

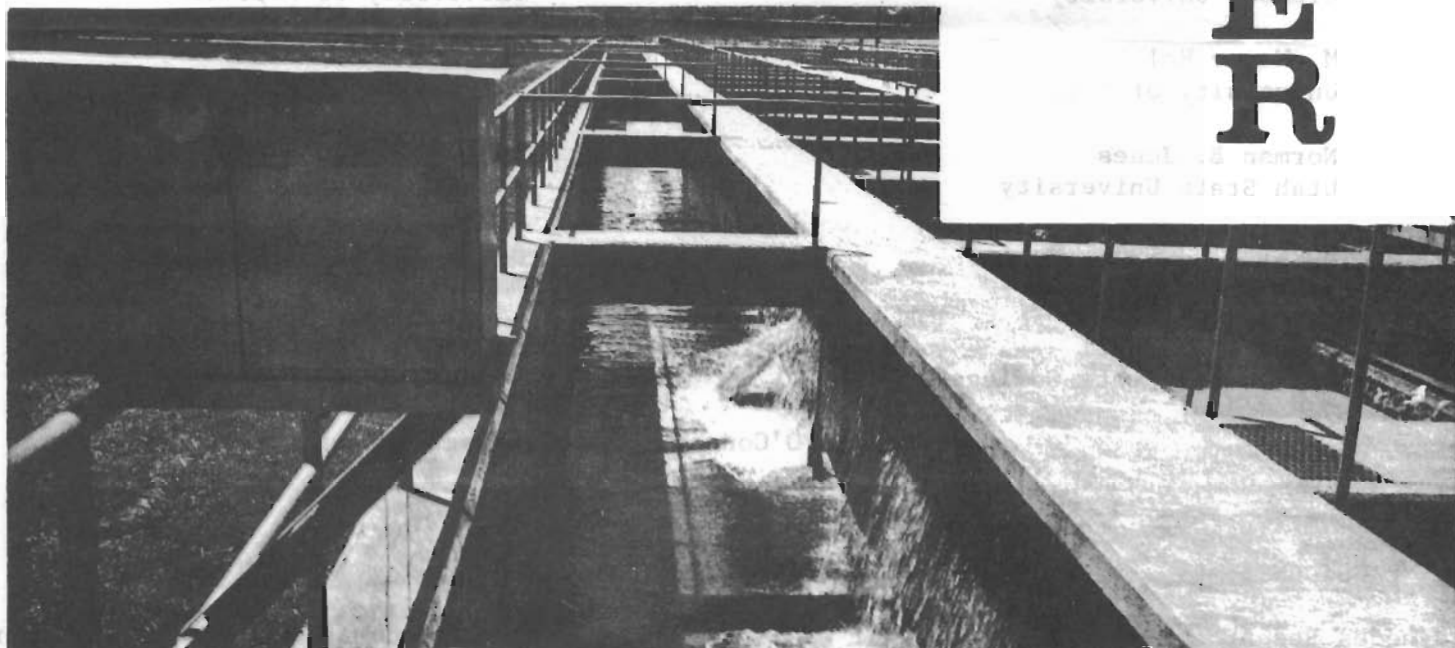
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NEWSLETTER



ASSOCIATION OF ENVIRONMENTAL ENGINEERING PROFESSORS

OCTOBER 1972

VOLUME 8, NUMBER 1

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A ROSE BY ANY OTHER NAME

All but even the most drowsy have by now noted that AAPSE has undergone a metamorphosis to AEEP. This change was recommended by the membership and approved by the Board of Directors since the last issue of the NEWSLETTER.

The full name of our organization is Association of Environmental Engineering Professors. By decree of our President please note that AEEP should be pronounced A-double E-P. The reasons for this convention will become obvious as you consider some of the possible alternatives.

WPCF TO HOLD STUDENT PROGRAM AT ATLANTA

A special program for students attending the WPCF Atlanta Conference will be held from 6:00 to 7:30 p.m. on Tuesday, October 10, 1972. The program is as follows:

Presiding: Mike Massey, Graduate Student, Georgia Tech
Assistant Presider: George Strain, Graduate Student, Georgia Tech

- 6:00 An Overview of Manpower Requirements in Environmental Engineering
Dr. E. J. Middlebrooks
Utah State University
Logan, Utah
- 6:10 Opportunities and Requirements for Environmental Engineers in State and Federal Regulatory Agencies
Mr. Leonard Ledbetter
Georgia Department of Natural Resources
Atlanta, Georgia
- 6:15 Opportunities and Requirements for Environmental Engineers in Municipal Governments
Mr. Joseph R. Briggs
Public Works Department
City of Atlanta
- 6:20 Opportunities and Requirements for Environmental Engineers in Consulting Engineering
Dr. Carl Adams
Associated Air & Water Resources, Inc.
Nashville, Tennessee
- 6:25 Opportunities and Requirements for Environmental Engineers in Equipment Manufacturing
Dr. Richard K. Schmidt
Smith & Loveless
Lenexa, Kansas
- 6:30-6:45 Questions & Answers
- 6:45-7:30 Social Hour (Free beer and pretzels)

LIEBMAN JOINS FACULTY AT ILLINOIS

Dr. Jon C. Liebman has recently joined the faculty of the Department of Civil Engineering at the University of Illinois at Urbana-Champaign as Professor of Environmental Engineering. Dr. Liebman, whose specialty is operations research applications in environmental engineering, was previously on the faculty at The Johns Hopkins University.

AEEP ACTIVITIES AT WPCF MEETING IN ATLANTAOpen Meeting Tuesday, October 10 at 8:00 p.m.

AEEP will hold an opening meeting for all members and guests on Tuesday evening at 8:00 p.m. in the English Suite, Lancaster Room 'C', at the Regency Hyatt House Hotel. The first hour of the meeting will be devoted to the business affairs of AEEP. At about 9:00 p.m. Dr. George L. B. Pratt, Director of Education and Manpower Planning for EPA, will present his agency's views and plans for the future. A discussion period will follow. Plan to attend this important meeting.

AEEP Board Meeting Sunday, October 8

The AEEP Board will be meeting in Atlanta on Sunday, October 8. Any AEEP members who have items for which the attention of the Board is desirable should contact one of the Board members. The meeting will be held in the Spanish Suite, Goya Room, at the Regency Hyatt House Hotel.

KLAUS IMHOFF NAMED AEEP DISTINGUISHED FOREIGN LECTURER

Dr. Klaus Imhoff, Chief Engineer of the Ruhrverband, West Germany, has been selected as the AEEP Distinguished Foreign Lecturer for 1973. His lecture topics will be:

1. Water Quantity and Water Quality Management in the Ruhr Valley
2. Instream Aeration

Because of the press of other duties, Dr. Imhoff will only be able to spend two weeks in the U. S. and visit five universities. Those desiring to have Dr. Imhoff visit their university should **contact:**

John F. Andrews, Chairman
Distinguished Foreign Lecturer Committee
Environmental Systems Engineering
501 Rhodes Engineering Research Center
Clemson University
Clemson, South Carolina 29631

BAUMANN APPOINTED DISTINGUISHED PROFESSOR

Dr. E. Robert Baumann has recently been honored by receiving an appointment as the Anson Marston Distinguished Professor in Engineering at Iowa State University. Dr. Baumann is well known for his many contributions to the field of water and wastewater treatment including co-authorship of two widely known textbooks and extensive research activity, particularly in water filtration. He has long been active in professional societies and is a former President of AAPSE. The entire AEEP membership is pleased to note this well-deserved recognition and extends its congratulations to Bob.

AEEP LABORATORY MANUALS AVAILABLEWater Chemistry

The Water Chemistry Laboratory Manual prepared by Professors David Jenkins, Vernon L. Snoeyink, John F. Ferguson and James O. Leckie with the support of the Environmental Protection Agency, Office of Manpower and Training, Water Quality Office, Academic Training Branch, Division of Water Programs is now available.

The manual presents a series of experiments that illustrate important chemical principles in water chemistry in a unique combination with methods of water and wastewater analysis. The importance of acid-base, complexation, precipitation and redox equilibria to water chemistry is emphasized. General concepts of gravimetry, spectroscopy and conductivity are covered as well as specific analyses for chloride, various forms of nitrogen, dissolved oxygen, turbidity, COD, BOD, alkalinity, hardness, phosphate, fluoride, etc. Kinetic and equilibrium phenomena in homogeneous and heterogeneous systems are also the subject of experiments. A draft of the manual was used on a trial basis at several universities during the 1971-72 academic year and was revised on the basis of this testing.

The text is designed primarily for use in undergraduate and graduate courses in water chemistry and contains material selected for its relevance to sanitary and environmental engineering and aquatic chemistry. The text should be useful for laboratory courses in related fields including geochemistry, limnology and chemical oceanography.

Unit Operations and Unit Processes

AEEP has also sponsored the preparation of an Environmental Engineering Unit Operations and Unit Processes Laboratory Manual. Its production is the result of the voluntary efforts of over 30 contributors from both the academic and professional communities. The development of the manual has taken place over the past two years, during which time several drafts have been prepared for review. Experimental procedures were written, editorially evaluated, and tested in various laboratories for workability. The final product, published in August, 1972, is intended to enhance the development of unit operations and unit processes laboratory courses in environmental engineering.

The manual has been substantially enlarged over the early review editions. The 200-page, single spaced, illustrated manual includes descriptions of 32 laboratory experiments related to:

Coagulation and Flocculation	Corrosion and Corrosion Control
Mixing and Continuous Flow Models	Water Stabilization
Sedimentation	Chemical Precipitation
Filtration	Adsorption
Vacuum Filtration	Ion Exchange
Flotation	Membrane Processes
Disinfection	Heat Transfer
Chemical Oxidation and Reduction	Gas Transfer
	Biological Oxidation in Batch and Continuous Systems

In addition to the experiments, the manual contains sections on laboratory rules and safety regulations, the submission of laboratory reports, and a novel method of teaching a unit operations and unit processes laboratory course which employs the "Job Captain" concept.

HOW TO ORDER: Both manuals can be obtained by writing to the University of Texas, Austin, Texas, which is the repository for all AEEP publications. The cost is \$3.00 per copy for the Water Chemistry Manual and \$5.00 per copy for the Unit Operations and Unit Process Manual.

WRITE: Dr. Joseph F. Malina, Jr.
 Department of Environmental Health Engr.
 305 Engineering Labs Bldg.
 University of Texas
 Austin, Texas 78712

WHERE THE CONSULTING DOLLAR GOES

Have you ever wondered how consulting engineers spend their time? The AEEP Manpower Needs Committee, under the guidance of Chairman E. Joe Middlebrooks of Utah State University, has recently surveyed 941 consulting firms engaged in water pollution control activities in an attempt to answer this question. The results of the survey are summarized in Tables 1 and 2.

All of the firms surveyed did not show a division of effort in the various categories and the totals represent only the firms that did. However, the data in Table 1 represents approximately 75 percent of the total number of professionals employed by all firms during October, 1971, and Table 2 represents approximately 65 percent of the total number of technicians.

In general, the survey of the distribution of effort did not produce any unexpected results, but the data do provide a good basis for estimating the distribution of the receipts for consulting services.

Water resources planners, geologists, hydrologists, biologists and economists devoted a minimum of 57 percent of their effort to water resources planning and preliminary engineering while engineers in general devoted over 70 percent of their effort to preliminary engineering and plans and specifications. Construction administration occupied less than 10 percent of all professional employees except surveyors and less than 8 percent of the professional personnel were engaged in plant start-up and system monitoring. Over 86 percent of the effort of the technical employees was devoted to preliminary engineering, plans and specifications, and resident engineering activities.

Table 1
 Number of Professional Employees and Percentage of the Total Engaged in Each Occupational Designation
 According to Professional Classification for the 941 Firms Reporting.

	Water Resources Planning		Preliminary Engineering		Plans and Specifications		Construction Administration		Resident Engineering		Plant Start Up		Monitoring of Systems		Totals	
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total
Professional Staff																
Water Resources Planners	256.9	49.4	135.3	26.0	76.1	14.7	14.1	2.7	14.1	2.7	10.0	1.9	13.5	2.6	520.0	100
Civil/Sanitary Engineers	242.1	6.9	816.9	23.4	1580.0	45.3	317.4	9.1	259.6	7.4	194.8	5.6	79.3	2.3	3490.1	100
Civil/Structural Engineers	23.0	2.4	157.2	16.4	594.2	62.0	91.6	9.5	50.6	5.3	29.4	3.1	12.2	1.3	958.2	100
Civil/Soils Engineers	10.6	4.1	85.2	32.8	104.3	40.1	23.5	9.0	23.7	9.1	9.1	3.5	3.5	1.4	259.9	100
Mechanical Engineers	27.1	3.4	163.2	20.5	423.5	53.1	67.3	8.4	30.9	3.9	58.4	7.3	27.6	3.4	798.0	100
Electrical Engineers	4.0	0.7	71.0	13.8	354.6	68.8	41.5	8.0	8.2	1.6	20.4	4.0	16.0	3.1	515.7	100
Chemical Engineers	6.4	3.6	74.1	42.0	60.3	34.2	4.2	2.4	2.0	1.1	16.3	9.3	13.1	7.4	176.4	100
Architects	6.0	2.6	49.7	21.2	147.6	63.1	19.5	8.3	6.1	2.6	3.0	1.3	2.0	0.9	233.9	100
Geologists	16.6	18.4	34.9	38.8	18.6	20.7	2.1	2.3	2.6	2.9	9.1	10.1	6.1	6.8	90.0	100
Hydrologists	38.0	40.4	40.5	43.1	9.0	9.6	0.0	0.0	0.0	0.0	3.0	3.2	3.5	3.7	94.0	100
Biologists	7.0	25.0	9.0	32.1	2.0	7.1	0.0	0.0	1.0	3.6	1.0	3.6	8.0	28.6	28.0	100
Municipal Engrs./Planners	37.8	9.1	147.6	35.4	144.2	34.6	36.7	8.8	25.2	6.0	13.8	3.3	11.6	2.8	416.9	100
Economists	8.5	15.6	42.5	78.7	1.0	1.9	1.0	1.9	0.0	0.0	0.0	0.0	1.0	1.9	54.0	100
LandscAPE Architects	6.0	7.6	26.0	32.7	40.5	50.9	4.0	5.0	2.0	2.5	1.0	1.3	0.0	0.0	79.5	100
Surveyors	11.7	2.7	126.0	29.0	125.9	29.0	79.9	18.4	71.1	16.4	7.2	1.7	12.0	2.8	433.8	100
Systems Analysts	12.5	12.6	40.5	40.7	17.0	17.1	4.0	4.0	6.0	6.1	5.2	5.2	14.2	14.3	99.4	100
Chemists	9.8	8.9	37.7	34.3	7.6	6.9	1.0	0.9	1.0	0.9	8.7	7.9	44.2	40.2	100.0	100
Totals	724.1	8.7	2057.3	24.6	3706.5	44.3	707.8	8.5	504.1	6.0	390.5	4.7	267.9	3.2	8358.2	100

Table 2

Number of Technicians Employed and Percentage of the Total Engaged in Each Occupational Designation According to Technical Classification for the 941 Firms Reporting.

Technicians	Water Resources Planning		Preliminary Engineering		Plans and Specifications		Construction Administration		Resident Engineering & Consulting		Plant Start Up Monitoring of Systems		Totals			
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total		
Draftsmen	93.3	3.3	370.3	12.9	2,284.6	79.8	64.2	2.2	18.2	0.6	16.7	0.6	16.0	0.6	2,863.3	100
Instrumentmen	4.5	1.3	86.5	25.3	143.2	41.9	38.9	11.4	51.3	15.0	10.1	3.0	7.2	2.1	341.7	100
Field Crew	11.0	1.7	154.3	23.1	253.7	38.0	122.8	18.4	76.2	11.4	28.5	4.3	20.8	3.1	667.3	100
Computer Programmers	5.9	4.8	48.9	39.9	39.5	32.2	6.0	4.9	7.0	5.7	4.0	3.3	11.2	9.2	122.5	100
Inspectors	5.0	0.4	136.5	11.0	13.0	1.0	177.5	14.3	826.6	66.4	53.5	4.3	32.1	2.6	1,244.2	100
Totals	119.7	2.3	796.5	15.2	2,734.0	52.2	409.4	7.8	979.3	18.7	112.8	2.1	87.3	1.7	5,239.0	100

PEACE CORPS OPPORTUNITIES IN LATIN AMERICA

The U. S. Peace Corps in the State of Guanabara, Brazil (Rio de Janeiro) has been requested by the Institute of Sanitary Engineering (ISE) of Guanabara to provide five M.S. level sanitary engineers for work on two projects. Specifically the ISE is requesting:

1. Three Peace Corps specialists to collaborate in all aspects of the study and control of air pollution in Rio de Janeiro (survey of pollution sources, studies concerning air pollution problems, and technical consultant work to advise the ISE on bids and design for air pollution treatment facilities).
2. Two Peace Corps specialists to collaborate on all aspects of the study and control of the contamination of Guanabara Bay including the collection and interpretation of data on wind, tides, currents, temperatures, depth, water renewal rates in the bay, water quality and pollutant sources.

The Peace Corps volunteers will live and work in the City of Rio de Janeiro. Candidates with families will be considered. The period of service is for 27 months including 3 months language training in Portugese. These positions offer the possibility of excellent foreign experience in one of the world's larger urban areas (7.5 million people). Candidates should have experience in the technical aspects of air or water pollution control. If interested, call collect to Mr. Nathan Smith, Brazil Desk Officer, Peach Corps, Washington, D. C. (202)-382-2085.

SAN FRANCISCO CONFERENCE PREPRINTS AVAILABLE

AEEP has been asked to assist with the distribution of 900 sets of preprints from the San Francisco Conference of several years ago. These sets are available for a \$2.50 mailing charge. Please send your order along with \$2.50 per copy to:

Dr. Erman A. Pearson
 Division Hydraulics and Sanitary Engineering
 Room 635, Davis Hall
 University of California
 Berkeley, California 94720

DAGUE LEAVES ACADEMIA

Dr. Richard R. Dague has resigned as Associate Professor of Civil Engineering at the University of Iowa to accept the position of Senior Consultant in Environmental Research and Systems Planning with the consulting firm of Henningson, Durham & Richardson. Dick will be located at the firm's home office in Omaha, Nebraska.

MEETINGS AND SHORT COURSESEPA Symposium on the Aquatic Environment: Microbial Transformations and Water Quality Management Implications

October 3-4, 1972 at Washington, D. C.

Write: Dr. L. J. Guarria or Mr. R. K. Ballentine
 Fresh Water Pollution Control Section
 Water Quality and Non-Point Source Control Division
 Environmental Protection Agency
 Washington, D. C. 20460
 Phone: 703-557-1132

Short Course in Advanced Water Pollution Control: Physical and Chemical Waste Treatment

October 23-27, 1972 at University of Texas, Austin, Texas

Write: Dr. Joseph F. Malina, Jr.
 Director of Environmental Health Engineering Laboratories
 University of Texas
 Austin, Texas 78712

Environmental Resources Conference on Cycling and Control of Metals

October 31-November 2, 1972 at Columbus, Ohio

Sponsored by **EPA, NSF, and Battelle-Columbus**
 Write: G. Ray Smithson
 Columbus Laboratories of Battelle Memorial Institute
 505 King Avenue
 Columbus, Ohio 43201

Specialty Conference on Applications of Commercial Oxygen to Water and Wastewater Systems

November 13-15, 1972 at University of Texas, Austin, Texas

Write: Dr. Richard E. Speece
 305 Engineering Labs. Building
 University of Texas
 Austin, Texas 78712

NEW MEMBERS

The following persons have recently joined AEEP:

Dr. Ninnian E. Hopson
 Department of Civil Engineering
 State University of New York at Buffalo

Dr. Michael D. LaGrega
 Secane, Pennsylvania

Dr. Francis C. Lutz
 Assistant Professor of Civil Engineering
 Worcester Polytechnic Institute

CALLS FOR PAPERSWastewater Treatment in Cold Climates

An International Specialty Symposium on "Waste Water Treatment in Cold Climates" is being planned for August 22-24, 1973 at the University of Saskatchewan, Saskatoon, Saskatchewan, Canada. The meeting will be under the auspices of the University's Institute for Northern Studies in cooperation with other government, academic and scientific bodies.

Technical papers are invited, dealing with field investigations, theoretical studies and pilot plant operations in connection with waste water collection and disposal as well as the treatment aspects associated with cold climates. Abstracts and/or completed papers should be submitted prior to January 1, 1973, for consideration for inclusion in the technical program. Abstracts and inquiries should be directed to Dr. E. Davis, Civil Engineering Department, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0, Telephone (306) 343-5473.

Development of Ground Water Resources

The first Regional Meeting of the Asian National Committees for International Hydrological Decade (IHD) Bangkok, October, 1970 recommended the holding of a Seminar in the Asian Region on Groundwater Resources Development in 1973. The need for increased agricultural production in the developing countries has led them to a search for ground water resources particularly in areas where surface water sources are limited. India has decided on the holding of a Symposium, to bring together groundwater hydrologists of different countries in this region for exchange of field experience and results of research in the development of groundwater resources and to open avenues of cooperation among countries of similar geohydrological regime in the integrated development of their water resources. The Symposium will be held at the College of Engineering, Guindy, Madras on November 26-29, 1973.

Intending authors are requested to submit titles as soon as possible. An abstract in English of not more than 500 words in triplicate should be sent to the Symposium Secretary before October 31, 1972. Selection will be made on the basis of the abstract and the acceptance of the papers will be communicated before December 30, 1972. The last date for the submission of papers will be April 30, 1973. Instruction on the preparation of papers will be sent to intending authors.

All correspondence relating to the symposium should be addressed to:

Dr. V. C. Kulandaiswamy
Secretary,
International Symposium for Development
of Groundwater Resources
College of Engineering, Guindy
Madras 25, India

PROCEEDINGS AVAILABLE FROM TORONTO WORKSHOP

The 7th Annual AAPSE (or the 1st AEEP?) workshop took place in Toronto, August 8-10, 1972, on the subject of 'Interdisciplinary Education Programmes for Environmental Engineers'. Proceedings of the workshop will be issued toward the end of 1972 to all registrants and are available to others on order for \$10.00 per copy. The topics covered were very timely, particularly in view of the changing attitude of EPA in supporting traditional graduate programmes. Get your orders in now. There will be no second chance.

The workshop was attended by 46 people, 20 of whom are AEEP members. Twenty-seven of the attendees came from the U. S., 18 from Canada and one from World Health Organization, Geneva. It provided a forum for very interesting papers on the objectives of environmental engineering, the desirability of undergraduate and graduate education in multidisciplinary fields, and possible means of achieving this goal. The discussions were lively and added other viewpoints to those of the official speakers. May I use this opportunity to thank all speakers and participants for their efforts.

Gary W. Heinke,
Workshop Chairman

For ordering Proceedings send \$10.00 per copy (Made payable to AAPSE) to:

Mrs. Jean S. Seddon
Institute of Environmental Sciences
and Engineering
University of Toronto
Toronto 181, Ontario

BAHAMAS WORKSHOP DRAWS EXCELLENT RESPONSE

The AEEP Workshop on Mathematical Modeling in Environmental Engineering scheduled for December 18-21, 1972 **has** been enthusiastically received by the profession. The program is to **be held** on board the SS Sunward and features a Bahamas cruise with stops **at** Nassau and Freeport.

A recent report from Marty Wanielista, Workshop Co-Chairman, indicates that over 50 faculty members have registered for the workshop sessions and that a total of 116 people are going on the cruise. At the time of the report, it was also noted a few cabins were still available for those interested in attending the conference. These are limited in number, however, and will be assigned on a first come, first served basis.

For information write: Dr. Martin P. Wanielista, Ph.D.
Director, ESE Institute
Florida Technological University
P. O. Box 25000
Orlando, Florida 32816

JERUSALEM CONFERENCE PREPRINTS AVAILABLE

AEEP has been asked to assist with the distribution of 500 sets of preprints from the Jerusalem Conference. The following AEEP members will act as distribution agents for the sets of preprints they will receive:

David Jenkins
112 RFS, University of California
1301 South 46th Street
Richmond, California 94804

Robert O. Sylvester
Department of Civil Engineering
University of Washington
Seattle, Washington 98105

Edwin R. Bennett
Civil Engineering
University of Colorado
Boulder, Colorado 80302

Joseph F. Malina, Jr.
305 Engineering Labs Building
University of Texas
Austin, Texas 78712

Vernon L. Snoeyink
3230 CEB
University of Illinois
Urbana, Illinois 61801

Walter J. Weber, Jr.
Civil Engineering Department
University of Michigan
Ann Arbor, Michigan 48107

John H. Austin
401 Rhodes Research Center
Clemson University
Clemson, South Carolina 29631

Raymond J. Kipp, Acting Dean
College of Engineering
Marquette University
Milwaukee, Wisconsin 53233

Paul H. King
Department of Civil Engineering
Virginia Polytechnic Institute
Blacksburg, Virginia 24061

Raymond C. Loehr
207 Riley-Robb Hall
Cornell University
Ithaca, New York 14850

Francis A. DiGiano
Department of Civil Engineering
University of Massachusetts
Amherst, Massachusetts 01002

These sets are to be made available for student use in as many institutions as possible. Please contact the AEEP member in your area if you would like a set for student use at your institution. You may pick up a copy if you wish, or if you want it mailed to you, please make arrangements to pay for mailing cost. The copies will be distributed on a first come, first served basis.

RICHARD DICK JOINS UNIVERSITY OF DELAWARE FACULTY

Richard I. Dick has joined the faculty of the University of Delaware, Newark, Delaware, where he will head the environmental engineering program in the Department of Civil Engineering. Dr. Dick previously was Professor of Civil Engineering at the University of Illinois, Urbana. Richard Dick is a member of the Board of Directors of AEEP and currently serves as Vice President of the Association.

ACADEMIC POSITION AVAILABLEUniversity of Delaware

The University of Delaware has a position available for an assistant professor in its environmental engineering program in the Civil Engineering Department. Candidates should have strong interest and background in systems analysis, as well as a firm foundation in environmental engineering. Inquiries should be directed to Richard I. Dick, Professor, Civil Engineering Department, University of Delaware, Newark, Delaware, 19711.

University of Iowa

The Department of Civil Engineering at the University of Iowa is currently receiving application to fill an academic year position in the Environmental Engineering Program at the assistant or associate professor level effective January or August 1973. Applicants should have experience in teaching and research with special interests in physical and chemical processes or application of systems analysis and have a desire to teach undergraduate as well as graduate level courses. Send inquiries or resumes to: Dr. Harrison Kane, Chairman, Department of Civil Engineering, The University of Iowa, Iowa City, Iowa 52240.

AWWA PLANS "UNIVERSITIES FORUM" AT LAS VEGAS

The 1973 AWWA annual meeting will again feature a "Universities Forum" program. The "Forum" papers, authored and presented by students, graduate or undergraduate, will be scheduled for Thursday afternoon in Las Vegas. Titles and abstracts of papers should be sent by December 1 to:

Dr. Roger Minear
 Department of Environmental Engineering
 Illinois Institute of Technology
 Chicago, Illinois

* * * * *

D O N ' T F O R G E T T H E A E E P O P E N M E E T I N G
 I N A T L A N T A

PLANNING BEGINS FOR THIRD NATIONAL CONFERENCE ON ENVIRONMENTAL ENGINEERING
EDUCATION

Early in 1972 it became apparent that the American Academy of Environmental Engineers (AAEE) and AEEP shared a common interest in examining the concern for environmental education to meet present and future needs. Both organizations were interested in exploring the desirability of a 3rd National Conference on Environmental Engineering and Science Education and both education committees felt that this possibility should be explored in 1972.

In recognition of this common interest a joint meeting was held on August 21, 1972 at Drexel University for the purpose of evaluating the need for a 3rd National Conference to identify the problems associated with manpower and training needs in the period of 1975-2000 and to evaluate the capability of the universities acting in concert with the State and Federal governments to meet these needs. AEEP was represented by members of its Education Committee, including **Dean G. P. Hanna**, **Dr. E. Joe Middlebrooks**, **Dr. Wesley O. Pipes**, and **Dr. Ernest E. Lindsey**.

It was recommended that a 3rd National Conference on Environmental Engineering and Science Education be jointly sponsored by AAEE and AEEP. The objectives of such a **conference are to** be as follows:

1. To broadly identify the problems of environmental control that must be faced between 1975 and the year 2000 and to **further identify the problems that environmental engineers and scientists are expected to solve within this time frame.**
2. To identify manpower requirements, insofar as possible. To relate these to the capability of the educational institutions to produce the necessary manpower and to identify areas of deficiency.
3. To identify the nature of educational needs with relation to level and scope of program and to assess the effectiveness of existing programs.
 - a. By discipline
(e.g.: engineering, science, planning and management, interdisciplinaries or combinations thereof)
 - b. By level for formal training
 - (1) Graduate
 - (2) Undergraduate
 - (3) Technician
 - c. To assess the effectiveness of existing programs;
 - d. To appraise continuing education needs and alternatives;
 - e. To evaluate the need for advanced graduate study and research.
4. To evaluate the need for "Quality Assurance" (accreditation) for undergraduate and graduate programs.

- 5. To identify respective responsibilities of Federal and State Governments and Universities for Environmental Education and to recommend a national policy for conduct of educational programs to meet manpower needs.

Further recommendations included the following:

- 1. That the Conference be held in mid-August, 1973 for a two to three day period.
- 2. That the site of the Conference be Drexel University at Philadelphia, Pennsylvania.

FLORIDA TECH CONTINUES RETRO PROGRAM

Florida Technological University, Orlando, has received a second phase renewal of its RETRO grant to re-educate displaced aerospace engineers. The first year's program included 20 engineers to be educated to the M.S. level. The second phase will involve 10 additional engineers, starting September, 1972. A curriculum emphasizing environmental engineering with a minor in I.E. and management systems has been very suitable for these older, experienced engineers. The degree title is M. S. in Environmental Systems Management. Job placement of the initial graduates has been very successful. Placement has been with governmental agencies, consulting engineers, and educational institutions.

Please detach and mail to:

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