

## FINAL REPORT

### 1982 ASEE Summer School for ChE Faculty

SUMMER SCHOOLS FOR Chemical Engineering Faculty started in 1931 and, since 1962, have been held every five years by the Chemical Engineering Division of the American Society for Engineering Education. The purpose of these Summer Schools has been to achieve a more effective and realistic chemical engineering educational program by providing a forum for a stimulating and provocative exchange of ideas, approaches and methods between chemical engineering faculty, outstanding educators, and practicing engineers. The Summer Schools are unique in that they are the only meetings devoted solely to chemical engineering education, and they have played an important role in the dissemination of new instructional materials and course ideas. The Summer Schools are supported entirely by donations from industry and foundations.

The 1982 Summer School for Chemical Engineering Faculty, ninth in the series, was held August 1-6, 1982, on the University of California at Santa Barbara campus. It was co-chaired by Professors T. W. Fraser Russell and Stanley I. Sandler of the University of Delaware.

Table 1 contains a list of the thirty-six industrial firms and foundations which generously donated approximately \$128,000 to support the 1982 Summer School. In addition to their financial contribution, many firms also sent attendees to Santa Barbara to participate in the technical sessions. Members of the Organizing Committee and instructors donated their time and services. Attendees at the Summer School were chosen by their chairman in response to an invitation to all department heads in the United States, Canada, and Mexico, and travel lodging subsidies to each of the 226 faculty member attendees representing 105 different schools was provided from the Summer School support funds.

The program was divided into six interest blocks with each block chairman responsible for the sessions in his subject.

**BLOCK 1:** New Technical Directions in Chemical Engineering; Prof. Timothy J. Anderson, University of Florida

**BLOCK 2:** Expanding Role of Computers in Chemical Engineering Education; Prof. Thomas F. Edgar, University of Texas

**BLOCK 3:** Chemical Engineering in the classroom and Laboratory; Prof. G. Michael Howard, University of Connecticut

**BLOCK 4:** Industrial/University Interaction; Dr. Harold S. Kemp, E. I. du Pont de Nemours & Company, Inc.

**BLOCK 5:** The Social Responsibilities of the Engineer; Dr. Benjamin J. Luberoff, Editor, *Chemtech* Magazine

**BLOCK 6:** Chemical Sciences and Chemical Engineering; Prof. Glenn L. Schradler, Iowa State University

A listing of the eight sessions for each block is given on the following page.

The eight sessions in each block were held in the mornings and Monday, Tuesday and Thursday evenings. The sessions ran in parallel, and each participant had the choice of attending sessions in any of the six blocks. Afternoons, except Wednesday, were unstructured except for poster and book displays, informal meetings of special interest groups, committee meetings, recreation and socializing.

The program opened on Monday, August 1, with remarks by Dean John E. Myers, College of Engineering, University of California at Santa Barbara, an address by Dr. D. Bruce Merrifield, Assistant Secretary of Commerce, entitled "The Business Environment Ahead and How to Deal with It," followed by the start of the technical sessions. Wednesday afternoon was devoted to the 3-M Award lecture, given by Professor Lowell B. Koppel of Purdue University, on "Input Multiplicities in Process Control." Following the lecture there was a superb wine tasting reception (including wines of the Santa Ynez Valley) and the Summer School Banquet.

<b>BLOCK 1 NEW TECHNICAL DIRECTIONS IN CHEMICAL ENGR</b>	<b>BLOCK 2 EXPANDING ROLE OF COMPUTERS IN CHE EDUCATION</b>	<b>BLOCK 3 CHEMICAL ENGR IN THE CLASSROOM &amp; LABORATORY</b>	<b>BLOCK 4 INDUSTRIAL/ UNIVERSITY INTERACTION</b>	<b>BLOCK 5 THE SOCIAL RESPONSIBILITIES OF THE ENGINEER</b>	<b>BLOCK 6 CHEMICAL SCIENCES &amp; CHEMICAL ENGR</b>
Biomedical Engineering I	Computer Graphics and Modular Instruction I	Problem-Solving Workshop I	Senior Design Course I	Statement of the Problem	Catalytic Chemistry & Surfaces I
Biomedical Engineering II	Computer Graphics and Modular Instruction II	Problem-Solving Workshop II	Senior Design Course II	The Law and Its Implementation	Catalytic Chemistry & Surfaces II
Biotechnology	Use of Computers in Teaching Process Design I	Undergraduate Laboratory Instruction	University-Academic Personnel Interchange	Can Big Be Beautiful?	Applied Thermodynamics I
Process Synthesis Development	Personal Computing	Managing Large Classes	Intern and Co-op Programs	Separate Togetherness	Applied Thermodynamics II
Solid-State Processing	Use of Computers in Teaching Process Design II	Updating Process Dynamics and Control Education	Academic-Industrial Perceptions of Engr Education		Industrial & Engr Chemistry
Polymer Science & Engineering	Microcomputers in Chemical Engr Laboratories I	Oral & Written Communication Skills	Financial Aid	Relating to the Market	Food Processing & Food Science I
New Separation Techniques	Teaching of Process Synthesis in Process Design	Course Design & Evaluation of Learning I	Role of Industrial Advisory Boards	Approaches to Integrating Technology & Society in Engr Education I	Food Processing & Food Science II
Pulp and Paper Technology	Microcomputers in Chemical Engr Laboratories II	Course Design & Evaluation of Learning II	How to Conduct a Short Course	Approaches to Integrating Technology & Society in Engr Education II	Electrochemistry & Corrosion

Professor Angelo J. Perna, Chairman of the ASEE Chemical Engineering Division, presented divisional awards at the banquet: James Townsend, Jr., of Dow, and Paul V. Smith of Exxon received awards "for dedicated service to CHED and as an Industrial Member of the Executive Committee"; Professor Ray W. Fahien of the University of Florida was awarded a certificate "for his service as Editor of *Chemical Engineering Education* which has contributed to the prestige with which the magazine is received"; and certificates of recognition were given to members of the organizing committee, T. W. F. Russell, Stanley I. Sandler, and Sherri Barwick, all of the University of Delaware, in appreciation of their services.

The UCSB campus was a beautiful and effective site for the 1982 Summer School. The dormitory

housing was pleasant and the dining hall food services were excellent, providing an impressive and comfortable atmosphere to both attendees and their families. The meeting rooms on campus were close to each other, to the dining hall, and to the dormitory, making it easy for attendees to interact in an informal way, which is so important to the success of a conference of this type. The college campus proved superior to a resort facility in meeting the needs of this unique conference.

The next ASEE Summer School for Chemical Engineering Faculty is planned for 1987 and is being organized by Professor Glenn L. Schrader. Any questions or suggestions for program content should be addressed to him at the Department of Chemical Engineering, Iowa State University, Ames, IA 50011.

**TABLE 1**  
**Industrial Donors to 1982 Division Summer School**

Air Products Foundation	Lubrizol Foundation
Alcoa Foundation	Merck, Sharp & Dohme Research Laboratories
Amoco Foundation, Inc.	Monsanto Company
BASF Wyandotte Corporation	NL Industries Foundation, Inc.
Betz Laboratories, Inc.	Olin Corporation Charitable Trust
Celanese Corporation	Pfizer, Incorporated
Conoco, Inc.	PPG Industries Foundation
CPC North America	Phillips Petroleum Company
Diamond Shamrock Corporation	Rohm & Hass Company
Dow Chemical U.S.A.	Shell Development Company
E. I. du Pont de Nemours & Company	SOHIO
Eastman Kodak Company	Standard Oil of California
Ethyl Corporation	Stauffer Chemical Company
Exxon Research & Engineering Company	Sun Company, Incorporated
Fluor Foundation	Texaco, Incorporated
General Electric Foundation	Union Carbide Corporation
General Foods Corporation	The Upjohn Company
General Mills Foundation	Weyerhaeuser Company Foundation

## EDITOR'S NOTE

This issue is our first issue devoted almost entirely to International Chemical Engineering Education. It appears because of the wide-spread international interest in *CEE* which has developed over the years. In order to emphasize this interest we have selected some of the papers we have received about chemical engineering in other countries. We begin with a departmental article on Erevan Polytechnic Institute which differs

from those we have been publishing in that it is written by an observer (Deran Hanesian of New Jersey Institute of Technology) who compares their curriculum and department with his own (see also *CEE*, Vol. IV, No. 2). It also includes a paper from Hungary on a new computer age approach to the chemical engineering curriculum as well as papers from Belgium, Canada, Chile, China, France, Scotland, and Spain.