Chemical Engineering

Forty-Second Annual Report to the Alumni

1990
# Table of Contents

Letter from the Chairperson .................................................. 1
Alumni and Friends who Contributed to the Department
   in 1989 .............................................................................. 3
Industrial Contributors to the Department in 1989 .................. 5
Faculty and Staff Rosters ....................................................... 6
Graduate Associates and Fellows and Undergraduate
   Scholarship Holders .......................................................... 6
Photo of Class of 1989 ............................................................. 8
Placement of 1989 Graduates ............................................... 9
1989 Student Awards ............................................................ 10
1989 Texnikoi Award — Dr. Kenneth McKelney .................... 12
1989 Distinguished Alumni Awards
   Karen L. Hendricks ......................................................... 12
   Dr. John P. Henry ............................................................ 12
   Dr. Enze Min ................................................................. 13
   Dr. Tse Kao Wu ............................................................. 13
1989 Distinguished Service Award — William W. Grimes ...... 13
Faculty Activities ............................................................... 14
Publications and Presentations .......................................... 16
Theses .................................................................................. 23
Anniversary Classes ............................................................. 24
Dear Alumni . . .

We are again slow in sending the Annual Report to you. There are many, but no good excuses.

Once again, I'm happy to be able to report on significant achievements by the chemical engineering faculty and our students. But first let me describe some of the University and College endeavors which will have impacts on our undergraduate programs.

Several years ago, President Jennings (who will step down this summer) set up a review of the General Education Curriculum to recommend what a college graduate should know and what course distributions are needed to provide this knowledge to Ohio State graduates. While the final proposals require more science and math courses in all curricula and do not affect engineering students who have much more than proposed, recommendations for humanities, social science, cultural and capstone courses will affect our students. More emphasis on world cultures and communication skills is proposed. The current requirement of 15 credits of free electives will probably be replaced by a writing, a cultural (or foreign language) and a capstone course. All told General Education courses will make up 50 to 53 quarter credits, nearly a quarter of our present total of 220.

The College of Engineering is also reviewing what common elements should be included in all engineering curricula. Besides basic math, physics and chemistry, mechanics, programming and graphics, the new proposal is that all engineering programs include advanced work in applied mathematics, programming, mechanics, thermal sciences, materials, electricity, and engineering economics. Our curriculum does include most of these but we do not require any advanced studies (beyond physics) in electricity. With the 220 hours we already have, it will be difficult for us to add any more requirements. We would really like to reduce the credit hours for graduation by 10 or more. So the faculty will be struggling with curriculum changes for some time to come.

In keeping with our Strategic Plan and the recommendations of the Amundson Report, we introduced several new technical elective courses this year: Artificial Intelligence, Hazardous Materials Management and Colloids. Technical elective courses introduced earlier in biochemical engineering and catalysis as well as our polymer and process control courses also fit in this category. All told, we offer a total of 23 different technical electives to our undergraduates in addition to special research problems.

Our Program Review has moved along. The External Review Committee visited in late October and submitted its report in December. The Provost's Office has now prepared a list of issues raised in the areas of mission, research and faculty development, graduate program, undergraduate program, governance and space, equipment and resources. We now need to respond, develop detailed future plans, and reach agreement with the Dean and Provost on their implementation.

The job market for our B.S. graduates has continued to be very good. This is in part because of the relatively small number of B.S. chemical engineering graduates in the U.S. and the continuing demand for them and, of course, the quality of our graduates. Average starting salaries of Ohio State B.S. chemical engineers continue to be above the national average. Our M.S. and Ph.D. graduates have had equal success. Because of demographic trends and diminishing interest nationwide in engineering, however, we are concerned about likely future shortages of chemical (and other engineers) in the U.S. at all degree levels. NSF, the University and the College all have programs to increase interest in engineering, particularly among minority and women students.

The Student Chapter of AIChE contributed another $1,000 to help the Department purchase equipment for our undergraduate PC Lab. We have now moved this lab to larger quarters in Room 314 and have four Macintosh and two IBM PC's and three printers. The vacated space (Room 208, the old mimeograph room) is now our graduate PC Lab.

Our undergraduate students have again had many extra curricula and scholarly achievements. Three varsity athletes in track (Susan Matz), golf (Cathe Bothe) and swimming (Greg Grote). Steve Wilson was selected as Homecoming King last fall. Steve is also one of five recipients of the University Distinguished Affirmative Action Award. Four of our graduates (Jon Vinson (University of Pennsylvania), Fred Mendicino (University of Illinois), Brian Purlong (Rice University), and Linda Broadbelt (University of Delaware) enrolled in graduate school. Linda had a 4.00 GPA and in national competitions won both an NSF Fellowship and a DuPont Ph.D. Fellowship. She is only the second student anyone here can remember graduating with a 4.00.

Research productivity by the faculty continued to grow. In 1989, external research support from federal, state, foundation and industrial sponsors totalled over
$1.4 million. Six Ph.D. and 16 M.S. degrees were awarded in the past twelve months and refereed publications in 1989 totalled 34. Over the past couple of years, the number of Ph.D. degrees per faculty member and the number of refereed publications per faculty member were the highest in the College.

Dr. Jim Davis was promoted to Associate Professor with Tenure in October. Jim’s research in artificial intelligence has received national recognition and this spring he is organizing a seminar series in this area and a short course in Philadelphia.

The faculty received a number of awards last spring. L.S. Fan and Jim Davis received College of Engineering Research awards. Jim Lee received the $5,000 Harrison Faculty Award for Outstanding Engineering Education and L. S. Fan received a MacQuigg Award for Outstanding teaching. Kent Knaebel received the Central Ohio Section of AIChE Award for Innovation in Chemical Engineering. Recently, Umit Ozkan received the Franklin County Ohio Society of Professional Engineers Award as Outstanding Educator.

We are fortunate to have Dr. Deborah Stutman-Brickey with us as a Visiting Assistant Professor. She is sponsored by an NSF Visiting Woman Professor award and is doing research with me on surfactants, teaching a course in Colloids, and helping with the recruitment and retention of women students. Deborah, who received her Ph.D. from Lehigh University, has had industrial research experience with Owens Corning Fiberglas and with Mead Corporation.

The University Capital Campaign exceeded its original goal of $350 million. While this Campaign will soon be completed, the annual campaigns will continue. Chemical Engineering alumni who wish to have their contributions directed to the Department can specify this by writing “Department of Chemical Engineering” on pledge cards distributed by the Development Office. Alternatively, if you send a contribution to the Department, we will process it. Funds we receive enable us to enrich our programs and provide a margin for excellence in the education of our students. The faculty, the students and I appreciate this support very much. The loyalty of our chemical engineering alumni is a source of great pride to us. The 1989 contributors to the Department are listed in the next pages. Of particular note is a major contribution to the Joseph Koffolt Fund by Robert L. Baldner.

I’m pleased to tell you that contributions to the Aldrich Syverson Fund now exceed our first milestone of $15,000 which qualify it to be included as part of the University endowment. Starting in 1991 we will be able to begin awarding scholarships from the Income.

Sincerely,

Jack Zakin

P.S. We want to keep our alumni records as current as we can. If you have a new job, have been promoted, received an award or other recognition, or moved, please drop me a note so we can update our files.
## 1989 Contributors

<table>
<thead>
<tr>
<th>Year</th>
<th>Contributors</th>
</tr>
</thead>
</table>
| 1923 | Durain C. Butts  
Gordon H. Mutersbaugh  
Edward D. Turnbull |
| 1927 | James L. Collins |
| 1928 | W. Clare Barnett  
Harry E. Chambers |
| 1930 | Parker S. Dunn |
| 1932 | Dr. Harry J. Green, Jr.  
Cyril R. Porthouse  
Hyman H. Weinberg |
| 1933 | John S. Eckert  
Benjamin Finer  
Kermith K. Filgo  
George E. Fromm |
| 1934 | Clarence N. Fisher  
Olin D. Graff  
William J. Lawless, Jr.  
William D. Martin, Sr.  
Edward E. Slowter |
| 1935 | Dr. Linton E. Simerl |
| 1936 | Charles E. Green  
Richard A. Miller  
Dr. Robert N. Miller  
William A. Taylor  
William P. Ward |
| 1937 | Charles W. Gaylord  
Dr. Harvey H. Grice  
Donald C. Miller  
Frederick R. Pullen  
Dr. George H. Sheets  
Dr. Charles E. Stoops, Jr.  
Robert T. Whitaker |
| 1938 | Frederick Eastman  
Howard D. Evans  
John R. Grist  
Victor J. Harris  
Edward J. Haven  
Robert S. Radow  
George S. Tobias |
| 1939 | Francis D. Beckel  
John E. Chenevey  
Robert Harold Dewart  
Albert R. Downing  
Robert R. Foltz  
Dillard W. Kuhlman  
John M. McEwen  
Howard G. Rohrer  
Bernard R. Sarchet |
| 1940 | Clay H. Aneshansley  
Charles H. Boardman, III  
Dr. Heinz A. Boker  
Don E. Kennedy  
Robert L. Lambert  
Arthur G. Mayer  
Louis J. Nowacki  
Everett H. Strobel  
Roger M. Warner |
| 1941 | Charles A. Keller  
George L. Meyers, Jr.  
James R. Robinson  
David Thomas  
H. Richard Unkel  
Charles D. Young  
J. Albert Zier |
| 1942 | Dr. Donald S. Arnold  
Edmund Duplaga  
Dr. Forrest R. Hurley  
G. John Lambillotte  
Donald E. Lintala |
| 1943 | Nicolae N. Bacaintan  
Robert L. Baldner  
Edgar E. Buxton  
Halvor S. Christianson |
| 1944 | Dalton F. Drake  
Carl F. Effler  
Glenn L. Gifford  
Leonard A. Harris  
Capt. Bryce D. Inman  
Harold J. Pierce, Jr.  
James R. Randall  
Raymond K. Ritzert  
Roy E. Schneider  
Carlyle E. Shoemaker |
| 1946 | Edward W. Bailey  
William R. Harris  
Clarence A. Haverly, Jr.  
George H. Montgomery |
| 1947 | Charles R. Hall |
| 1948 | Willard F. Andrews  
Dallas D. Dupre, III  
Thurman L. Graves  
Lewis C. Hullinger  
Harry M. Iwata  
Donald G. Schroeter |
| 1950 | Robert L. Bates  
Jack Berger  
John A. Burgbacher  
David H. George  
J. Guilford Gerlach  
Earl W. Goodman  
Maurice E. Hatten  
Max H. Humphrey  
Henry B. Lange  
Dr. F. Robert Mayforth  
R. Ted Scharenberg  
Dr. Carl J. Setzer, Jr.  
Jack C. Stewart  
Robert M. Tarr |
| 1951 | Donald E. Haupt  
Richard E. Saylor  
Dr. David G. Stephan |
| 1952 | Richard N. Ellerman  
Robert M. Kilian  
Merle H. Ruff  
Paul T. Santilli  
James P. Stalery  
David B. Speed |
| 1953 | Robert A. Bates  
Roger L. Briggs  
William L. Maag  
Harold L. Stetzer, Jr.  
James L. Wilson |
| 1954 | Richard E. Dudley  
Dr. Gilbert E. Raines |
| 1955 | James G. Ferguson  
John H. Hoge  
Thomas J. Tibbitts |
| 1956 | Paul Alexander, Jr.  
Glenn F. Althouse |
1989 Contributors (cont.)

1956 (cont.)
William D. Coe
James R. Farst
Dr. Manoj Kumar D. Sanghvi

1957
Walter R. Andrews, Jr.
A. Leo Carter
Jon D. Helms
Paul J. Kienholz
Ronald P. Rowand
Gary L. Truex

1958
Dr. Edward H. Bollinger
John R. Kearns
Valdis E. Petritis
Harold A. Sorgenti
James W. Stark
Dr. Lawrence R. Steele

1959
Lee W. Adlle
James O. Albery
Dr. Ronald M. Kovach
James H. Laughlin
Darryl J. Von Lehmden
Dr. Gerald A. Wilcox

1960
Carl E. Brooks, Jr
Edgar W. Fasig, Jr.
Irwin B. Weinstock

1961
Paul R. Bigley
Ronald D. Harris
Kenneth D. McDaniel
Dr. James H. McMicking
David A. Parker

1962
Charles D. Osbun
J. David Porthouse
Michael D. Winfield

1963
Myers G. Hammond
Robert P. Kasper
Wilbur H. Sidner

1964
Dr. Michael B. Cutlip
Mr. Girish D. Parikh

1965
Dr. Edward R. Corino
Oliver L. Davies
Frederick H. Flor, Jr.
Frederick J. Rerkko
Michael C. Royer

1966
William F. Deehake
Erich L. Eggers
Thomas E. Fitz
William G. Lowrie
Donald P. Whiteman

1967
John P. Fundersol
Dr. Raja F. Hajjar
F. William Hauschmidt, Jr.
Dennis W. Hurley
John M. Yacher

1968
Richard T. Linak
John M. Salladay
James W. Sebert
Douglas E. Smith

1969
Smith E. Howland
Dr. Kiu H. Lee
Dr. M. Anandha Rao
John W. Toussant

1970
Dr. George E. Cressman, Jr.
David R. Grove

1971
Karen Lafferty Hendricks
Armen Tergevorkian
Dr. Stephen Zakanycz

1972
Dr. Jerome F. Beekman
David G. McCluskey

1973
John S. Biersteker

1974
John A. Douglas
Arthur E. Garavaglia
Eric J. Linak
Norman F. Lucas, Jr.
John A. Osterhage
Dr. Johnny O. Wright

1975
Dr. Kenneth R. Cox
Bruce K. Dawson
James A. McCaw, Jr.
John E. Myers
Dr. William M. Pekman

1976
John Thomas Erikson
Dr. Yoon S. Song

1977
Dale F. Arnold

1978
Douglas J. Hallenburg
Linnea Alice Sheppard

1979
Thomas E. Winkler
Richard J. Yoch

1980
Dr. Donald W. Buchanan, Jr.
Charles L. Heskett, Jr.
Wa-Chi Liu
Craig W. Sherban
David J. Wasea
Ted K. Williams
Dr. Keith D. Wisecarver

1981
Dr. Frederick T. Clark
Philip A. Dalton
Carol Bur Ehrman
Fred D. Ehrman
Matthew J. Galosi
Charles W. Theuring, Jr.
Dr. David G. Vutetakis

1982
Harry C. Wolf, Jr.

1983
Alex W. Kawczak
Michael F. Reardon
Debra Worthington Russell
Annette Hissong Taylor
Eric A. Warren

1984
Dr. Lamont E. Beaver
Thomas D. Burns
Mark D. Dieringer
Linda Sue Evans
Harold E. Flinn
Mark H. Gaston
David J. Grigger
Dr. Cheryl Lynn Kennedy
Jeffrey W. Patterson
Christopher R. Richied
Dr. Lenore Witchery-Lakshmanan

1985
Daniel R. Hertz
Robert H. Keich
Gregory M. Masica

1986
Becky Klessling Bur
Roger G. Facer
David A. Flauff
Timothy A. Johnson
Sharyn A. Veleh

1987
Dr. Krishnan Lakshmanan
Thomas J. Paquin
Andrew M. Wescott
Beth Molloy Wescott

1988
Anna Kirsten Danduran
Dr. Samuel D. Fink
Daniel L. Fullenkamp
Karen Graham Johnson
Dallas B. Noe
Donna Marie Walter

1989
Dr. Satyavolu Jagannadh
Robert R. Proctor
Friends

AIChE - Student Chapter
Dr. Robert S. Brodkey
Dr. James F. Davis
Ltc. Russell F. Dubes
Jeff B. Ebersole
Dr. Harry C. Hershey
Dr. Won-Kyoo Lee
Dr. Umit Ozkan
Charles F. Porter

Col. Edwin D. Reinhardt
Sidney J. Simkins
Hartzel C. Slider
Dr. Thomas L. Sweeney
Eleanor M. Syverson
Patrick J. Tracy
Dr. Shang-Tian Yang
Dr. Jacques L. Zakin

Industrial Supporters

ALCOA FOUNDATION
AMAX FOUNDATION
AMOCO FOUNDATION INC.
ASHLAND CHEMICAL COMPANY
BAYER-MOBAY FOUNDATION
CHEMINEER
COUNCIL FOR CHEMICAL RESEARCH
DOW CHEMICAL COMPANY FOUNDATION
DOW CORNING CORPORATION
E.I. DU PONT DE NEMOURS & CO.
EXXON EDUCATION FOUNDATION
GENCORP
GENERAL MOTORS
LUBRIZOL FOUNDATION
MOBIL
PPG INDUSTRIES FOUNDATION
PROCTER & GAMBLE COMPANY
ROHM & HAAS COMPANY
SHELL COMPANIES FOUNDATION
UNION CARBIDE
UNOCAL
WESTVACO

Class of 1922
Dr. Web Kay
Staff Members

Professors
R.S. Brodkey
M.H. Friedman (Biomed Eng.)
C.J. Geankoplis (Emer.)
E.R. Haering
H.C. Hershey
W.B. Kay (Emer.)
R.E. Lynn (Emer.)
D.R. Skidmore
H.C. Slider (Emer.)
E.E. Smith (Emer.)
T.L. Sweeney
J.L. Zakin

Assoc. Professors
J.F. Davis
K.S. Knaebel
L.J. Lee
W.K. Lee
K. Svanks (Emer.)

Asst. Professors
J.J. Chalmers
U.S. Ozkan
S.T. Yang

Adjunct Professor
J.A. Brothers
C. Scaccia

Visiting Professors
Y.M. Chen (R.O.C.)
J. Guzman (Mexico)
M. Kwauk (P.R.C.)

Post Doctoral Research Assoc
Y.J. Huang
R. Jean
K. Raghunathan
H. Song
K. Tsuchiya
A. Tsutsumi (Grad School)

Visiting Research Scholar
P. Hu
O. Jiang
P.-J. Jiang
F. Li

*Editor of Annual Report

R. Wei
J. Xu

Secretaries
K. Carney
*S. McDonald
S Newsom

Design Engineer
M.B. Kukla

Instrument Maker
R.R. Renshaw

Teaching Associates
Y. Bae
Y. Cai
H. Chang
C. Cheng
M. Dayal
W. Dorman
M. Garcia-Briones
A. Ghosh-Dastidar
S. Goldblum
S.T. Hsu
S. Karmaker
J. Marchio
J. McDowell (Eng. Gr.)
E. Moctezuma
K. Mulukulta
M. Murphy
R. Rao
L. Sanchez
C.H. Shu
K. Sravana

Administrative Associates
K. Driscoll (UVC)
S. Driscoll (Pre-ChE Adv)

Research Associates
P. Cai
L.-C. Chou
Y.C. Chou
R. Eubanks
M. Gandikota
S. Goldblum
S. Haam
C. Hsiao
C.P. Hsu
C. Jang
M. Kinkelaar

S. Kumar
C. Linn
J. Lyau
M. Matz
S. Muzumdar
J.Y. Nieh
I. Park
N. Patel
T.S. Ramesh
V. Rohatgi
K. Russ
S.K. Shum
T.C. Tirumalai
F. Tollens
L. Trevino
J.W. Tzeng
R. Whiteley

M R Trainee
F. Bavarian
B. Smith

Fellowships

Amoco
D. Myers

Atlantic Foundation
J. Silva

Class of Champions
M. Perry

Dow Chemical
L. Sanchez

DuPont
V. Lewis
D. Myers
M. Perry
D. Rollins
R. Shields
Y. Tseng
R. Whiteley

U.S. Air Force
B. Wilkerson

Scholarships

Alcoa
P. Peck

Harold Almen
C.J. Anderson
L. Larue

Ashland
J. Dusey
J. Schneider
T. Shell
Scholarships (cont.)

Chemical Eng.
Freshmen
L. Apel
G. Cheney
K. Ferguson
C. Galicia
J. Jones
J. Topoly
K. Weaver
L. Yeoman

Engr. Exp. Station
R. Enyart
B. Fuller
K. Hayes
T. Howard
D. Karl
M. Macesich
T. Pajk

Dorothy & Herbert
Fenburr
A. Corey
J. Dangaran
J. Landis
S. Sech

Allan I. Gordon
P. Bietzacker
R. Kaminski
A. Lefevre
J. Schwierking

Raymond D. Hammond
C. Connors
T. Cuthbert
J. Dechristopher
L. Mangen
T. Minella
J. Trout
J. Vandermeer
M. Wallace

John H. Hoge
J. Ryan

Webster B. Kay
R. Mullins
E. Wu

Kodak
C. Hrenya
S. Williams

Lubrizol
S. Cain
K. Perkey

Whirl
C. Kiehl
D. Pappa

Withrow
T. Hamilton
S. Joehlin
P. Schacht
R. Wolterman

Class of 1944
William R. Harris and
Grover D. Strickler, Jr.

Class of 1949
Glen D. Schaaf and
J. Howard Kersetter, Jr.

Class of 1959
James W. Lacksonen
Class of 1989

ROW 1  Sherry McDonald, Cathy Bothe, Amy Turner, Abby Osman, Amy Reynolds, Dr. Umit Ozkan, Jon Vinson

ROW 2  Minming Sungkono, Michael Piskula, Jennifer Craig, Linda Broadbelt, Aileen Chou

ROW 3  Leo Sanchez, Johnna Griffiths, Kathy Eftimoff, Laura Hause, Hsuan Chang, Brian Smith

ROW 4  Scott Buckland, Rick Blasick, Julie Fogarty, Brian Furlong, Mike Mendicino, Walt Macesich

ROW 5  Johnwei Muljono, Rob Whiteley, Steve Otero, Craig Bany, Tom Rich, Dr. Jeff Chalmers

ROW 6  Chuck Tritt, Mark Anderson, Rick Zech, Steve Phillips, Dr. Won-Kyoo Lee, Chris Allen, Bart Girdwood, Dr. Harry Hershey

ROW 7  Dr. Jim Davis, Andy Foulk, Bob Proctor, Dr. Duane Skidmore, Dr. Jacques Zakin, Keith Grover, Dr. Robert Brodkey, Stephen Wilson, Joe Caudell
Placement of Chemical Engineering Graduates

June 1989

Doctor of Philosophy
H. Chang, China Steel Corp., Taipei
Taiwan
K.J. Wang, Dow Chemical, Freeport, TX

Master of Science
R.W. Shields, Eli Lilly, Indianapolis, IN
S.A. Sanger, Graduate School, OSU,
Columbus, OH

Bachelor of Science
M.W. Anderson, Aristech, Huntington, WV
C.B. Barry, Exxon, Baton Rouge, LA
L.J. Broadbelt, Graduate School, Univ. of
Delaware, Newark, DE
C.J. Caudell, Exxon, New Orleans, LA
J.E. Craig, DuPont, Parkersburg, WV
K.M. Efimoff, Arthur Anderson,
Columbus, OH
L.J. Fletcher, Dow Chemical, Freeport, TX
J.A. Fogarty, American Cyanimid,
Wilcox Island, KY
J.A. Foulk, Champion International
Corp., W. Nyack, NY
B.K. Furlong, Graduate School, Rice
Univ., Houston, TX
B.J. Girdwood, Cargill, Memphis, TN
J.E. Griffiths, Westinghouse, Aiken, SC
K.J. Grover, Ashland Chemical Co.,
Ashland, OH
L.A. Hause, DuPont, Seaford, DL
E.J. Hrbac, No Information Available
W.G. Macesich, Goodyear, Akron, OH
S.R. Phillips, Exxon, Houston, TX
M.J. Piskula, Union Carbide, Bound
Brook, NJ
R.R. Proctor, Honda, Marysville, OH
A.J. Reynolds, Union Carbide,
Sistersville, WV
B.L. Smith, Goodyear, Akron, OH
J.M. Vinson, Graduate School, Univ. of
Pennsylvania, Philadelphia, PA

Master of Science
Y.-K. Bae, Returned to Korea
D.V. Bogovski, Case Western, MBA
School,
J.E. Collins, Exxon, Baytown, TX
S.G. Damani, Technova Platemaking
Systems, Bombay, INDIA
C.-H. Hsiao, BOC, Taiwan
C.-P. Hsu, Graduate School, OSU,
Columbus, OH
C.-S. Jang, Graduate School, OSU,
Columbus, OH
R.F. Kueller, Dow Chemical, Midland, MI
J.R. Whiteley, Graduate School, OSU,
Columbus, OH

Bachelor of Science
J.C. Allen, Arnco Steel, Ashland, KY
C.L. Bothe, Dow Corning, Madison, IN
M.A. Mendigco, Graduate School, Univ. of
Illinois, Champaign, IL
J. Miyamoto, Returned to Indonesia
A.M. Osmar, Texaco, Port Arthur, TX
S. Oteo, Jr., United McGill Corp.,
Columbus, OH
M.J. Smith, No Information Available
M. Sungkono, Returned to Indonesia
A.K. Turner, Ohio EPA, Columbus, OH

March 1990

Doctor of Philosophy
None

Master of Science
Y. Cai, Graduate School, Ohio State
University, Columbus, OH
S.A. Westfall, Westeco, Marysville, OH

Bachelor of Science
R.D. Blasick, No Information Available
T.A. Rich, No Information Available

December 1989

Doctor of Philosophy
M.J. Matz, Dow Chemical, Midland, MI
T.S. Ramesh, Mobil Research & Dev.,
Paulsboro, NJ
S.K. Shum, B.P. Research, Cleveland, OH

Master of Science
W.C. Dorman, Jr., Shell Chemical Co.,
Deer Park, TX
S.T. Hsu, Graduate School, Ohio State
University, Columbus, OH
K. Inokuchi, Idemitsu, Tokyo, Japan

Bachelor of Science
P. Alaudini, AEP, Columbus, OH
S.L. Buckland, Goodyear, Akron, OH
A.S. Chou, Abbott Labs, Columbus, OH

September 1989

Doctor of Philosophy
S. Jagannadh, Georgia Tech, Atlanta, GA

Bachelor of Science

BACHELOR OF SCIENCE
Average Salary $33,600

MASTER OF SCIENCE
Average Salary $37,00

DOCTOR OF PHILOSOPHY
Average Salary $48,000
Julie Vandermeer and Timothy Shelf receiving The AIChE Outstanding Sophomore Award
Presented by Dr. Harry Hershey

Scott Cain, Chris Hrenya and Paul Peck receiving The AIChE Outstanding Junior Award
Presented by Dr. Harry Hershey

Linda Broadbelt and Steve Phillips receiving The AIChE Outstanding Senior Award
Presented by Dr. Harry Hershey

Scott Cain receiving The National AIChE Sophomore Achievement Award
Presented by Dr. Jacques Zakin
Jennifer Craig receiving The American Institute of Chemists Award
Presented by Dr. Umit Ozkan

Chris Hrenya receiving The Dow Outstanding Junior Award
Presented by Richard Brandon

Class of 1964
James A. Moomaw, Lewis E. Gates, William C. Corder, John H. Buddemeyer,
James B. Sapp, James W. Lacksonen and Michael B. Cutlip
Alumni Honors

Dr. Kenneth N. McKelvey is the Director of the Engineering Technology Lab for the DuPont Engineering Experiment Station in Wilmington, Delaware. He obtained the Bachelor of Science degree in Chemical Engineering in 1961 from the North Carolina State University. Later he attended Ohio State where he received the Master of Science degree in 1967 and the Doctorate degree in 1968, both in Chemical Engineering.

Dr. McKelvey has worked for DuPont since joining the firm as a research engineer in 1968. Since then he has steadily advanced in the company holding positions at both the Engineering Experiment Station and the Textile Fibers Department. In 1983 he became the divisional planning manager of the engineering department in Wilmington. In 1984 he was promoted to manager of strategic planning for engineering research and development. And, in 1985 he obtained his current post as director of the engineering technology lab.

While with DuPont, Dr. McKelvey has been responsible for development and commercialization of products such as Sontara, Typar, and Tyvack. He also helped develop the Kevlar process. Currently he is in charge of 250 technical and support personnel, 80 of whom are engineers of various disciplines.

Dr. McKelvey is a charter member of the OSU Chemical Engineering Advisory Board and is a member of both the Center for Catalytic Science Advisory Board at the University of Delaware and the Board of Directors of the DuPont Engineering Department Association.

He has been active in civic and community groups such as the Boy Scouts, the Chadds Ford Historical Society and the Southern Chester County Soccer Association.

Karen L. Hendricks is the General Manager of the Vidal Sassoon Division of Procter and Gamble in Cincinnati. She earned the Bachelor of Science degree in Chemical Engineering from Ohio State in 1971.

She joined Procter and Gamble upon graduation and steadily worked her way up to her present position where she manages all aspects of a $100 million business. Along the way she served in various capacities in the paper product development area before becoming its associate director. Later she became the associate director of health and personal care products where she managed all product development for the dentifice area between 1983 and 1997, when she was promoted to her present position.

While at Ohio State, Ms. Hendricks was president of her sorority and of the Society of Women Engineers for two years. She was also chair of the Student Leadership Endowment Fund and was a chemistry department student teaching assistant for two years. She was a member of Tau Beta Pi and Texnikoi honoraries and was selected as one of ten outstanding seniors.

Her ties to Ohio State remain strong. She has served on the Board of Directors of the Alumni Association and is a member of the OSU Research Foundation. She belongs to the Alumni Advisory Council and is on the Advisory Committee of her home department. In 1981 she received the Texnikoi Award for Outstanding Alumni.

She is active in professional societies as well. She has served as chair of the career guidance committee of the Ohio Valley Section of the American Institute of Chemical Engineers and as a member and former director of the Engineering Society of Cincinnati.

Dr. John P. Henry is the Senior Vice President of the International Business Consulting Group, SRI International, Menlo Park, California. He received the Doctorate degree in Chemical Engineering from Ohio State in 1963.

Following graduation, Dr. Henry was a research chemical engineer at Chevron Research Corporation where he was responsible for pilot plant design and operations. He joined SRI as vice president of the Industry Consulting Division. He also established the Energy Center and directed that business, responsible for SRI's energy consulting research, for more than ten years. He also served as director of the management consulting center.

In 1978 he left SRI to become a partner and vice president of the Energy Division of Booz, Allen and Hamilton. He later returned to SRI where he continued his consulting work in the strategic application of new business techniques to the energy and natural resources industries. He directed their Industry Consulting Division before assuming his current position as vice president of SRI's International Business Consulting Group, where he is responsible for managing the organization's four divisions and SRI's overseas offices.

Dr. Henry has written numerous international business management and energy issues which have appeared in respected general publications as well as technical publications, such as the Journal of Petroleum Technology.

A registered professional engineer in Ohio and California, he is a charter member of his home engineering department's Advisory Board. A member of the American Institute of Chemical Engineers, he also belongs to Alpha Sigma Xi and Phi Lambda Upsilon honorary groups. In 1970 Dr. Henry received the Bituminous Coal Research Award.
Dr. Enze Min is the Vice President and Chief Engineer of the Research Institute of Petroleum Processing (RIPP) for the China Petrochemical Corporation. He received the Bachelor of Science degree from the National Central University in China in 1946. In 1948 and 1951 he earned both the Master of Science and Doctorate degrees in Chemical Engineering from Ohio State.

After graduation he worked in the physical and organic chemistry laboratories of the National Aluminate Corporation in Chicago as an associate chemical engineer and later as a senior chemical engineer. In 1955 he returned to China and became a group leader and department director in the Petroleum Research Institute under the Ministry of Petroleum Industry. In 1964 he was promoted to deputy chief engineer and in 1965 was again promoted, this time to chief engineer.

In 1978 he assumed his current post as vice president and chief engineer, RIPP. In this capacity he is responsible for planning research and development programs in the fields of petrochemical and petroleum refining technology and directing the long-range, basic research projects for developing new catalytic materials.

Dr. Min was a pioneer in the development of petroleum refining catalysts and for his contributions was conferred the title "Significant Contributor to the Development of China's Science and Technology" during the National Science Conference in 1978. He was appointed as a member of the National Science Reward Committee and is also a member of the Chemical Engineering Division of the Invention Appreciation Committee.

Dr. Min has held several guest professorships in China and has belonged to many professional societies. For the last 25 years or so, he has been elected to the National People's Congress, a group of about 1500 representatives who meet periodically to map long-range policies and plans for the People's Republic of China.

Dr. Tse Kao Wu is Emeritus Professor of Chemical Engineering at the East China University of Chemical Technology in Shanghai, China. He came to the Ohio State University to study chemical engineering, and in 1938 he earned the Master of Science degree in that discipline. In 1941 he also received the Doctorate degree in Chemical Engineering from Ohio State.

Between the years 1948 and 1952 he was a professor and chairman of the chemical engineering department at Soochow University in Soochow, China. In 1952 he left Soochow University in order to serve as professor and deputy chairman of the chemical engineering department at the East China University of Chemical Technology in Shanghai, China. He held this position until 1982. In that year he became professor and chairman of Foreign Languages for Science and Technology at East China University. He held this position until his retirement in 1987, when he was named emeritus professor of chemical engineering.

Dr. Wu has been responsible for the design and reconstruction of several chemical plants in China throughout his career. He was first assigned to reconstructing two cane sugar plants on Taiwan. He did this in the years 1946 to 1948. From 1950 to 1952 he designed and erected an electrochemical plant in mainland China. Beginning in 1950 he designed two large sulfuric acid plants in Shanghai, China. He was also instrumental in the erection of these structures which were completed in 1961.

While at Ohio State he was a member of Phi Lambda Upsilon honorary society. He was also a member of Sigma Xi Honorary Society.

William W. Grimes is the Founder and President of Wilgrin, Inc., a management and consulting firm. He attended Ohio State University, receiving the Bachelor of Science degree in Chemical Engineering in 1950. Later he did graduate work at Case Western Reserve University in Cleveland.

Mr. Grimes was hired by the Standard Oil Company in 1951 and assigned to the Technical Service Division. Between 1959 and 1974 he held several positions within the company including senior project supervisor at corporate engineering in Cleveland and project coordination manager for the Marcus Hook Refinery project. In 1974 he became the manager of refinery operations at the Marcus Hook location and in 1978 was promoted to refinery manager. In 1981 he was named manager of the Lima Refinery. He held this position until his promotion to director of refining technology in 1985. He retired from Standard Oil at the end of 1986 and formed his own company, Wilgrin, Inc. in 1987.

During his career he played a major role in the modernization of three large refineries at Standard Oil. He holds six patents that resulted from innovations related to early process engineering activities.

He received the distinguished Alumnus Award from Ohio State in 1975. He has been active in many professional and community organizations, including service as the director and chairman of the Lima area Chamber of Commerce and a director of the United Way in Lima. From 1987-89 he was chairman of the Dean of Engineering's Advisory Board and was chairman of the College of Engineering Committee for Tomorrow. He is also a Fellow and past director of the American Institute of Chemical Engineers.
Faculty Activities

Professor Bob Brodkey is on professional leave for the 1989-90 year. He is devoting it to research in upgrading his image analysis and processing techniques. He will be a keynote speaker on his research at the CHISA Meeting in Prague in August. He is also Chair of the Scientific Committee of the XI National Congress on Theoretical and Applied Mechanics (Tucson, May 1990). He was a member of the Organizing Committee of the Sixth Beer Sheva Seminar on MHD Flows and Turbulence (Jerusalem, March 1990) and The Eleventh Biennial Symposium on Turbulence (University of Missouri-Rolla, September 1990). He serves on the AIChE Fluid Mechanics Program Committee and is Interim Chair of an Image Analysis Group which was organized as part of the new Ohio Aerospace Institute. Bob’s research is supported by NASA and Chemineer.

Professor Jeff Chalmers is continuing his research on the effect of shear on cells and the influence of certain additives on reducing the shear effects. Jeff shared with S.T. Yang a DuPont Young Faculty Development Award. He has proven to be an excellent chef at grad student-faculty-staff picnics.

Professor Jim Davis has had two Ph.D.’s complete their dissertations on artificial intelligence this year with a couple more near completion. Industrial interest in this area is increasing and he organized a short course in Philadelphia this spring. Last year he presented invited talks on workshops at five universities and three industrial laboratories. His research was supported by NSF, Westvaco, Mobil and the Air Force and he is a Trustee of CACHE Corporation at whose invitation he wrote a monograph. He was recipient of a College of Engineering Outstanding Research Award last spring, and was promoted to Associate Professor with tenure in October. Jim was one of four faculty participants in our summer softball team.

Professor L.S. Fan’s text, Gas-Liquid-Solid Fluidization Engineering, published by Butterworths last April has been well-received. He has now completed a second text, Bubble Wake in Liquid and Liquid-Solid Suspension, which will be published by Butterworths in September and he edited an AIChE Symposium Series Volume. L.S. completed his term as Chairman of the AIChE (Area 2G - Fluidization and Fluid Particles Systems) Program Committee. He is a member of the Steering Committee of the Ohio Universities Coal Consortium and is Technical Leader of the Solid-Liquid Multiphase Research Program of the Midwest Universities Energy Consortium. In addition he was Chair or Co-Chair of sessions at five international meetings and lectured in two short courses on fluidization and solids transport. He organized the latter. He received research support from NSF, Argonne National Lab, Department of Interior, Ohio Coal Development Office, Union Carbide, Amoco and Exxon. Last spring L.S. received a MacQuigg Outstanding Teaching Award and a College of Engineering Senior Research Award.

Professor Mort Friedman has an active research program in Biomedical Engineering program which he serves as Associate Director. Mort introduced a course in Biological Transport in Winter Quarter using a text he wrote on the subject.

Emeritus Professor Christie Geenkepalis continues to teach part-time at the University of Minnesota and to consult. Christie is heavily involved in their unit operations laboratory course.

Professor Ed Haeling introduced a new course, “Hazardous Materials Management,” a most important subject. He gave an invited presentation on the 5-year program to the Annual ACS Meeting in Dallas. Ed introduced forty students to the Unit Ops Lab last summer. He also chaired the Program Review Committee which completed the Self Study Report and, as Past President, is involved in the Faculty Club major renovation project.

Professor Harry Hershey, Chair of the Curriculum Committee, has been very heavily involved in monitoring and responding to proposed curriculum changes. As advisor to the AIChE Student Chapter he has a great deal of contact with our undergraduates. His text on transport, co-authored with Bob Brodkey, has been adopted by about twenty departments in the U.S. and overseas. Harry was also a leading member of the Ch.E. softball team.

Emeritus Professor Web Kay is documenting the design of some of his research equipment. With a collaborator from the National Bureau of Standards (Boulder), he is preparing manuscripts on correlations of the thermodynamic measurements made by some of his former students.

Professor Kent Knaebel organized the International Adsorption Society and has edited the first two quarterly newsletters of Adsorption News. He is also on the editorial board of Separation Science and Technology. His research on pressure swing adsorption and temperature swing adsorption is supported by NSF, Amoco Oil, Union Carbide and Dow. Along with Jack Zakin he helped edit a brochure on Chemical Engineers published by Chronicle Guidance to explain to prospective students what chemical engineers do and what preparation they need for a career in chemical engineering. Kent was another stalwart of the department’s softball team.

Professor Jim Lee received the Harrison Outstanding Engineering Education Award ($5,000) last Spring. He is Chair-elect of the Technical Program Committee of the Engineering Properties and Structure Division of the Society of Plastics Engineers. He continues as Polymer Thrust Leader of the College’s NSF Engineering Research Center on Net Shape Manufacturing. His polymer processing research is supported by NSF, GenCorp, Union Carbide, General Motors, Ashland Chemical, Air Force and Edison Welding Institute. Jim was a member of the Department Self Study Committee.
Professor Won-Kyoo Lee is our elected member of the College Committee on Academic Affairs and represented us in their critical curriculum deliberations. He has received an appointment as a 1990 Summer Fellow at Wright Patterson Air Force Base where he will be working in the Manufacturing Technology Section of the Materials Laboratory. He also is a Collateral Faculty member of the new Ohio Aerospace Institute headquartered at the NASA Lewis Lab in Cleveland.

Emeritus Professor R. Emerson (Emy) Lynn visited us again last summer. He and his wife do a lot of travelling and square dancing.

Professor Umit S. Ozkan serves on the Board of Trustees of the Ohio Society of Professional Engineers. She organized an OSPE Engineering Workshop for Educators for high school counselors and science and math teachers last fall and she received the Franklin County OSPE Educator of the Year Award earlier this year. She is also Chair of the Central Ohio Section AIChE Professional Development and Career Guidance Committee. Umit’s research on catalysis is supported by NSF, PRF, Amex Foundation and Exxon. She was a member of the Department Self Study Committee.

Professor Duane Skidmore continued as Chair of the Department Graduate Studies Committee.

Emeritus Professor Slip Slider is again teaching two courses in petroleum reservoir engineering this Spring Quarter. In addition Slip continues to present his 5-day Gas Reservoir Engineering Seminar/Workshop in industry. He presented this course in Houston and London, England and also presented it for Texaco in Denver and in Midland, Texas. Slip received an offer to present this course and another 5-day seminar in the People’s Republic of China but was encouraged by the U.S. State Department to decline. Slip is a member of the Research Committee of the Interstate Oil Compact Commission.

Emeritus Professor Ed Smith is called to be an expert witness whenever a major fire occurs in the U.S. His fire lab in Koffolt continues to be an active one. Ed serves on the National Fire Protection Association Committee on the Toxicity of the Products of Combustion, ASTM Committee on Fire Standards and the Editorial Advisory Board of the Journal of Fire Sciences.

Emeritus Professor Karlis Svanks and his wife are avid opera fans. They do quite a bit of travelling including opera tours.

Professor Tom Sweeney serves as Acting Vice President for Research and Graduate Studies following the retirement of Jack Hollander who held that post. Tom is also a member of the State of Ohio Hazardous Waste Facility Board.

Professor S.T. Yang is continuing to develop his biochemical engineering research program. He organized and chaired sessions at AIChE Meetings and is doing so for the ACS National Meeting in Washington in August. He was elected Treasurer of the Central Ohio Section of AIChE. With Jeff Chalmers, he shares a 3-year DuPont Young Faculty Development Award.

Professor Jack Zakin completed his one year term on the Executive Committee and three year term on the Governing Board of the Council for Chemical Research. He was a member of the Scientific and Organizing Committees of Drag Reduction ’89 held in Davos Switzerland last August and of the Sixth Beer Sheva Symposium on MHD and Turbulence held in Jerusalem in March 1990. He is Co-chair of the Twelfth Biennial Turbulence Symposium to be held at the University of Missouri-Rolla in September. In February, he was an Invited speaker at the II Congreso Internacional de Ingenieria Quimica, Mechanica y Ambiental held in Puebla, Mexico. He is a member of the Editorial Advisory Board of the Foundation for Chemical Engineering Research and Development. Jack’s research on surfactant drag reduction for district heating and district cooling systems is supported by the Department of Energy and the International Energy Association. His research on transport of highly viscous crudes as concentrated oil-in-water emulsions is supported by NATO and UNOCAL. He was a participant on the summer softball team.
Publications and Presentations

BOOKS AND BOOK CHAPTERS:


PROCEEDINGS PUBLICATIONS:


Proceedings Publications (cont.)


Fan, J.D., L.J. Lee, J. Kim and Y.I. Im, "Curing of SMC in Molds with Substructures," Proc. 44th SPI Annual Conference in Dallas, TX, February (1989).


TECHNICAL REPORTS:


OTHER SCHOLARLY/CREATIVE CONTRIBUTIONS:

A. Invited Lectures, Seminars and Short Courses

Brodkey, R.S., "Image Processing and Analysis in Chemical Engineering Research," invited seminars given at Kimberly Clark and at Purdue, March and Sept (1989).


A. Invited Lectures, Seminars and Short Courses (cont.)


Lee, L.J., Seminar, Department of Chemical Engineering, University of Detroit, March (1989).


B. Additional Paper Presentations


B. Additional Paper Presentations (cont.)


Theses

Ph.D. Theses


Jagannadh, Satyavolu V.S., B.S. (Andhra University); M.S. (Ohio State University); "Study of Liquid Drop Breakup in a Turbulent Four-Roll Mill," (Advisor: R.S. Brodkey).

Matz, Michael J., B.S. (University of Toledo); M.S. (Ohio State University); "Recycled Thermal Swing Absorption Multicomponent Separations of Aromatic Hydrocarbons from Paraffins," (Advisor: K.S. Knaebel).

Ramas, T.S., B.S. (Banaras Hindu University); M.S. (Ohio State University); "A Knowledge-Based Framework for Process and Malfunction Diagnosis in Chemical Plants," (Advisor: J.F. Davis).

Shum, S.K., B.S. (Pennsylvania State University); M.S. (Ohio State University); "A Knowledge-Based System Architecture for Diagnosis and Sensor Validation in Chemical Process Plants," (Advisor: J.F. Davis).

Wang, Kuan Jong, B.S. (National Tsing Hua University); M.S. (Ohio State University); "Reactive Processing of Polyureas and Polyurethane-Polyester Hybrids," (Advisor: L.J. Lee).

Master's Theses

Bae, Yong-Kook, B.S. (Yonsei University); "Studies About Shear Stress Effects on Trichoplusia Ni Insect Cells," (Advisor: J.J. Chalmers).

Bogovski, Daniel V., B.S. (Case Western Reserve University); "The Effect of Glucose Concentration on the Production of Plasmid-Encoded Proteins in Escherichia Coli," (Advisor: J. Chalmers).


Dorman, William C., B.S. (Ohio State University); "Application of the Three Dimensional Solubility Parameter Scheme to Coal Extraction," (Advisor: D.R. Skidmore).


Hsu, C.P., B.S. (National Taiwan University); "Microstructure Formation in Free Radical Cross-Linking Copolymerization of Unsaturated Polyester Resins," (Advisor: J.L. Lee).

Hsu, Sheng Tsiung, B.S. (National Tsing Hua University); "Effects of pH on Extractive Fermentation for Propionic Acid Production From Whey Lactose," (Advisor: S.T. Yang).

Inokuchi, K., B.S. (University of Tokyo); "Ozon Decomposition in A Circulating Fluidized Bed," (Advisor: L.S. Fan).

Jang, Chien-Sheng, B.S. (Tsing-Hua University); "Hydrodynamics of Liquid-Solid Fluidization," (Advisor: L.S. Fan).

Kueller, Richard F., B.S. (Iowa State University of Science and Technology); "Methanol Oxidation Over Non-Precious Transition Metal Oxide Catalysts," (Advisor: U.S. Ozkan).


Shields, Richard W., B.S. (Ohio State University); "Kinetics and Modeling of Protein Production in a Recombinant Yeast Containing Temperature-Regulated Promoters," (Advisor: S.T. Yang).


Whiteley, James R., B.S. (Oklahoma State University); "Application of Adaptive Networks to Trend Analysis of Process Sensor Data," (Advisor: J.F. Davis).
<table>
<thead>
<tr>
<th>Year</th>
<th>Class Members</th>
</tr>
</thead>
</table>
| 1915 | *Harry Mitzenhandler  
       *Clarence J. Strobel |
| 1920 | *Clifford R. Athy  
       Robert A. Fisher  
       *Philip M. Foote  
       Marion W. Harman  
       *Clarke S. Martin  
       *Lyle J. Michael  
       *Gordon D. Patterson  
       *James T. Robson |
| 1925 | Burton B. Annis  
       Robert O. Klotz  
       Ralph J. Paddock  
       *John C. Pew  
       Robert W. Rothrock  
       William O. Stauffer  
       Robert J. Sutton  
       Nelson C. Turner |
| 1930 | *John L. Arns  
       Edward J. Cannon  
       *Edwin B. Carr  
       *Howard G. Cooper  
       *Harold F. Cronenberger  
       Parker S. Dunn  
       Charles L. Fletcher  
       *Anthony George  
       *Harold L. Hamilton  
       Harry W. Huang  
       Dean D. Huffman  
       Mary B. Junkin  
       Walter A. Lower  
       *Chieh Ma  
       Marion M. McAdams  
       Glendon I. Miller  
       Lee A. Parker  
       *John C. Pew  
       Julius D. Stone  
       William M. Tucker |
| 1940 | Napoleon A. Agapetus  
       Clay H. Anesthesley  
       Herman E. Austen  
       Francis J. Avery  
       Fred O. Barrett  
       Charles H. Boardman III  
       Heinz A. Boker  
       John G. Braden  
       Richard W. Bueker  
       Jack P. Burch  
       Jack R. Caddell  
       *Azro J. Cheney, Jr.  
       Charles B. Cochran  
       Frank M. Cooper  
       Paul D. Cooper  
       *George E. Duckwall  
       Winston H. Duckworth  
       John A. Finch  
       William R. Fisher  
       Paul A. Fodor, Jr.  
       David S. Gilmore  
       Loren F. Grandey  
       Elton B. Gunyon  
       Elden D. Haller  
       John K. Harvey  
       Robert W. Hooper  
       Paul B. Huffman  
       Robert L. Huffman  
       Henry J. Jacoby  
       Ira J. Kail  
       *Gangader D. Kane  
       William R. Keller  
       Clifford B. Kemp  
       Don E. Kennedy  
       Robert L. Lambert  
       Robert M. Lawless  
       Francis J. Malik  
       James E. Massie  
       Arthur G. Mayer  
       Robert F. McKibben  
       John H. Miller  
       *Robert D. Mills  
       Richard J. Mitchell  
       Louis J. Nowacki  
       Fred R. Prediger  
       *George E. Roes  
       Louis E. Ruidish  
       David W. Shaeffer  
       Roger L. Steiler  
       Everett H. Strobel  
       Francis J. VanDerWerf  
       Roger M. Warner  
       Clayton W. Weber  
       Walter C. Wendschuh  
       Claude W. White  
       Donald H. White  
       Frank Zebehazy |
| 1945 | Robert S. Atkinson  
       Felice J. Celli  
       John W. Lawler  
       Ralph G. Patterson  
       Arch G. Robison  
       Robert F. Snider  
       Dunbar G. Terry  
       Alexander E. Wallace  
       Kennard L. Wing  
       Robert E. Albert  
       Robert M. Allen  
       James E. Anderson  
       William K. Averitt  
       Dean B. Barnes  
       William J. Berk  
       Harlan D. Bowsher  
       John O. Bradfute  
       Donat B. Brice  
       Theodora B. Burkholder  
       Daren E. Calvén  
       *Emil H. Chao  
       John Chochotak  
       Halvor S. Christansen  
       Walter E. Donham  
       Robert E. Duval  
       Donald G. Floyd  
       Donald E. Garrett  
       Walter T. George  
       William H. Graves  
       William W. Grimes  
       John A. Gurkis  
       Robert D. Haber  
       David R. Hamilton III  
       Thoms J. Harratty  
       *Sharadkumar C. Hansoti  
       David W. Hardesty  
       *James R. Harrison  
       Ellis L. Hawk, Jr.  
       *John R. Hill  
       Preston L. Hill  
       Richard H. Immel  
       Clyde H. Kaarns, Jr.  
       *Robert J. Kirg  
       *R. F. Kelley  
       Harold E. Knowlton  
       William L. LaCampa  
       Robert W. Laurrell  
       William C. Leavitt  
       Wayne H. Lee  
       Charles D. Lindberg  
       Carl J. Lyons  
       Ju Luan Ma  
       Frederick A. MacDougall  
       Sanatkumar S. Majumdar  
       Raymond J. Mayfield, Jr.  
       Hobart C. McGinnis  
       John R. Milne  
       Ralph I. Mitchell  
       *Vipinchandra C. Nanavati  
       Thomas D. Nevans  
       Louis J. Nowacki  
       Kashibhai D. Patel  
       Jewel H. Perkins, Jr.  
       Donald A. Piazzi  
       Joseph M. Quattlebaum, Jr.  
       24 |
<table>
<thead>
<tr>
<th>Year</th>
<th>Names</th>
</tr>
</thead>
</table>

Anniversary Classes (cont.)

1975 (cont.)
Stephen L. Grant
Eric A. Grulke
Valerie L. Hersberger
William C.-S. Hu
Thomas S. Johnson
James A. Keen
Frederick C. Knopf
Steven P. Lankton
Ted W. Marker
Wendell Mayo, Jr.
Dennis L. McGinn
John E. Myers
Critt E. Nethero
Martin R. Okos
Krishnan R. Pandalai
Simoni Papadimitriou
Michael A. Patterson
Dean H. Paulos
William D. Peeples
Sam A. Shubally
Yoon S. Song
Robert B. Tait
Samuel S. Tam
James R. Walker
James S. Watt
Johnny O. Wright

Mark A. George
Bahman Ghorashi
William F. Hammersley
Walter A. Hansen
Craig A. Heseltin
Michael G. Hu
Jeffrey P. Hullinger
Shyh-Jye Huang
William A. Jones
Kyle E. Kennedy
George J. Kriekie
Joseph E. Legenza
Richard L. Mayer
Larry M. Miller
Michael Moore
Carlos O. Mora-Perez
Laura L. Murphy
Kunle Ogunde
Mark C. Oliver
Ruben D. Alfonzo Paez
Keon Y. Park
David M. Pentenburg
Michael H. Peters
Joseph Petracca, Jr.
Sanford L. Phillips
Gary R. Prok
Stephen R. Reiling
Mary S. Reynolds
James N. Rigano
Cynthia A. Scheetz
Daniel R. Schwaegarle
Wilmer R. Semeco
Pankaj P. Shah
Jeffrey L. Shifflette
Gary D. Shives
Ellen M. Silva
Christine A. Sink
Peter E. Steacy
Robert J. Strack
Timothy L. Strickler
Wayne G. Stubber
Charles W. Theuring, Jr.
Michael A. Tornes
Jim Y. Tou
Susan S. Valleria
David G. Vutetakis
Debra S. Warfield
Mark R. Warfield
Yaw-Chung Yang
Mark J. Zeto
Kent W. Zimmerman
Ronald R. Zitzman

1985
David G. Abernathy
Lisa G. Adams
Marcela M. Amayo
Debra B. Baldauf
Douglas J. Ball
Paul L. Bartel
Farshad Bavarian
Andrew W. Bur
Rebecca K. Bur
Theodore C. Burnham
Thomas D. Burns
Kevin D. Byrd
Leslie B. Byrd
Soon-Man Cha
Hsuan Chang
Shu-Wu Chiu
Pong Chung Chung
Eric D. Culp
Gary S. Datsko
John L. DeFilippio, Jr.
Lauren J. DeMoor
Keith H. Driscoll
Andrea G. Dunham
Abdolreza Ebrahimi
Laertis Economikos
Najila Emadi
David E. Engler
Roger G. Farber
Jyh-Dar Fan
Chunchang Fang
Andrew E. Farell
David A. Flautt
Roger L. Frye
Alan G. Garaschaden
Mary R. Gaynes-Bloom
Mehrdad Ghofraniha
Maria C. Grosser
Charles A. Hall
Christina L. Hall
Scott G. Harris
David C. Harsh
Mark J. Hogan
Steven P. Hughes
Shyh-Jye Hwang
Ronger Jean
Timothy A. Johnson
Brian D. Jones
Kelly E. Jones
Chan-Sul Jung
John C. Kayser
Leila Klaeoe
Hong Pil Kim

Carl W. Kretchman
*Adel Krichene
Michael F. LiCause
David A. Lodwick
David M. Love
Scott E. Lugibihl
Jonathan L. Macaruso
James M. Marinelli
Ronald W. Martin, Jr.
David A. May
Harve W. Mobley III
David J. Mooney
Charles D. Moss
Stig Mowatt-Larssen
Melody L. Munson-McGee
Douglas R. Myers
David W. Nolen
Kunle Ogunde
Kirsten J. Patre
Lananh Thi Pham
Barbara A. Pierce
Timothy A. Pierce
Thomas H. Puegge
*Robert A. Richard
Max K. Roper
Kathleen A. Shannon
Perry L. Sheldon
David B. Shields
Gyu-Jung Song
Richard T. Strait
*George W. Stutzmans
Kyle W. Suzcebarber
Paul A. Taiganderis
Wen-Tzung Tang
Terrance A. Theaker
Randolph E. Treudler
Bruce M. Tylool
Penny J. Vanek
Shayn S. Veley
Mark E. Vetter
David G. Vutetakis
Kuan-Jong Wang
Jeffrey A. Watson
Lori J. Wellendorf
John W. Welsh
Virginia S. Wheeler
Terry V. Wilcox
Michael J. Yost
David A. Zimmerman

*No current information available. If you know their address, please send it to us.
Class of 1979
Ronald D. Vlcek, Martin K. Hitchcock, Deborah G. Marek, John F. Kreinbrink, Ralph W. Slone, David M. Frederick and Michael W. Weber

Class of 1969
John W. Toussant and Smith E. Howland
ACE Day Get Together

Glen D. Schaff '49, Dr. Jim Davis and Michael B. Cutlip '64

Dr. Bob Brodkey and James A. Moomaw ’64

ACE Day Get Together

'64 William C. Corder and '69 John W. Toussant