



Sustaining Membership in AEEP

Last year the AEEP membership approved a change in the bylaws which created a Sustaining Membership category for those not affiliated with universities but who are interested in Environmental Engineering education and would like to assist in strengthening university programs devoted to this area. The primary objective for establishing this type of membership is to improve communication between Environmental Engineers in universities and those in practice, with a resulting increase of cooperative efforts in teaching, research, and practice by AEEP members and practicing Environmental Engineers.

The help of every AEEP member in making the availability of this membership category known to Environmental Engineers in consulting engineering firms, industry, equipment manufacturers, and governmental agencies is needed. An application form for Sustaining Membership is included at the end of this issue of the Newsletter. Please pass this on to whomever you believe may be interested in joining. As noted on the form, both individuals and organizations may become Sustaining Members with the annual dues being \$250 per year. An organization may apply for more than one sustaining membership if desired.

New Sustaining Members

AEEP is pleased to welcome the first two sustaining members of the Association:

Engineering Science, Inc
Procter and Gamble Company

AEEP is pleased that they are joining us in our endeavors to improve Environmental Engineering education and research.

Expanded Distribution of AEEP NEWSLETTER

Once again the NEWSLETTER'S first issue of the new year is being distributed to personnel outside the AEEP who are involved in environmental issues. It is hoped that the expanded distribution of the NEWSLETTER will give AEEP increased visibility and will allow the association to inform a wider audience of our activities and accomplishments. Anyone wishing to submit articles of general Environmental Engineering interest to future issues should send the information to the NEWSLETTER editor.

AEEP: A Brief Description

AEEP, which was formed in 1963, has the objective of advancing Environmental Engineering education by pooling the efforts of Environmental Engineering educators in the Universities represented by its membership.

AEEP is increasing its efforts to improve communications with and develop closer relations between Environmental Engineers in Universities and those in practice. Beginning this year, a Sustaining Membership category has been created for those not affiliated with Universities but who are concerned about Environmental Engineering education and wish to assist in strengthening University programs devoted to this area. In addition to developing stronger bonds between those engaged in teaching and those engaged in practice, some specific AEEP activities which could be of interest to those practicing Environmental Engineering are:

- *Register of Graduate Programs:* This register, which is periodically updated, includes detailed information on Environmental Engineering programs in North America. It could serve as a valuable source of information for practicing Engineers in locating students for employment and finding faculty with expertise in specific technical areas. A listing of Sustaining Members will be included in the next edition of the register to assist students in locating employment in the Environmental Engineering field.
- *Annual Workshops and Seminars:* These are conducted annually at the Purdue Industrial Waste Conference and Conferences of the American Water Works Association and Water Pollution Control Federation. The topics covered, such as stream modeling, anaerobic digestion, chemistry of coagulation, etc., should be of value to all Environmental Engineers in their professional activities.
- *Environmental Engineering Education Conferences:* These are held at 6 to 8 year intervals and have the objective of examining the current status of Environmental Engineering education and planning for the future. The input of practicing Environmental Engineers to these Conferences, as prospective employers of students, is needed. To facilitate this input, the Conferences are organized in cooperation with the American Academy of Environmental Engineers.
- *Research Needs Conferences:* These conferences, which have been supported by the National Science Foundation, have the objective of examining the status of Environmental Engineering research and pointing out areas where additional research is needed. This could be of substantial value to practicing Engineers in their professional activities. Also, the help of practitioners is needed

(Continued on page 2)

in establishing these research needs. The Conferences also present an opportunity to explore areas in which professors and students can engage with practicing Engineers in cooperative research projects.

- **AEEP Newsletter.** AEEP publishes a newsletter three times each year. It reports on AEEP's activities, national and international activities of importance to the membership, and provides a classified section listing employment opportunities for graduate students and faculty. The names of Sustaining Members will be listed in the newsletter and input from Sustaining Members as to how the newsletter could be modified to better serve their needs will be welcomed.
- **Distinguished Lecturers:** Each spring, AEEP selects a distinguished Environmental Engineer to present lectures at selected Universities throughout the country. The speakers alternate between those from other countries and North America. Sustaining members are welcome to attend these seminars whenever the speaker is scheduled for their local Universities.

AEEP hopes that practicing Environmental Engineers will become Sustaining Members of AEEP and participate with those of us in Universities in contributing to and helping shape the future of Environmental Engineering education. More details on the Sustaining Membership program can be

obtained from the Officers and Board Members of AEEP who are listed on the last page of this newsletter.

Other services and activities of AEEP include:

- **Teaching materials** such as the "Water Chemistry Laboratory Manual," "Environmental Engineering Unit Operations and Unit Processes Laboratory Manual," and "Aquatic Microbiology Laboratory Manual"
- **Policy statements** to the U.S. Congress on legislation affecting Environmental Engineering programs
- **Research Awards** for doctoral dissertations in cooperation with Engineering Science Inc. and for outstanding research publications
- **Input to other organizations** including an AEEP delegation on the USANC for representation of the United States to the IAWPRC and an elected member on the board of directors of the AAEE
- **Enrollment survey** which includes numerical data on graduate enrollment trends in the profession
- **Membership Meetings** held at the annual WPCF Conference and the Purdue Industrial Waste Conference, as well as special sessions at the Annual AWWA Conference.

AEEP members are generally on the faculties of the educational and research programs that have produced, and are producing most of the Environmental Engineers in practice today. An application for AEEP membership is included in this issue.

AEEP NEWS AND ANNOUNCEMENTS

AEEP Workshop at Purdue

The annual AEEP Workshop before the Purdue Industrial Waste Conference will be held on Monday, May 12, 1986 from 8:30 am to 5:00 (with a break for lunch). The general topic of the workshop is "Engineering the Biofilm Environment". The speakers selected to give the presentations are: W. G. Characklis (Montana St. Univ.), S. Hermanowicz (Univ. of California-Berkeley), and J. A. Mueller (Manhattan College). Registration fees for the workshop will be \$30 for AEEP members, \$90 for nonmembers, and \$10 for students. For more information contact:

William G. Characklis
Institute for Biological and Chemical Process Analysis
Montana State University
Bozeman, Montana 59717
(406) 994-6135

The specific lecture titles and brief abstracts follow:

1. **Biofilms: A Process Description (Characklis)**
Processes contributing to biofilm accumulation will be described along with factors influencing their rate. In addition, factors influencing microbial activity within the biofilm will be discussed. Properties of the biofilm contributing to activity and structure of biofilms will be addressed.
2. **Progress Report: IAWPRC Task Group "Modelling of Biofilm Systems" (Characklis)**
The goals of the Task Group are to assess the state of biofilm modelling, provide a framework for biofilm reactor modelling, and make recommendations for research and development necessary to achieve useful and practical models.

3. **Practical Application of Mass Transfer to Trickling Filters (Mueller)**

This will incorporate the liquid film equations with mass transfer across the gas-liquid and liquid-biofilm interfaces with molecular diffusion and simultaneous reaction within the biofilm. Two diffusing species will be considered, both oxygen and organic substrate (BOD, COD). A simplified modification for use with high strength wastes will be presented with pilot scale data and design applications.

4. **Practical Application of Mass Transfer to Rotating Biological Contactors (Mueller)**

The additional complexity of a rotating biofilm is incorporated in this system. Analysis of full scale data for both carbon oxidation and nitrification with five diffusing species will be presented. The incorporation of sequential nitrification/denitrification with depth in the biofilm will be highlighted. Practical applications of RBC system design from model analysis will be presented.

5. **Fluidized Bed Technology and its Application in Biological Treatment Processes (Hermanowicz)**

An overview of basic phenomena related to fluidization (expansion, mixing of liquid and solid phases). Reactor modelling, biofilm development, substrate removal in fluidized beds and mass transfer implications.

6. **Distribution of Biomass in a Fluidized Bed: Effects on Reactor Performance (Hermanowicz)**

More detailed discussion of solids mixing and segregation in the fluidized bed. Effects of biomass distribution on substrate removal efficiency. Solids recycled and biomass wasting.

AEEP Annual Membership Meeting at Purdue

The annual AEEP Luncheon at the Purdue Industrial Waste Conference will be held Tuesday, May 13, 1986 from 12:00 to 1:00 pm. The luncheon will be a cash buffet - no advance reservations will be taken. A short business meeting chaired by AEEP President John F. Andrews will follow the luncheon.

AEEP-AWWA Seminar Program

The AEEP Seminar at the Annual AWWA Conference in Denver is scheduled for Monday evening, June 23rd. Watch the AWWA Program for the exact time and place. The seminar is entitled **THE REGULATORY PROCESS FOR SETTING DRINKING WATER STANDARDS**. The featured speakers will be Michael Cook, Director of the Office of Drinking Water, U.S. EPA, who will give an overview of the regulatory process, and Joe Cotruvo, Director of the Criteria and Standards Division in the Office of Drinking Water, U.S. EPA. Mr. Cotruvo's topic will be "Risk Assessment and Control Decisions for Protecting Drinking Water Quality." For more information contact the session moderator:

Mike Cavanaugh
James M. Montgomery Engineers
501 Lennon Lane, Suite 200
Walnut Creek, CA 94598
(415) 933-2250

Environmental Engineering Education Conference

The Fifth Conference on Environmental Engineering Education will be held at Michigan Technological University, Houghton, Michigan, from July 21-23, 1986. The Conference will deal with Environmental Engineering education at both the advanced undergraduate and graduate levels; however, special attention will be given to the M.S. level as preparation for research and professional practice. The focal issues of the conference will be:

- (1) Role of Computers in Environmental Engineering Education and Research
- (2) Integrated Air, Water, Land Approaches in Environmental Engineering
- (3) Role of Design and Operation in Environmental Engineering

Copies of the issue papers will be distributed to preregistrants before the conference. The format of the conference will include summaries and initial discussions on the first day, Task committee meetings on the second day, and a plenary session to discuss and vote on the Task committee recommendations on the third day. For further information or registration materials contact:

Dr. C. Robert Baillod, Conference Chairman
Civil Engineering Department
Michigan Technological University
Houghton, MI 49931
(906) 487-2530

Best Doctoral Thesis Award Change

Engineering Science, Inc., has decided to give their award for the best Ph.D. dissertation in Environmental Engineering on a biennial basis. The next announcement of submission procedures will be made one year from now.

Save on Travel to the Environmental Engineering Education Conference

By now, all AEEP and AAEE members should have received the program announcement for the Education Conference. That brochure points out that Houghton is served by Republic Express (Simmons) Airlines with six daily flights from Detroit and Minneapolis, and that Republic and Republic Express are offering a 25% discount from regular fares for travel to and from the conference between July 17 and July 26. Registrations must be made through the Republic Convention Desk (1-800-438-1111). The discount code for the conference is MIC 222. Conferencees travelling under this special rate must have proof of registration while travelling and therefore should preregister. Those arriving on Saturday, may be able to save additional money by qualifying for super saver rates.

The table below summarizes some very approximate air fares for travel to Houghton from various points via Republic and Republic Express. Significant savings can be realized by taking advantage of the conference and super saver rates.

TO HOUGHTON, ROUND TRIP				
FROM	Regular Fare	Republic Conf. Rate	Super Saver*	Ult. Super Saver*
NY City	\$580	\$435	\$370	\$208
Atlanta	\$600	\$450	\$400	\$218
L.A.	\$940	\$705	\$518	\$338
Mpls	\$238	\$178	\$169	\$139
Chicago	\$420	\$315	\$253	\$183

* Requires stay over Saturday Night and early purchase; Availability may be limited.

Engineering Science, Inc./AEEP Award Best Doctoral Thesis Award

The 1985 Engineering Science, Inc./AEEP Award for the Best Doctoral Thesis Relevant to Environmental Engineering Practice was given to Arthur L. Baehr and his advisor, Professor M. Yavuz Corapcioglu, of the University of Delaware. Dr. Baehr's dissertation was entitled "Immiscible Contaminant Transport in Soils with an Emphasis on Gasoline Hydrocarbons." The award was presented by Dr. Davis Ford, Division Vice President of Engineering Science, Inc. at the October, 1985 AEEP Luncheon at the annual WPCF conference in Kansas City. In the picture below are (left to right): Dr. Ford, Dr. Corapcioglu, and Dr. Baehr.



