

AAPSE OFFICERS

Pres. E. R. Baumann
Iowa State University

Vice-Pres. J. A. Borchardt
Univ. of Michigan

Sec.-Treas. R. I. Dick
Univ. of Illinois

AAPSE

NEWSLETTER

BOARD OF DIRECTORS

J. F. Andrews
Clemson University

E. F. Gloyna
Univ. of Texas

W. J. Kaufman
Univ. of California

R. C. Loehr
Cornell University

D. J. O'Connor
Manhattan College

F. G. Pohland
Georgia Institute of
Technology

NEWSLETTER COMMITTEE

J. H. Austin, Editor
Univ. of Illinois

K. D. Kerri, Assoc. Editor
Sacramento State College

J. F. Andrews
Clemson University

J. H. Borchardt
Univ. of Michigan

R. T. Skrinde
Univ. of Massachusetts

R. G. Spicher
San Jose State College

E. Thackston
Vanderbilt Univ.

Vol. 4, No. 4

July, 1969

| | |
|--------------------------------|----|
| Message From the President | 2 |
| Committee Assignments | 3 |
| Fifth International Conference | 3 |
| Dissertation Abstracts | 4 |
| AAPSE Meeting at Purdue | 12 |
| New AAPSE Members | 14 |
| AAPSE Membership List | 15 |
| Proceedings Available | 19 |
| Educational News | 20 |
| Letter from Dr. Downing | 22 |
| AAPSE Workshop | 23 |
| Notes of Interest | 24 |
| Corrections | 28 |
| FWPCA Policies | 29 |

MESSAGE FROM THE PRESIDENT

How can a calendar year slip by so fast? By the time you receive this Newsletter, your AAPSE committees will find half of this year's productive work period is history. Much, however, has been accomplished by them:

- The Seminar on "Teaching of Microbiology for Sanitary Engineers" was held at Purdue.
- The Register Survey forms are back in for preparation for Register reprinting.
- The Education and Research Committees have prepared preliminary reports for review by Committee and Board Members.
- The Workshop at Myrtle Beach, South Carolina has been held successfully at the end of June. Plans for the 1970 workshop are being formulated.
- The Member Meeting at Purdue got some real first-hand information on research and development policies and grants from Dr. David G. Stephan of FWPCA. Did you hear him?

THAT, however, is HISTORY.

Come October and we have more activities for you to participate in. The next AAPSE scheduled events are to be held in Dallas at the time of the Water Pollution Control Association Meeting as follows:

Sunday, October 5, 1969

10:00 AM to closing: AAPSE Board of Directors Meeting

Monday, October 6, 1969 (tentative)

8:00 AM Breakfast: AAPSE Seminar

Tuesday, October 7, 1969

8:00 PM: AAPSE ANNUAL MEETING FOR MEMBERS

(Our speaker at this meeting will be from the Training Grants Branch, FWPCA, to discuss with you training grant and fellowship policies)

Put these dates on your CALENDAR!

Thought for the month: If we, as professors in sanitary engineering, really desire to improve the education of students in sanitary engineering, we ought to be able to come up with a workable method of "encouraging" movement of students from one University to another. Many students -- and the graduate programs involved -- would benefit if they took Master's level work at one institution and Ph.D. work at a second institution. We need to encourage our potential Ph.D. people to consider carefully their choice of major professor, research area, and institution. How do we go about "encouraging" movement of students in a realistic manner? Should we?

See you all in Dallas!

COMMITTEE ASSIGNMENT FOR 1969

The following committee assignment should be added to the list which appeared in the April Newsletter.

Government Agency Liaison Committee - provide contact and information to officers and board, and to Newsletter Committee

| | |
|-----------------------------|--|
| J. A. Borchardt, Chairman | (Vice President in charge of government relations) |
| E. F. Gloyna, Vice-Chairman | (WHO and PAHO) |
| B. B. Berger | (Interior) |
| R. S. Engelbrecht | (HEW) |
| D. W. Hood | (ESSA) |
| G. W. Reid | (HUD) |

FIFTH INTERNATIONAL CONFERENCE ON WATER POLLUTION RESEARCH

Abstracts are still being accepted for the Fifth International Conference on Water Pollution Research to be held in San Francisco 26 July through 1 August 1970. Send your abstract to

W. W. Eckenfelder
Technical Program Coordinator
U. S. National Committee
ELB 305
University of Texas
Austin, Texas 78712

More details concerning the preparation of an abstract are given in the April Newsletter.

DISSERTATION ABSTRACTS

At its recent meeting at the Purdue Industrial Waste Conference, the Research Committee evaluated the response over the past year to the listing of Ph.D. dissertation titles in the Newsletter. The consensus of the Committee was that publication of the titles was serving a very useful function, and that it would be desirable to now expand the listings to include M.S. theses.

The Committee further decided to request all advisors (and/or students) wishing to participate in the publication of thesis titles (Ph.D. or M.S.) to submit an abstract for each thesis which they wish to have included in the listings. In the case of Ph.D. theses, the abstract should be the same as that included in the thesis. For an M.S. thesis, the abstract should be approximately fifty words in length, and should indicate the scope and principal findings of the thesis research.

The reason for requesting abstracts is to provide interested parties with a more thorough description of the research scope and results than can be indicated by a title alone. Although the titles of all theses submitted with an abstract will be carried in the Newsletter, the abstracts themselves will be sent in a separate mailing. Because of the costs of reproducing and mailing the abstracts, this separate mailing will necessarily be restricted to AAPSE members.

Information on titles, author, faculty advisor, and date of completion should be submitted, along with abstracts, to W. J. Weber, Jr., Professor of Civil Engineering and Water Resources, Department of Civil Engineering, The University of Michigan, Ann Arbor, Michigan, 48104. Listings and abstracts for M.S. theses completed since June 1967 are requested.

Information regarding any of the dissertations listed below may be obtained by writing to the appropriate faculty advisor(s). The titles of the M.S. thesis listed below were submitted prior to the Committee meeting at which it was decided to request abstracts. Thus, no abstracts for this particular group of M.S. thesis will be forthcoming.

Ph.D. THESES

The University of Michigan

Title- "Regional Economic Optimization and Effluent Charge Theory
in Water Resources Utilization"

Author- Armstrong, J. M.

Advisor- W. J. Weber, Jr. and D. Wilson

Ph.D. THESES (cont'd)

- Title- "Mathematical Modeling of Sorption Kinetics in Finite and Infinite Bath Systems"
Author- DiGiano, F. A.
Advisor- W. J. Weber, Jr.
- Title- "Interactions of Monomeric Silica with Iron, Manganese, and Aluminum in Aqueous Solution"
Author- Schenck, J. E.
Advisor- W. J. Weber, Jr.

M.S. THESES

Colorado State University

- Title- "Predicting the Quality of Irrigation Return Flows"
Author- Margheim, G. A.
Advisor- C. Ward
- Title- "Equilibrium Surface Water Temperatures"
Author- Hatheway, J. L.
Advisor- C. Ward

University of Florida

- Title- "Investigation of Particulate Concentration in a Polluted Atmosphere Below 500 Feet"
Author- Emery, L. H.
Advisor- R. S. Sholtes
- Title- "Determination of Sulfide Gas Exposure by Dynamic Sampling with Metallic Silver Filters"
Author- Falgout, D. A.
Advisor- C. I. Harding
- Title- "The Resistance of Staphylococci to Halogens as Related to a Swimming Pool Environment"
Author- Keirn, M. A.
Advisor- H. D. Putnam
- Title- "The Hydrolysis of Aluminum III in Dilute Aqueous Solution"
Author- Sullivan, J. H.
Advisor- J. E. Singley
- Title- "Use of Flame Photometric Detector and Gas Chromatography for Analysis of Gaseous Sulfur Compounds"
Author- Tucker, T. W.
Advisor- R. O. McCaldin

M.S. THESES (cont'd)

- Title- "A Comparison of Trickle Filter Performance with Current Design Standards"
Author- Ball, J. E.
Advisor- T. deS. Furman
- Title- "Solid Waste Collection and Disposal for Western Palm Beach County"
Author- Gargiulo, F. J.
Advisor- T. deS. Furman
- Title- "The Use of an Acoustical Particle Counter in Air Pollution Surveys"
Author- Harris, D. B.
Advisor- R. S. Shoites

University of Michigan (Water Chemistry)

- Title- "Influence of Structure and pH on the Kinetics of Adsorption of Substituted Phenols from Aqueous Solution by Active Carbon"
Author- Gould, J. P.
Advisor- W. J. Weber, Jr.
- Title- "Preliminary Investigations on the Use of Activated Alumina as a Sorbent for Organic and Inorganic Pollutants"
Author- Crumrine, J. P.
Advisor- W. J. Weber, Jr.

North Carolina State University

- Title- "Measurement of Biological Film Accumulation in a Trickle Filter by Neutron Moderation"
Author- Sullins, J. A.
Advisor- W. Galler
- Title- "Algal Growth Potential Test Applied to the Pamlico River Estuary"
Author- McNulty, O.
Advisor- W. Galler

Northwestern University

- Title- "Effect of Organic Pollutants on Iron Concentrations in Water"
Author- Alauddin, M.
Advisor- Prof. Hermann

M.S. THESES (cont'd)

Title- "An Anti-coincidence Shielded, High Gamma Efficiency
G-M Detector for Whole Body Counting Small Laboratory
Animals"
Author- Berger, J.
Advisor- Prof. Cember

Title- "Mental Health and Urban Design"
Author- Flachsbart, P.
Advisor- Prof. Peterson

Title- "Factors Affecting the Sludge Volume Index"
Author- Fox, H.
Advisor- Prof. Pipes

Title- "Settling Properties of Activated Sludge"
Author- Hsu, D.
Advisor- Prof. Pipes

Title- "Particulate Measurement with an Americium 241
Ionization Chamber"
Author- McDermott, H.
Advisor- Prof. Quon

Title- "Particle Formation from Nitric Acid Vapor"
Author- Meyer, E. L.
Advisor- Prof. Quon

Title- "Radio-Protective Effect of Cyclic Choline Xanthate"
Author- Port, E.
Advisor- Prof. Cember

Title- "Application of Reverse Osmosis for Recover of Water
from Saline Solution"
Author- Rubinfeld, S.
Advisor- Prof. Thodos and Prof. Pipes

Title- "Effect of Copper Sulfate on Some Organisms of Activated
Sludge"
Author- Russell, R.
Advisor- Prof. Pipes

Title- "Toxic Effects of Combination of Substances"
Author- Wahad, S. A.
Advisor- Prof. Herman

Title- "Aerobic Sludge Digestion"
Author- Weinbrenner, L.
Advisor- Prof. Pipes and Prof. Quon

M.S. THESES (cont'd)

Title- "Causes, Effects and Consequences of Filaments
in the Activated Sludge Process"
Author- Yarne, J.
Advisor- Prof. Pipes

Rensselaer Polytechnic Institute

Title- "An Evaluation of Vacuum Rotary Thin-Film Evaporation
for the Concentration of Trace Organics"
Author- Fredette, P. E.
Advisor- W. W. Shuster

Title- "Nutrient Removal Through Natural Sand Beds"
Author- Glavin, T. P. and Romero, J. A.
Advisor- D. B. Aulenbach

Title- "Solid Waste Disposal at State University of New York,
Albany Campus"
Author- Gray, A. C.
Advisor- D. B. Aulenbach

Title- "Transfer Station Feasibility Study for City of
Schenectady, New York"
Author- Kestner, M. L.
Advisor- W. W. Shuster

Title- "A Diffusion-Thermal Ionization Source for the Mass
Spectrometric Assay of Trace Metals"
Author- Myers, W. G., Jr.
Advisor- F. A. White

University of Texas

Title- "Carbon Adsorption in Industrial Water Pollution Control"
Author- Burleson, N. K.
Advisor- W. W. Eckenfelder

Title- "Effect of Waste Paper Additions on Sludge Filtration
Characteristics"
Author- Carden, C. A.
Advisor- J. F. Malina, Jr.

Title- "The Effects of Lime Sludge Return on Hardness Removal
Carryover in the Lime Softening Process"
Author- Stone, R. W.
Advisor- E. G. Fruh

- Title- "The Effects of Surfactants on Oxygen Transfer
with Surface Aerators"
Author- Bishop, N. E.
Advisor- W. W. Eckenfelder
- Title- "Radioactivity Transport in Water - Effects of Organic
Pollution on Radionuclide Transport"
Author- Futagawa, K.
Advisor- E. F. Gloyna
- Title- "Compaction of Size Reduced Refuse"
Author- DiFilippo, J. D.
Advisor- J. F. Malina, Jr.
- Title- "Solid Wastes Production and Disposal in Selected
Texas Cities"
Author- Smith, M. L.
Advisor- J. F. Malina, Jr.
- Title- "Stabilization of a Food Processing Waste by the
Anaerobic Submerged Filter"
Author- Plummer, A.
Advisor- W. W. Eckenfelder

Virginia Polytechnic Institute

- Title- "Characterization and Treatment of Spent Vegetable
Tan Liquors"
Author- Edwards, W. H.
Advisor- P. H. King
- Title- "The Relation of ORP to Orthophosphate Release by
Activated Sludge"
Author- Marshall, D. W.
Advisor- C. W. Randall
- Title- "The Role of Iron in Phosphate Adsorption on Coal"
Author- McNeice, F. R.
Advisor- H. King
- Title- "A Field Study of Grease Removal in Sewage Treatment"
Author- White, F. E.
Advisor- H. King
- Title- "Warburg Studies of the Oxidative Activities of
Activated Sludge"
Author- Bartsch, E. H.
Advisor- J. J. Cibulka

M.S. THESIS (cont'd)

- Title- "The Effect of Quaternary Amines on Nitrification
in the BOD Test"
Author- Hulcher, B. S.
Advisor- P. H. King
- Title- "Tracer Studies of Inlet Baffle Performance in a
Horizontal Rectangular Settling Tank Model"
Author- Bugg, H. M.
Advisor- H. R. Bungay
- Title- "Removal of Grease from Waste Water from Pan Washing
Operations in the Food Industry"
Author- Conner, R. E.
Advisor- W. A. Parsons
- Title- "A Pollutional Analysis of the Upper Tidal James
River by the Segmented Model Method"
Author- W. W. Finley
Advisor- W. A. Parsons
- Title- "Hydraulic Model Study of a Manhole Junction"
Author- Parker, D. G.
Advisor- W. A. Parsons
- Title- "Lindane Movement in Soils"
Author- Renalds, J. O.
Advisor- P. H. King
- Title- "The Effect of Coal on the Removal of Phosphate from
Solution"
Author- Stanton, I. W.
Advisor- P. H. King
- Title- "Optimization of Acid Wastes Sludge Characteristics:
A Basis for Scale-Up"
Author- Morgan, J. M.
Advisor- W. A. Parsons
- Title- "The Effect of Bioxidation on the Coagulation of
Dispersed Color"
Author- Laing, G. T.
Advisor- W. A. Parsons

M. S. THESIS (cont'd)

University of Washington

- Title- "A Study of Coliform Survival in Chlorinated Sewage Effluent"
Author- Lynd, E. R.
Advisor- R. F. Christman
- Title- "Design, Construction and Testing of a Probe for Source Sampling"
Author- Mehra, V.
Advisor- A. T. Rossano
- Title- "Alum-Color Coagulation and Fluorescence"
Author- Arnquist, J.
Advisor- R. F. Christman
- Title- "Engineering Aspects of Nuisance Algal Control in Moses Lake"
Author- Nunnally, D. A.
Advisor- R. T. Oglesby
- Title- "A Study to Predict the Gross Effects of an Aluminum Reduction Plant Effluent on the Biota of a Southeast Georgia Strait Benthic Community"
Author- Sainsbury, J. P.
Advisor- R. T. Oglesby
- Title- "Dilution Effects on Algal Standing Crop in a Eutrophic Lake"
Author- Shepherd, T. A.
Advisor- D. A. Carlson and R. T. Oglesby
- Title- "Nitrification in the Activated Sludge Process"
Author- Eikum, A.
Advisor- D. A. Carlson
- Title- "Microbial Denitrification in Conjunction with the Activated Sludge Process"
Author- Pine, W.
Advisor- D. A. Carlson

ANNUAL AAPSE MEETING AT PURDUE

A regular meeting of AAPSE was held Tuesday evening, May 6, in the Purdue Memorial Center, in conjunction with the Purdue Industrial Wastes Conference. To the accompaniment of the chants of students demonstrating on the lawn outside, President Bob Baumann called the meeting to order at 8:00 P.M.

Ray Loehr reported on the activities of the education committee and stated that they are preparing a report on the attitude of AAPSE toward federal policy on research, development, and training grants. The preliminary report will be mailed to all members in the fall and comments will be solicited.

President Baumann reported on the status of the project to update the register of graduate programs in sanitary engineering, sponsored by AAPSE and EEIB. The new register should be out shortly.

An announcement was made pertaining to the possible significance of HB 418, recently passed by the U.S. House of Representatives. The bill authorizes \$12 million for 1970, \$25 million for 1971, and \$25 million for 1972 for funding of programs at the undergraduate level to train people for the design, operation, and maintenance of water pollution control facilities.

Richard Dick reported that the International Water Pollution Research Conference was held on schedule in Prague without interference. About 25 of the total attendance of 1200 were from the United States.

Don Washington asked the members a series of questions pertaining to AAPSE's Distinguished Foreign Lecturer program, after announcing that this year's lecturer, A. L. Downing, visited 6 schools, too few of the 60 AAPSE-represented schools to be useful to a significant fraction of the membership. A show of hands indicated that more schools would be interested in the program if the identity of the lecturer were to be known in advance. Members also indicated support of a program of at least two lecturers, one of truly distinguished caliber, and one of excellent technical ability but perhaps not yet quite as distinguished.

It was announced that the 1970 AAPSE workshop will be held in the Chicago area. The topic will probably be concerned with how to acquaint the younger (and other) members with the methods, personnel and training needs, and capabilities of the consulting engineering field. Wes Pipes will be in charge. (See note elsewhere in Newsletter.)

Ben Ewing started off the very interesting program by speaking on "The Role of Research in Sanitary Engineering Education, from the Academician's Viewpoint." He identified the two main roles of a strong viable research program in sanitary engineering education as attracting

people into the field by offering an intellectually challenging career, and overcoming technical **obsolescence**. He pointed out that it is more important for an educator to **keep abreast** of new developments than it is for the average engineer.

The most successful techniques for keeping up is research, and engineering educators should have at least some acquaintance with the techniques of research so as to be able to tackle new problems as they arise.

The requirements of the type of research which is needed by both graduate students and faculty are (a) originality, (b) amenability to attack by scientific methods, and (c) some engineering significance. This type of research can easily be mission-oriented.

Ewing stated that, in his opinion, the training grant does not provide for research, and the research fellowship is much too limited to support some of this type of research. The research contract or demonstration grant is also too rigid and usually requires more equipment or physical plant than is available at a university.

A great need exists for a modest amount of very flexible kind of research support which can be of significance to all of environmental engineering **education**.

Vice President Jack Borchardt was in charge of the portion of the program designed to acquaint members with the Federal Water Pollution Control Administration, one of the major federal agencies supporting work in sanitary engineering. He introduced Dave Stephan, Assistant Commissioner of the FWPCA for Research and Development. Dr. Stephan spoke on the research, development, and demonstration program of the FWPCA. He pointed out that the FWPCA is very mission-oriented and that all proposals should definitely have distinct "engineering significance."

He introduced and explained the planning, programming, and budgeting program, used by federal agencies to plan and control their direction of effort.

He outlined the research done by FWPCA as:

- A. In-house
- B. Contract (fully federally funded)
- C. Grants
 - 1. Research Grants (up to 95% federal funding)
 - 2. Demonstration Grants (up to 75% federal funding)
 - 3. Section 6 Grants on the specific subjects of storm and combined sewer overflows, industrial waste treatment, and advanced waste treatment.

The method of receipt and review of proposals was also discussed. There are three types of review given to each proposal. They are

- A. Program relevance review (within 7 days)
- B. Regional policy review
- C. Technical merit review (within 6-8 weeks). The results from this review may be
 1. Yes
 2. No
 3. Specific changes suggested.

As of now, the review is all of the in-house type. Dr. Stephan stated that there were no funds available to support review panels, such as existed prior to two years ago, and asked if any AAPSE members would be willing to review a few proposals per year in their speciality, without compensation. The response was overwhelmingly positive.

The meeting adjourned at 10:00 P.M., just prior to the invasion of the building by demonstrating students.

NEW AAPSE MEMBERS

Since the last issue of the Newsletter, these professors have joined AAPSE

Andrejs Pakalins
Assoc. Prof. of Sanitary Engineering
McGill University, Sherbrooke
Street West
Montreal 2, P.Q., Canada
Ph-392-5929

David Jenkins
Asst. Prof. of Sanitary Engineering
112RFS, University of California
1301 S. 46 Street
Richmond, California 94804
Ph-415-525-4990

Professor Pakalins is an affiliate member. Total AAPSE membership is now 100 (see below) including 2 affiliates. Mid-year dues are now in effect - new members pay the full initiation fee and one-half of the normal annual dues.

AAPSE MEMBERSHIP LIST

Members recently received an alphabetized list of AAPSE members with addresses and phone numbers. Following is a list of faculty members who are members at various universities.

University of Alaska

Donald W. Hood
R. Sage Murphy

University of California, Berkeley

David Jenkins
Warren J. Kaufman
P. H. McGahey
Eddie J. Middlebrooks
Erman A. Pearson
Robert E. Selleck

University of California, Irvine

Jan Scherfig

Clemson University

John F. Andrews
John H. Austin
Waldron M. McLellon
Linvil G. Rich

Colorado State University

John C. Ward

University of Colorado

Roger M. Jordan
Walter A. Weers

Cornell University

Vaughn C. Behn
Raymond C. Loehr

Drexel Institute of Technology

P. W. Purdom, Sr.

University of Florida

Russell H. Susag

Georgia Institute of Technology

Frederick G. Pohland

University of Houston

Henry N. Myrick

University of Idaho

H. S. Smith
A. T. Wallace

University of Illinois

Richard I. Dick
Richard S. Engelbrecht
Ben B. Ewing
John T. O'Connor
John T. Pfeffer

Iowa State University

E. Robert Baumann
John L. Cleasby

University of Iowa

Richard R. Dague

University of Kentucky

Carl E. Burkhead

Loyola University, Los Angeles

James E. Foxworthy

University of Maine

Millard W. Hall
Franklin E. Woodard

Manhattan College

Donald J. O'Connor

Marquette University

Raymond J. Kipp

University of Massachusetts

Bernard B. Berger
Tsuang Hua Feng
Rolf S. Skrinde

McGill University

Andrejs Pakalns

Michigan State University

Marvin E. Stephenson

University of Michigan

Jack A. Borchardt
Khalil H. Mancy
Walter J. Weber, Jr.

University of Minnesota

Walter K. Johnson
G. J. Schroepfer

Mississippi State University

Howard K. Williford

University of Missouri

ArLiss D. Ray

Montana State University

Robert L. Sanks

University of Nebraska

George P. Hanna, Jr.

Newark College of Engineering

Ivan Metzger

New Mexico State University

John W. Clark

New York University

Alan H. Molof

University of North Carolina

Daniel A. Okun

Northwestern University

Wesley O. Pipes

University of Notre Dame

Wayne F. Echelberger

Nova Scotia Technical College

Donald H. Waller

Ohio Northern University

Donald Anderson

Ohio State University

Alan J. Rubin

Oklahoma State University

A. F. Gaudy, Jr.

University of Oklahoma

George W. Reid

Purdue University

Don E. Bloodgood

Rensselaer Polytechnic Institute
Donald R. Washington

Rutgers University
Emil J. Genetelli
Joseph V. Hunter
A. Joel Kaplovsky

Sacramento State College
Kenneth D. Kerri

San Jose State College
Franklin J. Agardy
Ernest M. Miholits
Robert G. Spicher

Syracuse University
Nelson L. Nemerow

Tennessee Technological University
Albert A. Cannella

University of Tennessee
William A. Drewry

Texas A & M University
Roy W. Hann, Jr.
Tom D. Reynolds

Texas Technological College
Dan M. Wells

University of Texas
Ernest M. Davis
W. Wesley Eckenfelder
Earnest F. Gloyna
Joe O. Ladbetter
Joe F. Malina, Jr.

University of Toronto
Gary W. Heinke
Philip H. Jones

Tufts University
N. Bruce Hanes

Tulane University
Larry W. Canter

Utah State University
David W. Hendricks
Norman B. Jones

Vanderbilt University

Peter A. Krenkel
Edward L. Thackston

Virginia Polytechnic Institute

Clifford W. Randall

Washington State University

Gilbert H. Dunstan

University of Washington

Dale Carlson
R. F. Christman
Max Katz
Robert O. Sylvester

Washington University

Edward Edgerley, Jr.
H. D. Tomlinson

University of Wisconsin

Gerard A. Rohlich

PROCEEDINGS AVAILABLE

Proceedings of the 17th Southern Water Resources and Pollution Control Conference are now available at \$6.50 per copy from:

Department of Environmental Sciences
and Engineering
P. O. Box 630
Chapel Hill, North Carolina 27514

Proceedings of the 11th Sanitary Engineering Conference held at the University of Illinois are now available at \$4.50. The proceedings, entitled "Influence of Raw Water Characteristics on Treatment," are available from:

Engineering Publications
112 Engineering Hall
University of Illinois
Urbana, Illinois 61801

EDUCATIONAL NEWS

STAFF ADDITION AT UTAH STATE UNIVERSITY

A. A. Kalinske joined the staff of Utah Water Research Laboratory on April 15 as Professor of Civil Engineering. Professor Kalinske will also teach sanitary engineering as a part of the Civil Engineering Department. Prior to joining the UWRL staff, Professor Kalinske was Chief of Sanitary Engineering Research and Development at Eimco Corporation, Salt Lake City; he was previously Vice-President for Research, Infilco Corporation, Tucson, Arizona. Professor Kalinske is a nationally recognized authority in the area of waste treatment and has been in the forefront of developing the state of the art of mechanical aeration.

AAPSE PURDUE SEMINAR

Teaching of Microbiology in Sanitary Engineering was the topic of the AAPSE Seminar held at Purdue on 5 May 1969. Dr. A. R. Abernathy of Clemson was the Chairman. Panel participants included Dr. A. F. Gaudy, Jr., Oklahoma State University, Dr. George W. Malaney, Vanderbilt, and Dr. Perry L. McCarty, Stanford.

The seminar was directed toward four questions concerning microbiology instruction for students in sanitary engineering:

1. Should microbiology be taught in microbiology departments or within the sanitary engineering program?
2. Should microbiology be taught by microbiologists active in research or by engineers who understand the sanitary engineering applications of microbiology?
3. What are the objectives sought in teaching microbiology to sanitary engineering students?
4. How much time can be allotted to microbiology and how should it be divided?

Approximately 20 AAPSE members took part in the seminar. The general conclusions were:

1. "Applied microbiology" is an essential part of sanitary engineering education.
2. Formal courses should be offered for sanitary engineering graduate students at the campus location where the strength resides for a good course or courses. Sanitary engineering application should be covered in courses within the program.
3. The principles of ecology and aquatic biology are also important to sanitary engineering. These subject areas could be combined with microbiology for a strong course or courses taught within the sanitary engineering program.

1970 WORKSHOP IN PLANNING STAGE

The relationship between the consulting engineering profession and academic teaching and research will be the topic of the Fourth Annual AAPSE Workshop to be held during the summer of 1970. The purpose of this workshop will be to make us more aware of what a consulting firm does, how it is organized, and what its problems are. The lectures during the workshop will be given by leading consultants and there will be ample opportunity for discussion of several of the pertinent issues. Suggestions for specific topics and speakers are being solicited by the planning committee for the workshop. If you know a consulting engineer who has strong convictions on an issue you consider to be important and you believe that he is a good speaker, please send his name and topic to:

Dr. Wesley O. Pipes
Department of Civil Engineering
Northwestern University
Evanston, Illinois 60201

STAFF ADDITIONS AT CLEMSON UNIVERSITY

John Austin will join the Clemson University faculty on July 1, 1969, as Professor of Environmental Systems Engineering. Dr. Austin received his Ph.D. in Sanitary Engineering from the University of California (Berkeley) in 1964.

Thomas Keinath will join the Clemson University faculty on July 1, 1969, as Assistant Professor of Environmental Engineering. Dr. Keinath received his Ph.D. in Sanitary Engineering from the University of Michigan (Ann Arbor) in 1968.

STAFF ADDITION AT FLORIDA TECHNOLOGICAL UNIVERSITY

Waldren McLellan will join the Florida Technological University faculty on September 1, 1969, as Professor of Environmental Engineering. Dr. McLellan received his Ph.D. in Environmental Engineering from Rensselaer in 1967.

STAFF CHANGES AT SAN JOSE STATE COLLEGE

Frank Agardy is taking a year's leave of absence starting in June to work full-time at U. R. S. Corporation, a research organization in Burlingame, California.

Jim Leckie will join the staff at San Jose State in September. Jim will receive his doctorate from Harvard in June, 1969.

POSITION AVAILABLE AT WASHINGTON STATE UNIVERSITY

Washington State University has an opening for a faculty position in Sanitary Engineering. Contact

Surinder K. Bhagat
Assistant Professor of Sanitary Engineering
Washington State University
Pullman, Washington 99163

**DR. DOWNING COMPLETES FIRST
AAPSE DISTINGUISHED FOREIGN LECTURER TOUR**

The following letter was received from Dr. A. L. Downing concerning his impressions from his recent tour sponsored by AAPSE.

Dear Professor Dick,

I am writing to thank you for the excellent arrangements that you made in connection with my recent lecture tour in the United States. I had no problems with the travelling and accommodation in hotels and faculty clubs was very comfortable.

I particularly appreciated the opportunity of talking with Faculty members and students at the various universities about problems of mutual interest, of seeing something of the interesting research work that is in progress, and of telling my audiences about some of the research that we are carrying out in this country.

Naturally I hope that when your Association reviews the outcome of the tour it will be thought to have been of value to your members. Certainly it seemed to me to be a good idea, but I imagine that with so many universities as members you might well feel that a tour including only six is a bit too short, at least for a lecturer who gets to the U.S.A. only infrequently and has been brought from several thousand miles away; I am indeed sorry that on this occasion I could not stay longer. Judging from my experience, a tour of, say, ten universities over a period of 3-3 1/2 weeks would not have

been too onerous had I had the time available. Anything longer, however, might have begun to become something of a strain.

I recall that we did discuss the possibility that your Association might be thinking in terms of arranging tours for lecturers specializing in particular fields who would confine their visits to those universities with an interest in their speciality. If anything comes of this there are one or two people in this Laboratory who, I think, would be able to provide an interesting series of lectures, and I would be pleased to suggest names if you wished at some time in the future to make some such arrangement.

With best personal regards,

Yours sincerely,

(A. L. Downing)
Director of Water Pollution Research

AAPSE WORKSHOP

The Fourth Annual AAPSE Workshop was held at Myrtle Beach, South Carolina from 25 to 27 June, 1969. This workshop was hosted by Clemson University.

This was by far the most widely attended, both by participants and families, of the four AAPSE workshops. The appeal of the workshop, "Applications of Systems Analysis in Sanitary Engineering," is indicated by the registration of 55 (including participants, speakers, and session chairman). Five corporations and 38 universities were represented. A geographical distribution indicates attendees from 22 states, as well as Brazil (4), Canada (5), and Puerto Rico (1).

The speakers emphasized the fundamental and mathematical concepts involved with systems analysis as well as applications of these new techniques to the control of a host of environmental pollution problems.

A few copies of the Workshop Syllabus are still available from John Andrews at Clemson University. They are \$6.00 for AAPSE Members and \$8.00 for nonmembers.

NOTES OF INTEREST

WATER RESOURCES RESEARCH CONFERENCE

This conference, held in Washington in late January, had as its principal theme the expanding research needs in water research and, obviously, the lack of funds to meet them, and secondly, the growing importance of social sciences. Bernard Berger, of the President's Office of Science and Technology, listed four problems of water resources research which in his opinion will become increasingly important within the next few years. These were: (1) How may water systems in metropolitan areas be planned and managed most efficiently? (2) How may priorities among competing water uses be established most reasonably? (3) How may planning be improved in the attainment of high quality water environment? and (4) How may the nation's resource research facilities be used most effectively? He said that all problems have one feature in common; i.e., none falls within the exclusive area of concern of any federal agency engaged in water resources research. He thought, therefore, that special responsibility fell on the Office of Water Resources Research for supporting such research and stimulating necessary interest on the part of the research community. From *Willing Water*, 15 March 1969.

TECHNOLOGY AND HUMAN ENVIRONMENT

The Intergovernmental Relations Subcommittee of the Senate Government Operations Committee has concluded its hearings on S. Res. 78, a measure to create a select Senate committee to study the character and extent of those technological changes which will most likely occur, or which should be promoted, within the next fifty years, and the need for public and private planning with respect to the effects of such changes on population, communications, transportation, power supplies, and means of improving human environment. Testimony in support of the concept of S. Res. 78 was presented on behalf of NSPE by Wesley E. Gilbertson, P.E., Deputy Secretary of Environmental Protection, Pennsylvania Department of Health. Mr. Gilbertson said that the creation of a study committee where national leaders, officials from all levels of all governments, engineers, scientists, educators, industry representatives, and a concerned public could assemble for free and ample communication is vital to the solution of critical environmental problems. At the same time, he pointed out that although technology has been characterized by some critics as the enemy of man, the issue really is the manner in which technology is used and the way in which its byproducts are evaluated and controlled. But much will depend, he observed, on the degree of interest and emphasis placed on the proposed committee, and the committee's dedication to the challenge of resolving competing and conflicting concepts. From *Legislative Bulletin*, Nat'l. Soc. P.E., June 1969

WHEN LITTLE JOHNNY WANTS A DRINK OF WATER

Chances are about one out of four the drink of water Johnny gets won't measure up to the Public Health Service Drinking Water Standards.

Charles C. Johnson, Jr., head of the Consumer Protection and Environmental Health Service - an arm of the Public Health Service - says that 33 per cent of all public water supplies, serving some 50 million persons, don't meet Health Service standards. And what's worse, those standards "... don't reflect the best and latest knowledge of real or potential threats to human health."

Addressing a seminar sponsored by the American Water Works Association and the Water Pollution Control Federation in Washington, D. C. in early March, Johnson said the Public Health Service believes "... there is serious reason for concern about community water supplies in the United States."

The classical communicable water-borne diseases such as typhoid fever, amoebic dysentery and bacillary dysentery were brought under control by major health programs many years ago. However, during 1946-1960, there were 228 reported outbreaks of water-borne diseases, resulting in 26,000 cases of illness, and Johnson estimates unreported cases may have actually been a hundred times that number.

He attributed these outbreaks, in large part, to the fact that most community water supply systems were constructed more than 30 years ago, and designed primarily to remove bacteria from relatively unpolluted water. In the ensuing years, however, both ground and surface water supplies have become increasingly polluted. Wastes from synthetics, adhesives, surface coatings, solvents and pesticides have entered surface waters in increasing quantities and many of these compounds are unaffected by present water and waste water treatment procedures.

Johnson said some of these new contaminants, such as pesticides and oil refinery wastes, have been shown to be toxic or carcinogenic - which Webster says means a substance or agent producing or inciting cancer. These agents, of course, are present in minute amounts, but Johnson emphasized that little is actually known about the identification and measurement of these compounds in drinking water or their long-range health effects.

He said the water purity problem must be viewed as a part of the overall, increasing contamination of the environment. "Soil erosion, deforestation, agricultural chemicals, industrialization, urban sprawl, freeway construction, waste disposal, air pollution -- all of these is the subject of grave concern in its own right, but ultimately each contributes to even more serious concern for water quality."

Faced with soaring water needs, increasing pollution of the environment and the questionable efficiency of present water treatment and distribution systems, Johnson said: "the country cannot afford to be apathetic about the safety and purity of the water it drinks" Recognizing the difficulties - political, technological and monetary, the time has come for action to provide the highest quality water possible. If we don't, he said, "..... we are flirting with disaster." From Conservation News, 15 March 1969.

WATER QUALITY IMPROVEMENT ACT OF 1969

Rep. George H. Fallon (D., Md.), Chairman of the Committee on Public Works, moved swiftly and on March 25 reported out the Water Quality Improvement Act of 1969 (H.R. 4148). This is identical with S. 544, which has been reported on previously. The bill would amend the Water Pollution Control Act. Highlights are:

Changes the name of the Federal Water Pollution Control Administration to the National Water Quality Administration.

Authorizes the Secretary of the Interior to enter into contracts with or make grants to public and private agencies and organizations and individuals for the purpose of developing and demonstrating new and improved methods for prevention and removal and control of natural or man-made pollution in lakes, and directs him to engage in such research studies, experiments, and demonstrations as he deems appropriate for removal of oil from any waters to prevent and control oil pollution.

Provides for control of oil pollution from vessels and from on- and off-shore installations. Fines up to \$10,000 the owner or operator of any vessel who wilfully or negligently discharges oil in substantial quantities into navigable waters, shorelines, and contiguous zones. It provides further that the liability for cost of removal will not exceed \$10,000,000 or \$100 per gross registered ton, whichever is the lesser amount. It would establish a revolving fund in the Treasury not to exceed \$20,000,000 which would be available to reimburse a state or political subdivision thereof that assists in the removal of any discharge of oil or matter.

Provides for control of sewage from vessels, requires the Secretary to set up federal standards for performance of marine sanitation devices and issue regulations to become effective 2 years after promulgation. It provides for fines of \$5,000 for the discharge of untreated or adequately treated sewage in the navigable waters of the United States.

Directs the Secretary of the Interior to conduct demonstration projects for the elimination or control within a watershed of acid and other mine water pollution resulting from abandoned mines and authorizes \$15,000,000 to carry out the provisions of this.

Training grants and contracts -- would authorize the Secretary to make grants to or contracts with institutions of higher learning to assist him in planning, developing, strengthening, improving, or carrying out programs or projects for the preparation of undergraduate students working in the water quality control field. To carry out these provisions, there would be authorized to be appropriated \$12,000,000 for the fiscal year ending June 30, 1970, and \$25,000,000 for the next two fiscal years.

Provides for scholarships for undergraduate students who plan to enter into occupations involving operation of treatment plants.

Federal agencies are directed to comply with applicable water quality standards.

No new financial provision for grants and loans are included in the bill.

This bill is expected to go to the floor of the House shortly, and it appears to have a good chance of clearing the House in the near future. From Willing Water, 15 April 1969.

GRANT PROGRAM UNDER STUDY

The General Accounting Office recently told the House Public Works Committee that the FWPCA grant program is not as effective as it might be, even though admittedly the funding has been somewhat limited. Apparently there has been no systematic effort to maximize benefits, and often grants have been awarded on a first-come, first-served basis. Also in the report was the finding that construction funds sometimes are tied up for long periods because of community delay in starting construction and often a lack of available operators for the plants after they are built. From Willing Water, 15 April 1969.

UNIVERSITY GROUP TO EXPLORE SERVICE FUNCTION OF WATER RESOURCES RESEARCH INSTITUTES

The annual meeting of the Universities Council on Water Resources in Reno on June 30-July 2 will devote its entire program to exploring opportunities for Water Research Institutes to increase their effectiveness within the States they serve. Four major aspects of the service function will be considered with position papers from representatives of both the University community and State agencies. The four areas to be covered are:

1. Dissemination of research results
2. Continuing education programs
3. Responsiveness of the Institutes to State and local needs, and
4. Coordination of State and University water resource activities.

From No. 39 - Water Resources Research Institute, Univ. of North Carolina.

WITH SUCH WIDESPREAD PUBLIC CONCERN OVER ENVIRONMENTAL DAMAGE IN connection with certain aspects of technology, it is not surprising that the supporters of a resolution to establish a Senate Select Committee on Technology and the Human Environment are growing increasingly confident. A number of hearings on the proposal have been held this year, and more will be held this month--at which NSPE will testify in favor of the committee. From Professional Engineer, April 1969.

CORRECTION

The following two letters were received concerning our article on production of Environmental Health and Sanitary Engineering Degrees in the April issue of the Newsletter. Perhaps you should check your listing.

Dear Sir:

In looking over the AAPSE News Letter, I noticed the table on page 21. It is noted that this table is reproduced from other sources. Also, subsequent investigation reveals that the other source obtained its information from still a different source. All of this is a little beside the point, but my concern is that the data reported for the Drexel Institute of Technology is misleading since we did not grant 27 Master's degrees during 1966-67 academic year. Our program began in the fall of 1963. The number of degrees which we have awarded since are as follows:

| | | |
|------|---|----------------|
| 1964 | - | 2 |
| 1965 | - | 5 |
| 1966 | - | 6 |
| 1967 | - | 14 |
| 1968 | - | 17 |
| 1969 | - | anticipated 21 |

Also, in 1969, we expect to graduate our first Ph.D.

I suspect that the figures shown were the result of a misunderstanding in some reporting system, and more than likely reflects the total number of graduate degrees granted up to that time in Environmental Engineering and Science.

Very truly yours,

P. Walton Purdom, Ph.D.
Professor and Director
Environmental Engineering
and Science

Dear John:

I would like to bring the following to your attention, in order to correct information in the recent AAPSE Newsletter. Specifically, in the 1966-67 academic year, the New York University Department of Civil Engineering awarded 17 M.S. degrees, and one Ph.D. degree in the Environmental Health and Sanitary Engineering areas. This does not include those of the Institute of Environmental Medicine.

I really don't know where your information source got those figures you showed on page 21 of the AAPSE Newsletter, Vol. 4, No. 3, April 1969. I am wondering how many of the other figures are incorrect.

For your information, I would like to indicate our last five year graduate figures.

| Academic year ending in June | M.S. | Ph.D. |
|------------------------------|------|-------|
| 1964 | 15 | -- |
| 1965 | 12 | 1 |
| 1966 | 22 | 3 |
| 1967 | 17 | 1 |
| 1968 | 21 | 3 |

Thanks for your patience.

Sincerely yours,

Alan H. Molof
Associate Professor
Civil Engineering

SOME QUESTIONS AND ANSWERS ON FWPCA TRAINING AND FELLOWSHIP POLICIES

Dr. David Stephan, Acting Assistant Commissioner, Research and Development, FWPCA, has provided some follow-up information on questions raised at the AAPSE meeting at Purdue. Following is the text of his letter to Ben Ewing, who participated in the Purdue AAPSE Program with Dr. Stephan:

At the conclusion of my presentation at Purdue, several questions relating to FWPCA's training grants and fellowship activities were asked which I was unable to answer. I have discussed these matters with Dr. Allan Hirsch who has responsibility for our training grants and fellowship program. The following is a summary of his comments which I hope will be useful to you and the members of AAPSE:

1. Question: "Why can't training grant funds be used to support the purchase of experimental equipment"?

Answer: There is no hard and fast rule on the nature of equipment purchasable on training grants except that it must be justified adequately as equipment which is necessary to conduct the training described. This precludes esoteric equipment which would not contribute to the training being supported. If an applicant can convince the review panel which, incidentally, includes many AAPSE members, and the Administration that training can be significantly enhanced through purchase of a piece of equipment, then in all probability that purchase would be allowed.

2. Question: "Is there any other way in which we can suggest that schools can acquire equipment and facilities needed to provide better training to their students?"

Answer: Hopefully, research equipment is already available at most schools for the conduct of experiments which would be utilized in connection with training activities. Frankly, we have not heard many complaints concerning the unavailability of equipment for use in connection with training activities.

With regard to facilities, we have not provided funds for these to date but, if adequate funding materializes for training the number of professionals we expect will be needed, we may be able to provide some facilities money in the future, as present facilities are outgrown. Meanwhile, it would seem that NSF is the chief money source for facilities. There may also be funds available for this purpose from the Office of Education.

3. Question: "Why can't we extend training grant support to cover Ph.D. candidates"?

Answer: As a general rule, we do not support Ph.D. candidates under training grants because we desire to get as many people into practice as quickly as possible. In some disciplines and in some programs this policy is partially relaxed. We do, however, try to provide support for the best qualified Ph.D. candidates through our Research Fellowship programs. These are competed for on a national basis.

Incidentally, I have received a number of letters from AAPSE members in response to my invitation to write me. I am very grateful for these responses and the suggestions they contained.