Association of Environmental Engineering Professors

Newsletter

VOLUME 32, NO. 1 | *Published three times yearly by AEEP* | January 1997

PRESIDENT'S LETTER

Dear Friends and Colleagues:

I am pleased to have been elected to the position of president of AEEP for the 1996-97 academic year and look forward to exciting discussions and activities affecting the academic profession. There are a number of exciting events facing AEEP this year. Many are continuations of activities initiated in previous years, but a number of new items require our attention and action. Specific areas of interest and concern include the following:

1. Accreditation

We are facing new procedures and criteria for accreditation as described in review form in the recently published booklet entitled "Engineering Criteria 2000" and published by the Engineering Accrediting Commission of The Accreditation Board for Engineering and Technology. These proposed criteria currently are under review and some pilot testing has been conducted. While only limited feedback is available at this time, the reviews seem to be generally favorable and the first pilot cases were well received by both the schools being reviewed and the reviewers. However, we no doubt can expect some changes and fine tuning over the next year or two. A major aspect of the new criteria is that the procedure is "outcome" based. This means that each program must develop specific objectives and establish related procedures for assessing whether the program meets the objectives. I expect that these new criteria will open doors of opportunity for those schools who have or are contemplating accredited programs in environmental engineering at the basic and advanced levels.

2. Professional Engineering Exams

A new Fundamentals of Engineering (FE) exam - commonly known as the EIT exam - was introduced in 1996 and a new Professional Engineering exam procedure is to be introduced some time in the next two to three years. While AEEP members are not too involved in the structure and implementation of these exams, they will become important milestones in the professional lives of most of our students. Initial reviews have been mixed on the format of these exams and changes can be expected as the procedures are fine-tuned.

3. 1996 Educational Conference

The 1996 Educational Conference is now history, but the spin-off may affect us for some time. We all owe Chet Rock of AEEP and Joe Lagnese of AAEE a round of applause for their roles in organizing the conference and selecting the speakers. The setting in Orono, Maine was especially pleasant with good weather and excellent food. One of my goals is for AEEP to glean as much meaning from this conference as possible to maximize the benefits to AEEP.

4. Joint Efforts with the Academy of Environmental Engineers

During 1995-96, the Executive Committee of AEEP began meeting with the Board of AAEE to identify common areas of interest and concern. Much of the dialog to date has been related to issues of professional registration and specialty certification. These are particularly important areas of interest to AEEP because of the number of faculty in environmental engineering programs who do not meet the criteria for professional registration and membership in AAEE. We currently are exploring ways to allow closer association of non-engineering faculty with professional practice issues. Your comments and suggestions are welcome and can be forwarded to me or to any member of the AEEP executive committee.

We are continuing to work with AAEE to develop mechanisms for creating student associations in environmental engineering. While no definitive methods have been formulated, we have received a number of suggestions and have heard a number of encouraging case studies. One challenge will be to find environmental engineering faculty to serve as faculty advisors to these student organizations. Comments or suggestions should be sent to James Mihelcic at Michigan Technological University.

5. Ongoing Activities

A number of activities that were initiated in previous years continue to deserve attention. Kurt Patterson and his Electronic Communication and Education Committee continue to develop a means to facilitate communication and collaboration among the members of AEEP. We now have an AEEP home page (http://bigmac.civil.mtu.edu/aeep.html) that can be accessed for information of interest to AEEP members. We can look forward to expansion of and improvements in this service as time and resources permit.

Glen Daigger has agreed to chair the AEEP Sustaining Membership Committee. We can look forward to Glen's reactivating the program of sustaining members who are

important links between AEEP members and engineering firms and industries. Sustaining members also sponsor our annual reception and provide support for the outstanding teaching and thesis awards programs. Special thanks go to John Carollo Engineers who sponsored our Meet-and-Greet reception in Dallas and to CH2M-Hill and Montgomery Watson for sponsoring the 1996 thesis awards. Personally, I feel the awards selection and presentation is one of the most important activities at our annual meetings in October. We should support Glen in his efforts to enlist additional sustaining members, and any suggestions for contacts should be forwarded to Glen.

Makram Suidan and the AEEP Distinguished Lecturer Committee for 1997 have arranged for Dr. William A. Pretorius, of the University of Pretoria, South Africa, to serve as the 1997 AEEP Distinguished Lecturer. A number of schools have requested his presence and schedules are being formulated at this time. Schools are encouraged to cooperate in these lectures to provide maximum exposure of our students and faculty to Dr. Pretorius' expertise.

Again, I am honored to be able to serve as President of AEEP in 1996-97. I look forward to an exciting year and to your participation in the activities of the organization. Best wishes for the upcoming new year.

Jim Young

REMINDER

Deadline for the April 1997
AEEP Newsletter
is Monday, March 3, 1997

SEND SUBMISSIONS
FOR THE
APRIL 1997 *NEWSLETTER*
TO:
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Moscow, ID 83844-1022
(208) 885-2980
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AEEP News and Announcements

Newly Elected AEEP Officers and Directors

James C. Young, President
University of Arkansas
Bruce E. Logan, Vice President
University of Arizona
Jerry Schnoor, Secretary
University of Iowa
David Dzombak, Director, 1996-99
Carnegie Mellon University
Kimberly Gray, Director, 1996-99
Northwestern University
Jerry Schnoor, Director, 1996-99
University of Iowa

David Dzombak, Kimberly A. Gray, and **Jerry Schnoor** were elected to the AEEP Board of Directors for three-year terms which began at the AEEP Board meeting on October 6, 1996, at the WEFTEC Conference in Dallas, Texas, and continue through 1999. Congratulations to each of them.

Jerry Schnoor serves as the Foundation Distinguished Professor of Civil and Environmental Engineering at the University of Iowa. He is the author of more than 100 scientific and professional articles, the editor of three books, and the author of the new text, *Environmental Modeling* (John Wiley and Sons). Jerry is an Associate Editor of *Environmental Science and Technology* and the Co-Director of the Center for Global and Regional Environmental Research at Iowa. As a professor at Iowa for 20 years, he has been advisor to 40 M.S. students and 23 Ph.D. students, while teaching the basic freshman engineering course, Introduction to Engineering, and advanced graduate courses in Groundwater Contamination and Environmental Modeling. He is interested in quality education, has served as the Chair of his Department for five years as well as on many teaching committees at the University of Iowa, Water Environment Federation, and the American Academy of Environmental Engineers, and is the winner of numerous awards for research and education.

David Dzombak is an Associate Professor in the Civil and Environmental Engineering Department at Carnegie Mellon University, where he teaches and conducts research in water and soil quality. He has been at Carnegie Mellon since 1989. From 1986-1989, he was with P.C. Rizzo Associates in Pittsburgh, primarily working on site remediation projects. Dzombak holds BS, MS (Carnegie Mellon) and Ph.D. (MIT) degrees in Civil-Environmental Engineering, and is a licensed Professional Engineer. He has served on the AEEP Dues Review, Syllabus, and Electronic Highway Committees. He is active in the Water Environment Federation where he is Chair of the Groundwater Committee and a member of the Awards Committee. Dzombak is also on the Editorial Board of *Water*

Environment Research (1993-present), and served in the same capacity for the *Journal of Ground Water* (1991-1993).

Kimberly A. Gray is an Associate Professor in the Department of Civil Engineering at Northwestern University. She received her Ph.D. from Johns Hopkins University in 1988 and worked as a research engineer for the Lyonnaise des Eaux in France for two years before joining the faculty at the University of Notre Dame in 1989 where she worked until 1995. Dr. Gray's areas of expertise are environmental chemistry and physicochemical processes in environmental systems. She was a 1991 recipient of the NSF Presidential Young Investigator Award for her work on analysis of natural organic material, photochemical and radiolytic destruction of hazardous chemicals, and the ecotoxicology of PCBs. She has been a member of AEEP since 1989 and served on a number of its committees. She is a member of the NRC Water Science and Technology Board Committee on USGS Water Resources Research, the AWWA Organic Contaminants Research Committee, and the Superfund Program Development Committee.

AEEP Members in the news ...

UCLA's Department of Civil and Environmental Engineering, within the School of Engineering and Applied Science, is pleased to announce the appointment of Dr. Bruce C. Faust as a tenured Associate Professor in Environmental Chemistry, effective July 1, 1996. Dr. Faust's research interests include: (1) the environmental aquatic chemistry and photochemistry of natural waters (fresh and marine) and treatment systems; and (2) the atmospheric chemistry and photochemistry of aerosols, fogs, and clouds. Dr. Faust received his Ph.D from the California Institute of Technology in 1984, was a post-doctoral researcher at EAWAG (ETH) in Zurich from 1984-1987, and was a faculty member at Duke University from 1987-1996.

1996 AEEP Register of Graduate Programs

The eighth (1996) edition of *AEEP's Register of Environmental Engineering Graduate Programs* has just been published and can be obtained from:

AEEP Business Office
c/o Joanne Fetzner
2208 Harrington Court
Champaign, IL 61821
Tel: 217-398-6969
Fax: 217-333-9576
E-mail: jfetzner@s.psych.uiuc.edu

The cost is $25 for AEEP members and $40 for non-members for the first copy. Additional copies are $40 each. All non-US residents should add $10 per copy for shipping.

1996 AEEP Awards

Montgomery-Watson Consulting Engineers M.S. Thesis Awards

Winners of the 1996 Montgomery-Watson Master's Thesis Awards are as follows:

First Place: **Jonathan Pressman**, "Mass Transfer of Chlorinated Solvents and Biofouling of Hollow Fiber Membrane Modules" under the supervision of Professor Gerald E. Speitel, Jr., University of Texas-Austin.

Second Place: Peter Mayer, "Residential Water Use and Conservation Effectiveness: a Process Approach" under the supervision of Professor James P. Heaney, University of Colorado.

Entries are sought for the 1997 Montgomery-Watson Master's Thesis Awards. First and second place awards will be given, each consisting of a plaque and a cash prize for both the student and the faculty advisor. The case prize for the first place award is $600 for the student and $300 for the faculty advisor; the amounts for the second place award are $400 and $200, respectively. Faculty advisors wishing to compete should send three copies of the thesis to: Marc A. Edwards, Civil, Environmental and Architectural Engineering, University of Colorado, Boulder, CO 80304-0428. They should be accompanied by a letter of transmittal stating the student's current address and indicating when the thesis was completed. The copies will not be returned, so xerographic copies, inexpensively bound, are recommended. The deadline for submission is March 15, 1997 for theses completed during the 1996 calendar year. Faculty advisors are urged to limit themselves to a single entry (which will be considered for each of two awards); self nominations by students will not be accepted.

A selection committee of three AEEP members will read and judge each thesis on the basis of 100 points allocated as follows: scientific and technical merit of the research - 30 points; originality of research - 30 points; contribution to advancement of environmental engineering - 30 points; and, clarity of presentation - 10 points. The selections will be made by September 1st so that the recipients and their advisor can be invited to the AEEP luncheon at the WEF meeting.

Our thanks to Montgomery-Watson for their generosity in sponsoring these awards and to the members of the 1996 MS Thesis Review Panel: Spyros G. Pavlostathis (Chair), Marc Edwards and Susan Powers.

AEEP Founders' Award

Earnest F. Gloyna, Professor Emeritus at the University of Texas at Austin was awarded the 1996 AEEP Founders' Award at the Annual Meeting. This award is given annually to recognize an AEEP member who has made sustained and outstanding contributions to environmental engineering education and the profession.

Nominations are being sought for the 1997 AEEP Founders' Award. Nominations may be made communicating (orally or in writing) the name of the nominee to the chair of the awards committee, R. Scott Summers, Department of Civil and Environmental Engineering, PO Box 21071, University of Cincinnati, OH 45221-0071, telephone (513) 556-3692, or fax (513) 556-2599. The deadline for nominations to be assured of receiving full consideration is March 15, 1997. The award will be presented by the President at the annual AEEP luncheon in October.

Previous recipients of the AEEP Founders' Award are:

1991	E. Robert Baumann, Iowa State University
1992	Perry L. McCarty, Stanford University
1993	Richard Engelbrecht, University of Illinois
1994	Daniel A. Okun, University of North Carolina-Chapel Hill
1995	Charles R. O'Melia, Johns Hopkins University

AEEP Outstanding Paper Award

The 1996 Outstanding Publication Award was presented to Rajamani Rajagopalan and Chi Tien for the paper "Trajectory Analysis of Deep-Bed Filtration with the Sphere-in-cell Porous Media Model" AIChE Journal, 22, 523-533, 1976.

Nominations are sought for the 1997 AEEP Outstanding Paper Award for a "landmark paper that has withstood the test of time." Nominators should send a copy of the paper and a letter (two pages maximum) to R. Scott Summers, Department of Civil and Environmental Engineering, PO Box 21071, University of Cincinnati, OH 45221-0071. The letter should give the citation, the reasons why the paper is considered a "landmark," and a description of the influence the paper has had on the practice of environmental engineering. Nominations must be made by members of AEEP who are not an author or co-author of the paper; they are due July 1, 1997.

According to the current rules of the competition, any author of a winning paper is ineligible in the competition for a period of three years, and at least one of the authors must be living. The winners since 1985:

1985: McCarty, P.L., and A. W. Lawrence, "Unified Basis for Biological Treatment Design and Operation," J. San. Engrg. Div., ASCE, June, 1970.

1986: Dick, R.I., "Role of Activated Sludge Final Settling Tanks," J. San Engrg. Div. ASCE, April, 1970.

1987: Dick, R.I. and B.B. Ewing, "Evaluation of Activated Sludge Thickening Theories," J. San Engrg. Div., ASCE, August, 1967.

1988 McCarty, P.L. "Anaerobic Waste Treatment Fundamentals," Public Works, September-December, 1964.

1989 Weber, W.J., Jr., and J.C. Morris, "Kinetics of Adsorption on Carbon from Solution," and "Equilibria and Capacities for Adsorption Carbon," J. San. Engrg. Div., ASCE, April, 1963 and June, 1964.

1990 O'Conner, Donald J., "Oxygen Balance of an Estuary," J. San. Engrg. Div., ASCE, 86, SA3, 35-55, May 1960.

1991 Yao, K.M., M.T. Habibian, and C.R. O'Melia, "Water and Waste Water Filtration: Concepts and Applications," Envir. Sci. & Tech., 5(11), 1105, May 1971.

1992 Argaman, Y., and W.J. Kaufman, "Turbulence and Flocculation," J. San. Engrg. Div., ASCE, 96, SA2, 223-241, April 1970.

1993 Stevens, A.A., and J.M. Symons, "Measurement of Trihalomethane and Precursor Concentration Changes," Jour. Amer. Water Works Assn., 69:10:546, 1977.

1994 Morel, F.M.M., and J.J. Morgan, "A Numerical Method for Computing Equilibria in Aqueous Chemical Systems," Envir. Sci. & Tech., 6:58-67, 1972.

1995 Sezgin, M., D. Jenkins, and D.S. Parker, "A Unified Theory of Filamentous Activated Sludge Bulking", Jour. Water Poll. Con. Fed., 50, 2, 362-382, 1978.

Please take a few moments to reflect on the papers that you think have had the greatest impact on environmental engineering and consider nominating one of them for this award. Note that papers in all areas of environmental engineering, including air pollution, water quality, solid waste, hazardous waste, etc. are eligible.

1996 AEEP Award Winners

1996 Founders' Award
Earnest F. Gloyna
For Sustained and Outstanding Contributions to Environmental Engineering Education
-Presented by Clifford W. Randall-

1996 Outstanding Publication Award
Rajamani Rajagopalan and **Chi Tien**
For the paper "Trajectory Analysis of Deep-Bed Filtration with the Sphere-in-cell Porous Media Model"
-Presented by Clifford W. Randall-

1995-96 Distinguished Lecturer
Makram T. Suidan
-Presented by Clifford W. Randall-

President, 1995-96
Clifford W. Randall
-Presented by James C. Young-

Distinguished Service
Chet A. Rock
In Appreciation for Distinguished Service as AEEP Newsletter Editor
-Presented by Clifford W. Randall-

Chet A. Rock
In Appreciation for Distinguished Service as Co-Chair of the 1996 AEEP/AAEE Environmental Engineering Education and Practice Conference
-Presented by Clifford W. Randall-

Joseph F. Lagnese, Jr.
In Appreciation for Distinguished Service as Co-Chair of the 1996 AEEP/AAEE Environmental Engineering Education and Practice Conference
-Presented by Clifford W. Randall-

M. Robin Collins
In Appreciation for Distinguished Service in Compiling the AEEP Register of Graduate Programs
-Presented by Clifford W. Randall-

Gary L. Amy
In Appreciation for Distinguished Service in Compiling the AEEP Register of Graduate Programs
-Presented by Clifford W. Randall-

Desmond F. Lawler
In Appreciation for Distinguished Service as Chair of the Publications Committee
-Presented by Clifford W. Randall-

1996 AEEP/CH2M Hill Outstanding Doctoral Dissertation Award
Melinda W. Hahn
For "Deposition and reentrainment of Brownian particles under unfavorable chemical conditions"
Charles R. O'Melia, Advisor
-Presented by Brooks Newbry, Director Wastewater Technology-

1996 AEEP/Parsons Engineering Science Outstanding Doctoral Dissertation Award
Michael H. Bergin
For "Measurement and modeling of fluxes of chemical species to the Greenland ice sheet at Summit"
Clifford I. Davidson, Advisor
-Presented by Nicholas L. Presecan, Senior Vice President-

1996 AEEP/Montgomery-Watson Master's Thesis Award, First Place
Jonathan Pressman
For "Mass transfer of chlorinated solvents and biofouling of hollow fiber membrane modules"
Gerald E. Speitel, Jr., Advisor
-Presented by Donald Bassett, Senior Vice President-

1996 AEEP/Montgomery-Watson Master's Thesis Award, Second Place
Peter Mayer
For "Residential water use and conservation effectiveness: a process approach"
James P. Heaney, Advisor
-Presented by Donald Bassett, Senior Vice President-

University of Nevada, Las Vegas

Assistant Professor, Environmental Engineering. The Department of Civil and Environmental Engineering at the University of Nevada, Las Vegas (UNLV) has a tenure-track faculty opening at the Assistant Professor level in Environmental Engineering. Reponsibilities include development of funded research, teaching, and service to the profession and community. Applicants must have a research background in environmental engineering, a B.S. degree in civil engineering, and an earned Ph.D. in an environmental engineering area. Preference will be given to candidates with experimental backgrounds in water and air pollution control processes, or soil/groundwater treatment. Only candidates who have successfully defended their Ph.D. dissertations will be considered for this position. Professional engineering registration or eligibility to take the P.E. exam is desirable. Salary is commensurate with experience. Appointment may begin Fall 1997. Review of applications will begin upon receipt. Applications will be accepted until the position is filled. Position is contingent upon availability of funding. Applicants should include a vitae with names, addresses, and telephone numbers of at least three references to: William R. Wells, Dean, Howard R. Hughes College of Engineering, University of Nevada, Las Vegas, Box 454005, Las Vegas NV 89154-4005.

The University of Nevada, Las Vegas, is an equal opportunity/affirmative action employer.

University of Houston

The Department of Civil and Environmental Engineering at the University of Houston invites nominations and applications for a Chaired, Distinguished-Professor position in the Environmental Engineering Program effective August, 1997. (The Chair is currently occupied by Dr. James M. Symons who will be retiring in the summer of 1997). Internationally recognized candidates with Ph.D.s and demonstrated records of teaching and research excellence are sought. Duties will include undergraduate and graduate teaching, and drinking-water-related research in one of the following preferred areas: particle removal, disinfection, disinfection by-product control, organic contaminant control, membranes, or advanced oxidation processes. The UH Environmental Engineering Program comprises 5 core and 30 associated faculty, and 60 graduate students (50% full-time). With the recent addition of one million dollars of new analytical instrumentation, the Program's facilities remain among the best in the world. Annual research expenditures are in the range of $700-$900K. The University of Houston is a Research II institution with 30,000+ students located in America's fourth largest city. The intellectual, social, and artistic environment is outstanding. Numerous opportunities exist locally for research cooperation with industry, government, and other universities. Applicants should send resumes along with names, addresses, and phone numbers of three appropriate references to:

Dr. Dennis Clifford, Chairman
Department of Civil and Environmental Engineering
University of Houston
Houston, Texas 77204-4791

The University of Houston is an Equal Opportunity/Affirmative Action Employer. Minorities, women, veterans and persons with disabilities are encouraged to apply.

University of Nevada, Reno

The Civil Engineering Department at the University of Nevada, Reno, invites applications for a tenure-track faculty position at the Assistant Professor level in Environmental Engineering starting August 1997. Salary will be consistent with the applicant's qualifications. The Civil Engineering Department is committed to excellence in both its undergraduate and graduate programs. A strong environmental engineering program is being developed. The Ph.D. program in the department is established, and the new faculty is expected to help enhance the program. The Environmental Engineering Graduate Research Laboratory is equipped with basic laboratory equipment for the analysis of water quality and sophisticated analytical equipment including gas chromatographs, liquid chromatograph, GC/MS, ICP, and IC.

A B.S. and a Ph.D. degree (or equivalent) in Civil/Environmental Engineering with a major emphasis in biological wastewater treatment, hazardous waste treatment, or water treatment and evidence of scholarly research or promise are required. Some background in geoenvironmental engineering is desirable. The candidate will be expected to teach courses including but not limited to undergraduate courses in hydraulics and hydrology of water supply and wastewater disposal and graduate level courses in Environmental Engineering. The candidate will be expected to conduct research and to support the teaching, research, and service/outreach goals of the department. Preference will be given to candidates with professional engineering registration.

Letters of application, resumes, and the names, addresses, and telephone numbers of five references should be sent to: Dr. E. Maragakis, Chairman, Department of Civil Engineering, University of Nevada, Reno, Nevada 89557-0152. The closing date for these applications will be February 15, 1997. Members of minority groups are especially encouraged to apply.

AA/EOE. The university employs only U.S. citizens and other individuals lawfully authorized to work in the U.S.

University of Massachusetts, Amherst

Water Resources Engineering Faculty Position. The Department of Civil and Environmental Engineering at the University of Massachusetts, Amherst is searching for an Associate or Full Professor in Environmental Engineering with an emphasis in Water Resources Engineering to begin the Fall 1997 semester. Appointment with tenure is expected. The successful candidate must have research and teaching interests in the area of surface water resources and capability to help teach courses in the areas of fluid mechanics and hydraulics. Applicants must have a demonstrated record in scholarly

pursuits, funded research activity and excellent teaching ability at the undergraduate and graduate levels. The successful candidate must possess an earned Ph.D. degree in Civil Engineering or related field. Preference will be given to applicants who are registered Professional Engineers. The successful candidate will be expected to work cooperatively with faculty and assist in the leadership of an active Environmental Engineering Program. The Environmental Engineering Program is accredited by ABET at the advanced level, has eight faculty members, approximately 40 graduate students and $6 million in active research grants and contracts. Applicants should send a letter of interest summarizing qualifications along with a detailed resume and a list of five references to:

Prof. James W. Male, Chair of the Search Committee
Department of Civil and Environmental Engineering
139 Marston Hall
Box 35205
University of Massachusetts
Amherst, MA 01003-5205

Review of applications will begin on 15 January 1997 and will continue until the position is filled. Information about the Department is available on its home page at: HTTP://www.ecs.umass.edu/cee/.

The University of Massachusetts is an Equal Opportunity/Affirmative Action employer.

California State University, Sacramento

Department of Civil Engineering Faculty Position in Environmental Engineering. Applications are invited for two tenure-track positions, one at Assistant and the other at Associate Professor level, beginning Fall 1997. A bachelor's degree in civil engineering and an earned doctorate in civil engineering with emphasis in environmental engineering are required for these appointments. A successful candidate must be a licensed Professional Engineer in California or will be licensed within two years from the appointment date. Evidence of scholarly potential, strong commitment to teaching at both the undergraduate and graduate levels, ability to relate theory to practice, effective oral and written communication skills, and the ability to work with a diverse student population are essential. Applicants are expected to teach a wide variety of basic engineering courses. Further information about the campus and the department is available via **http://www.csus.edu** or (916) 278-6982. Screening will begin January 20, 1997, and will continue until the positions are filled. To apply, send a cover letter, comprehensive resume, names and phone numbers of three references familiar with both teaching, professional and research activities to: Search Committee, Department of Civil Engineering, California State University, 6000 J Street, Sacramento, California 95819-6029.

CSUS is an AA/EO employer.

Virginia Polytechnic Institute and State University (Virginia Tech)

The Charles E. Via, Jr. Department of Civil Engineering at Virginia Polytechnic Institute and State University (Virginia Tech) is seeking candidates at the rank of Associate or Full Professor to fill a tenure-track faculty position in Environmental Engineering commencing Fall 1997. Candidates must have an earned Ph.D. in Civil Engineering or a related field. All faculty in the Department are expected to have a strong commitment to undergraduate teaching as well as to specialized graduate education, sponsored research, and scholarly work. The successful candidate will teach courses and conduct research in physical/chemical processes, drinking water treatment, water quality/watershed management in natural systems or a related field. The candidate will be expected to be involved in providing leadership within the Environmental Program. Finally, the successful candidate will join the Program as it moves into new facilities scheduled for occupation in June 1997.

The Via Department of Civil Engineering currently has 38 faculty members, with over 250 graduate students and 500 undergraduate students. The $10-million Via Endowment allows the Department to offer a significant number of scholarships and fellowships to highly qualified students. Applicant review will begin January 15, 1997, and continue until all positions are filled. To be considered, send a letter summarizing your qualifications plus a current resume and a list of at least three references to Dr. William R. Knocke, Head, Via Department of Civil Engineering, 200 Patton Hall, Virginia Tech, Blacksburg, VA 24061-0105. Virginia Tech has a strong commitment to the principle of diversity and, in that spirit, seeks a broad spectrum of candidates including women, minorities, and people with disabilities. Individuals with disabilities desiring accommodations in the application process should notify Dr. Knocke.

Georgia Institute of Technology

School of Civil and Environmental Engineering

The School of Civil and Environmental Engineering at Georgia Tech is seeking qualified candidates for several tenure-track faculty positions at the Assistant, Associate, and Full Professor levels. Areas of particular interest include: Structural Engineering, Mechanics and Materials, Construction Management, and Environmental Engineering (environmental biotechnology and air quality). Applications may be entertained in other areas such as Environmental Hydraulics and Water Resources, Geosystems Engineering, and Transportation Engineering for outstanding candidates. Preference will be given to candidates with multi-disciplinary backgrounds and having a strong desire to teach and interact with students.

Successful applicants will be expected to teach at the undergraduate and graduate levels; acquire sponsored research; produce scholarly publications; and advise M.S. and Ph.D. students. Applicants should possess an earned doctorate in an engineering or related scientific discipline by the time of appointment and provide a clear demonstration of successful pursuit and conduct of independent research. Applicants for advanced-level appointments should document their current research and teaching activities.

Environmental Engineering Faculty Position, Air Pollution Engineering. The School of Civil & Environmental Engineering invites applications for a tenure-track position at the Assistant, Associate or Full Professor levels in

Environmental Engineering beginning on or before 15 September 1997. Applicants with expertise in air pollution engineering and science aspects of Environmental Engineering and clear potential for, or demonstrated capabilities in, development of strong teaching and research programs are desired. Areas of particular interest include, but are not limited to, the following: air pollution control technology development, and particulate matter chemistry, dynamics and control. Professional registration or certification is desirable.

Environmental Science & Engineering Faculty Position, Environmental Biotechnology. The School of Civil & Environmental Engineering invites applications for a tenure-track position at the Assistant, Associate, Full and Chaired Professor levels in Environmental Engineering beginning on or before 15 September 1997. Applicants with scientific and engineering expertise focused on environmental contaminants and natural-environment processes in water, land and industrial-process systems and clear potential for development or demonstration of strong teaching and research programs in Environmental Science and Engineering are desired. Several areas of interest are included within this announcement and reflect an interest in attracting strong applicants with capabilities that expand the fundamental science base of the current faculty. Individuals with advanced training and research in biochemical, chemical and biological disciplines with interests and capabilities in linking fundamental scientific study to engineered and natural-environment systems are encouraged to apply. Areas of interest include, but are not limited to, the following: biotransformation and fate of organic and inorganic contaminants; biotechnology and bioscience; environmental biochemical processes; pathogen and viral transport, inactivation and fate; bio- and phyto-remediation; aquatic inorganic and organic chemistry; gene probes and genetic engineering of microbes and higher organisms.

The School of Civil and Environmental Engineering has 52 faculty members and 1,200 students. The externally funded research program has expanded rapidly over the past several years and is currently at an annual level of $5,000,000. The School's faculty play significant roles in several Institute-level interdisciplinary centers including the Center for Sustainable Technology, the Transportation Research and Education Center, the Office of Environmental Science Technology and Policy, the Georgia Environmental Technology Consortium, Hazardous Substance Research Center, the Water Resources Institute, Computer Applications in Science and Engineering Center and EduTech. The School is recognized as a national leader in research and education in civil and environmental engineering. New faculty members are sought to help continue and extend this national leadership.

Evaluation of applications will begin on 1 December 1996 and applications will be accepted until the position is filled. Applicants should send a detailed resume; a publications and research listing; a summary of research interests and proposed plan of pursuit; a summary of teaching interests; and names, addresses and phone numbers of at least three references to: Dr. Michael D. Meyer, Professor and Chair, School of Civil & Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia 30332-0355.

The Georgia Institute of Technology is an Equal Education/ Employment Opportunity Institution.

State University of New York at Buffalo

Department of Civil Engineering

Environmental Engineering Faculty Opening. The Department of Civil Engineering at SUNY-Buffalo invites applications for an anticipated assistant professor, tenure-track position in the area of environmental fluid mechanics and hydraulics beginning September 1, 1997. Applicants must have a Ph.D. and a PE (or PE eligible) with demonstrated background in environmental fluid mechanics and hydraulics and be interested in contributing to both the graduate and undergraduate programs of the Department. Primary consideration will be given to applicants whose interests and background are in experimental and theoretical studies related to flow and transport processes in the aqueous environment, such as rivers, lakes, coastal waters, and groundwater. Some background in chemistry or biology is also desirable. The successful applicant will be expected to develop a funded research program, both individually and in collaboration with the current faculty. The person will also be expected to teach graduate and undergraduate courses in civil and environmental engineering. Salary and related incentives will be commensurate with the qualifications of the applicant.

The Department of Civil Engineering currently has 24 faculty members, 140 graduate students, 160 juniors and seniors, and approximately 2.5 million dollars of research expenditures annually. The department is host to three major research centers: (i) The New York State Center for Hazardous Waste Management established at the State University of New York at Buffalo to develop research, information transfer and service in hazardous waste management; (ii) The Great Lakes Program established to develop research, information transfer and service in the area of the Great Lakes; (iii) National Center for Earthquake Engineering Research established to develop national research programs, develop interdisciplinary solutions and provide technology transfer in the area of earthquake engineering. The successful candidate will be expected to participate in one or more of these activities and to complement the other faculty in environmental engineering. For more information visit the web site at: http://www.civil.buffalo.edu/.

Interested candidates should submit a letter of application, a current comprehensive vita, and the names, addresses, e-mail addresses, phone numbers and FAX numbers of at least three references to: Andrei M. Reinhorn, Professor and Chair, 212 Ketter Hall, Department of Civil Engineering, State University of New York at Buffalo, Buffalo, NY 14260-4300, e-mail: chair@civil.eng.buffalo.edu

Applicants are encouraged to apply by February 15, 1997, but applications will continue to be reviewed until the position is filled.

THE STATE UNIVERSITY OF NEW YORK AT BUFFALO IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER SUNY at Buffalo encourages women and ethnic minorities to apply and to so identify themselves. Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment (Immigration and Control Act of 1986).

The University of Portland

Edwin and Sharon Sweo Endowed Chair in Engineering

The University of Portland School of Engineering invites applications and nominations for the Edwin and Sharon Sweo Endowed Chair in Engineering. The successful candidate will be appointed to a tenure track position, at the rank of full professor, in civil or electrical engineering. The position will begin in the fall of 1997. Salary and benefit package are competitive. Candidates must be either a U.S. citizen or have permanent residency in the U.S.

The Civil Engineering candidates must have an earned Ph.D. in civil engineering with at least one degree from an ABET accredited institution. Successful candidates' specialization should be in one or more of the following areas: contaminant transport and remediation, water and waste water treatment and quality, experimental or theoretical development of water treatment technologies, surface and ground water pollution, industrial waste minimization, or other related environmental engineering fields.

Academic, scholarship, and industrial experience and potential should be worthy of appointment at the rank of professor. Dedication to excellence in teaching, scholarship, and community service are required. Teaching and design experience are desirable. Preference will be given to candidates with relevant industrial experience and professional registration. The chair holder is expected to teach courses in environmental engineering, provide leadership in curriculum development including an environmental track within the civil engineering degree program and interdisciplinary program(s) between engineering and sciences, be professionally active, promote collaboration between engineering and science faculty in environmental engineering and sciences.

Founded in 1901, the University of Portland is a private Catholic teaching university and particularly welcomes candidates who desire to work in such an environment. It is the only private comprehensive university in Oregon and consists of a College of Arts and Sciences, a Graduate School, the School of Business Administration, Nursing, Education, and Engineering. Enrollment is approximately 2,000 full time undergraduates and 600 graduate and part time students.

Applicants should send a letter of application, curriculum vitae, and names of five references to:

Zia A. Yamayee, Ph.D., P.E.
Dean of Engineering/Search Committee Chair
University of Portland
5000 N. Willamette Blvd.
Portland, OR 97203-5798

Review of candidates will begin on February 1, 1997 and will continue until the position has been filled.

University of California, Irvine

Department of Civil and Environmental Engineering

Environmental Engineering Faculty Position. The University of California, Irvine, Department of Civil and Environmental Engineering invites applications for a tenure-track position in ENVIRONMENTAL ENGINEERING, beginning July 1997. Applicants should have a distinguished research record or potential in one or more of the following areas: field-scale contaminant transport and/or remediation, modeling of environmental aquatic systems, and experimental or theoretical development of water treatment technologies. Outstanding candidates at any level are encouraged to apply.

The successful candidate will be expected to teach undergraduate and graduate courses in environmental engineering, direct graduate student research, establish a strong externally-funded research program, and be professionally active. A Ph.D. in environmental or civil engineering, or an allied field is required, and professional registration is preferred.

Candidates should send a detailed resume with names of at least three references by February 28, 1997, to:

Professor Stephen G. Ritchie, Chair
Department of Civil and Environmental Engineering
University of California, Irvine
Irvine, CA 92697-2175

The University of California is an equal opportunity employer commtted to excellence through diversity.

Happy New Year!

Some "Food for Thought" for 1997

(from *Environmental Engineering News*, issued by Purdue University School of Civil Engineering)

The U.S. space shuttle's computer software to control the motor and monitor engine performance uses 2 megabytes. The computer software for WordPerfect 6.1 for Windows uses 32 megabytes.

***

Used automobile motor oil is the largest single source of oil pollution in our lakes and streams. Each year, shade-tree mechanics illegally dump 120 million gallons of oil.

***

About 300 large dams are built worldwide every year.

***

According to recent estimates, 99% of the Universe is nothing.

***

In 1950, when there were 2.6 billion people on Earth, there were 50 million cars. Today, the human population has more than doubled, but the car population has increased ten-fold.

***

If your dog or cat brings only 10 fleas into your house, you could end up with 90,000 flea eggs in just one month.

***

Pillsbury Bake-Off Grand Prize = $1,000,000
Nobel Peace Prize = $930,000
Pulitzer Prize = $3,000

***

The federal debt now exceeds $5 trillion.

***

If the ice cap covering Antarctica were to melt, more than half of the world's population would have to relocate due to the rise of the level of the oceans.

***

The amount of paper recovered from U.S. municipal solid waste doubled between 1985 and 1993.

Request for Info on Innovative Sludge Processes

Camp Dresser & McKee was recently selected by the Water Environment Research Foundation to assess innovative processes for managing sludge. The goal of the project is to prepare a resource document describing how the processes work, their function, and their state of development.

If you have information about innovative sludge processes, please provide documentation that you believe is relevant to:

Dr. Albert B. Pincince, Principal Investigator
Camp Dresser & McKee
Ten Cambridge Center
Cambridge, MA 02142
Tel: (617) 252-8603
Fax: (617) 621-2565
e-mail: pincinceab@cdm.com

ASCE Launches New Institutes

Driven by its members' needs for more specialized services and programs, the American Society of Civil Engineers (ASCE) launched pilot institutes in geotechnical engineering and structural engineering last October.

As full-service, discipline-oriented and semi-autonomous organizations under ASCE's umbrella, the Geo-Institute (GI) and Structural Engineering Institute (SEI) will represent all members of the project team: engineers, designers, materials suppliers, contractors, owners and maintainers. They will also enable ASCE to answer the geotechnical and structural communities' calls for additional educational, business, technical and practice-oriented services specific to each discipline.

"The new institutes reflect the shifting professional landscape that engineers are experiencing. Our members tell us they are increasingly working in teams that incorporate related professionals, and that civil engineers need a forum to work with them on common issues," said ASCE President Charles A. Parthum, P.E.

Representing a major initiative of ASCE's new member-driven Strategic Plan, the pilot institutes will serve as a test for a proposed new structure for the Society. "The institutes will cut through ASCE's rigid structure and bureaucracy to provide a flexible and responsive one-stop-shop for all members of the engineering project team," said ASCE Executive Director James E. Davis, P.E.

"Operating under explicit bylaws developed by the ASCE Board of Direction, the institutes are empowered to act semi-independently within their fields," said Davis.

"The Geo-Institute will have flexibility in establishing broad-based and responsive technology transfer of cutting-edge innovations," and "will provide more high-quality practice-oriented publications and other services," said Larry Roth, P.E., newly appointed president of the Geo-Institute's board.

"The SEI will provide a more cooperative environment for national and local groups within the structural engineering community, and facilitate industry-wide coalitions to address emerging issues," said Dennis L. Tewksbury, P.E., newly appointed chair of the Structural Engineering Institute's board and ASCE Zone I vice president. "With the institute, the structural engineering community will benefit from increased decision-making abilities and rapid response to our specific needs,"said Tewksbury.

Founded in 1852, ASCE represents more than 120,000 civil engineers worldwide and is America's oldest national engineering society. **Visit the Society's Web Page at http://www.asce.org**

1996 AWGF Outstanding Educator Award

The Association for Women Geoscientists Foundation (AWGF) honored **Linda M. Abriola** as the 1996 Outstanding Educator on October 29 at the annual meeting of the Geological Society of America in Denver, Colorado. Dr. Abriola is a professor in the Department of Civil and Environmental Engineering at the University of Michigan in Ann Arbor and a former secretary of the Hydrology Section of the American Geophysical Union. Her selection by AWGF as the 1996 Outstanding Educator recognizes her excellence as a researcher, teacher, and mentor to aspiring women scientists.

Professor Abriola earned a B.S. degree from Drexel University and M.S., M.A., and Ph.D. degrees from Princeton University. In 1984, she joined the faculty at the University of Michigan, where she received tenure in 1990 and advanced to full professor in 1996. She is a world-renowned researcher in the field of groundwater contamination and remediation and currently is collaborating with other investigators using experiments and mathematical modeling to develop alternative technologies for aquifer remediation. She has documented her research in over 60 articles and almost 50 abstracts.

In addition to her research activities, Professor Abriola is an energetic and dedicated educator, teaching undergraduate courses in hydrology and fluid mechanics and graduate courses in numerical modeling and theoretical aspects of subsurface flow. She provides undergraduates with practical experience by requiring the design of a remediation scheme for an actual groundwater contamination site. While challenging students to excel, she also makes a strong effort to get to know them and solicits their feedback.

Professor Abriola previously has received numerous awards. In addition to the AWGF Outstanding Educator Award, recent honors include an NSF Faculty Award for Women Scientists and Engineers in 1991, the University of Michigan College of Engineering Research Excellence Award in 1994, and selection as the 1996 Distinguished Darcy Lecturer by the National Groundwater Association.

AWRA Annual Awards Ceremony

The American Water Resources Association, at its 32nd Annual Conference in Fort Lauderdale, Florida, made the following award presentations:

The **William C. Ackermann Medal for Excellence in Water Management** to **John R. Wodraska**, General Manager of the Metropolitan Water District of Southern California, for his exemplary water management practices in the State of California.

The **Henry P. Caulfield, Jr., Medal for Contributions to National Water Policy** to **Warren "Bud" Viessman, Jr.**, Associate Dean for Academic Programs, College of Engineering, University of Florida, for his extraordinary contributions to the development of our nation's water policy.

The **Mary H. Marsh Medal for Exemplary Contributions to the Protection and Wise Use of the Nation's Water Resources to Cathleen C. Vogel**, Director, Office of Government and Public Affairs, South Florida Water Management District, for her efforts in organizing the first International Dialogue on Water Management.

The **Sandor C. Csallany Institutional Award for Exemplary Contributions to Water Resources Management** to the **Calleguas Muncipal Water District** in Ventura County, California, for its unique water resources reclamation projects.

Selected as **Fellow Members** of the Association were **Troy Lynn Lovell**, Vice President, Halff Associates, Inc., Fort Worth, Texas, and **Nancy C. Lopez**, U.S. Geological Survey, Water Resources Division, Reston, Virginia, for their outstanding contributions to water resources.

Honorary Membership in the Association was given to **Kirk P. Rodgers**, Director, Department of Regional Development and Environmental, Organization of American States, Washington, D.C., for his distinguished international contributions to water resources.

The **Icko Iben Award** was presented to **David J. Allee**, Professor, Cornell University, Ithaca, New York, for his extraordinary efforts in fostering dialogue among the disciplines concerned with water resources.

The **William R. Boggess Award** for the"Outstanding Paper in the Association's journal, the *Water Resources Bulletin*," was given to **James F. Booker**, Assistant Professor of Economics and Environmental Studies, College of Business, Alfred University, Alfred, New York, for his paper entitled, "Hydrologic and Economic Impacts of Drought Under Alternative Policy Responses," published in October, 1995.

The **President's Award for Outstanding Service** was presented to **Raymond Herrmann**, National Biological Service, Fort Collins, Colorado, who was recognized for his outstanding contributions to the American Water Resources Association.

The **University of Nevada-Reno Student Chapter** was selected as the **Outstanding Student Chapter and the Florida State Section** was selected as the **Outstanding State Section** for 1996.

Nix Elected 1997 AWRA President

Dr. Stephan J. Nix, Associate Professor of Civil and Environmental Engineering at the University of Alabama in Tuscaloosa, has been elected President of the American Water Resources Association for 1997.

Nix received his BS degree in Engineering Sciences and his Master of Engineering and Ph.D. in Environmental Engineering Sciences from the University of Florida. He served on the faculty of the Department of Civil and Environmental Engineering at Syracuse University from 1983 to 1994.

He is an active researcher and teacher in water resources and environmental engineering. He has authored a book and published numerous papers and monographs dealing with modeling and management of urban stormwater and combined sewer overflows. Nix has been active in AWRA since 1980. He has served as President of the New York State Section and was Mid-Atlantic District Director, Secretary, Vice President, and President-Elect of the National Association. He has chaired numerous committees nationally and locally.

In addition, the following persons were elected to take office beginning January 1, 1997:

President-Elect: N. Earl Spangenberg, University of Wisconsin-Stevens Points, Stevens Point, WI

Vice President for Committees: John J. Warwick, University of Nevada-Reno, Reno, NV

Vice President for State Sections: Patricia H. Lodge, Private Consultant, Water Resources Engineer, Coral Gables, FL

Vice President for Working Groups: Isabel B. Gonzaleaz-Jettinghoff, Planning and Economics Groups, Miami, FL

Secretary: Gregory J. Westfall, USDA-Natural Resources Conservation Services, Somerset, NJ

East South Central District Director: Dennis H. Block, Auburn University, Auburn, AL

New England District Director: Keith W. Robinson, U.S. Geological Survey/WRD, Bow, NH

Pacific Southwest District Director: Diana L. Weigmann, Governor's Office, Carson City, NV

South Atlantic District Director: Gerald E. Seaburn, Law Environmental Inc., Kennesaw, GA

West South Central District Director: John S. Grounds III, Halff Associates, Inc., Houston, TX

AWRA Selects Scholarship Recipients

The American Water Resources Association has selected the first two recipients of scholarships from its Richard A. Herbert Memorial Educational Scholarship Fund. Nearly 30 applications, received from around the country, were considered for receipt of the $1,000 scholarships - one to be awarded to an undergraduate student and one to a graduate student.

Seton P. Claggett is a senior in the Hydrology and Water Resources Department at the University of Arizona. Mr. Claggett has interests in computer modeling, water chemistry,

and water policy. He is an excellent student and is involved in several extracurricular activities pertinent to water resources, including the Hydrology and Water Resources Student Association in which he is Vice President, and his department's Undergraduate Committee. In his spare time, he also teaches CPR for the American Heart Institute and volunteers with the Boy Scouts. Mr. Claggett is also an active member of the Tricats Triathlon Club.

Julie E. Blue is a Ph.D. Candidate in the Department of Hydrology and Water Resources, University of Arizona. Ms. Blue received her Bachelor of Arts degree from Swarthmore College where she majored in English, Mathematics, and Religion. She has also received two masters degrees. One is in English from Indiana University, and the second is in Hydrogeology from the University of California, Santa Cruz. The topic of her Ph.D. dissertation is the transport of trichloroethene in a contaminated aquifer and her work is making an important contribution to the area of aquifer restoration. Ms. Blue is also involved in a number of extracurricular activities, including chairing the Mentoring Program for incoming graduate students to her department and singing in a Madrigal group.

The American Water Resources Association promotes understanding of water resources and related issues by providing a multidisciplinary forum for information exchange, professional development, and education.

Book Reviews by P. Aarne Vesilind

***PRACTICAL HANDBOOK OF PROCESSING AND RECYCLING MUNICIPAL WASTE*, by A.G.R. Manser and A.A. Keeling, CRC Lewis Publishers, Boca Raton FL, 1996**

This book is simply oozing with good sense. Written by Tony Manser and Alan Keeling (the British really do have first names -- they're just modest), two of the foremost solid waste experts in the UK, this book is an absolute must for any engineer working in the solid waste engineering area. Reading it is a pure pleasure, for tucked around the corner of every page is a gem of an insight, or new design idea, or an admonition to prevent you from falling flat on your face.

For example, I knew all along that conveyors must be designed not only for mass transport but for volume transport as well. But it never occurred to me that running solid waste through a trommel screen will fluff up the waste, and if the trommel extracts 50% by weight and rejects the other 50%, the reject is so fluffed up that you need a reject conveyor just as big as the feed conveyor. *Now* it makes infinite sense, and I'll never forget the advice.

The authors recognize the true value of their work, and in the foreword admit that they "... set out only to explain the state of the art as we know it, based upon a number of hard years of working in the field," a refreshing and accurate self-appraisal of their book.

In my opinion, the best chapter in the book is on the nature of solid waste. This chapter is followed in turn by chapters on mechanical handling, composting in waste management, simple windrow composting systems, more sophisticated mechanical composting systems, biological aspects of compost production and unitization (they love that word), material recovery facilities, refuse-derived fuel (RFD) processes, combined RDF/compost/recycling plants, and markets for recycled products.

As good as the book is, however, it has a certain schizophrenia about it -- a schizophrenia that in all honesty is shared by most of the field. We all are for preserving the environment and recognize that a sustainable society must eventually not depend on depletable resources. But we are also aware that much of the recycling operations today are money losers, including the "green dot" system in Germany. We want composting to work (and indeed this book devotes fully one third of its pages to composting) and yet we know that composting has consistently been a disastrous decision for many municipalities. The effect of this conflict is like a politician who knows full well that something is nonsense, but also knows that it will get him votes. Do we as engineers want to "get votes", or do we push for what we know is right? But I digress.

A more serious criticism is in the use of this book as a teaching text. If I were teaching a course in solid waste engineering, I would definitely buy this book -- for myself! Any instructor will get an immense amount of practical insight that can be shared with the students. But I am not sure the book works as a text. The authors present almost no references and few attributions. Although the line drawings are good, there are very few equations, pictures, derivations or practical examples. Perhaps the best compromise would be to teach the course using material from other sources and then tell the students to buy the book later, if after graduation they go on to do solid waste engineering. The book would be well worth the investment.

***ACTIVATED SLUDGE TREATMENT OF INDUSTRIAL WASTEWATER*, by W. Wesley Eckenfelder, Jr., and Jack L. Musterman, Technomic Publishing Co., La (P. O. Box 3535) Lancaster PA (17604), 1995**

Certain things don't change much over the years. Mel Torme still sings well, Duke still can't win a football game, the Canadian Brass still is the best brass quintet in the world -- and Wes Eckenfelder still writes good books.

His latest effort, co-authored with Jack Musterman, is no exception. This book is intended for the industrial wastewater treatment engineer confronted with the design of biological treatment for an industrial effluent. Such effluents can vary significantly from municipal wastewater. For example, an industrial effluent may have slug loads of different chemical wastes arriving at odd and often unpredictable hours, or the temperature of the waste may suddenly change. Somehow the

plant has to respond to these variations while consistently discharging an effluent meeting NPDES limits.

Responding to these concerns, Eckenfelder and Musterman spend considerable time describing how individual elements of a waste stream must be characterized to make design feasible. Perhaps the best section of the book is the discussion on temperature. Municipal wastewater treatment plants do not face the problem of rapidly and wildly fluctuating influent temperature. At worst, temperature changes are slow and predictable. Not so with many industrial effluents.

The contents of the book include characterization and pretreatment of industrial wastewater; principles of biological oxidation; kinetics of organic removal; bioinhibition of the activated sludge process; effect of temperature on the activated sludge process; stripping of volatile organics; nitrification and denitrification; oxygen transfer and aeration; activated sludge processes; final clarification; effluent suspended solids control; biological sludge disposal; and laboratory and pilot plant procedures for development of process design criteria.

The book has the markings of many of Wes Eckenfelder's early works. For example, the world still operates as a first order reaction, and all you need is two points to draw a straight line on a semi-log plot. But all that aside, this is another useful and well-organized book by the master.

***PROCESS DYNAMICS IN ENVIRONMENTAL SYSTEMS*, by Walter J. Weber, Jr. and Francis A. DeGiano, John Wiley, New York, 1996**

How do you begin a review of the most awaited new book in a decade? Ever since Walt's exceptionally successful and useful book, *Physicochemical Processes* (Wiley, 1972), was published, we have waited for the "son-of-*Physicochemical Processes*". And, here it is, co-authored by Fran DiGiano.

And what a book it is. Nearly 1,000 pages of it. I sat down with this tome, opened it to page one, and fully expected to be enlightened and impressed. But as I started to read it I realized that something was gnawing at me. What was wrong?

How could there by much wrong? Walt and Fran, two of the smartest people our profession has produced, have written a stunningly good book. They begin by reviewing process characterization and analysis, with subsequent chapters on macrotransport processes, microtransport processes, energy relations: concept and applications to homogeneous systems; energy relationships: applications to heterogeneous systems; rate relationships: concepts and applications to homogeneous systems; rate relationships: applications to heterogeneous systems; reactor engineering: steady-state homogeneous systems; reactor engineering: steady state heterogeneous systems; and finally reactor engineering: unsteady-state systems. An excellent overview begins the text, and a chapter-length retrospective and perspective concludes it.

I put the book down and let it rest on the shelf for two weeks. I looked at it daily, as if to get some guidance on how to think about this work. Finally, I realized that I had three interlocking problems with this book.

First, this book is not the "son-of-*Physicochemical Processes*". It appears to be a heroic expansion of Chapter 1 of the 1972 *Physicochemical Processes*, and as such, it provides the theoretical background for much of the more practical topics of the 1972 volume, but it is not the long-awaited sequel to the book many of us have used in unit operations courses.

Second, the authors suggest that this book can be used in a zillion different ways, all the way from an undergraduate text to an advanced graduate resource. If the authors truly believe that this book could find use as an undergraduate text, they must have a far different notion of education than do I. They must have great faith in the uni-dimensional, reductionist language of mathematics, and must believe that something can't be useful if it can't be mathematically modeled. Simple and intuitive explanations would be inadequate, and potentially dangerous, for these simple approaches do not allow for the solution to very difficult problems. The Navier-Stokes equation would be preferable to the Darcy-Weisbach equation because the former allows you to do so much more. The continuity equation, Q=AV, is inadequate and has to be replaced by a partial differential equation that covers all possibilities.

They are technically right, of course, but pedagogically they are terribly and potentially, dangerously wrong. People do not learn from the general to the specific. All of science started with the specific and worked to the general. Only some textbooks are written in the reverse order, as if the whole business was developed out of the minds of some incredibly brilliant people, like Mozart composing with pen and ink. Educational theory has conclusively proven that students learn first by understanding the simple things, and then build on this knowledge to reach the more complex levels as presented in this book.

The third problem with this book is that the authors' love for the beauty of mathematical complexity sometimes causes them to forget what problems they are addressing. In the text, one can go for pages and pages without a single mention of anything to do with environmental engineering. The authors could easily adapt *Process Dynamics* to almost any chemical engineering field by simply changing some of the examples. I can see the logical next book as *Process Dynamics in Petrochemical Systems*, for example.

But I am probably being grossly unfair. Walt and Fran's book is a landmark in our field and it will assume its place among the great environmental engineering books of all time. This excellent book should be on the shelf of every practicing environmental engineer who considers himself or herself to be at the top of the field in the solution of complex environmental problems. But it is not for the faint of heart. And it most certainly is not to be used as an undergraduate textbook.

***DENSE CHLORINATED SOLVENTS AND OTHER DNAPLs IN GROUNDWATER*, by James F. Pankow and John A. Cherry, Waterloo Press (P.O. Box 91399, Portland OR 97291-1399) 1996 [$95 + $9 shipping]**

This book is proof once again that you cannot judge a book by its cover (Nor, so it seems, by its title).

The cover and title would lead you to believe that this is a handbook full of tables and other useful information about chlorinated solvents, like where to get them, what their toxicological characteristics are, and where the groundwater problems are. And the cover design looks like my (much venerated and used) 1958 *CRC Handbook of Chemistry and Physics*. I had almost decided that I would not review this book, given the purpose of these reviews, but my sense of fairness finally overcame my apathy (they had sent me a copy). What I found was an exceptionally fine summary of the state-of-the-art, a major challenge for environmental engineers and scientists.

DNAPLs (Dense Non-Aqueous Phase Liquids) are denser than petroleum products which tend to be immiscible and lighter than water, facilitating their removal from submerged spills. DNAPLs are bad actors because they do not generally give a noticeable taste or odor in water and diffuse into the groundwater making them exceedingly difficult to remove. Some of the most notorious DNAPLs include tetrachloroethylene, trichlorethylene, chloroform, and carbon tetrachloride. Amazingly (in retrospect), these chemicals have been ignored as potential pollutants and in fact the accepted method of disposal was to pour these chemicals onto soil and allow them to seep into the ground. As late as 1972, the Manufacturing Chemists' Association was recommending that TCEs and related chemicals be disposed of by "...pouring on dry sand, earth, or ashes...and allowing to evaporate into the atmosphere."

Now we know better, of course. Much of the work in developing the science and engineering of groundwater pollution by such dense chlorinated solvents has been performed by the *University Consortium Solvents-In-Groundwater Research Program*, a coordinated effort between two Canadian universities (Waterloo and Queens) and two United States universities (Colorado State and Oregon State), with cooperation from numerous other universities. Financial support for this program has come from corporations and the Canadian government. The lead role in the project was played by the University of Waterloo and they organized this excellent summary on the pollution of groundwater by chlorinated solvents (which would have made a much better title, even if not totally accurate).

The book opens with a wonderfully documented historical discussion, followed by: "Conceptional Models and Behavior of ... in the Subsurface; Mechanics and Mathematics of the Movement of ... in Porous Media; Numerical Simulation of the Migration of ... in Porous Media; Experimental Studies of the Movement of ... in the Vadose, Capillary, and Groundwater Zones; Vapor Migration in the Vadose Zone; Dissolution of ... in the Subsurface; Sorption of ... to Aquifer Materials; Chemical and Microbiological Transformations and Degradation of ...; the Effect of ... on the Permeability of Clays; Physics Governing the Migration of ... in Fractured Media; the Effects of Molecular Diffusion on ... in Fractured Porous Media; Diagnosis and Assessment of ...; Concepts for the Remediation of Sites Contaminated with ...."

Occasionally books appear that are MUST books for anyone doing research and education in a certain area. This is one of these books (bad title and lousy cover and all).

P. Aarne Vesilind

PUBLICATIONS

Environmental Modeling
Fate and Transport of Pollutants in Water, Air, and Soil

By Jerald L. Schnoor, University of Iowa
John Wiley & Sons Inc.

The only textbook to combine engineering transport fundamentals and equilibrium aquatic chemistry, *Environmental Modeling* brings a uniquely contemporary perspective to the assessment of environmental quality. Addressing key questions about the fate, transport, and long-term effects of chemical pollutants in the environment, this inherently practical text provides junior/senior undergraduate students as well as environmental engineers and scientists with the important tools they need to develop and solve their own mathematical models. This new title in Wiley's Environmental Science and Technology series contains detailed examples from a wide range of crucial water quality areas, examines current global issues, including atmospheric deposition, hazardous wastes, soil pollution, and global change, and features over 200 high-quality illustrations, plus skill building problems in every chapter.

To receive a free examination copy for adoption, contact M. Fellin, John Wiley & Sons Inc., 605 Third Avenue, New York, NY 10158, or to order copies, call 1-800-225-5945 [ISBN: 1-12436-2; Price: $69.95].

Transport Modeling for Environmental Engineers and Scientists

By Mark M. Clark, University of Illinois at Urbana-Champaign
John Wiley & Sons Inc.

Understanding the fate and transport of environmental contaminants in air, water and soil typically requires a grounding in mass and heat transfer and fluid mechanics. Because so many environmental problems involve substances at the molecular level, many students entering graduate programs in environmental engineering, as well as professionals just

entering the field, lack a solid understanding of these processes. *Transport Modeling* fills this educational gap by elucidating the underlying transport phenomena that determine the fate of contaminants in various media. Offering a solid foundation for the development of improved environmental designs and models, it builds upon integrated transport courses pioneered thirty years ago in the chemical engineering curricula. In addition, it covers the fundamentals of mass and momentum transport with an emphasis on aerosol and colloidal systems and presents an environmental focus on sedimentation, coagulation, adsorption, filtration, dispersion, chromatography, and porous media transport.

To receive a free examination copy for adoption, contact John Wiley & Sons Inc., 605 Third Avenue, New York, NY 10158-0012, or to order copies, call 1-800-225-5945 [ISBN: 0471-12348-X; Price: $69.95].

Discounts on New AAP Texts

Ann Arbor Press is offering discount pricing on the following titles: *Wastewater Treatment Troubleshooting and Problem Solving* (Glenn M. Tillman) -- $29.95; *Practical Manual of Wastewater Chemistry* (Barbara A. Hauser) -- $29.95; *Water Treatment Troubleshooting and Problem Solving* (Glenn M. Tillman) -- $29.95; and *Watershed Hydrology, Second Edition* (Peter E. Black) -- $39.95. In addition, *Pesticides in Ground Water* (Jack E. Barbash and Elizabeth A. Resek) -- $69.95 -- has just been released as the second book in a four-book series, *Pesticides in the Hydrologic System*. Students can receive a 30% discount on Ann Arbor Press titles by mentioning AEEP. For more information, contact: Ann Arbor Press, Inc., 1-800-858-5299, (313) 475-8787, (313) 475-8852 (fax).

CONFERENCES/CALL FOR PAPERS

Disinfection By-Products Symposium
History, State-of-the-Art, and Research Needs
In Honor of Dr. James M. Symons
University of Houston
Houston, Texas
March 20-21, 1997

This year marks the 25th anniversary of the water supply industry's concern about disinfection by-products (DBPs), counting from Dr. Rook's 1972 unpublished discovery of chloroform in finished water. It will also mark the retirement of Dr. James M. Symons, who has been researching this issue from the beginning.

The intersection of these two events prompted the Department of Civil and Environmental Engineering at the University of Houston to organize a technical symposium to critically evaluate what is known about DBPs at this milestone and to plan the future direction of research, as well as to honor Jim. Currently, the symposium is co-sponsored by the Cullen College of Engineering (University of Houston), the Environmental Institute of Houston, The American Academy of Environmental Engineers, and is partially supported by the U.S. Environmental Protection Agency. Other co-sponsors may also join. The technical meeting and banquet for Jim and his family will be held on the University of Houston campus, March 20 and 21, 1997.

This 1-1/2 day symposium will bring together 20 national and international experts, each of whom will present papers on various aspects of the DBP problem. The speakers, and their co-authors, will also contribute chapters to a book on DBPs to be published by the American Water Works Association in late 1998. This book will update and replace the out-of-print *Treatment Techniques for the Control of Trihalomethanes in Drinking Water*. In addition to the formal presentations, posters detailing the findings of significant current research will be displayed during the coffee breaks.

The registration fee will be $50 ($25 for students without the banquet), which will include admission to the symposium, Thursday's lunch, Thursday's banquet, and a discount coupon for the book. The cost for attending the banquet only will be $25. For further information or an abstract form to be considered for a poster presentation (one-page abstract forms are due Friday, January 24, 1997), please write to Ms. Maureen Taillon, Department of Civil and Environmental Engineering, University of Houston, Houston, Texas 77204-4791, Tel: (713) 743-4251, Fax: (713) 743-4260, or E-mail: mtaillon@uh.edu.

Additional information may also be found at: http://www.egr.uh.edu/CIVE/research/Current.html

Dennis A. Clifford
Professor and Chair, Symposium Chair
Department of Civil and Environmental Engineering
DAClifford@uh.edu

The De Lange ♦ Woodlands Conference
Sustainable Development: Managing the Transition
Rice University, Houston, Texas
March 3-5, 1997

The Energy and Environmental Systems Institute (EESI) of Rice University and the Houston Advanced Research Center (HARC) have joined forces to present a world class program, *Sustainable Development: Making the Transition,* at the De Lange ♦ Woodlands Conference, which will be held March 3-5, 1997, on the Rice University campus. Internationally renowned leaders will make platform presentations on a broad range of

topics relating to the concept of sustainable development. In addition, a lively discussion of the issues will take place between panelists and audience members on the afternoon of the third day. Other highlights include: special keynote luncheon speakers on each of the three days; a poster session and reception on the evening of the first day; and the Mitchell Award Dinner and award presentation at the end of the second day. An overview and summary of the conference findings will be published in a hard cover book shortly after the conference.

Preliminary Program Topics:

Sustainable Development: Defining Our 21st Century Challenges
Achieving Ethical and Equitable Leadership
Poster Session: Making the Vision Reality -- The Role of Technology and Sustainable Communities
Scientific Issues & Uncertainty in Decision-Making
Market Tools: Trade, Pricing and Signals
Stakeholder, Empowerment and Dispute Resolution
Charting the Roadmap: Institutions, Leadership and Policies

About Sustainable Development...

Sustainable development will be one of the most important topics for the 21st century. The term "sustainable development" refers to development that can meet the needs of present generations without foreclosing the options of future generations to meet *their* needs. It is an attractive concept because it combines economic development and environmental protection into a single element that is appealing to a wide range of interests. Sustainable development is a "large" term -- it covers many disciplines and is both philosophically-based and pragmatic. When fully implemented, the concept could alter fundamental underpinnings of the relationship between humans and the natural environmental system, as well as relationships among nations, corporations and stakeholders.

The concept of sustainable development arises out of both the innovation and failures of the initial attempts of various nations and the global community to address environmental issues and economic development. In 1982, the World Commission on Environment and Development (WCED) was formed to study the global situation with regard to development and the environment and to prepare a report in honor of the founding of the United Nations Environmental Programme (UNEP). The WCED was chaired by Gro Harlem Brundtland, the premier of Norway, and issued its report, *Our Common Future*, in 1987. This report noted the various problems of the 1980s, including Chernobyl, Bhopal, the drought in the Sahel, the international trade in hazardous waste, global warming and the stratospheric depletion of ozone, to mention some. The *Brundtland Report* recommended that a new approach called "sustainable development" be adopted as a global consensus on environment and development.

As a result of this document's publication, global interest in sustainable development accelerated substantially. During the next five years, the global political will to adopt the concept of sustainable development was being mustered. This effort culminated with the adoption of sustainable development as the global concept of development and environmental protection by the signing of the Rio Principles at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June, 1992. The signing of these development principles signaled the end of the first stage of sustainable development -- the era during which the political will to adopt the concept was cultivated and realized.

The global community is now in the second phase of the evolution of the concept of sustainable development. There is great interest in, and controversy about, this term that has been politically adopted by virtually every nation in the world. However, there does not seem to be a real consensus as to the meaning of sustainable development, although many of those familiar with the concept would agree that the concept is comprised of certain elements. Furthermore, if the potential of these elements is realized, there is little doubt that significant changes will occur in the relationship between humans and natural system as well as among themselves.

Invitation for Poster Presentations at the De Lange ♦ Woodlands Conference

The Energy and Environmental Systems Institute (EESI) at Rice University and the Houston Advanced Research Center (HARC) invite you to submit abstracts for poster presentations at the upcoming De Lange ♦ Woodlands Conference on *Sustainable Development: Managing the Transition*. The conference will be held March 3 - 5, 1997, at Rice University. The Poster Session will be held in conjunction with a reception on the evening of March 3, 1997, between 5:30 p.m. and 7:30 p.m. Poster set-up will take place earlier on that day, from 2 p.m. and 5 p.m. You may include video or computer demonstrations in your poster presentation.

The themes for poster presentations include:

Sustainable Communities
Information Tools for Sustainable Development
Environmental Monitoring Systems
Environmental Management
Product Design for Sustainability
Full Cost Accounting
Technology for Sustainable Environments
Environmental Justice
Risk Assessment
Ozone
Global Climate Change
International Technology Transfer
Green Chemistry
Ecosystem Valuation and Protection
Green Energy
EPA's Common Sense Initiative
Brownfields
Industrial Ecology
Waste Reduction
Green Building
Drought Management/Drough Impacts
Global Issues - International Treaties and Negotiations
Air Quality and Emissions Program under NAFTA
Analytic Tools for Assessing Indicators of Sustainability
Information Technology
Environmental Technology
Technology for Monitoring Eco-Technology
Pollution Prevention

Approximately 50 posters will be selected for presentation at the Conference. Abstracts should be submitted using the following guidelines:

Instructions for Preparation of Poster Abstracts:

1. Abstracts are limited to 6 pages, single spaced.
2. Use 1-inch margins for left, right, top and bottom margins.
3. Use font size 12 (recommended font Times).
4. Use bold typeface for the title of the abstract, font size 14.
5. Skip a line between title of abstract and name of author(s). List the full name and affiliation of author(s) in italics. Use font size 12.
6. Do not indent paragraphs. Skip a line between paragraphs.
7. All Figures and Tables should be inserted within the text as they are referenced. Use Arabic numerals for Figures and Tables. Table labels are inserted above the Tables; Figure labels are inserted below the Figures. Labels are bolded and italic, font size 12.
8. Section headings are bolded and centered.
9. Bibliography format is shown in the attached example.
10. Please submit a separate short biographical sketch for each of the contributing authors.
11. Do not number the abstract pages.

Guidelines for Biography:

Please use the following guidelines listed below for writing a 1-2 paragraph biography. This information will be included with your poster abstract, if it is selected, in the Conference Proceedings. Please include the following information:

- **Your Name**
- **Education - Degrees**
- **Work Experience**
- **Current related work**
- **Committees, papers, awards, etc.**

Please send your 1-2 paragraph biography, along with one original and one copy of your poster abstract, to:

Judy M. Howell
De Lange ♦ Woodlands Conference
Rice University
EESI - MS 316
6100 Main
Houston, Texas 77005
Phone: (713) 737-5674
Fax: (713) 285-5948
email: jmhowell@rice.edu

If possible, please include an electronic copy on diskette. Please format your text in MS Word or WordPerfect, or as an "ascii" file.

1997 Purdue Industrial Waste Conference

May 5-7, 1997

The 52nd Annual Purdue Industrial Waste Conference will be held May 5-7, 1997. In addition to its traditional speaker presentation format, several innovations are being planned, including: 1) complete paper offerings *via* the World-Wide-Web, and 2) a special *'Web-Page Contest'* for student development of instructional and case-study project WWW home-pages!

All inquiries should be directed to: Dr. James E. Alleman, PIWC Chairman, School of Civil Engineering, Purdue University, West Lafayette, Indiana 47907-1284; Fax: 317-496-1988; Email: alleman@ce.ecn.purdue.edu.

42nd Annual Institute in Water Pollution Control

Manhattan College
Riverdale, NY
June 2-6, 1997

Manhattan College's forty-second annual Institute in Water Pollution Control will take place on June 2-6, 1997 in the Manhattan College Leo Engineering Building, Riverdale, New York. Two courses, which run concurrently, will be offered: *Modeling of Transport, Fate, and Bioaccumulation of Toxic Substances*, and *Treatment of Municipal, Hazardous and Toxic Wastewaters*. These week-long courses will provide important information and updates in the field of water pollution control and have much to offer young engineers and seasoned professionals who have not been able to stay abreast of the rapidly changing field. They are designed for practicing engineers and scientists in city, state and federal agencies, industrial concerns, research organizations, consulting engineering, and academic institutions. Set in a classroom atmosphere, the courses allow for dialog between lecturer and participants. The fee per course is $1,200 and includes a set of notes for each attendee.

For a brochure or additional information, contact:
Ms. Lucia Chiocchio, Program Coordinator
Manhattan College
Environmental Engineering Department
Riverdale, NY 10471
Phone: (718) 862-7277
Fax: (718) 862-8018

SARDINIA '97

Sixth International Landfill Symposium

S. Margherita di Pula (Cagliari)
Sardinia, Italy
October 13-17, 1997

The Biennial International Landfill Symposia in Sardinia were established in 1987 in order to render ideas and experiences in the rapidly developing field of waste landfilling readily available to professional communities worldwide. Since then, these Symposia have rapidly become the International Reference Forum where planners, operators, public officials and scientists present their relevant experiences and propose and discuss new concepts and technologies of landfilling.

The 1997 edition of the International Landfill Symposium will once again include oral presentations, poster sessions, a landfill products Forum for company presentations, a small commercial poster exhibition as well as specific workshops focused on the main controversial aspects of waste management and landfilling. Detailed information on the location of the Symposium Site, travel and accomodation rates will be available on the Internet at: http://www.unica.it./~cossur/index.html.

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Sustaining Member ☐

PLEASE ATTACH A BRIEF (1-3 page) CURRICULUM VITAE

Ordinarily, dues are payable to the Association on January 1. When you join AEEP, dues paid before October 1 will be credited to the current year. You will receive that year's *AEEP Directory* and back issues of the *Newsletter*. New member dues paid after October 1 will be credited to the following year. After joining, you will receive a copy of the *Newsletter* and a current *AEEP Directory* if extra copies are still available. Otherwise, you will receive a new *Directory* the following year.

RANK/STATUS:	ANNUAL DUES:
Regular Member (Professor)	$65.00
Regular Member (Associate Professor)	$50.00
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Student Member	$15.00
Sustaining Member	$250.00

Please return this form along with your dues, c.v., and Directory Data form to:

Jerry Schnoor
Department of Civil and Environmental Engineering
University of Iowa
202 Iowa Advanced Technology Lab
Iowa City, IA 52242

Enclosed are my AEEP dues in the amount of: US $_____

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Signature Date

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