaired by Prof. Terezinha Cássia de Brito Galvão of Universidade Federal de Minas Gerais of Brazil, and co-chaired by Prof. Hilary I. Inyang of the University of Massachusetts Lowell, and Ms. Maria de Vasconcelos of Brazil. The symposium is supported by several international agencies, institutes and professional associations, including the Indian Society of Engineering Geology, Bulgarian Academy of Sciences, China National Group of the International Association of Engineering Geology, Africa Sustainable Development Council, several research centers in the United States, and the U.S. Environmental Protection Agency.

For more information about this symposium, please see the following home page: <http://www.5isegsd.eng.ufmg.br>, and/or send e-mail to Prof. Galvão at: [cassia@etg.ufmg.br](mailto:cassia@etg.ufmg.br).

## ***16th Annual International Conference on Contaminated Soils, Sediments and Water***

*Amherst, Massachusetts*

*October 16-19, 2000*

The Northeast Regional Environmental Public Health Center (NREPHC) of the University of Massachusetts, Amherst and the Center for Environmental Engineering, Science and Technology (CEEST) of the University of Massachusetts Lowell, are collaborating with researchers, design engineers and policy makers to host the 16<sup>th</sup> Annual International Conference on Contaminated Soils, Sediments and Water in Amherst from October 16 to 19, 2000. The conference will include workshops and presentations of innovative models, clean-up processes and policies relevant to contaminated soils, sediments and water in the United States and abroad. Previous conferences in the series have attracted participants from every state of the United States and several foreign countries to sessions on remediation technologies such as

phytoremediation, waste containment, bioremediation, chemical treatment, soil flushing and pump-and-treat; and contaminants such as heavy metals, radionuclides, chlorinated hydrocarbons and UXO. At the upcoming conference, in addition to the issues mentioned above, risk analysis methods, contaminant fate-and-transport, environmental forensics, contaminant bioavailability and environmental management issues will be covered in regular and poster sessions.

This conference is directed by Professors Paul Kostecki and Edward Calabrese of NREPHC and Prof. Hilary Inyang of CEEST. Interested parties are urged to contact Ms. Denise Leonard (Telephone: 413/545-1239; Fax: 413/545-4692; email: [dleonard@schoolph.umass.edu](mailto:dleonard@schoolph.umass.edu)) for more information.

## **Executive Training for Water and Wastewater Managers and Administrators**

*Hotel Roanoke and Conference Center  
Roanoke, Virginia  
July 23-28, 2000*

This executive training program consists of three parts:

- Skills....computer use and applications, safety concerns and procedures, benchmarking, effective communication
- Leadership...behavioral science, psychology of safety, accountability, responsibility, team building, metrics of success, management theories
- Follow-up session...participants will be asked to return on September 10 to report on personal performance and progress

The program is designed for you to:

Learn ways to increase your efficiency and effectiveness in using a computer, communicating, enhancing safety programs, dealing with difficult situations, building teams, measuring success, enhancing performance, strengthening responsibility, and managing a work force. Participate in hands-on activities related to computer use and team building. Share your experiences and problems with other participants in an informal setting.

The registration fee of \$1,595 includes extensive instructional materials, hands-on computer applications, several texts authored by the Instructors, Sunday and Monday evening receptions, a banquet, continuous refreshment breaks, a special certificate of completion awarding 3.6 CEUs (Continuing Education Units) and the special one-day follow up program on September 10, 2000.

For information or assistance, please contact:

Gregory D. Boardman, Ph.D., P.E., DEE, Faculty Director, Center for Organizational and Technological Advancement (COTA), Professor of Civil and Environmental Engineering., 143 Donaldson Brown Hotel and Conference Center, VPI&SU, Blacksburg, VA, 24061, mail code: 0175; phone: 540/231-2013, 231-2019; fax: 540/231-2517; email: gboard@vt.edu.

For more information, including registration information, you may view the brochure on line at this address: <http://www.conted.vt.edu/calendar.htm>.

## **Characterization, Performance and Fouling of Water Treatment Membranes**

*Pacificchem 2000, Honolulu, Hawaii  
December 14-19, 2000*

This symposium will be held at the Pacificchem 2000 Meeting which is sponsored by the American Chemical Society, Canadian Society for Chemistry, Chemical Society of Japan, New Zealand Institute of Chemistry, and Royal Australian Chemical Institute.

Electronic abstracts are due by April 14, 2000. Electronic submittal is available through the Pacificchem 2000 web page, <http://www.acs.org/meetings/pacific2000/>. If unable to submit abstracts electronically, contact the Congress Secretariat (fax: 202-872-6128 or email: [pacificchem@acs.org](mailto:pacificchem@acs.org)) to request a paper form. Paper abstracts are due by April 3, 2000. Note: The electronic site can accommodate special characters. It accommodates graphics. The paper form should be used by authors submitting graphics.

For further information, see the Pacificchem 2000 web page or contact the symposium organizers:

Dr. Amy E. Childress, University of Nevada, Department of Civil Engineering/258, Reno, NV 89557-0152, USA, phone: 775-784-6942, fax: 775-784-1390, e-mail: [amyec@unr.edu](mailto:amyec@unr.edu);

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**NOTE:** The AEESP membership application form is available online by accessing *Membership Information* at <http://www.aeesp.org> and going to *Membership Information*.



## **Application for Membership**

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### **PLEASE ATTACH A BRIEF (1-3 PAGE) CURRICULUM VITAE**

***Membership in AEESP is on a calendar-year basis. When you join the Association, you will be sent the current AEESP Membership Directory and previous Newsletters and other materials which have been sent to members during the year, if your application is received prior to October 1. If you join after October 1, your membership will begin the following calendar year, but the current AEESP Membership Directory will be sent to you immediately upon approval of your membership by the Association's Secretary.***

RANK / STATUS	ANNUAL DUES
Regular Member (Professor)	\$ 65.00
Regular Member (Assoc. Professor)	\$ 50.00
Regular Member (Asst. Professor)	\$ 30.00
Affiliate Member	\$ 40.00
Student Member	\$ 15.00
Sustaining Member	\$250.00

**Please return this form along with your dues and c.v. to the Secretary of AEESP:**

Kurtis G. Paterson  
Civil and Environmental Engineering  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI 49931-1295

Enclosed are my AEESP dues in the amount of U.S. \$ \_\_\_\_\_.

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Signature

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Date

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### **Association of Environmental Engineering and Science Professors Newsletter**

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