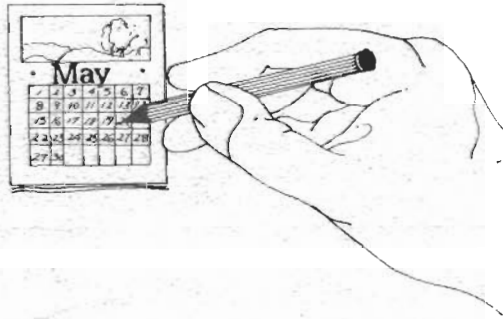


# Newsletter

Published Quarterly by the Association of Environmental Engineering Professors.

Vol 11, No. 2

April 1976



## MARK YOUR CALENDER AEEP UPCOMING EVENTS

### AEEP Activities at Purdue

Monday, May 3, 1976 -

9 a.m. - AEEP Board Meeting, West Lafayette Hilton Hotel

Tuesday, May 4, 1976 -

8 a.m. - AEEP Seminar, Room 214 Stewart Center  
"The Environmental Scientist in Environmental  
Engineering Programs:  
Problems of Integration and Differentiation"

Panel: Gerald A. Rohlich, Chairman  
University of Texas

Clifford W. Randall  
Virginia Tech

Phillip C. Singer  
University of North Carolina

3 p.m. - AEEP Education Committee Meeting  
Room 213, Stewart Center

8 p.m. - AEEP Open Meeting, Room 214, Stewart Center  
"The Safe Drinking Water Act: Implications  
for the Academic Community"

Speaker: John Hernandez, Dean  
College of Engineering  
New Mexico State University

We urge all of the AEEP members attending the conference to join us at the Seminar and the Open Meeting.

## ASCE ENVIRONMENTAL ENGINEERING DIVISION SPECIALTY CONFERENCE

National Conference on Environmental Engineering,  
Research, Development and Design  
July 12 - 14, 1976  
University of Washington  
Seattle, Washington

For further information contact:

Dr. John F. Ferguson  
Associate Professor  
Department of Civil engineering (FX 10)  
University of Washington  
Seattle, Washington 98195

## AEEP/ENGINEERING-SCIENCE AWARD FOR BEST DOCTORAL THESIS RELEVANT TO PRACTICE

This is to announce that applications are being accepted for the Engineering Science Awards of \$1000 for the best doctoral thesis relevant to practice published between July 1, 1975 and June 30, 1976. The award will be \$500 for the primary research supervisor and \$500 for the Ph.D. candidate, both monies to be spent at the individuals' discretion. Three copies of the candidate thesis must be submitted to Perry L. McCarty, Civil Engineering Department Stanford University, Stanford, CA 94305 to arrive prior to June 30, 1976.

## AEEP EDUCATION COMMITTEE TO MEET

There will be a meeting of the AEEP Education Committee in Room 213, Stewart Center, Purdue University on Tuesday, May 4, at 3:00 PM. The topic of discussion will be the proposed draft of the Criteria for Accreditation Procedures.

## THE PRESIDENT'S CORNER

Activities associated with the annual Purdue Conference highlight this issue of the **Newsletter**. Since its inception AEEP has found the Purdue meeting to be an increasingly important gathering for the environmental engineering academic community in general and for our Association in particular. This year's conference should be no exception to this trend, and a full slate of AEEP activities is planned as announced elsewhere in this issue.

The Tuesday morning AEEP Seminar to be chaired by Professor Gerry Rohlich will examine what appears from recent enrollment surveys to be an increasingly obvious trend in many of our graduate programs - the influx of students with B.S. degrees in a wide variety of non-engineering disciplines including "hard sciences" such as biology, chemistry, geology, and agricultural sciences, and perhaps, in some cases, some of the "not so hard" sciences. This trend has raised many interesting questions that the speakers on the panel will address, including the proper prerequisites for admission, the nature and use of non-credit undergraduate courses in the curriculum, the appropriate degree designation, and the problem of providing such a program in the context of increasing emphasis on professional schools of engineering. There are indeed many possible ways to view this trend, and a lively discussion is anticipated. So set your alarm early for Tuesday morning and join in the fun.

The passage of the Safe Drinking Water Act and the subsequent formation by EPA of the Drinking Water Standards Advisory Committee are likely to have substantial influence on the environmental engineering profession for many years to come. One of the results of this legislation which is already becoming obvious is the increased need for manpower to administer the law. Dean John Hernandez of New Mexico State University is one of the three environmental engineering professors who have been named to The Drinking Water Standards Advisory Committee. He also serves as chairman of the Subcommittee on Training. His remarks at the AEEP opening meeting on Tuesday evening should, therefore, be of particular interest to us. The meeting will also feature awards, announcements of future AEEP activities, and brief reports from some of our more active committees. We'll look forward to seeing you there.

Paul H. King  
Virginia Tech

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## SO YOU WANT TO BE AN ENVIRONMENTAL ENGINEER

It is that time of the year again when students are reevaluating their educational goals. Do you have enough copies of the AEEP brochure, "So You Want to Be an Environmental Engineer", to give them guidance?

For further information on cost and ordering procedure, contact:

Dr. E.J. Middlebrooks  
Dean, College of Engineering  
Utah State University  
Logan, Utah 84322  
801/752-4100, Ex 7801

## INTERNATIONAL ASSOCIATION ON WATER POLLUTION RESEARCH

The program for the International Conference on Water Pollution Research to be held in Sydney, Australia on October 17-22, 1976, has been completed. Copies are available from Richard Dick at the University of Delaware.

A 1976 Annual Report of the activities of the U.S.A. National Committee for Representation of the United States in the International Association for Water Pollution Research has been received by AEEP. AEEP is one of five professional societies which sponsor the U.S.A. National Committee. Information on the report can be obtained from AEEP president, Paul King, or from any of the AEEP delegates to USANC.

An IAWPR Specialized Conference on Advanced Treatment and Reclamation of Wastewater will be held in Johannesburg, South Africa on June 13-17, 1977. A call for papers has been issued. They should be mailed to the Technical Secretary, Reclamation Conference, National Institute for Water Research, P.O. Box 395, Pretoria, 0001, Republic of South Africa. Additional information on the Conference may be obtained from the Conference Secretary at the same address.

Richard I. Dick  
University of Delaware

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## 1975 - 1976 DISTINGUISHED FOREIGN LECTURER

Professor Poul Harremoes of the Department of Sanitary Engineering at the Technical University of Denmark is currently serving as the 1975-1976 AEEP Distinguished Foreign Lecturer.

The lecture topics chosen by the supporting universities were 1) Biofilm and Filter Kinetics, and 2) Nitrogen Removal by Biological Denitrification. The final lecture schedule was:

### APRIL

- 6 Rensselaer Polytechnic Institute
- 7 Syracuse University
- 9 University of Toronto
- 12 University of Delaware
- 14 Virginia Polytechnic Institute and  
State University
- 21 University of Houston/Rice University
- 23 University of Nebraska
- 26 University of Washington

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## ASSOCIATION OF ENVIRONMENTAL ENGINEERING PROFESSORS

### 1976 COMMITTEE STRUCTURE

#### Archives Committee

Task: To assemble in one location a record of AEEP activities including: Membership, legal papers, history of organization, bylaws, board of directors membership, etc.

Chairman: David W. Henricks

### Audit Committee

Task: To audit financial records and report at the Purdue meeting  
Chairman: Yousef A. Yousef

### Awards Committee

Task: To select the annual winner of the AEEP/Engineering Science Award for Best Doctoral Thesis Relevant to Practice and other AEEP Awards.  
Chairman: Perry L. McCarty

### Education Committee

Task: To coordinate the activities with regard to continuing education, technical training, undergraduate and graduate environmental engineering education.  
Chairman: George P. Hanna, Jr.

### Membership and Eligibility Committee

Task: To develop recommendations for the Board of Directors concerning requirements, consider specific membership applications when eligibility is questionable; and develop informational membership brochures.  
Chairman: Wayne Hall

### Legislative Analysis and Training Support Committee

Task: Review pending federal legislation and (as appropriate) state legislation which has an impact on environmental engineering education; report to the President in cases where action by the Association is appropriate  
Chairman: N. Bruce Hanes

### Newsletter Committee

Task: **Edit, Publish and distribute** the AEEP Newsletter quarterly  
Editor: Stanley L. Kfemetson

### Nominating Committee

Task: Nominate members for election to the Board of Directors in accordance with the Bylaws; submit nominations to President prior to the **October meeting** of the members  
Chairman: Wesley O. Pipes

### Publication Committee

Task: Provide a central depository and distribution service for AEEP publications; recommend policies for orderly development and distribution of AEEP publications  
Chairman: Joseph F. Malina

### Undergraduate Register Committee

Task: Prepare and publish a new register of undergraduate programs in environmental engineering  
Chairman: Donald Aulenbach

### Relations with USA National Committee of the International Association on Water Pollution Research

Task: Coordinate AEEP activities with USA National Committee, and advise Board of Directors on activities and need for action.  
Delegates: Richard I. Dick and Frederick G. Pohland

### Research Committee

Task: Recommend research-related objectives of AEEP to the Board of Directors  
Chairman: Francis A DiGiano

### Seminar Committee

Task: Arrange seminar programs and recommend seminar topics.  
Chairman: Gerald A. Rohlich

### Teaching Methodology Committee

Task: To develop programs to improve the technology capabilities of environmental engineering programs.  
Chairman: P. Aarne Vesilind

### Visiting Lecturers

Task: Arrange for lecture tours for foreign visitors  
Chairman: William Characklis

### Workshop Committee

Task: Plan and conduct the 1976 Workshop, set up tentative plans for the 1977 Workshop  
Chairman: Thomas M. Keinath

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### MSU LAB MANUAL UPDATED

Bob Sanks has updated his Environmental Engineering Laboratory manual with 50 pages of new and revised copy. The new pages will be sent free of charge to all who have purchased copies of the manual. Purchasers who do not receive a copy should notify Bob. All copies of the manual were bound with plastic bindings to make insertion of new pages easy.

The purpose of the manual is to explain the operational procedures of analytical apparatus and tests so simply that no verbal instruction is required. Bob says it works. Students who have never seen such equipment can operate relatively complex instruments such as spectrophotometers, fluorometers, or even organic carbon analyzers with no help other than a half hour or so of study.

Due to the increased length, new manuals now cost \$3.50. Any AEEP member can order a copy which will be sent post paid. Send Bob a check payable to Montana State University.

## MEMBERS IN THE NEWS



### 6 AEEP Members Certified as Diplomates in the American Academy of Environmental Engineers

In 1975, 6 AEEP members received certification as a diplomate in the American Academy of Environmental Engineers. There were only 60 individuals in the nation to be so honored last year.

Walter J. Weber, Jr., The University of Michigan  
Raymond C. Loehr, Cornell University  
J.C. Huang, University of Missouri-Rolla  
W. Wesley Echenfelder, Jr., Vanderbilt University  
Richard I. Dick, Univ. of Delaware  
John L. Cleasby, Iowa State University

### Amirtharajah to join MSU

Dr. Appiah Amirtharajah has accepted an appointment as Adjunct Assistant Professor of Civil Engineering and Engineering Mechanics and will join the staff of Montana State University in March, 1976. Amirtharajah is Chief Training Officer, Department of Water Supply and Drainage, Ratmalana, Ceylon and visiting lecturer in Public Health Engineering at the University of Sri Lanka. He has been a resident Maintenance and a Project Design Engineer for the Department of Water Supply and Drainage between 1963 and 1973, with a 3-year interregnum at Iowa State College to obtain his PhD degree. An outstanding graduate student, Amirtharajah worked under the direction of Jack Cleasby on investigations of backwashing sand filters. He is the author of several publications and a member of the Institute of Civil Engineering, London, and the Institute of Engineers, Ceylon.

### Roy W. Hann, Jr., named acting director of Texas A & M's Center for Marine Resources

Dr. John C. Calhoun, Jr., vice president for academic affairs, said that Hann, a faculty member since 1965, will retain appointments in the Civil Engineering Department and Texas Engineering Experiment Station and will continue to serve as resident scholar in the Center for Energy and Mineral Resources.

In his new position, Hann will administer A & M's \$2.3 million Sea Grant College Program and coordinate other marine-related programs of the University.

A & M's 1975-76 Sea Grant Program includes 38 projects underway in seven of the University's ten colleges, the Texas Agricultural Extension Service, Industrial Economics Research Division, and at Baylor College of Medicine, Brazosport Community College, the University of Houston and the University of Texas at Austin.

Since coming to A & M from the University of South Carolina, Hann has been involved with numerous studies of the

coastal zone environment. He headed the environmental engineering division, Civil Engineering Department, from 1970 until 1975.

He has done extensive work on pollution problems of the Houston Ship Channel and has directed pollution studies of Texas bays and estuaries and an environmental impact assessment of the proposed SEADOCK offshore terminal.

Hann has served on National Academy of Science panels and committees dealing with transportation of hazardous materials, ocean dumping, and measurement of chemicals in the environment.

Hann was selected by the U.S. Coast Guard to assist in evaluating the environmental impact of the 1974 oil spill from the supertanker METULA off the coast of Chile.

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### THE INSTITUTE OF ECOLOGY — JESSIE SMITH NOYES FOUNDATION WASHINGTON, D.C. INTERN PROGRAM FOR GRADUATE STUDENTS 1976-1977

To be eligible for participation, graduate students must be United States citizens working toward an advanced degree at an accredited institution of higher education. They must have an excellent academic background in ecology and a strong interest in the transfer of ecological information. Since they will be working with a wide array of non-scientists, the interns should also combine an ability to communicate their own expertise with respect for the expertise of others.

The interns will be expected to help gather, organize and summarize material needed for the completion of a specific project.

During the first three months some of the interns will attend briefings on government structure, legislative development procedure and related matters.

After three months of TIE project activity, the interns will be assigned to the staff of a Committee in the House or Senate. As requested by the staff members, the interns will develop short reports and other forms of summary material within their area of concern, interest and expertise.

Every Friday, the interns will gather for a seminar at the Washington D.C. office of TIE. This seminar will seek to relate ecological information to governmental decision-making.

The \$7,200 stipend will be disbursed in 12 monthly installments of \$600. Since this is a grant from the Noyes Foundation to degree candidate students, it is tax-free.

For further information phone 202/737-0116 or write us at the address below.

Dr. Dexter Hinckley  
Associate Director  
(Research)

Mr. Christopher Noah  
Congressional Liaison

THE INSTITUTE OF ECOLOGY  
Suite 2600  
955 L'Enfant Plaza, S.W.  
Washington, D.C. 200024

## CONTINUING EDUCATION

Clemson University

Industrial and Municipal Wastewater  
Treatment: Process Design and Operation

May 17 - 21, 1976

Department of Environmental Systems Engineering, Clemson University, Clemson, SC (Prof. T.M. Keinath, Department of Environmental Systems Engineering, Clemson University, Clemson, SC 29631).

Cornell University

Industrial Wastewater Control Course

July 5 - 9, 1976

A short course on the engineering control of industrial wastewaters will be given by Department of Environmental Engineering faculty and guests at the Cornell University College of Engineering July 5th through 9th, 1976.

Designed for engineers and others responsible for industrial wastewater control, the course is intended both to help them understand the severe limitations that Federal and State regulatory agencies are imposing on all wastewaters discharged to natural waters and to sewers, and to improve their ability to produce effluents that will meet the new standards and limitations.

Topics will include water pollution control legislation, regulations and standards; effluent monitoring, industrial wastewater disposal alternatives; effluent reclamation; biological and physical-chemical treatment process theory and applications; solids disposal; synthesis and cost estimation of wastewater treatment systems.

For further information, write to Professor R.H. Lance, Associate Dean, College of Engineering, Carpenter Hall, Cornell University, Ithaca, New York 14853.

## Gordon Research Conferences

June 14 - September 3, 1976

The Gordon Research Conferences for the summer of 1976 will be held in New Hampshire and California.

The Conferences were established to stimulate research in universities, research foundations, and industrial laboratories. This purpose is achieved by an informal type of meeting consisting of scheduled speakers and discussion groups. Sufficient time is available to stimulate information discussion among the members of each Conference. Meetings are held in the morning and in the evenings, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading, or participation in discussion groups, as the individual desires. This type of meeting is a valuable means of disseminating information and ideas to an extent that could not be achieved through the usual channels of publication and presentation at scientific meetings. In addition, scientists in related fields become acquainted and valuable associations are formed that often result in collaboration and cooperative efforts among laboratories.

It is hoped that each Conference will extend the frontiers of science by fostering a free and informal exchange of ideas among persons actively interested in the subject under discussion. The purpose of the program is to bring experts up to date on the latest developments, to analyze the significance of these developments and to provoke suggestions concerning the underlying theories and profitable methods of approach for scientific research. The review of known information is not desired.

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By

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In order to protect individual rights and to promote discussion it is an established requirement of each Conference that no information presented is to be used without specific authorization of the individual making the contribution whether in formal presentation or in discussion. Scientific publications are not prepared as emanating from the Conferences. The recording of lectures by tapes, etc. and the photography of slides are prohibited.

Applications must be submitted in duplicate on the standard application form which may be obtained from the office of the Director.

A registration card will be mailed to those selected. Advance registration by mail for each Conference is required and is completed upon receipt of the card and the deposit of \$30.00.

The complete program for the 1976 Gordon Research Conference is published in "Science," March 12, 1976. Reprints are available on request.

Dr. Alexander M. Cruickshank, Director  
Gordon Research Conferences  
Pastore Chemical Laboratory  
University of Rhode Island  
Kingston, Rhode Island 02881  
Tel. 401-783-4011

Mail for the office of the Director from June 14 to September 3, 1976 should be addressed to:

Dr. Alexander M. Cruickshank, Director  
Gordon Research Conference  
Colby-Sawyer College  
New London, New Hampshire 03257  
Tel. 603-526-2870

Conference Fees (5 day conference, registration, room, meals, service.

New Hampshire - \$160.00  
California - \$185.00

Montana State University  
Water Treatment Plant Design Conference  
June 16-18, 1976

Montana State University will host an Environmental Engineers Conference June 16, 17 and 18, 1976 at Big Sky of Montana, a mountain resort located about 45 miles south of Bozeman. The objective of this conference, the fifth in a series, is to provide the utmost in useful information for designers of water treatment plants to meet the new federal regulations. A star-studded cast of professors, consulting engineers, and equipment manufacturers will provide the latest information on such items as, for example: process design (including suspended solids and dissolved solids removal, stability and corrosion control, disinfections, and sludge disposal.), equipment selection, instrumentation, design blunders, operation and maintenance manuals, and operator training. More complete information can be obtained from Bob Sanks, Department of Civil Engineering and Engineering Mechanics, Montana State University, Bozeman, Montana 59715, 406/994-2111.

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## BOOK REVIEW

### ENVIRONMENTAL DESIGN FOR PUBLIC PROJECTS

Even though well educated in the engineering arts and sciences, the beginning practitioner of civil engineering usually has little awareness of the milieu in which he will pursue his profession. He does not realize that he will be caught up in the world of government and politics, where most major decisions are made by non-engineers. He will learn by experience that his projects have social, esthetic and cultural implications beyond the physical and economic values that he designs into them. He will often be surprised to find that the conception and planning of public works today will demand his close interaction with a dozen or more disciplines outside of engineering. In this broad interprofessional planning exercise the civil engineer must develop expertise with little or no help from his conventional academic preparation.

The book "Environmental Design for Public Projects" has been compiled with a view toward fulfillment of these needs. It is uniquely adapted to advance the "professionalization" of the public works design process, both in the classroom and as a self-study instrument.

A product of carefully planned and executed group dynamics, the concept, scope and format of the book were determined by the four editors with a Project Advisory Committee of thirteen highly qualified members. Further distillation in a conference of forty additional competent reviewers elicited this anthology of eighteen informative papers, all fitting together to yield the overall pattern desired. The result is a comprehensive fabric of the evolution of public transportation, water resource and power projects, with timely emphasis on the higher standards, constraints and public awareness of environmental quality that have emerged in recent years.

It is not surprising that the work of some twenty authors might be redundant. This is not altogether a disadvantage. A number of important "facts of life" in the domain of public works development are pointed up forcefully by their independent, unstructured reiteration.

The book will serve as an excellent text for a post-baccalaureate course in public works planning. In an earlier draft it was used in this fashion in a graduate civil engineering course at the University of Florida. Student reaction was especially favorable to the coverage on project involvement, ecology, esthetics, environmental law, the economic "syntax," evaluation and planning techniques, and public participation.

"Environmental Design for Public Projects," is recommended reading for professionals in all disciplines concerned with the furtherance of public works programs and projects. However, it should be required reading for the civil engineer, whether student, educator or practitioner.

"Environmental Design for Public Projects," edited by D.W. Hendricks, E. Valachos, L.S. Tucker and J.C. Kellogg. Water Resources Publication, Fort Collins, Colorado. 742 pages \$20.

*Reviewed by William H. Wisely, Executive Director Emeritus, American Society of Civil Engineers. Visiting Professor, Department of Civil Engineering, University of Florida, Gainesville, Florida.*

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## ACADEMIC MARKETPLACE

### POSITIONS AVAILABLE

#### California State College

Environmental Engineer or Environmental Biologist — Assistant or Associate professor in Biology department. Develop and teach specialty courses in new Water Analysis Technology program; teach courses in Environmental Biology is desirable. Field experience in water surveillance and water pollution monitoring of municipal and industrial sources is required. Salary dependent upon qualifications; excellent fringe benefits. Send vita, three letters of recommendation and official transcripts to Dr. Richard B. Hart, Dean, School of Science and Technology, California State College, California, Pa. 15419, by May 15, 1976. An Equal Opportunity/Affirmative Action employer.

#### Humboldt State University

Two Environmental Resources Engineering Faculty positions at Assistant or Associate Professor level available for the academic year 1976-77. One appointment will be for a one year period. Candidates are invited to join with the present six faculty members to help build an outstanding undergraduate environmental resources engineering program. Preference will be given to candidates who have academic training and experience in engineering and natural resources with emphasis on some combination of systems analysis, planning, resource conservation and development, and waterways and coastal engineering. Our University is situated in Northern Coastal California, in the heart of the Redwoods, where lumbering, fishing, farming and outdoor recreation are the principal industries. Our primary emphasis is on under-graduate teaching, although there is room for research. A doctorate in engineering is desirable and professional experience is preferred. Applicants should send resumes to Dr. F.G. Alden Burrows, Chairman, Dept. of Environmental Resource Engineering, Humboldt State University, Arcata, CA 95521. HSU is an equal opportunity/affirmative action employer.

### McMaster University

The Department of Civil Engineering and Engineering Mechanics has available a faculty position at the Assistant Professor level, in the general area of Water Resources and Environmental Engineering. This position requires undergraduate teaching Hydraulics and Municipal Engineering; it is also expected that this faculty member would be an active participant in an interdisciplinary (Civil Engineering and Chemical Engineering) programme of graduate level instruction and research, with particular research emphasis in the Water Quality area. Salary level to be arranged commensurate with qualifications and experience; applicants should hold the Ph.D. degree. The appointee should be available to take up this position on July 1, 1976 or as soon as possible thereafter. Applicants should send their curriculum vitae and the names of three referees to: Dr. A.C. Heidebrecht, Chairman; Department of Civil Engineering and Engineering Mechanics; McMaster University, Hamilton, Ontario.

### University of Maine

The Civil Engineering Department at the University of Maine at Orono has an opening on the staff in Environmental Engineering beginning the fall semester, 1976. Positions at the Assistant or Associate Professor level requires demonstrated capability to teach graduate and undergraduate courses, to conduct independent research and to participate in the public service area. Candidate must have Ph.D. degree, a basic engineering degree and offer a strong background in water chemistry. Publication record required, present funded research work desirable. Academic year appointment in a tenure track position. Applicants are requested to submit their resume and the names of three references to Dr. Wayne A. Hamilton, Chairman, Department of Civil Engineering, University of Maine, 1034 Boardman Hall, Orono, Maine, 04473. The University of Maine is an equal opportunity employer.

### Mississippi State University

The Department of Civil Engineering at Mississippi State University is currently receiving applications for an Assistant Professor in environmental engineering beginning September 1976. Responsibilities include both undergraduate and graduate instruction as well as directing graduate-student research and developing a program of individual research. Candidates must hold a B.S. in Civil Engineering and a Ph.D. in environmental engineering with a strong background in biological treatment processes, solid handling and disposal, 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 Massachusetts

Two Assistant or Associate Professor positions are available in the Department of Civil Engineering at the University of Massachusetts. One position involves major participation in the Environmental Engineering Graduate Program, having an enrollment fluctuating between 25 and 40, one-fourth of whom are Ph.D. candidates. The applicant is expected to develop research preferably in the area of modeling and planning of environmental/water resources systems. Teaching responsibilities include undergraduate and graduate courses in

Environmental/Water Resources Engineering. The other position is in the areas of fluid mechanics, hydraulic engineering and water resources engineering, the latter in cooperation with the Environmental Engineering Program. A background in the area of physical oceanography with emphasis on wave and coastal mechanics is recommended; Teaching includes both undergraduate in Civil Engineering and graduate in the Department's Ocean Engineering Program. Current research in this program includes energy generation from ocean thermal gradients and power from the wind.

An earned doctorate in Civil Engineering or equivalent experience is required. Applicants should mail resume to: Dr. Merit P. White, Head, Department of Civil Engineering, University of Massachusetts Amherst, MA 01002. An equal opportunity/affirmative action employer.

### South Dakota School of Mines and Technology

Faculty position available in the Department of Civil Engineering, South Dakota School of Mines & Technology effective August 15, 1976. Candidates with Ph.D. preferred. Should have definite interest in undergraduate and graduate teaching in the environmental engineering area. A secondary area of interest should include hydraulics or fluid mechanics. Successful candidate will be expected to pursue research in area of specialization. Permanent position. Rank and salary commensurate with qualifications. Send resume to: Professor W.V. Coyle, Chairman, Department of Civil Engineering, South Dakota School of Mines and Technology, Rapid City, South Dakota 57701. An Equal Opportunity Employer.

### Texas A & M University

One faculty position in Environmental Engineering at the Assistant Professor level is available at Texas A & M University commencing September, 1976. Responsibilities include teaching, both undergraduate and graduate courses and research. A B.S. degree in Civil Engineering and Ph.D. with qualification for professional registration is required. Several years of experience is also preferred. Applicant should submit a resume and a brief summary of current research to Dr. Harold W. Woll, Head Environmental Engineering Division, Civil Engineering Department, Texas A & M University, College Station, Texas 77843. Texas A & M University is an Equal Opportunity Employer with an Affirmative Action Program.

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