

AEEP



Newsletter

Published Quarterly by the Association of Environmental Engineering Professors.

VOLUME 12, NO. 1

JANUARY 1977

MARK YOUR CALENDAR
AEEP UPCOMING EVENTS

**AEEP WORKSHOP
ON
APPLIED STATISTICS IN
ENVIRONMENTAL ENGINEERING
TO BE HELD IN CONJUNCTION WITH
PURDUE INDUSTRIAL WASTE CONFERENCE
MONDAY MAY 9, 1977
WEST LAFAYETTE, INDIANA**

The Association of Environmental Engineering Professors is sponsoring a one-day workshop on "Applied Statistics in Environmental Engineering." The workshop will be held at Purdue University May 9, 1977, the Monday immediately preceding the Purdue Industrial Waste Conference.

DR. GEORGE BOX (the University of Wisconsin), DR. STUART HUNTER (Princeton University), and DR. PARK REILLY (the University of Waterloo) will conduct the workshop. In addition to being excellent lecturers, each of these speakers is expert in the field of Applied Statistics and each has done significant work on Environmental Engineering problems.

The program will include both linear and non-linear experimental design and model building. The format will be tutorial in nature, utilizing case studies from the Environmental Engineering area to develop and illustrate concepts. Material will be presented such that an extensive background in statistics will not be required.

Efficient data analysis and experimental design can result in significant savings of experimental effort. This workshop should be of major benefit to professors and students of Environmental Engineering.

Registration will be free to AEEP members and graduate students in their programs. Non-members will be charged a fee of fifteen dollars (\$15).

More detailed information on program content and registration procedures will be mailed to AEEP members in March 1977.

For further information please contact:

T.E. Pollock, Conference Chairman
Environmental systems Engineering
401 Rhodes Center
Clemson University
Clemson, SC 29631

O = 803/656-3276

H = 803/654-1990

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

Dr. Michael K. Stenstrom and his advisor, Dr. John F. Andrews, currently at the University of Houston, were announced the winners of the AEEP/Engineering Science Award for the Best Doctorial Thesis Relevant to Practice presented at the AEEP general membership meeting at the Water Pollution Control Federation Conference in Minneapolis last October. The thesis investigation was conducted at Clemson University and the topic was "A Dynamic Model and Computer Compatible Control Strategies for Wastewater Treatment Plants." 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, 1976 and June 30, 1977. The research will be judged on the following basis: Scientific & Technical - 20%; originality - 20%; practical - 50%; and clarity - 10%. Three copies of the candidate's thesis must be submitted by June 30, 1977, to Dr. Charles R. O'Melia, Department of Environmental Engineering, University of North Carolina, Chapel Hill, NC 27514. (919) 966-1052.

GEORGE HANNA NEW PRESIDENT OF AEEP

I am highly honored and privileged to serve as AEEP President for the coming year. I also am aware of the responsibility you have conferred upon me to guide the activities of the organization, and I pledge to diligently promote the aims and goals of AEEP.



A word of appreciation is due here to our past officers and Board members who have most effectively labored in broadening the AEEP membership, providing forums for issues of concern to environmental engineering education, representing the membership on legislative matters, and in providing other services to the profession. A special recognition is due our outgoing officers and Board members. Wes Pipes is leaving the Board after six years of diligent and effective service. Paul King has retired from the Board following his last year's service as President, and Marty Wanielista has stepped down after a three-year board term during which he served two years as secretary-treasurer. The dedication and contributions of these men to the organization has been most significant. They have all spoken out on major issues concerning the profession and have most effectively represented AEEP--particularly with the Congress and with the federal agencies.

I feel most fortunate to have the opportunity to work with our new Vice-President, Bruce Hanes, and our new Secretary-Treasurer, Les Grady. Each brings to his new position a store of experience and a dedicated interest in furthering the advancements of AEEP.

As it has in the past, the success of the organization will depend not only upon the leadership but, even more importantly, upon the participation of the membership. Many of you will be called by me or by other board members to serve on the various standing and special committees. Your assistance is needed and will be most appreciated. I am also extending an open invitation to you may have to make our organization a more effective one for all.

We have just been advised that the American Academy of Environmental Engineers has approved the request of AEEP to become the tenth sponsoring member of the Academy. We will now have a representative to the Academy Trusteeship, which will provide a means of input into the broader based organization, which currently has a

greater membership from practice than from academia. The Academy is now considering participation in the Engineers' Council for Professional Development. If this matures, it will provide a means of furnishing input into accreditation of environmental engineering programs. We will work closely with the Academy to achieve these ends.

During the current year we will continue our efforts to gain support for the environmental engineering educational programs through traineeships and fellowships. The efforts initiated last year to encourage increased funding of research in environmental engineering will be expanded. We will continue to develop and consolidate contacts with the research funding agencies and will work toward the recognition of AEEP by the agencies as a resource capable of giving counsel on research matters. The microbiological manual being prepared under the direction of David Jenkins, Robert Cooper, and Lily Young is expected to be completed and available for distribution before the year is out. The visiting scholarship program, so successful over the past several years, will be continued. It is hoped that even a larger number of our membership will have the opportunity to interact with this year's distinguished visitor. Also this year AEEP is sponsoring a workshop on Applied Statistics in Environmental Engineering, to be held in conjunction with the Purdue Industrial Waste Conference. We hope to see all of you there.

Please accept, on behalf of the Board, our best wishes for the coming year.

George P. Hanna, Jr.
University of Nebraska

SI METRIC BOOKLETS AVAILABLE

The Universities Council on Water Resources announces the availability of System International d'Unites--Metric Measurement in Water Resources Engineering, authored by Peter C. Klingeman, Oregon State University, in consultation with members of the UCOWR standing committee on Engineering and Physical Sciences. The booklet has been prepared as a service to the members of UCOWR and to others engaged in water resources research and educational activities. Permission is freely given for its reproduction.

Single copies of the booklet are available free of charge. Multiple copies are 50 cents with a minimum order of \$10.00 (20 copies). Checks should be made payable to the University of Nebraska.

The booklet may be obtained by writing the Executive Secretary's Office; Universities Council on Water Resources; 310 Agricultural Hall; University of Nebraska; Lincoln, Nebraska 68583.

Dr. C.F. Forster, Waste Treatment Scientist from the Wessex Water Authority in Bristol, England, has been selected as the 1976-1977 AEEP Distinguished Foreign Lecturer. Dr. Forster holds degrees from Hull University (B.Sc., Chemistry) and University College, London (Ph.D., Chemical Engineering). His research activities have included the chemistry, physics and biology of activated sludge, ozonolysis and submerged filtration for high rate denitrification. In addition, he has a strong interest in recycling technology. He has authored over 25 publications.

Dr. Forster will visit the United States from Saturday, March 19 to Wednesday, April 6. He has prepared three lectures (one is tentative) and you may choose any one for presentation at your university. The titles are as follows:

- (1) "Sludge Surfaces, Bio-flocculation and Sludge Settling"
- (2) "Disposal by Reclamation - Fact or Fantasy"
- (3) "Operational Experiences with the Use of Pure Oxygen in Sewage Treatment" (tentative)

Those wishing to hear lecture #3 should specify a second choice.

In order to arrange an itinerary, it is necessary that I receive your response by January 20. Each sponsoring institution will present the lecturer with a check upon his arrival. The check will cover expenses and a small honorarium estimated at \$400-450 per visit. A better estimate of the cost will be forthcoming after the itinerary is fixed.

The total number of visits during his trip will be between seven and nine. It is suggested that, wherever possible, two or more groups combine their lecture, since there are always more interested institutions than the lecturer can visit. Every effort will be made to accommodate all interested schools, but we would like the visits distributed throughout the United States.

The committee is very pleased that Dr. Forster has accepted our invitation. I hope that many of us can participate in this unique activity of AEEP.

I look forward to hearing from you at your earliest convenience.

W.G. Characklis, Chairman
Distinguished Foreign Lecturer Committee

Rice University
Houston, Tx 77001
(713) 527-4092

All of us are aware that research efforts on water and wastewater treatment have lagged far behind efforts devoted to treatment plant construction. One of the major reasons for this discrepancy has been inadequate financial support for fundamental research in the Environmental Engineering area.

The help of all AEEP members will be needed to correct this situation and you are therefore urged to both attend and actively participate in a Conference on "Fundamental Research Needs for Water and Wastewater Treatment Systems." A proposal has been submitted for joint sponsorship of the conference by AEEP and the National Science Foundation and will be held on June 21, 1977, in Washington, D.C.

The primary objectives of the Conference will be to (1) provide a forum and focal point for the exchange of information on research needs between the academic community, users of the research, and granting agencies, (2) define and establish priorities for these research needs, and (3) disseminate the results of the Conference for the purpose of stimulating research in high priority areas. The major benefit expected from the Conference will be to bring to the attention of the government, academic and private sectors, the need for increased efforts in long term, fundamental research on water and wastewater treatment.

Among those who have tentatively accepted invitations to present papers at the Conference are Gerrie Rolich, Bob Baumann, Charlie O'Melia, Dick Engelbrecht, Perry McCarty, Walt Weber, Don O'Conner and Richard Dick. Conference Co-Chairmen are John Andrews and Tom Keinath. Bruce Hanes will serve as Secretary-Treasurer and Joe Sherrard will edit the Proceedings. Ample time will be allowed for discussion from the floor and participants will be urged to submit their comments in writing for inclusion in the Proceedings.

The formal announcement of the Conference, including registration materials, will be mailed to all AEEP members in early March. However, be sure and reserve the date of June 21 (as well as travel funds!) on your calendar for attendance at this important Conference.

NEW AEEP OFFICERS ELECTED

At the December 16, 1976 Board Meeting in Washington, D.C., the officers for the 1977 term were elected. Dr. George P. Hanna, University of Nebraska, replaces Dr. Paul H. King, Virginia Polytechnic Institute and State University, as President of AEEP for 1977. Dr. N. Bruce Hanes, Tufts University, was elected to the office of Vice-President, and replaces Dr. Hanna in that position. Dr. C.P. Leslie Grady, Jr., Purdue University, was elected as Secretary-Treasurer, and replaces Dr. Hanes.

29 November, 1976

Dear Friends:

At the end of December I am retiring from Federal Service after some 34 years of military and civil service. I can say unequivocally that I have enjoyed my work, and the people I have worked for and with during these years. The last ten years with Water Pollution Control activities have been particularly gratifying. In being the Project Officer for the Professional Training Grants and Research Fellowships I became acquainted with many of the experts in academia and in the field, and many of the new blood, who will be coming to the fore at time passes. Many of you have become close personal friends with me and my family. To each and all, I thank you for your assistance, cooperation, hospitality, and friendship.

Sincerely



Robert F. Ruhl

EDITOR'S NOTE:

I am sure that I can speak for the members of AEEP when I express our appreciation for your support of graduate professional manpower training and your friendship to the profession. Good luck in your new activities.

International Conference on Advanced Treatment and Reclamation of Wastewater, Johannesburg, South Africa (with pre-conference technical visits in Israel), June 13-17, 1977.

Specialized Conference on River Basin Management, Essen, F.R.G., September 12-16, 1977.

Representatives to, and officers in, IAWPR and associated national committees serve two-year terms corresponding to the IAWPR Biennial Conferences. AEEP delegates to the U.S.A. National Committee during the next two years will be John F. Andrews (University of Houston) and Richard I. Dick (University of Delaware). Fred G. Pohland (Georgia Tech) and Earnest F. Gloyna (University of Texas) are Alternative Delegates. Officers in the U.S.A. National Committee (and, United States' representatives on the IAWPR Governing Board) are Richard I. Dick (AEEP), Chairman; David G. Stephan (AICHE), Vice-Chairman; and Richard S. Englebrecht (WPCF), Secretary Treasurer. New IAWPR Officers are Bertil Hawerman (Sweden), President; Ernst Kuntze (FRG), Vice-President; and Charles Fisher (Canada), Vice-President.

Richard I. Dick

NEW AEEP BOARD MEMBERS ELECTED

The election of the new AEEP board members was completed in time for the December 16, 1976 board Meeting in Washington, D.C.

We wish to express our thanks to our departing board members and officers: Wesley O. Pipes, Paul H. King, and Marty Wanielista. 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 Richard R. Dague, John T. Novak, and Charles R. O'Melia for their election to the board. The background of each of the new board members will be reviewed briefly.

Dr. Dague, a Professor and Chairman of the Environmental Engineering Program at the University of Iowa, has served as a consultant to cities, industries, state and federal agencies, and consulting engineers. His principal research interests are in water quality and solid wastes management, especially the areas of water and wastewater treatment, residuals solids management, livestock waste management, and resource recovery. Dick is active in a variety of technical and professional societies. He has served as President of the Iowa Water Pollution Control Association and is a member of the Board of Control of the Water Pollution Control Federation. He is a member of the Water Re-Use Committee of the Water

INTERNATIONAL ASSOCIATION ON WATER POLLUTION RESEARCH

The Ninth Biennial Conference of the International Association on Water Pollution Research (the sequel to the Conference held in Sydney in October, 1976) will be held in Stockholm on June 12-16, 1978. Those interested in attending might consider also attending the 4th European Sewage and Refuse Symposium in Munich in June 5-9, 1978 and the 5th International Sewage and Refuse Engineering Exhibition in Munich on June 5-10, 1978. A call for papers for the Stockholm Conference may be expected soon. It is anticipated that completed papers will be required and that the deadline will be September 1, 1977.

Forthcoming Specialized and Regional Conferences sponsored by IAWPR include:

Instrumentation, Control, and Automation for Clean Water and Wastewater Treatment Systems, London and Stockholm, May 16-20, 1977

Water for Life-Second Regional Conference on Water and Effluent Management in Southern Africa, Lesotho, South Africa, June 6-9, 1977.

Pollution Control Federation and of the Committee of Curricula and Accreditation of the American Society of Civil Engineers.

Dr. Novak, a Professor of Civil Engineering at the University of Missouri-Columbia, is an active member of WPCF and AWWA. He has served on several technical committees at the national level and as President of the Missouri Water Pollution Control Association. John has encouraged student participation in professional organizations, serving on the AWWA Student Activities Committee and also organizing several student programs at the state level. His research deals primarily with sludge dewatering and disposal, biological growth kinetics, and in the roll of polymers in both water and wastewater treatment.

Dr. O'Melia, a Professor of Environmental Sciences and Engineering at the University of North Carolina-Chapel Hill, has published widely. He received the 1965 publications award from the American Water Works Association, the 1969 award of the American Society of Civil Engineers for the application of research to practice, the 1972 distinguished faculty award and the 1975 environmental science award of the Association of Environmental Engineering Professors. Charles has previously worked for Hazen and Sawyer Engineers, been a post-doctoral fellow and lecturer in water chemistry at Harvard University, and a visiting professor at California Institute of Technology. His research interests are in aquatic chemistry, water and wastewater treatment, and predictive modeling of natural waters.

(615)322-2697. The abstracts will be reviewed by the Program Committee and by the appropriate committee of ASCE. They will be graded on adequacy and quality of abstract preparation, technical content of the abstract, originality and innovativeness of the idea described, and applicability or practicality of the idea.

If you have any questions, please do not hesitate to write or call. We would be happy to receive an abstract from you and we hope you will plan on being in Nashville for the Conference on July 13.

MID-ATLANTIC INDUSTRIAL WASTE CONFERENCE

Bucknell University
August 8-9, 1977

The Mid-Atlantic Industrial Waste Conference is an annual event sponsored by universities, regulatory agencies and industries in the middle Atlantic region. It encompasses the states of New York, New Jersey, Maryland, Delaware, Pennsylvania and Virginia.

Abstracts are being solicited for papers in all areas of Industrial Waste Treatment with particular emphasis on: Recycle on Industrial Wastewater, Sludge Handling and Disposal, New Processes and Equipment, Effluent Guidelines. Prospective authors should submit 6 copies of a 500 word abstract by February 15 to:

Dr. William Snyder, P.E.
Chemical Engineering Dept.
Bucknell University
Lewisburg, PA 17837

or

Dr. Michael LaGrega, P.E., Ph.D.
Civil Engineering Dept.
Bucknell University
Lewisburg, PA 17837

CONTINUING EDUCATION

CALL FOR ABSTRACTS

1977 ASCE NATIONAL CONFERENCE ON ENVIRONMENTAL ENGINEERING

Vanderbilt University
July 13-15, 1977

Abstracts for the Program for the 1977 ASCE National Conference on Environmental Engineering, to be held July 13-15, 1977, at Vanderbilt University in Nashville, Tennessee, are now being solicited. Abstracts may be on any aspect of environmental engineering, and may cover research, planning, design, or operations. The emphasis of the conference will be on the application of new results of research and planning to the design and operation of more effective and economical projects for environmental improvement.

Abstracts must be limited to four pages, including graphs and tables, and should be submitted in four copies to Professor E.L. Thackston, Box 6131, Station B, Nashville, Tennessee 37235, by January 31, 1977.

CONFERENCES

PUBLIC WATER SUPPLY CONFERENCE

University of Illinois
April 5-7, 1977

In the spring of each year, the University of Illinois, the Illinois EPA, and the Illinois Section of the AWWA co-sponsor the Public Water Supply Engineers Conference. The Nineteenth Annual Public Water Supply Engineers Conference will be held in Champaign, Illinois on April 5-7, 1977, at the Ramada Inn Convention Center. The 1977 conference, entitled "Water Treatment, Part II," will address the specific topics of filtration, activated carbon, and ion-exchange.

Each year this conference brings together nationally recognized experts in the field of water quality, as well as experts familiar with the particular problems of water

treatment in the Mid-West. Topics which will be discussed at the 1977 conference include state-of-the-art filtration design and practice, and new developments in filtration and backwashing operations; theoretical considerations and state-of-the-art papers will also be presented on activated carbon and ion-exchange. In addition, monitoring and analytical facilities required with these three unit processes will be discussed. The conference will conclude with a panel discussion which will address the topic of "How may the Safe Drinking Water Act be modified to improve its implementation?"

Further information about the 1977 conference may be obtained by contacting Dr. Michael Semmens, University of Illinois, Department of Civil Engineering, Urbana, Illinois 61801.

IAWPR CONFERENCE ON RIVER BASIN MANAGEMENT

The IAWPR specialized conference on River Basin Management will be held in Essen, West Germany, September 12-16, 1977. Klaus Imhoff, Director of the Ruhrverband, is the General Chairman, and Leo Weaver is the U.S. Contact.

For further information contact: Mr. Leo Weaver, Ohio River Valley Water Sanitation Commission, 414 Walnut Street, Cincinnati, Ohio 45202 (513)421-1151.

SHORT COURSES

WATER SUPPLY ENGINEERING:
QUALITY, TREATMENT, MANAGEMENT
University of North Carolina at Chapel Hill
May 23-25, 1977

This course is directed at consulting engineers, water utility managers, and health and regulatory agency personnel.

For information, contact:
Philip C. Singer
Department of Environmental Sciences and Engineering
University of North Carolina
Chapel Hill, N.D. 27514
Course Fee: \$100.00

SCIENTIFIC BASIS OF FLOCCULATION
NATO Study Institute - Cambridge
July 4-15, 1977

A NATO Study Institute on the Scientific Basis of Flocculation will be held at Cambridge, 4-15th July, 1977.

The lecturers will include experts from Europe, the U.S.A. and the U.K. and the aim of the course will be to provide a rational framework for the better design of

flocculation processes and for further research.

Fees (Including accommodation and visits) US\$300.

Financial assistance may be available for suitably qualified applicants.

For further details and application forms write to:
Professor K.J. Ives,
Course Director,
Department of Civil & Municipal Engineering,
University College London,
Gower Street,
London WC1E 6BT

FOSSIL ENERGY "STARTER GRANTS" PROGRAM

To encourage the submission of more novel, coal-related research ideas from the Nation's universities, the Energy Research and Development Administration is beginning a new program of small grants for high-risk projects with long term potential.

Under the program's guidelines, an individual "starter grant" to a university would provide up to \$20,000 per year from ERDA for a maximum of two years. Up to 20 grants are expected to be made during the first year of the trial program. ERDA's Fossil Energy office will administer the starter grants program.

Emphasis will be on new, untried research to use the Nation's coal supplies to produce energy. Projects showing potential value under the starter grants program could be expanded by more substantial funding under future contracts.

Deadline for submitting starter grant proposals is April 1, 1977.

Awards will be announced on or before June 1, 1977.

For copies of the program guidelines, contact Division of, Procurement-Fossil Energy, ERDA, Washington, D.C. 20545, (202) 376-9119.

GLOSSARY REVISION

The Glossary of Water and Wastewater Control Engineering prepared jointly by committees of the American Public Health Association, the American Society of Civil Engineers, the American Water Works Association, and the Water Pollution Control Federation is being revised to reflect changes in water and wastewater control engineering since the current edition was published in 1969. Proposed additions, deletions, or modifications are solicited and should be forwarded to the Chairman of the Joint Editorial Board, Bob C. Rogers, T.M. Regan, Inc., 377 Waller Avenue, Lexington, Kentucky 40504.

Richard I. Dick

WELCOME TO NEW AEEP MEMBERS AND AFFILIATE MEMBERS

Surinder K. Bhagat
Department of Civil Engineering
Washington State University
Pullman, Washington, 99164

James M. Gossett
Department of Environmental Engineering
Hollister Hall
Cornell University
Ithaca, New York 14853

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Buffalo, New York 14226

Richard Prober
Department of Chemical Engineering
Case Western Reserve University
Cleveland, Ohio 44106

AFFILIATE MEMBERS

Avner Adin
Department of Civil Engineering
Iowa State University
Ames, Iowa 50011

Evan H. Curtis
132-South 20th Street
Terre Haute, Indiana 47803

waste management conference proceedings available

Limited copies of the proceedings of the annual Agricultural Waste Management Conferences sponsored by Cornell University are available. The papers in these Proceedings are by leading authorities in the waste management field and are professionally printed in paperback volumes. They serve as invaluable reference tools for individuals involved in this field.

Animal Waste Management (1969)	\$10.50
Agricultural Wastes: Principles & Guidelines for Practical Solutions (1970)	\$8.00
Waste Management Research (1972)	\$10.00
Food Processing Waste Management (1973)	\$15.00
Processing & Management of Agricultural Waste (1974)	\$15.00

Send order and remittance to:

Agricultural Waste Management Program
207 Riley-Robb Hall
Cornell University
Ithaca, New York 14853

Payment in advance is required.
Please make checks payable to
Cornell University.

The Board of Directors of AEEP elected David H. Howells of North Carolina State University to the status of Emeritus Member at their October meeting. The emeritus Member status is for life with all dues waived. A certificate indicating the Emeritus Membership will be presented at the Spring AEEP meeting during the Purdue Industrial Waste Conference.

MEMBERS IN THE NEWS



Paul H. King receives Walter L. Huber Civil Engineering Research Prize

Dr. Paul H. King, Past President of AEEP received the Walter L. Huber Civil Engineering Prize of the American Society of Civil Engineers at its national convention in Philadelphia on September 29, 1976.

Dr. King received this award for his research on color removal from industrial wastewaters and conditioning of wastewater sludges. He is Professor of Sanitary Engineering at Virginia Polytechnic Institute and State University.



Archie J. McDonnell receives J. James R. Croes Medal

Dr. Archie J. McDonnell received J. James R. Croes Medal of the American Society of Civil Engineers at its national convention in Philadelphia on September 29, 1976.

Dr. McDonnell received his award for a paper on "Limestone Barriers to Neutralized Acidic Streams". He is a Professor of Civil Resources Research Center at the Pennsylvania State University.



OPERATION AND MAINTENANCE OF WASTEWATER COLLECTION SYSTEMS is the title of a new book recently completed by California State University, Sacramento, for the U.S. Environmental Protection Agency. The text was prepared for persons employed in the collection system field and for engineers who design collection systems. Topics covered include design, construction, inspection, testing, clearing and cleaning sewers, repairs, maintenance, safety, administration and organization. The material may be used as a reference for individual study or as a classroom textbook. Also available are an "Instructors Manual" and a set of 100 slides with a discussion manual. This book is similar to the current successful program, OPERATION OF WASTEWATER TREATMENT PLANTS.

Prices for the manuals are as follows:

- | | |
|---|---------|
| 1. Operation and Maintenance of Wastewater Collection Systems | \$30.00 |
| 2. Instructors Manual | \$10.00 |
| 3. Slides and discussion manual | \$35.00 |
| 4. Operation of Wastewater Treatment Plants | \$25.00 |

Checks or purchase orders should be payable to Foundation of California State University, Sacramento.

Please send orders or requests for additional information to Dr. Kenneth D. Kerri, Department of Civil Engineering, California State University, Sacramento, California 95819.

ADVERTISEMENT POLICY

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.

Career facilitation training for women who currently hold bachelor's or master's degrees in biology, chemistry, computer science, engineering, mathematics and related areas of science is available at the University of Notre Dame. Women who received their last degree in one of these areas no less than two years and not more than fifteen years before acceptance in the project are eligible.

No tuition is charged for this training program, which is sponsored by the National Science Foundation for Women in Science and conducted by the Notre Dame's Department of Civil Engineering. Four different 12-week training sessions are scheduled to begin approximately as follows: January 17, 1977; May 30, 1977; September 5, 1977; and January 16, 1978.

The program is a multifrontal approach to update each women's training to a level expected of a current graduate in her degree field, and to develop the skills necessary for her to enter and successfully complete a graduate training program in environmental health engineering and science. Training will be accomplished through faculty lectures, seminars, tutorial assistance, specially developed mini-courses, audit of formal courses, research participation and independent study. All library, computing, recreational and research facilities at Notre Dame will be available. Close contact and interaction with the existing graduate program in environmental health engineering will further aid in the training of each woman participant. Participants will be expected to enter directly into graduate training or employment upon completion of the training program.

The program will be conducted by Dr. Lloyd H. Ketchum, Jr., Project Director and Assistant Professor of Civil Engineering. Dr. Robert L. Irvine, Associate Professor of Civil Engineering, and Dr. Terry W. Sturm and Dr. Thomas L. Theis, both Assistant Professors of Civil Engineering will also assist in the training program.

Interested participants may direct inquiries to Dr. Ketchum at the Department of Civil Engineering, University of Notre Dame, Notre Dame, Indiana 46556, or phone (219) 263-6173.

AIR POLLUTION LABORATORY MANUAL

TO BE PREPARED

Interest has been expressed by several members of AEEP in the preparation of a laboratory manual for air pollution analysis classes. This manual is currently being prepared by Stanley Klemetson at North Dakota State University. AEEP Members wishing to contribute or assist in the preparation of this manual should contact the Editor of this Newsletter. The finished volume will be available at cost.

Dr. Mike Humenick, University of Texas at Austin, has been named chairman of the AEEP Publications Committee. Orders for publications should be sent to Ms. Vickie Braimer, Center For Research In Water Resources, AEEP Publications, 10100 Burnet Road, Austin, Texas 78758

AEEP NEWSLETTER SUBSCRIPTION RATE

The AEEP Newsletter is distributed free to all members and associate members of AEEP. The Newsletter subscription rate for non-AEEP members is \$5 per year for 4 issues. All communications concerning subscription rates should be with the Editor of the Newsletter.

ACADEMIC MARKETPLACE

POSITIONS AVAILABLE

University of California -- Berkeley

An Assistant Professor position is available in sanitary/environmental engineering in the department of civil engineering. Applicant should have a Ph.D. degree in sanitary/environmental engineering. The person will be expected to assist in the teaching of established undergraduate and graduate courses in the field. Send resume to Chairman, Division of Hydraulic and Sanitary Engineering, Department of Civil Engineering, University of California, Berkeley, California 94720. The University is an affirmative action employer and encourages applications from women and members of minority groups.

Clarkson College of Technology

The Department of Civil and Environmental Engineering, Clarkson College of Technology, is accepting applications for a faculty position in ENVIRONMENTAL ENGINEERING. Ph.D. required. Responsibilities include undergraduate and graduate teaching in sanitary/environmental engineering. The person will be expected to contribute to an active ongoing research program. Send resume to Dr. N.L. Ackermann, Chairman, Department of Civil and Environmental Engineering, Clarkson College of Technology, Potsdam, New York 13676. Equal opportunity employer.

A faculty position is open at Colorado State University in the Environmental Engineering Program, Department of Civil Engineering.

Qualifications preferred include: Ph.D. in Sanitary Engineering or Water Chemistry from a recognized Institution, B.S. degree in Civil Engineering, and experience in Sanitary Engineering design or research. Must be qualified to teach courses in Water Chemistry, Water Supply and Wastewater Removal, Unit Operations and Unit Processes, and other courses normally taught in an Environmental Engineering Program. Must also develop research in these areas or in the general field.

Rank and salary is dependent upon experience and qualifications. Send resume and references to Dr. J.W.N. Fead, Civil Engineering Department, Colorado State University, Ft. Collins, Colorado 80523. Closing date for receipt of applications is January 31, 1977. Colorado State University is an equal opportunity employer.

Drexel University

Drexel University is seeking qualified applicants for several faculty positions. The faculty members will teach in undergraduate programs in their discipline and in the multidisciplinary graduate program in environmental engineering and science. They are also expected to initiate research in their field.

Applicants must have a Ph.D. Where engineers are specified they must have a first degree in an appropriate engineering discipline. Rank and salary are determined by prior experience and achievements.

Positions to be filled include:

Water Quality Engineer

Air Pollution Control Engineer

Environmental Toxicologist

Send resume to Dr. P.W. Purdom, Director, Environmental Studies Institute, Drexel University, Philadelphia, Pennsylvania 19104. 215/895-2265.

Mississippi State University

The Department of Civil Engineering at Mississippi State University is currently receiving applications for an Assistant Professor in environmental engineering beginning in January or September 1977. Responsibilities include both undergraduate and graduate instructions as well as directing graduate-student research and developing a program of individual research. Candidates must hold a B.S. in Civil Engineering and Ph.D. degree in environmental engineering with a strong background in biological treatment processes and a secondary interest in microbiology. Contact Dr. Robert M. Scholtes, Head,

Department of Civil Engineering, Mississippi State University, Mississippi State, MS 39762. Equal Opportunity Affirmative Action Employer.

University of New Hampshire

ASSISTANT PROFESSOR OF CIVIL ENGINEERING - 3 POSITIONS The Department of Civil Engineering is expanding and seeking 3 additional members in the following areas: 1) fluid mechanics and water resources engineering; 2) soils and foundations engineering; 3) environmental engineering. Faculty are expected to teach graduate/undergraduate courses and conduct research. PhD is required and applicants should preferably have a civil engineering background. Those persons with additional expertise in ocean or coastal engineering may be considered at a higher rank. Application deadline: Feb. 28, 1977. Send resume to Dr. Paul L. Bishop, Dept. of Civil Engineering, University of New Hampshire, Durham, N.H. 03824. **THE UNIVERSITY IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER.**

Syracuse University

Associate/Full Professor of Civil Engineering. Salary is dependent on candidates's qualifications. Candidate should have the following:

- PhD or equivalent experience in sanitary and environmental engineering with experience in industrial waste treatment and water resources;
- substantial research experience as indicated by the production of publications, graduate students, work on national and international committees;
- a national and preferably international reputation for his/her work;
- be competent to teach at both the graduate and undergraduate levels.

Applications Deadline: March 15, 1977

SYRACUSE UNIVERSITY IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

Send applications to:

Dr. J. Charles Jennett, Chairman
Department of Civil Engineering
150 Hinds Hall
Syracuse University
Syracuse, NY 13210

The Department of Civil Engineering has one faculty position available at the Assistant or Associate Professor level in the Air Quality Management and /or Air Pollution Control areas.

Applicants should possess a Ph.D with an area of concentration in Air Quality Management and/or air pollution control. A significant background of experience in the subject area and prior teaching experience are highly desirable.

Major responsibilities include:

- 1) Teaching of graduate courses in the Environmental Engineering Program and undergraduate courses in the Environmental option of the Civil Engineering Program.
- 2) Initiate and develop relevant research on the graduate level.
- 3) Undergraduate and graduate student counseling, committee work, and appropriate public service activities.

The University of Tennessee is an equal opportunity Employer. Qualified applicants are asked to send a complete resume to:

William L. Grecco
 Department of Civil Engineering
 University of Tennessee
 Knoxville, TN, 37916

POSITIONS WANTED

Interested in academic position in the area of microbiology, including wastewater biology. Current position is Research Fellow and Honorary Lecturer in Water Virology. Age 28. Resume will be sent upon request. Contact Mr. Huw H. Jones, 79 St. Mary's Road, Weybridge, Surrey, England.

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. Vickie Braimer
 Center for Research in Water Resources
 AEEP Publications
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 Austin, Texas 78758

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Register of Environmental Engineering Graduate Programs*.....	\$3.00
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