



# Newsletter

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JANUARY, 1976

## PAUL KING NEW PRESIDENT OF AEEP

The opportunity given to me to serve as AEEP President for the coming year is one that I regard as a real honor and privilege but at the same time as a substantial responsibility. This feature is particularly evident in view of the progress which our organization has made in recent years in broadening its membership in increasing its service to the profession, and in providing an appropriate forum for discussion of the varied issues which confront environmental engineering education. It is my pledge to you that I will work diligently to assure the continuation of these trends, and I call on each of the members to become personally involved in AEEP activities. Please let me hear from you as to how you would like to contribute.



The past year has been an active one, and each of us owes a sincere word of thanks to our two retiring officers. Wes Pipes has worked diligently and effectively as AEEP President. He has not hesitated to speak out on the major issues before us and he deserves prime credit for the advances which we have noted. Marty Wanielista has done yeoman service as Secretary-Treasurer, spending untold hours organizing and effecting a first-rate system for handling the affairs of the Association. I am grateful that these two colleagues will continue to serve on the Board of Directors. I am also please to have the opportunity to work with George Hanna as Vice-President and Bruce Hanes as Secretary-Treasurer during the coming year. Each brings to their post a wealth of educational and administrative experience and a sincere desire to contribute to the continued progress of AEEP.

Although there are numerous areas suitable for discussion at this time, I would like to focus attention on three particular items of concern to AEEP membership. In each case we solicit your comments and input.

Our Board discussed at its December meeting the possibility of AEEP requesting that it be given the status of a sponsoring

member of the American Academy of Environmental Engineers (AAEE). Although there are numerous reasons why such an arrangement would be mutually beneficial, the question has arisen in the context of obtaining for AEEP some input into development of criteria for ECPD accreditation of both undergraduate and graduate environmental engineering programs. George Hanna, as chairman of our education committee, is particularly interested in this question and would welcome your comments.

We all are particularly disappointed that the 1975 Workshop did not receive sufficient registration and was cancelled. The workshop program in the past has been a highly beneficial activity and will be continued. The Board felt that attendance was handicapped by the lateness of the announcement and by the similarity between the proposed cruise and that held a few years ago. Accordingly plans are being formulated for a 1976 workshop. It will be held on dry land at an accessible, family-oriented location in December, 1976. Tom Keinath is spearheading this effort and expects to make an announcement this spring.

At the Miami meeting of AEEP, concern was expressed in the form of a motion by Dave Hendricks that AEEP concern itself to a greater degree with the erosion of sponsored research supported by the Federal government. It is clear that our efforts in the past have been primarily focused on training grant support levels, and while this effort has recognized the link between training and research, little has been done to point out the problems associated with decreased research funding. Bill Jewell is currently collecting enrollment data for the 1975-76 academic year, and AEEP plans to continue its activity with respect to manpower needs. In addition we would hope to be responsive to the suggestion that concern be effectively expressed regarding the presently deteriorating levels of support for basic research.

On behalf of the Board, I offer to each of you our best wishes for the coming year. We will look forward to seeing many of you at the Purdue Conference in May.

Paul H. King  
Virginia Tech

At the December 17 Board Meeting in Washington, D.C. the officers for the 1976 term were elected. Dr. Paul H. King, Virginia Polytechnic Institute and State University, replaces Wesley O. Pipes, Drexel University, as President of AEEP for 1976. Dr. George P. Hanna, University of Nebraska, was elected to the office of Vice-President, and replaces Paul King in that position. A new member of the board, Dr. N. Bruce Hanes, Tufts University, was elected as Secretary-Treasurer, and replaces Dr. Marty Wanielista of Florida Technical University.

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### INTERNATIONAL ASSOCIATION ON WATER POLLUTION RESEARCH

The 8th Conference of the International Association on Water Pollution Research will be held in Sydney, Australia, on October 17-22, 1976. A proposal for partial support of travel of active conference participants from the United States is pending with the Environmental Protection Agency, and arrangements for group travel are being made.

Papers for possible inclusion in the program were due in September, 1975, and the review of the papers by International panels of experts for each of the 27 sections of the program has been completed. A final program can be expected following a meeting of the IAWPR Program Committee in February, 1976.

AEEP supports IAWPR by virtue of its sponsorship (along with WPCF, ASCE, AIChE and ACS) of the U S A National Committee for Representation of the United States to the International Association on Water Pollution Research.

USANC is chaired by one of AEEP's delegates, Richard Dick of the University of Delaware. Information on individual membership in IAWPR is available from the chairman of USANC's Membership Committee, John Andrews at the University of Houston.

Richard I. Dick  
University of Delaware

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### WINNER OF "AEEP/ENGINEERING SCIENCE AWARD FOR BEST DOCTORIAL THESIS RELEVANT TO PRACTICE "

Dr. William Snodgrass and his advisor, Dr. Charles R. O'Melia of the University of North Carolina were announced the winners of the AEEP/Engineering Science Award for Best Doctoral Thesis Relevant to Practice presented at the AEEP general membership meeting at the Water Pollution Control Federation Conference in Miami last October. Dr. Snodgrass' thesis topic was "A Predictive Model for Phosphorus in Lakes". The Engineering Science Award provided \$500 for the primary research supervisor and \$500 for the Ph.D. candidate.

The competition for this year's award will be for those thesis completed between July 1, 1975 and June 30, 1976. The research will be judged on the following basis: Scientific & technical - 20%; originality - 20%; practical - 50%; and clarity - 10%. Three copies of the candidate thesis must be submitted by June 30, 1976. The address for submission will be printed in the March Newsletter.

The election of the new AEEP board members was completed in time for the December 17 Board Meeting in Washington, DC.

We wish to express our thanks to our departing board members and officers: E. Joe Middlebrooks, Joseph F. Malina, Jr., and Anthony F. Gaudy, Jr. These men gave a great deal of their time and themselves for the betterment of AEEP and the profession. At this time we also extend our congratulations to C.P. Leslie Grady, Jr., N. Bruce Hanes, and Gerald A. Rohlich for their election to the board. The background of each of the new board members will be reviewed briefly.

Dr. Grady, an Associate Professor of Environmental Engineering at Purdue University, is currently on Sabbatical leave to the Department of Chemistry at the University of Texas at Austin where he is an NSF Faculty Fellow and Visiting Scholar. His research interest is in wastewater treatment; specifically, kinetics of biochemical operations, process control, and process design. He has been actively involved in the development of the undergraduate Environmental Engineering program at Purdue. Activities which he is interested in seeing AEEP pursue are the compilation of homework problems and solutions for the various types of unit operations and the preparation of slides and other visual aids for design courses.

Dr. Hanes, a Professor and Chairman of the Civil Engineering Department of Tufts University, has been involved in a variety of consulting and committee assignments including the U.S. Public Health Service and the World Health Organization. He has served AEEP as a member of the Education Committee and has presented testimony on the behalf of AEEP before both the House and Senate Sub-Committees for HUD - Independent Agencies of their Committees on Appropriations in support of the EPA Professional Training Grant Program.

Dr. Rohlich is C.W. Cook Professor of Environmental Engineering and Professor of Public Affairs at the University of Texas at Austin. A specialist in wastewater treatment, eutrophication, and the pollution of lakes and streams he has been active in the area of water quality management. He was Chairman of the National Academy of Science- National Academy of Engineering and has served as consultant to the Academy, the U.S. Public Protection Agency World Health Organization, U.S. Public Health Service, and several state and local governmental agencies.

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### 1975-1976 DISTINGUISHED FOREIGN LECTURER

Prof. Poul Harremoes of the Department of Sanitary Engineering at the Technical University of Denmark has been selected as the 1975-1976 AEEP Distinguished Foreign Lecturer. Prof. Harremoes holds degrees from the Technical University of Denmark and the Massachusetts Institute of Technology. In addition, he spend one year as a visiting fellow at the University of California at Berkeley. His career has included positions with the Danish Geotechnical Institute, Hojgaard and Schutlz A/S, the Technical Academy of Denmark, and the Danish Isotope Center. He jointed the Sanitary Engineering faculty of the Technical University of Denmark in 1969, attaining the rank of full professor in 1973. His research activities have included the use of radioactive isotopes in pollution measurements, diffusion and dispersion in outfalls, bacterial disappearance in sea water, water quality management, kinetics of denitrification, kinetics of biofilms, and modeling of river quality.

Prof. Harremoes will visit the United States during April 1976 and will present one of the following three lectures at each university he visits. The choice of topic may be made by each university.

Lecture No. 1 — Biofilm and Filter Kinetics

This lecture will develop the concept that diffusion into biofilms is of great significance to the overall reaction rate. Both theoretical and experimental evidence will be presented to show that the kinetic behavior of biofilms is one-half order due to the diffusional characteristics of the film. An extension of the concept will be made to demonstrate the importance of diffusion into bio-floc in slurry reactors such as activated sludge.

Lecture No. 2 — Nitrogen Removal by Biological Denitrification

This lecture will first review the process of denitrification and then concentrate on combined sludge systems. Three different approaches will be investigated: (1) the aerobic-anaerobic sequence; (2) the anaerobic-aerobic-anaerobic sequence; and (3) the alternating aerobic-anaerobic process. A detailed analysis of the kinetics and design of the three alternatives will be presented and compared with fixed-film denitrification systems.

Lecture No. 3 — Oxygen and pH Fluctuations in Rivers

The basic theory of oxygen and pH fluctuations in rivers will be presented and developed into a mathematical model. The results of the model will then be compared with measurements collected on one river stretch over a period of one year. Finally it will be shown how this model was used to develop a computer program for simulation of pollution in river systems which is currently being used for evaluation of location and design of wastewater treatment plants.

If you desire to have Prof. Harremoes visit your university during his tour, contact Les Grady, Dept. of Chemical Engineering, The University of Texas at Austin, Austin, TX 78712. Please indicate the desired lecture topic and the day of the week that would be most convenient. If your school will be on vacation during April, please indicate the dates. Prof. Harremoes will not be available during the week of April 11, but he will be here the rest of the month. Approximately 7 to 9 schools will be included in this year's tour. The selection of the itinerary will be made by the Foreign Lecturer Committee, who will try to obtain a geographically balanced itinerary. If two schools are in the same area, it is suggested that they combine their lecture, thus allowing more programs to participate. PLEASE LET YOUR DESIRES BE KNOWN BY FEBRUARY 1 so that the itinerary can be set by mid-February. The cost per visit will be approximately \$400. The final cost will depend upon the number of schools participating.

Leslie Grady, Jr.

University of Texas - Austin



George J Schroepfer Receives Highest Honor From Civil Engineering

Denver, Colo., Nov. 5—George J. Schroepfer, of Minneapolis, Minn., today received honorary Membership in the American Society of Civil Engineers. He accepted the Society's highest honor at the Annual Convention here.

Mr. Schroepfer was cited for his distinguished career as the professional engineer, educator, and researcher; for his outstanding service as a consultant on environmental problems throughout the world; and for his papers and reports that have mirrored the developments in sanitary engineering.



Mr. Schroepfer received his B.S and MS. degrees from the University of Minnesota in 1928 and 1930, and in 1932 his Professional Civil Engineering degree from that same university.

He was Professor of Sanitary Engineering at the University of Minnesota from 1945 to 1972.

He was successively a junior engineer, principal assistant engineer, assistant chief engineer, and chief engineer on the design, construction and operation of the Minneapolis - St. Paul Sewage Collection and Treatment Project, 1928 to 1945. He is the author of over 50 publications and over 80 professional reports. He has received numerous awards and honors, among them the Rudolph Hering Medal of the Society in 1945. He was the President of the Minnesota Section, ASCE

At present, he is consultant to Toltz, King, Duvall, Anderson and Associates in St. Paul, Minn. He is a registered professional civil engineer in Minnesota, Iowa and Wisconsin.

Staff Changes at University of Toronto

The following environmental engineering staff have recently joined the Department of Civil Engineering, University of Toronto. The positions became open through retirements and resignations.

Dr. Barry J. Adams, P. Eng. (Quebec), Assistant Professor, Water Resources Engineering, previously at McGill University

Dr. Philip H. Byer, Assistant Professor, Systems Engineering (Transportation and Environmental Engineering), previously at Massachusetts Institute of Technology

Takashi Asano Joins Washington State University

Dr. Takahi Asano joined the faculty of Washington State University, Pullman, Washington, on August 1, 1975, as Associate Professor, Department of Civil and Environmental Engineering. He has been associated with Montana State University for the last three years.

AEEP MEMBERSHIP MAILING LABELS

The membership lists and mailing labels are being maintained by Dr. Thomas M. Keinath, 501 Rhodes, Clemson University, Clemson, South Carolina 29631, (803) 656-3276. Direct all questions, corrections, and updating to Dr. Keinath.

The Board of Directors in its meeting at the Water Pollution Control Federation Conference established a new policy concerning the membership mailing label. An AEEP member may receive one free set for personal use, and additional sets may be obtained at a cost of \$1.50 per set. Non-members will be assessed a fixed fee of \$100 plus the cost of \$1.50.



**P.H. McGauhey, Professor Emeritus of Sanitary Engineering and Public Health and Director Emeritus of The Sanitary Engineering Research Laboratory of the University of California, Berkeley, passed away October 8, 1975 after a long illness. He is survived by his wife Margo, sister Mrs. Dorothy Carson, and brother David.**

Professor McGauhey was a man of many talents - scientist, engineer, educator, humorist, poet, and humanitarian. He found outlets for them in memberships to technical and professional societies and associations concerned with every facet of his profession. He brought to these endeavors a love of people, an unequalled command of the language, and a keen understanding of human nature. These qualities, plus his rare ability to present complex and sometimes prosaic subjects in a way that was clearly understood and thoroughly enjoyed by his audience, combined to place him in constant demand as a speaker and consultant. As an educator, Professor McGauhey had an extraordinary gift for teaching and a special rapport with his students, spending enormous amounts of time counseling and working with them. As a dedicated teacher he was vitally interested in the education and growth of the whole person - an interest he demonstrated not only in contacts with students and professional associates, but also in his non-technical writings and in such recreational pursuits as photography.

From humble beginnings on a homestead in eastern Oregon he battled adversity in health to rise to an eminent position in his profession, respected and admired both nationally and internationally as an extraordinarily competent research engineer, an outstanding authority in his fields of endeavor, especially that of water quality problems, and an able administrator. His research, professional and teach efforts, and publications have been honored repeatedly. He was the recipient of the Fuller Award of the Virginia Section of the American Water Works Association (1950), the Harrison-Prescott-Eddy Medal of the Water Pollution Control Federation for the best published research paper of the year (1960), the National Clay Pipe Institute's Distinguished Service Award (1964), the Gordon-Maskew-Fair Medal of the Water Pollution Control Federation for excellence in teaching and professional accomplishments in the training and development of engineers (1969), an honorary Doctor of Science degree from the University of Utah (1971), and recently was the first American to receive Honorary Membership in the Institute of Solid Wastes of

the American Public Works Association. He was made Honorary Life Member of the American Society of Civil Engineers in 1971 for "acknowledged eminence in engineering."

Educated in Civil Engineering in hydraulic and sanitary engineering specialties at Oregon State University, Virginia Polytechnic Institute, and the University of Wisconsin, he went to Berkeley, California, in 1951 where he became actively involved in the work of the Sanitary Engineering Research Laboratory - a newly formed research arm of the University devoted to the study of environmental engineering problems. In 1956 he was appointed Director of that Laboratory which had expanded to include the water and air environments as well as the land, and through the years has produced under his guidance much of the original research on such environmental problems as wastewater reclamations, resource recycling, pollution travel in soil systems, algal systems for resource recovery and eutrophication control, detergents, and phosphates in the environment, air pollutants, composting of organic refuse, and pollution of surface waters. After retiring from the directorship of the Laboratory in 1969 he continued his research and professional activities, and in addition found time to write about the many other things that had always interested him. Although he had published more than one hundred technical papers and reports and numerous other articles on environmental subjects, his talents extended far beyond these professional and academic horizons. Besides being author of a text entitled "Engineering Management of Water Quality" published by McGraw-Hill, he also published literary works such as his illustrated collection of poetry, "Rimrock Ranch and Other Verse."

Professor McGauhey was Chairman of the Board of Consultants of the Lake Tahoe Area Council - a board that managed the eutrophication research on the Lake Tahoe Basin. He served as a consultant to the Ford Foundation, to AID in Israel and India, and to the Water Resources Institute at Utah State University on topics of education in sanitary engineering. He was a consultant to the U.S. Public Health Service, California State Water Quality Control Board, and to industrial firms dealing with water quality problems. He was the principal consultant to Walt Disney Enterprises on wastewater management, to the District of Columbia on wastewater treatment, and to the National Academy of Science on the development of solid wastes planning polity.

Professor McGauhey was continuously active in professional associations. In the American Society of Civil Engineers he was President of the Sanitary Engineering Division of the San Francisco Section; he was a member of the National Committee on Refuse Collection and Disposal of the American Society of Civil Engineers' national research committee; a member of the Board of Control of the Water Pollution Control Federation and member of the research committee; President of the California Water Pollution Control Association; a diplomat of the American Academy of Sanitary Engineering; and many others.

From his own pen we find a most fitting epitaph,

**"He did not lose his zest for life  
Nor judge the race not worth the run  
But he would have judged his duty shirked  
If he failed to do - what must be done."**

The work and life of Mack McGauhey are being provided a living memorial in the form of a graduate fellowship - the McGauhey Memorial Fellowship. Please make out checks to the Regents of the University of California, marked for the McGauhey Memorial Fund. Mail to Professor David Jenkins, SERL, Richmond Field Station, 1301 South 46th St. Richmond, California 94804.

David Jenkins

University of California-Berkeley

Dr. Stanley L. Klemetson, Assistant Professor of Civil Engineering and **Director** of The Environmental Engineering Program at North Dakota State University will serve as the editor of the AEEP Newsletter for 1976-77. Dr. Klemetson assumes this position from Dr. Adnan Shindala, Professor of Sanitary Engineering at Mississippi State University.

As the new editor, looking forward to the next two years, I want to acknowledge the fine job done by Dr. Shindala as the past editor. He has established a high standard for the AEEP Newsletter that I will try to maintain.

### NEW AEEP NEWSLETTER PUBLICATION SCHEDULE

A publication schedule for the AEEP Newsletter has been approved by the Board of Directors. Direct all correspondence to the Editor one month before the mailing date.

ISSUE	COPY DATE	MAILING DATE
January	December 10	January 10
April	March 1	April 1
June	May 10	June 10
September	August 1	September 1

### AEEP NEWSLETTER SUBSCRIPTION RATE

The Board of Directors in its meeting at the Water Pollution Control Federation Conference approved a new policy for Newsletter subscriptions for non-AEEP members. The rate is set at \$5 per year for 4 issues. All communications concerning subscription rates should be with the Editor of the Newsletter.

### REQUEST FOR ARTICLES

A letter has been received from Water and Sewage Works Magazine requesting articles from AEEP members. Part of the text of their letter is printed below.

Water and Sewage Works keeps its readers informed of developments in the water and sewage industries. To do this we rely on top professionals involved in projects employing the latest methods, materials and equipment.

We would be happy to publish articles prepared by your members on interesting projects of which you are aware. We are interested in water supply, treatment, and distribution and sewage collection, treatment and disposal.

The articles should describe in detail planning, design and operational features that would be of value to the industry. Will you please let us know in the near future if you could prepare an article of this type for publication in our magazine or send us the names of your members who may be willing to contribute articles?

Send articles to John Geesaman, Associate Editor, Water and Sewage Works, 434 South Wabash Avenue, Chicago, Illinois 60605, or telephone (312) 922-4950.

Joseph F. Malina  
University of Texas-Austin

Advertisements for academic positions will be published at no cost as a service to the profession. Please prepare your announcement in a form consistent with past newsletters.

Advertisements for books and non-academic vacant positions will also be published in the Newsletter for a fee. The price for book advertisements is set at \$75 for a full page, \$50 for a half page and \$35 for a quarter page (minimum). This fee applies to copy-ready ads. An additional charge will be made for typesetting or art work.

Advertisements for non-academic positions available is set at a rate of \$10 per column-inch. Announcements of Short Courses will be published in the Newsletter at \$10 per column-inch (minimum). All communications must be directed to the editor and must be received a minimum of one month prior to publication.

### REVIEWS OF NEW BOOKS BY AEEP MEMBERS

Do you have a recent book that you would like reviewed, or would you like to perform a critical review of a new book? The Newsletter will print critical reviews of new books under the reviewer's name as the space permits. Please send copies of your new book to the Editor along with the names of some suggested reviewers, or submit the completed reviews. If you desire to be a reviewer, please write to the Editor of the Newsletter, and indicate which areas you would be willing to review.

Reviews may be modified by the Editor to meet space limitations. Please submit reviews in a form suitable for direct typing of copy for Newsletter.

### RECENT PUBLICATIONS BY AEEP MEMBERS

The publication of new text books and reference manuals by AEEP members is important to the continued development of the Environmental Engineering profession. As a service to AEEP members, the title of the book, its authors, the publisher, and the date available will be printed in this Newsletter once at no charge. The announcements must be sent to the Editor at least one month prior to publication of the Newsletter. Paid advertisements will also be accepted from either the author or publisher at the rates listed elsewhere in this issue.

Some recent publications:

Energy, Agriculture and Waste Management - William J. Jewell (Ann Arbor Science, October, 1975)

Land Treatment and Disposal of Municipal and Industrial Wastewater - Robert L. Sanks and Takashi Asano (Ann Arbor Science, December, 1975)

Mathematical Modeling of Water Pollution Control Processes - Thomas M. Keinath and Martin Wanielista (Ann Arbor Science, September, 1975)

Comprehensive Management of Phosphorus Water Pollution - Donald B. Porcella and A. Bruce Bishop (Ann Arbor Science, October, 1975)

Wastewater Treatment Technology - James W. Patterson (Ann Arbor Science, October, 1975)

## WELCOME TO NEW AEEP MEMBERS AND AFFILIATE MEMBERS

Shankha K. Banerji  
Department of Civil Engineering  
University of Missouri  
Columbia, Missouri 65201

Larry Benefield  
Civil Engineering Department  
Mississippi State University  
Starkville, Mississippi 39762

Paul M. Berthoux  
3216 Engineering H.W.  
Madison, Wisconsin 53706

Marvin Bond  
Department of Civil Engineering  
Mississippi State University  
Starkville, Mississippi 39759

Robert D. Cameron  
Department of Civil Engineering  
University of British Columbia  
Vancouver, British Columbia V6T 1W5

Richard R. Dague  
College of Engineering  
University of Iowa  
Iowa City, Iowa 52242

Machenzie L. Davis  
Michigan State University  
East Lansing, Michigan 48824

Wayne Thomas Davis  
Civil Engineering Department  
University of Tennessee  
Knoxville, Tennessee 39716

Foppe B. Dewalle  
4142 Civil Engineering Building  
University of Illinois  
Urbana, Illinois 61801

Joseph A. Fitzpatrick  
Department of Civil Engineering  
The Technological Institute  
Northwestern University  
Evanston, Illinois 60201

David Hansen  
Department of Civil Engineering  
Rensselaer Polytechnic Institute  
Troy, New York 12181

Ju-Chang Huang  
Department of Civil Engineering  
University of Missouri-Rolla  
Rolla, Missouri 65401

J. Charles Jennett  
Civil Engineering Department  
Syracuse University  
Syracuse, New York 13210

Linda W. Little  
Department of Environmental Science  
and Engineering  
School of Public Health - UNC  
Chapel Hill, North Carolina 27514

David A. Long  
Civil Engineering Department  
212 Sackett  
UNiversity Park, Pennsylvania 16802

Perry L. McCarty  
Civil Engineering Department  
Stanford University  
Stanford, California 94305

Mary F. McGhee  
University of Kansas  
Civil Engineering Department  
Lawrence, Kansas 66045

Dwayne A. Rollag  
Civil Engineering Department  
South Dakota State University  
Brookings, South Dakota 57006

John A. Roth  
Box 1574 Station B  
Vanderbilt University  
Nashville, Tennessee 37235

F. Michael Saunders  
Daniel Laboratory  
Georgia Institute of Technology  
Atlanta, Georgia 30332

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### AFFILIATE MEMBERS

Mary J. Carroll  
Environmental Quality Center  
USA Test & Evaluation  
Aberdeen Proving Grounds,  
New Mexico 21005

J. Glynn Henry  
Department of Civil Engineering  
University of Toronto  
Toronto, Ontario, Canada M5S 1A4

Brent N. Petrie  
Room 72 Science Hall  
University of Wisconsin  
Madison, Wisconsin 53706

Robert G. Snider  
Visiting Scholar  
4819 N Via Entrada  
Tucson, Arizona 85718

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### TWO ELECTED EMERITUS MEMBERS

The AEEP Board of Directors elected two AEEP members to emeritus status at the board meeting at the Water Pollution Control Federation Conference in Miami last October. The men honored are Harold B. Gotaas of The Technological Institute at North Western University, and H.K. Williford of Mississippi State University.

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### ACADEMIC MARKETPLACE

#### POSITIONS AVAILABLE

##### University of Houston

The Department of Civil Engineering, University of Houston announces two new positions at the Assistant or Associate

Professor level effective September 1, 1976. One position is in the Ocean Engineering Hydraulics area: wave tank experience, hydrodynamic effects, hydraulics, groundwater flow and pipe network experience desirable. Ph.D. degree required. The other position is in Environmental Engineering: research and teaching in Environmental Engineering chemistry and microbiology with emphasis on analytical techniques control of water and wastewater treatment. Ph.D. degree required. Applicants should mail resume to: Dr. George Pincus, Department of Civil Engineering, University of Houston, Houston, Texas 77004. An equal opportunity employer.

##### University of Michigan

The Egyptian Academy of Scientific Research and Technology, in collaboration with The University of Michigan, is conducting a five-year research project to study the effects of the Aswan High Dam on The River Nile and its human implications. The project is entitled "Water Quality Studies on the River Nile and Lake Nasser" and is sponsored by The United States Environmental Protection Agency and The Ford Foundation for

the period of January 1, 1975 to December 31, 1979.

Opportunities exist for positions as short term or long term consultants, and for professors who may wish to work in Egypt for a sabbatical year. For further information contact: Dr. Khalil H. Mancy, Professor of Environmental Chemistry, Department of Environmental and Industrial Health, School of Public Health, University of Michigan, Ann Arbor, Michigan 48104, Telephone (313) 763-4296.

**University of New Hampshire**

Assistant Professor of CIVIL ENGINEERING position will be open at the University of New Hampshire beginning Fall, 1976. Candidates should have a Ph.D. in Civil Engineering and should have a demonstrated ability and interest in teaching and research. Responsibilities include fluid mechanics, water resources, and costal engineering. Application deadline is March 1, 1976. Send resume to: Dr. Robert Vreeland, Chairman, Department of Civil Engineering, Kingsbury Hall, University of New Hampshire, Durham, N.H. 03824. The University is an Affirmative Action and Equal Opportunity Employer.

**Washington State University**

Two Assistant Professor positions are open in the generalized Environmental Health program at Washington State University. The first position is to begin no later than September, 1976. A Ph.D. is required, and post-doctoral experience is preferred. Applicants must have training and experience in environmental health and in an applied area of microbiology. The position shares teaching responsibilities. In addition, the individual is expected to develop a productive research program. Temporary appointment, grant funded for 1 yr., with support anticipated for 3 years.

The second faculty position in Environmental Health will be available February 1, 1976 or September 15, 1976. Responsibilities include coordination of undergraduate program, teaching, and research. A Master's degree in environmental health required, and a doctorate preferred. Three to 5 years field experience required. Position authorized at senior assistant professor level.

For both positions send resume, transcripts and 4 letters of recommendation to: L.P. Mallavia, Chairman, Search Committee, Department of Bacteriology and Public Health, Washington State University, Pullman, WA 99163. WSU is an affirmative action/equal opportunity employer. Application review begin January 1.

**University of Utah**

Faculty position available in the Urban and Environmental Systems area in the Civil Engineering Department. The Level and salary are open. A Ph.D. degree is necessary, and experience desired. Program focus - energy developments, urban systems (water, wastewater, solid wastes and other public works). For further information contact: David W. Echhoff, Chairman, Civil Engineering Department, University of Utah, Salt Lake City, Utah 84112. Telephone: (801) 581-6931.

**POSITIONS WANTED**

Post-Doctoral position in the United States is desired. Fifteen years of experience in Civil-Environmental Engineering in industry, teaching, and research. Currently also serving as Professor-In-Charge of Environmental Engineering Laboratory. Extensive research in filtration and filtering materials. Ph.D. in Environmental Engineering. For further information please contact: Dr. N. Sriramulu, Department of Civil Engineering, N.S. Engineering College, Hyderabad-500 028, Andhra Pradesh, INDIA.

The publications listed below are available from AEEP. Prepayment must accompany all orders; therefore, please forward a check or money order made payable to AEEP to: Ms. Susan Heussner, AEEP 8.612 Cockrell Hall The University of Texas Austin, Texas 78712

NOTE: The Order Form below must be completed and returned with your order. If you are a bookstore, please include a Certificate of Resale with your order. If you are a governmental agency or a library, please include an Exemption Certificate with your order.

Environmental Engineering Unit Operations and Unit Processes Manual .....	\$12.00
Water Chemistry Laboratory Manual .....	\$ 3.00
Register of Environmental Engineering Graduate Programs* .....	\$ 3.00
Environmental Impact and Linkages, Workshop .....	\$20.00
Mathematical Modeling in Environmental Engineering, Workshop .....	\$21.00
Interdisciplinary Education Programmes for Environmental Engineers, Workshop .....	\$10.00
Fundamentals of Chromatography, Workshop (limited supply) .....	\$10.00
Trends and Professional Manpower Production Capabilities in USA Educational Institutions (limited supply).....	\$ 3.00

\*Due to the high cost of printing the Register, we are requesting \$3.00 to cover the expenses incurred in the publication of this material.

**ORDER FORM**

I would like to receive \_\_\_\_\_ copy(ies) of the publication(s) listed below. Enclosed is a check in the amount of \$ \_\_\_\_\_  
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EDITOR

Stanley L. Klemetson  
Department of Civil Engineering  
North Dakota State University  
Fargo, North Dakota 58102  
701/ 237-7440

OFFICERS

PRESIDENT

Paul H. King  
Department of Civil Engineering  
Virginia Polytechnic Inst. &  
State University  
Blacksburg, Virginia: 24060

VICE-PRESIDENT

George P. Hanna  
W-181 Nebraska Hall  
University of Nebraska  
Lincoln, Nebraska 68508  
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