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Commonwealth and Industrial Scholarships are available.

Costs.

Tuition: \$692/year.
Married students housing rent: \$204/month.
Room and board, University Housing: \$228/month.

Department Size

13 Professors, 20 Research Associates
30 Graduate Students.

Applications

For additional information write to:

Chairman
Department of Chemical Engineering
University of Alberta
Edmonton, Alberta, Canada T6G 2G6

Faculty and Research Interests

I. G. Dalla Lana, Ph.D. (Minnesota): Kinetics, Heterogeneous Catalysis.

D. G. Fisher, Ph.D. (Michigan): Process Dynamics and Control, Real-Time Computer Applications, Process Design.

C. Kiparissides, Ph.D. (McMaster): Polymer Reactor Engineering, Optimization, Modelling, Stochastic Control, Transport Phenomena.

J. H. Masliyah, Ph.D. (Brit. Columbia): Transport Phenomena, Numerical Analysis, In situ Recovery of Oil Sands.

A. E. Mather, Ph.D. (Michigan): Phase Equilibria, Fluid Properties at High Pressures, Thermodynamics.

W. Nader, Dr. Phil. (Vienna): Heat Transfer, Air Pollution, Transport Phenomena in Porous Media, Applied Mathematics.

F. D. Otto, (Chairman), Ph.D. (Michigan): Mass Transfer, Computer Design of Separation Processes, Environmental Engineering.

D. Quon, Sc.D. (M.I.T.): Applied Mathematics, Optimization, Resource Allocation Model 5.

D. B. Robinson, Ph.D. (Michigan): Thermal and Volumetric Properties of Fluids, Phase Equilibria, Thermodynamics.

J T. Ryan, Ph.D. (Missouri): Process Economics, Energy Economics and Supply.

S. Shah, Ph.D. (Alberta): Linear Systems Theory, Adaptive Control, System Identification.

S. E. Wanke, Ph.D. (California-Davis): Catalysis, Kinetics.

R. K. Wood, Ph.D. (Northwestern): Process Dynamics and Identification, Control of Distillation Columns, Modelling of Crushing and Grinding Circuits.

The University of Alberta

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THE UNIVERSITY OF ARIZONA

TUCSON, AZ

The Chemical Engineering Department at the University of Arizona is young and dynamic with a fully accredited undergraduate degree program and M.S. and Ph.D. graduate programs. Financial support is available through government grants and contracts, teaching, research assistantships, traineeships and industrial grants. The faculty assures full opportunity to study in all major areas of chemical engineering.

THE FACULTY AND THEIR RESEARCH INTERESTS ARE:

WILLIAM P. COSART, Assoc. Professor
Ph.D. Oregon State University, 1973
Transpiration Cooling, Heat Transfer in Biological Systems, Blood Processing

JOSEPH F. GROSS, Professor and Head
Ph.D., Purdue University, 1956
Boundary Layer Theory, Pharmacokinetics, Fluid Mechanics and Mass Transfer in The Microcirculation, Biorheology

JOST O.L. WENDT, Assoc. Professor
Ph.D., Johns Hopkins University, 1968
Combustion Generated Air Pollution, Nitrogen and Sulfur Oxide Abatement, Chemical Kinetics, Thermodynamics Interfacial Phenomena

THOMAS W. PETERSON, Asst. Professor
Ph.D., California Institute of Technology, 1977
Atmospheric Modeling of Aerosol Pollutants, Long-Range Pollutant Transport, Particulate Growth Kinetics.

DON H. WHITE, Professor
Ph.D., Iowa State University, 1949
Polymers Fundamentals and Processes, Solar Energy, Microbial and Enzymatic Processes

ALAN D. RANDOLPH, Professor
Ph.D., Iowa State University, 1962
Simulation and Design of Crystallization Processes, Nucleation Phenomena, Particulate Processes, Explosives Initiation Mechanisms

THOMAS R. REHM, Professor
Ph.D., University of Washington, 1960
Mass Transfer, Process Instrumentation, Packed Column Distillation, Applied Design

JAMES WM. WHITE, Assoc. Professor
Ph.D., University of Wisconsin, 1968
Real-Time Computing, Process Instrumentation and Control, Model Building and Simulation

Tucson has an excellent climate and many recreational opportunities. It is a growing, modern city of 400,000 that retains much of the old Southwestern atmosphere.

For further information,
write to:

*Dr. A. D. Randolph
Graduate Study Committee
Department of
Chemical Engineering
University of Arizona
Tucson, Arizona 85721*



The University of Calgary

Program of Study

The Department of Chemical Engineering provides unusual opportunities for research and study leading to the M.Eng., M.Sc. or Ph.D. degrees. This dynamic department offers a wide variety of course work and research in the following areas: Petroleum Reservoir Engineering, Environmental Engineering, Fluid Mechanics, Heat Transfer, Mass Transfer, Process Engineering, Rheology and Thermodynamics. The University operates on an eight-month academic year, thus allowing four full months per year for research.

The requirements for the M.Eng. and M.Sc. degrees are 6 to 8 courses with a B standing or better and the submission of a thesis on a research project.

The requirements for the Ph.D. degree are 8 to 12 courses and the submission of a thesis on an original research topic.

The M.Eng. program is a part-time program designed for those who are working in industry and would like to enhance their technical education. The M.Eng. thesis is usually of the design type and related to the industrial activity in which the student is engaged. Further details of this program are available from the Department Head, or the Chairman of the Graduate Studies Committee.

Research Facilities

The Department of Chemical Engineering occupies one wing of the Engineering Complex. The building was designed to accommodate the installation and operation of research equipment with a minimum of inconvenience to the researchers. The Department has at its disposal an EAI 690 hybrid computer and a TR48 analog computer and numerous direct access terminals to the University's CDC Cyber 172 digital computer. In addition, a well equipped Machine Shop and Chemical Analysis Laboratory are operated by the Department. Other major research facilities include a highly instrumented and versatile multiphase pipeline flow loop, an automated pilot plant unit based on the Girbotol Process for natural gas processing, an X-ray scanning unit for studying flow in porous media, a fully instrumented adiabatic combustion tube for research on the in-situ recovery of hydrocarbons from oil sands, a laser anemometer unit, and environmental research laboratories for air pollution, water pollution and oil spill studies.

Financial Aid

Fellowships and assistantships are available with remuneration of up to \$6,000 per annum, with possible remission of fees. In addition, new students may be eligible for a travel allowance of up to a maximum of \$300. If required, loans are available from the Federal and Provincial Governments to Canadian citizens and Landed Immigrants. There are also a number of bursaries, fellowships, and scholarships available on a competition basis to full-time graduate students. Faculty members may also provide financial support from their research grants to students electing to do research with them.

Cost of Study

The tuition fees for a full-time graduate student are \$625 per year plus small incidental fees. Most full-time graduate students to date have had their tuition fees remitted.

Cost of Living

Housing for single students in University dormitories range from \$172/mo. for a double room, to \$205/mo. for a single room, including board. There are a number of new townhouses for married students available, ranging from \$177/mo. for a 1-bedroom, to \$193/mo. for a 2-bedroom and to \$209/mo. for a 3-bedroom unit, including utilities, major appliances and parking. Numerous apartments and private housing are within easy access of the University. Food and clothing costs are comparable with those found in other major North American urban centres.

Student Body

The University is a cosmopolitan community attracting students from all parts of the globe. The current enrolment is about 12,000 with approximately 1,000 graduate students. Most full-time graduate students are currently receiving financial assistance either from internal or external sources.

The Community

The University is located in Calgary, Alberta, home of the world famous Calgary Stampede. This city of 570,000 combines the traditions of the Old West with the sophistication of a modern, dynamic urban centre. Beautiful Banff National Park is 60 miles from the city and the ski resorts of the Banff and Lake Louise areas are readily accessible. Jasper National Park is only five hours away by car via one of the most scenic highways in the Canadian Rockies. A wide variety of cultural and recreational facilities are available both on campus and in the community at large. Calgary is the business centre of the petroleum industry in Canada and as such has one of the highest concentrations of engineering activity in the country.

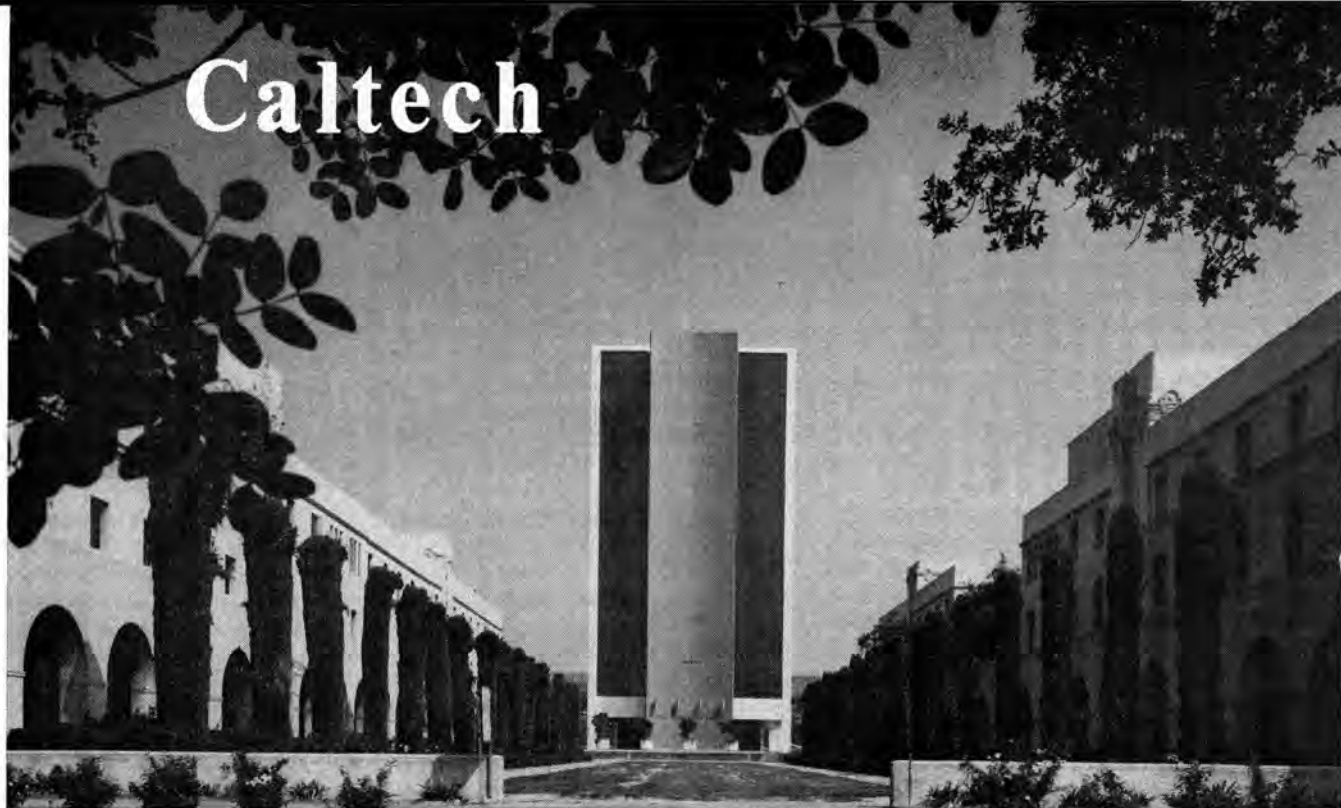
The University

The University operated from 1945 until 1966 as an integral part of the University of Alberta. The present campus situated in the rolling hills of northwest Calgary, was established in 1960, and in 1966 The University of Calgary was chartered as an autonomous institution by the Province of Alberta. At present the University consists of 14 faculties. Off-campus institutions associated with The University of Calgary include the Banff School of Fine Arts and Centre of Continuing Education located in Banff, Alberta, and the Kananaskis Environmental Research Station located in the beautiful Bow Forest Reserve.

Applying

The Chairman, Graduate Studies Committee
Department of Chemical Engineering
The University of Calgary
Calgary, Alberta T2N 1N4
Canada

Caltech



PROGRAM OF STUDY Distinctive features of study in chemical engineering at the California Institute of Technology are the creative research atmosphere in which the student finds himself and the strong emphasis on basic chemical, physical, and mathematical disciplines in his program of study. In this way a student can properly prepare himself for a productive career of research, development, or teaching in a rapidly changing and expanding technological society.

A course of study is selected in consultation with one or more of the faculty listed below. Required courses are minimal. The Master of Science degree is normally completed in one academic year and a thesis is not required. A special terminal M.S. option, involving either research or an integrated design project, is a newly added feature to the overall program of graduate study. The Ph.D. degree requires a minimum of three years subsequent to the B.S. degree, consisting of thesis research and further

advanced study.

FINANCIAL ASSISTANCE Graduate students are supported by fellowship, research assistantship, or teaching assistantship appointments during both the academic year and the summer months. A student may carry a full load of graduate study and research in addition to any assigned assistantship duties. The Institute gives consideration for admission and financial assistance to all qualified applicants regardless of race, religion, or sex.

APPLICATIONS Further information and an application form may be obtained by writing

Professor L. G. Leal
Chemical Engineering
California Institute of Technology
Pasadena, California 91125

It is advisable to submit applications before February 15, 1979.

FACULTY IN CHEMICAL ENGINEERING

WILLIAM H. CORCORAN, Professor and Vice-President for Institute Relations
Ph.D. (1948), California Institute of Technology
Kinetics and catalysis; biomedical engineering; air and water quality.

GEORGE R. GAVALAS, Professor
Ph.D. (1964), University of Minnesota
Applied kinetics and catalysis; process control and optimization; coal gasification.

L. GARY LEAL, Professor
Ph.D. (1969), Stanford University
Theoretical and experimental fluid mechanics; heat and mass transfer; suspension rheology; mechanics of non-Newtonian fluids.

CORNELIUS J. PINGS, Professor,
Vice-Provost, and Dean of Graduate Studies
Ph.D. (1955), California Institute of Technology
Liquid state physics and chemistry; statistical mechanics.

JOHN H. SEINFELD, Professor,
Executive Officer
Ph.D. (1967), Princeton University
Control and estimation theory; air pollution.

FRED H. SHAIR, Professor
Ph.D. (1963), University of California, Berkeley
Plasma chemistry and physics; tracer studies of various environmental problems.

GREGORY N. STEPHANOPOULOS, Assistant Professor
Ph.D. (1978), University of Minnesota
Biochemical engineering; chemical reaction engineering.

NICHOLAS W. TSCHOEGL, Professor
Ph.D. (1958), University of New South Wales
Mechanical properties of polymeric materials; theory of viscoelastic behavior; structure-property relations in polymers.

ROBERT W. VAUGHAN, Professor
Ph.D. (1967), University of Illinois
Solid state and surface chemistry.

W. HENRY WEINBERG, Professor
Ph.D. (1970), University of California, Berkeley
Surface chemistry and catalysis.

UNIVERSITY OF CALIFORNIA

BERKELEY, CALIFORNIA



RESEARCH

ENERGY UTILIZATION
ENVIRONMENTAL
KINETICS AND CATALYSIS
THERMODYNAMICS
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PROCESS DESIGN
AND DEVELOPMENT
BIOCHEMICAL ENGINEERING
MATERIAL ENGINEERING
FLUID MECHANICS
AND RHEOLOGY

FACULTY

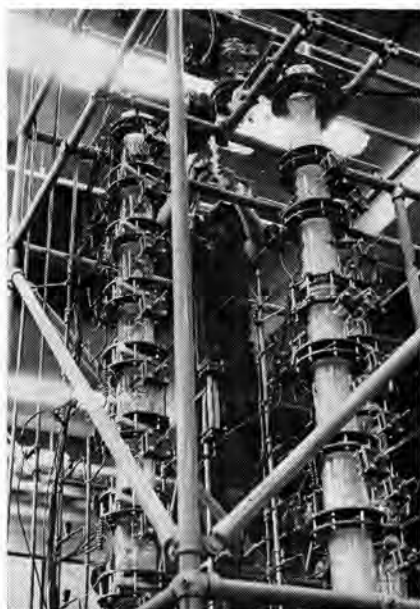
Alexis T. Bell
Alan S. Foss
Simon L. Goren
Edward A. Grens
Donald N. Hanson
C. Judson King (Chairman)
Scott Lynn
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Theodore Vermuelen
Charles R. Wilke
Michael C. Williams

FOR APPLICATIONS AND FURTHER INFORMATION, WRITE:

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UNIVERSITY OF CALIFORNIA
Berkeley, California 94720**

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Electrochemical Engineering
Process Dynamics
Separation Processes
Thermodynamics
Transport Phenomena

Faculty

R. L. BELL, University of Washington
Mass Transfer, Biomedical Applications
RUBEN CARBONELL, Princeton University
Enzyme Kinetics, Applied Kinetics, Quantum
Statistical Mechanics
ALAN JACKMAN, University of Minnesota
Environmental Engineering, Transport Phenomena
B. J. McCOY, University of Minnesota
Chromatographic Processes, Food Engineering,
Statistical Mechanics
F. R. McLARNON, University of California, Berkeley
Electrochemical Engineering, Energy conversion and
storage
J. M. SMITH, Massachusetts Institute of Technology
Applied Kinetics and Reactor Design
STEPHEN WHITAKER, University of Delaware
Fluid Mechanics, Interfacial Phenomena

FALL 1978

Program

Davis is one of the major campuses of the University of California system and has developed great strength in many areas of the biological and physical sciences. The Department of Chemical Engineering emphasizes research and a program of fundamental graduate courses in a wide variety of fields of interest to chemical engineers. In addition, the department can draw upon the expertise of faculty in other areas in order to design individual programs to meet the specific interests and needs of a student, even at the M.S. level. This is done routinely in the areas of environmental engineering, food engineering, biochemical engineering and biomedical engineering.

Excellent laboratories, computation center and electronic and mechanical shop facilities are available. Fellowships, Teaching Assistantships and Research Assistantships (all providing additional summer support if desired) are available to qualified applicants. The Department supports students applying for National Science Foundation Fellowships.

Davis and Vicinity

The campus is a 20-minute drive from Sacramento and just over an hour away from the San Francisco Bay area. Outdoor sports enthusiasts can enjoy water sports at nearby Lake Berryessa, skiing and other alpine activities in the Sierra (1 1/2 to 2 hours from Davis). These recreational opportunities combine with the friendly informal spirit of the Davis campus to make it a pleasant place in which to live and study.

Married student housing, at reasonable cost, is located on campus. Both furnished and unfurnished one- and two-bedroom apartments are available. The town of Davis is adjacent to the campus, and within easy walking or cycling distance.

Information

For further details on graduate study at Davis, please write to:

**Chemical Engineering Department
University of California
Davis, California 95616
or call (916) 752-0400**

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CHEMICAL ENGINEERING DEPARTMENT

The department is growing and has recently moved to a new complex. This facility provides for innovations in both research and teaching. Courses in all of the major areas of Chemical Engineering are available. Case Chemical Engineers have founded and staffed major chemical and petroleum companies and have made important technical and entrepreneurial contributions for over a half a century.

ACTIVE RESEARCH AREAS IN CHEMICAL ENGINEERING

Environmental Engineering
Control & Optimization
Computer Simulation
Systems Engineering
Foam & Colloidal Science
Transport Processes

Coal Gasification
Biomedical Engineering
Surface Chemistry & Catalysis
Crystal Growth & Materials
Laser Doppler Velocimetry
Chemical Reaction Engineering

FINANCIAL AID

Fellowships, Teaching Assistantships and Research Assistantships are available to qualified applicants. Applications are welcome from graduates in Chemistry and Chemical Engineering.

FOR FURTHER INFORMATION

Contact: Graduate Student Advisor
Chemical Engineering Department
Case Western Reserve University
Cleveland, Ohio 44106

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R. Shankar Subramanian
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Thomas J. Ward
William R. Wilcox
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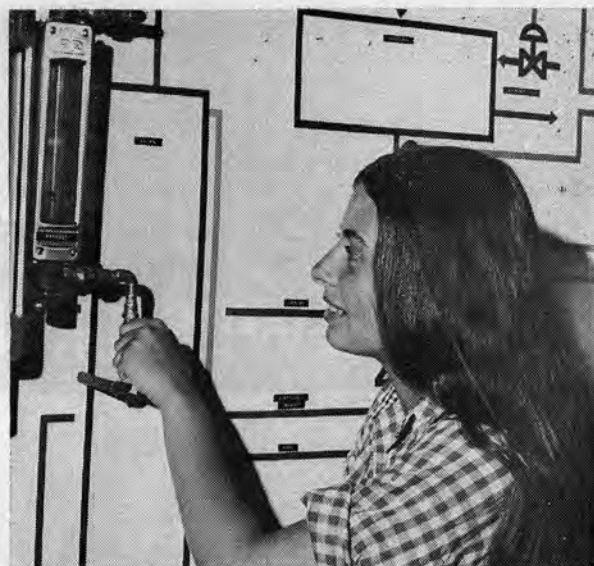
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The faculty members are:

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FOR FURTHER INFORMATION: Write to

Professor Keith Gubbins
Cornell University
Olin Hall of Chemical Engineering
Ithaca, New York 14853.



UNIVERSITY OF DELAWARE

Newark, Delaware 19711

The University of Delaware awards three graduate degrees for studies and practice in the art and science of chemical engineering:

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B. C. Gates	L. A. Spielman
J. R. Katzer	
R. L. McCullough	Visiting Faculty
A. B. Metzner	J. M. Dealy
J. H. Olson	J. Moulijn
M. E. Paulaitis	A. Teja
R. L. Pigford	M. Teramoto

The adjunct and research faculty who provide extensive association with industrial practice are:

R. J. Anderson	Reaction engineering, process design
L. A. DeFrate	Single and multiphase fluid mechanics
A. W. Etchells	Mixing, fluid mechanics
R. J. Fisher	Polymer processing and stability theory
P. J. Gill	Polymer reaction kinetics, optimal control systems
P. M. Guillino, M. D.	Biomedical engineering
H. F. Haug	Chemical engineering design
H. S. Kemp	Transfer operations, distillation
T. A. Koch	Catalysis
J. C. W. Kuo	Catalysis reaction engineering
W. H. Manogue	Catalysis, reaction engineering
F. E. Rush, Jr.	Mass transfer—distillation, absorption, extraction
R. J. Samuels	Polymer science
E. G. Scheibel	Mass transfer, separation process
A. B. Stiles	Catalysis
E. A. Swabb, M. D.	Biomedical engineering
V. W. Weekman, Jr.	Reaction engineering
K. F. Wissbrun	Polymer engineering

For information and admissions materials contact:

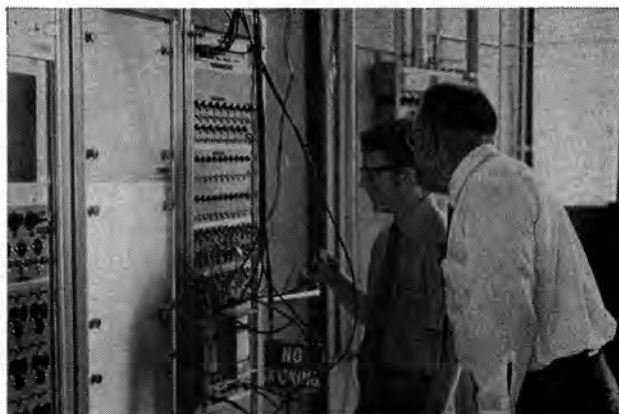
M. M. Denn, Graduate Advisor

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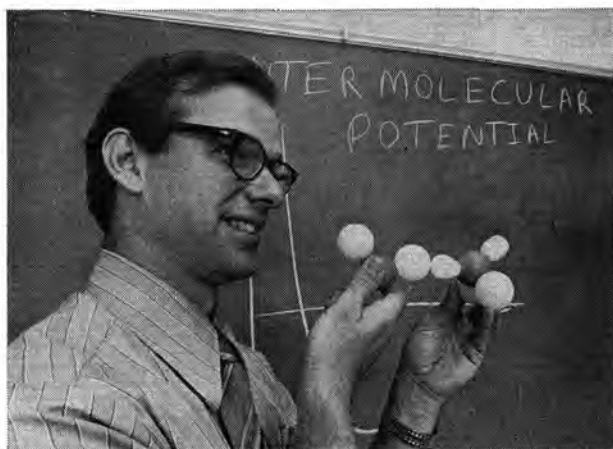
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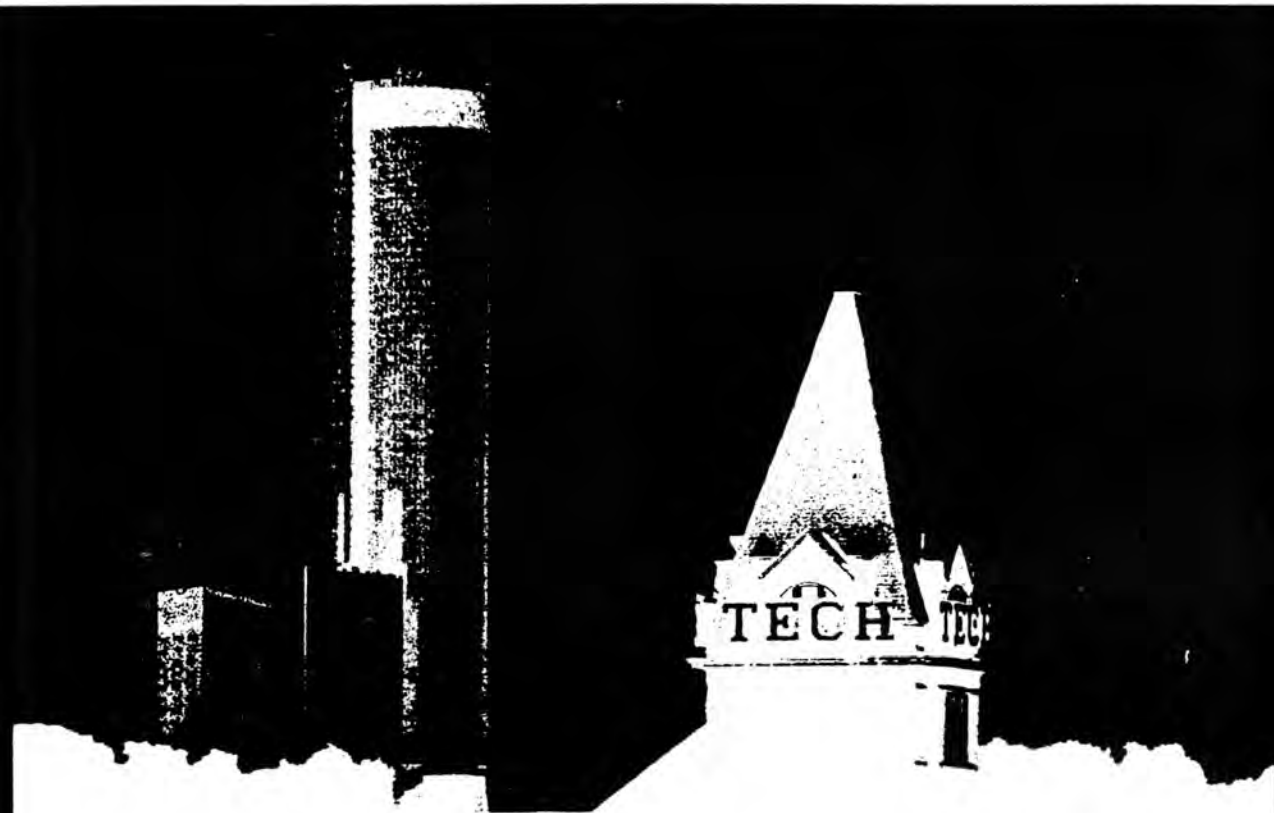
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Department of Chemical Engineering - Room 227
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Gainesville, Florida 32611*



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For more information write:

**Dr. Gary W. Poehlein
School of Chemical Engineering
Georgia Institute of Technology
Atlanta, Georgia 30332**



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JAMES T. RICHARDSON
FRANK M. TILLER
FRANK L. WORLEY, JR.

*For information
regarding graduate admissions*

write Chairman, Admissions Committee
Department of Chemical Engineering
University of Houston
Houston, Texas 77004
(713) 749-4407



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Faculty

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B. S. SWANSON
L. L. TAVLARIDES
J. S. VRENTAS
D. T. WASAN
CHARLES WITTMANN

Heat Transfer and Thermodynamics
Environmental Control and Process Design
Electrochemical Engineering and Energy Conversion
Process Dynamics and Controls
Biochemical Engineering and Reactor Engineering
Polymer Science and Transport Phenomena
Mass Transfer and Surface and Colloid Phenomena
Chemical Reaction Engineering Analysis

FOR INQUIRIES, WRITE

D. T. Wasan
Chemical Engineering Dept.
Illinois Institute of Technology
10 West 33rd St.
Chicago, IL 60616

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**Faculty and Research Activities in
CHEMICAL ENGINEERING**

Paul M. Chung
Ph.D., University of Minnesota, 1957
Professor and Head of the Department

David S. Hacker
Ph.D., Northwestern University, 1954
Associate Professor

John H. Kiefer
Ph.D., Cornell University, 1961
Professor

Victor J. Kremesec, Jr.
Ph.D., Northwestern University, 1975
Assistant Professor

G. Ali Mansoori
Ph.D., University of Oklahoma, 1969
Associate Professor

Irving F. Miller
Ph.D., University of Michigan, 1960
Professor

Satish C. Saxena
Ph.D., Calcutta University, 1956
Professor

Stephen Szépe
Ph.D., Illinois Institute of Technology, 1966
Associate Professor

The MS program, with its optional
thesis, can be completed in one year.
Evening M.S. can be completed
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The department invites applications for
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candidates. Special fellowships are
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application forms or to request further
information write:

Fluid mechanics, combustion, turbulence,
chemically reacting flows

Chemical kinetics, mass transport phenomena, chemical
process design, particulate transport phenomena

Kinetics of gas reactions, energy transfer processes,
molecular lasers

Multi-phase flow, flow in porous media, mass transfer,
interfacial behavior, biological applications of transport
phenomena, thermodynamics of solutions

Thermodynamics and statistical mechanics of fluids,
solids, and solutions, kinetics of liquid reactions,
cryobioengineering

Thermodynamics, biotransport, artificial organs,
biophysics

Transport properties of fluids and solids, heat and
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Biological Application of Chemical Engineering	High Pressure
Catalysis	Interfacial Phenomena
Chemical Reactor Dynamics	Mass Transfer
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Corrosion	Molecular Thermodynamics
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SYNTHESIS
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SEPARATION PROCESSES
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PROCESS CONTROL
REACTOR ENGINEERING

For information contact

Dr. Richard J. Farris
Graduate Program Director
Dept. of Polymer Science & Engineering
University of Massachusetts
Amherst, Massachusetts 01003

For information contact

Dr. R. L. Laurence
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Dept. of Chemical Engineering
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- (3) Heat Transfer Studies—Dr. J. J. Carr
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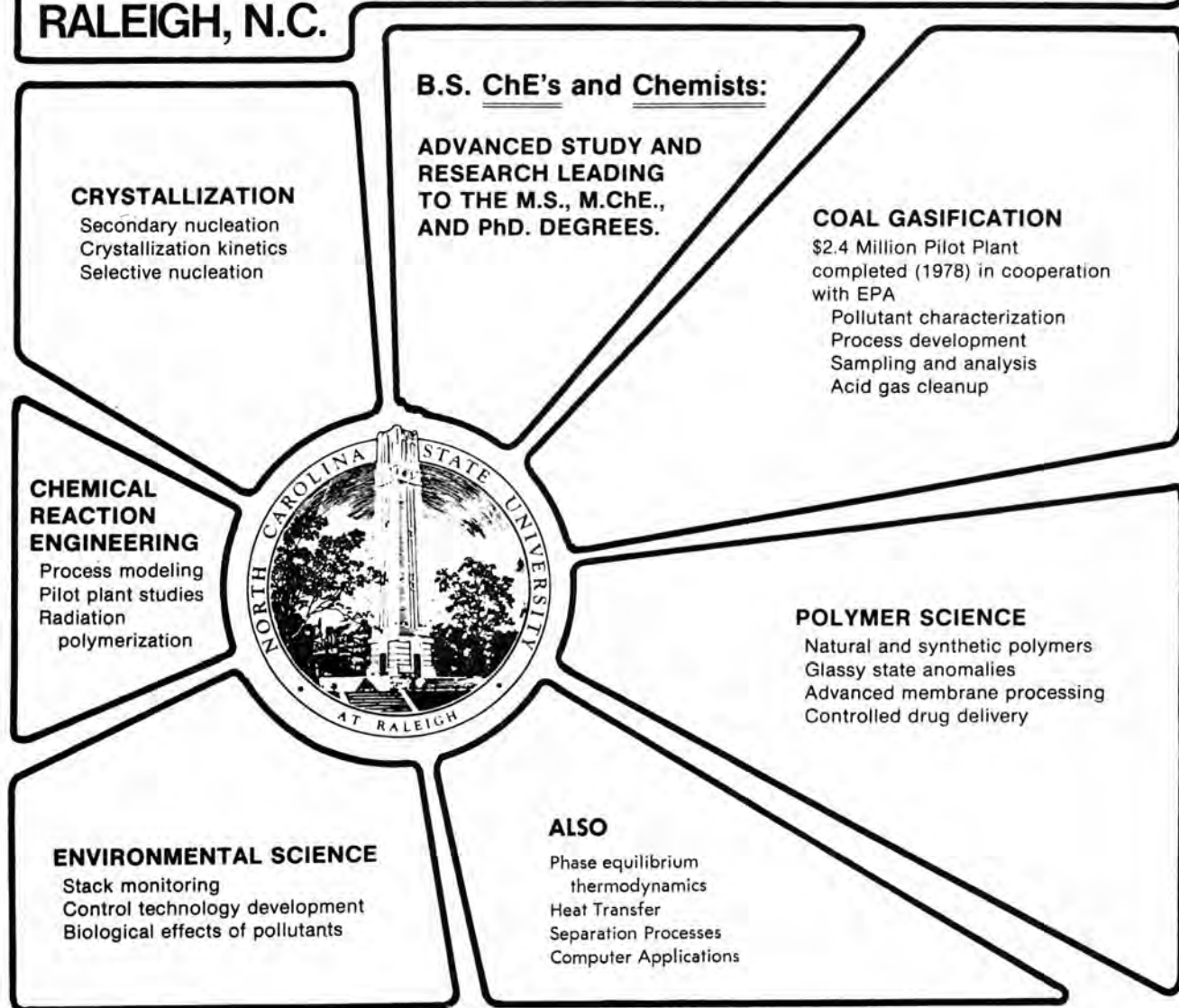
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Financial aid is obtainable in the form of Graduate and Research Assistantships, and Industrial Fellowships. Aid is also obtainable through the Materials Research Center.

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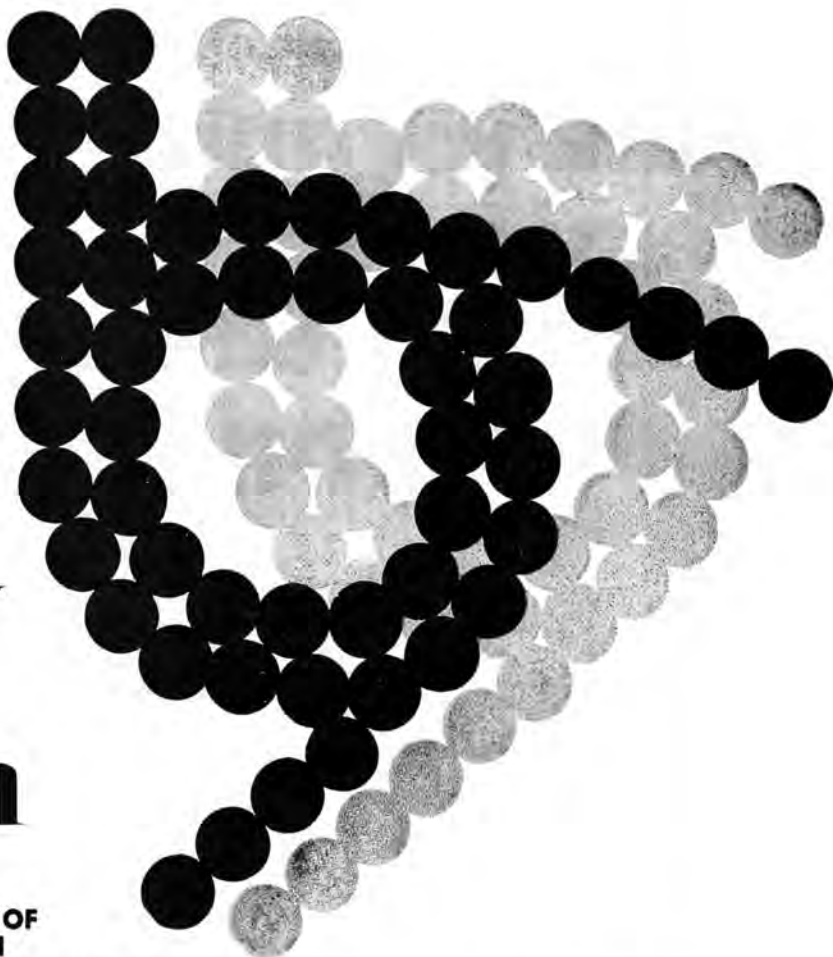
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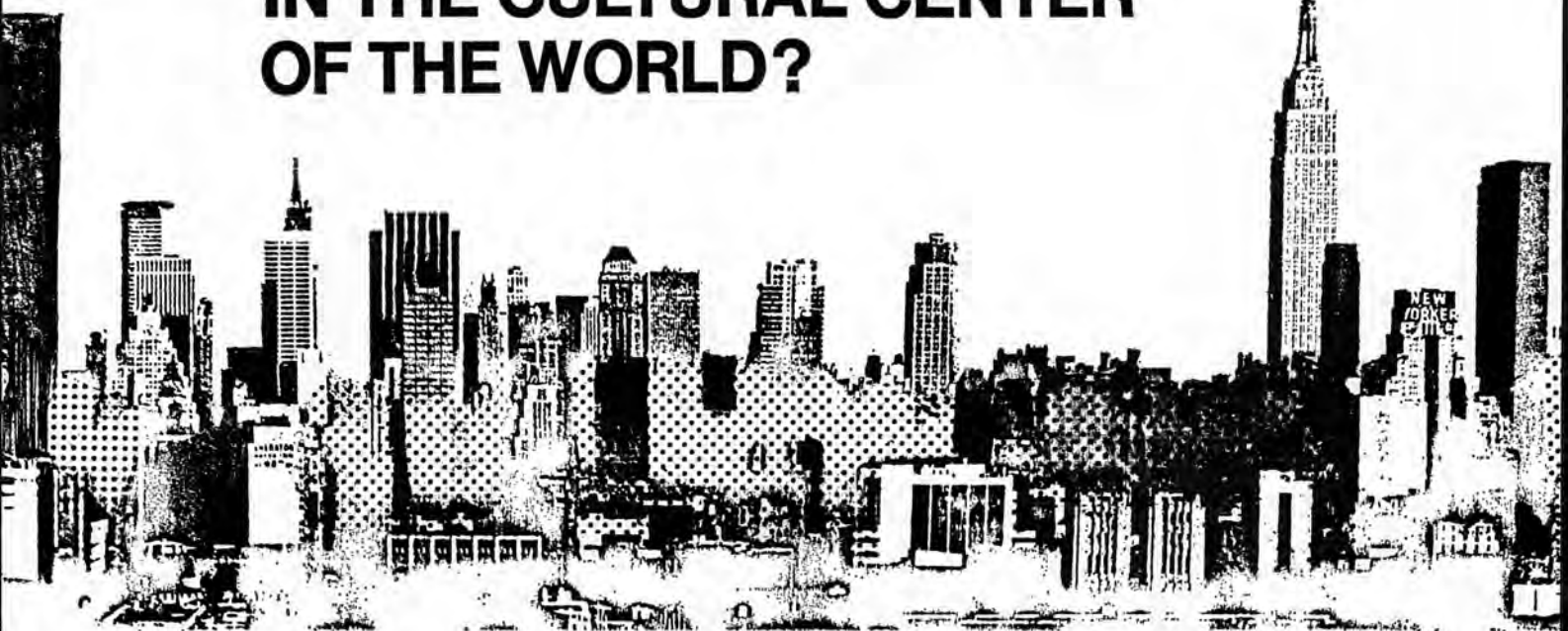
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Biochemical and Enzyme Engineering,
Mass Transfer and Catalysis, Waste
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Corrosion, Electrochemical
Technology

L. S. Leung (Cambridge)
Fluidization, Gas-solid Flow, Thermo-
dynamics

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Transfer, Adsorption

R. H. Weiland (Toronto)
Fluid Dynamics, Mass and Heat
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E. T. White (Imperial College)
Crystallization, System Analysis,
Computer Control

R. J. Wiles (Queensland)
Particulate Conveying, Rheology

R. Y. K. Yang (Princeton)
Reaction and Enzyme Engineering,
Numerical Methods, Stability Analysis

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- Water Resources
- Environmental Studies

The Faculty

Michael M. Abbott *Ph.D., Rensselaer*
Elmar R. Altwicker *Ph.D., Ohio State*
Donald B. Aulenbach *Ph.D., Rutgers*
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Chan I. Chung *Ph.D., Rutgers*
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Rajamani Rajagopalan *Ph.D., Syracuse*
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Stephen W. Yerazunis *D.Ch.E., Rensselaer*

For full details write

Dr. David Hansen, Chairman
Department of Chemical and Environmental Engineering
Rensselaer Polytechnic Institute Troy, New York 12181



Graduate Study in Chemical Engineering at Rice University

Graduate study in Chemical Engineering at Rice University is offered to qualified students with backgrounds in the fundamental principles of Chemistry, Mathematics, and Physics. The curriculum is aimed at strengthening the student's understanding of these principles and provides a basis for developing in certain areas the necessary proficiency for conducting independent research. A large number of research programs are pursued in various areas of Chemical Engineering and related fields, such as Biomedical Engineering and Polymer Science. A joint program with the Baylor College of Medicine, leading to M.D.-Ph.D. and M.D.-M.S. degrees is also available.

The Department has approximately 30 graduate students, predominantly Ph.D. candidates. There are also several post-doctoral fellows and research engineers associated with the various laboratories. Permanent faculty numbers 12, all active in undergraduate and graduate teaching, as well as in research. The high faculty-to-student ratio, outstanding laboratory facilities, and stimulating research projects provide a graduate education environment in keeping with Rice's reputation for academic excellence. The Department is one of the leading 42 Chemical Engineering Departments in the U.S., ranked by graduate faculty quality and program effectiveness, according to recent evaluations.

MAJOR RESEARCH AREAS

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Chromatography
Optimization, Stability, and Process Control
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Blood Flow and Blood Trauma
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Biomaterials

Rice University

Rice is a privately endowed, nonsectarian, coeducational university. It occupies an architecturally attractive, tree-shaded campus of 300 acres, located in a fine residential area, 3 miles from the center of Houston. There are approximately 2200 undergraduate and 800 graduate students. The school offers the benefits of a complete university with programs in the various fields of science and the humanities, as well as in engineering. It has an excellent library with extensive holdings. The academic year is from August to May. As there are no summer classes, graduate students have nearly four months for research. The school offers excellent recreational and athletic facilities with a completely equipped gymnasium, and the southern climate makes outdoor sports, such as tennis, golf, and sailing year-round activities.

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APPLICATIONS AND INFORMATION

Address letters of inquiry to:

Chairman
Department of Chemical Engineering
Rice University
Houston, Texas 77001

Houston

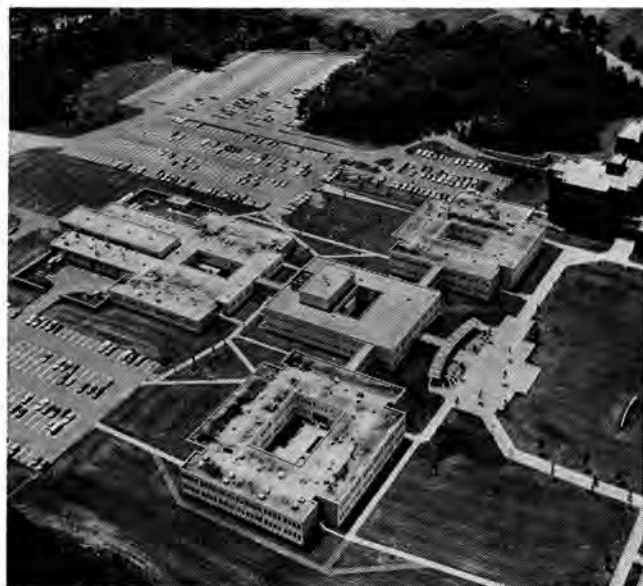
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University of South Carolina

The College of Engineering offers M.S., M.E. and Ph.D. degrees in Chemical Engineering. Graduate students have the opportunity to work closely with the faculty on research projects. Research and teaching stipends are available from \$3000 to \$7200.

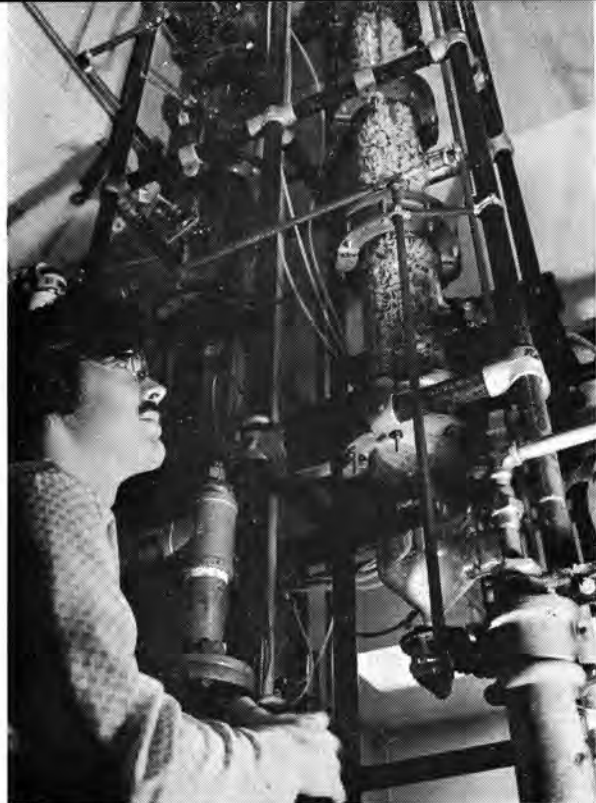
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The Chemical Engineering Faculty

- B. L. Baker**, Distinguished Professor Emeritus, Ph.D., North Carolina State University, 1955 (Process design, environmental problems, ion transport).
- M. W. Davis, Jr.**, Professor, Ph.D., University of California (Berkeley), 1951 (Kinetics and catalysis, chemical process analysis, solvent extraction, waste treatment).
- J. H. Gibbons**, Professor, Ph.D., University of Pittsburgh, 1961 (Heat transfer, fluid mechanics).
- J. G. Goodwin, Jr.**, Assistant Professor, Ph.D., University of Michigan, 1977 (Kinetics and catalysis, reactor engineering).
- F. P. Pike**, Professor Emeritus, Ph.D., University of Minnesota, 1949 (Mass transfer in liquid-liquid systems, vapor-liquid equilibria).
- T. G. Stanford**, Assistant Professor, Ph.D., The University of Michigan, 1977 (Chemical reactor engineering, mathematical modeling of chemical systems, process design, thermodynamics).
- G. B. Tatterson**, Assistant Professor, Ph.D., Ohio State University, 1977 (Turbulence, mixing, multi-phase flow, real-time computing).
- J. A. Trainham**, Assistant Professor, Ph.D., University of California (Berkeley), 1978, (Electrochemical systems).
- V. Van Brunt**, Assistant Professor, Ph.D., University of Tennessee, 1974 (Mass transfer, computer modeling, fluidization).

For further information contact:

Prof. J. H. Gibbons
Chairman, Chemical Engineering Group
College of Engineering
University of South Carolina
Columbia, South Carolina 29208



Chemical Engineering at Stevens Institute of Technology

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Polymeric System Structure – Property Relationships

For further information contact:

Dean of Graduate Studies
Stevens Institute of Technology
Castle Point Station
Hoboken, New Jersey 07030
201-420-5234



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Oran L. Culberson
John F. Fellers
George C. Frazier
Hsien-Wen Hsu
Homer F. Johnson, Department Head
Stanley H. Jury
Carl D. Lundin
Peter J. Meschter
Charles F. Moore
Ben F. Oliver, Professor-in-Charge
of Metallurgical Engineering
Joseph J. Perona
Joseph E. Spruiell
E. Eugene Stansbury
James L. White, Professor-in-Charge
of Polymer Engineering

Research

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Development and Synthesis of New Engineering Polymers
Fiber and Plastics Processing
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Corrosion
Solid State Kinetics



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Department of Chemical, Metallurgical
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The University of Tennessee
Knoxville, Tennessee 37916



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J. A. Bullin—pollution
R. Darby—rheology
R. R. Davison—solar energy
L. D. Durbin—control
P. T. Eubank—thermodynamics
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A. I. Liapis—adsorption
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R. D. Ostermann—bio-mass
A. T. Watson—simulation
R. E. White—electrochemical

FOR INFORMATION CONTACT:

**Graduate Advisor
Chemical Engineering Dept.
Texas A&M University
College Station, TX 77843**





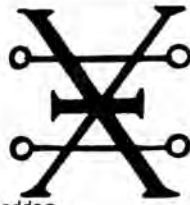


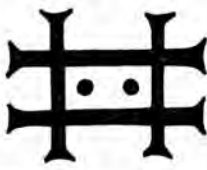
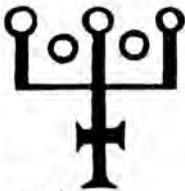







The University of Texas at Austin

M.S. and Ph.D. Programs in Chemical Engineering

Faculty research interests include Aerosol Technology, Bioengineering, Combustion, Computer-Aided Design, Energy, Environmental, Kinetics and Catalysis, Materials, Optimization, Polymer Engineering, Process Control, Process Engineering, Process Simulation, Surface Phenomena, Transport Processes.

for additional information:

Graduate Advisor
Department of Chemical Engineering
The University of Texas
Austin, Texas 78712

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Polymer Science and Engineering

processing, morphology, synthesis, surface science, biopolymers, membrane science

Engineering Chemistry

chemically pumped lasers, multiphase catalysis, chemical micro-engineering

Biochemical Engineering

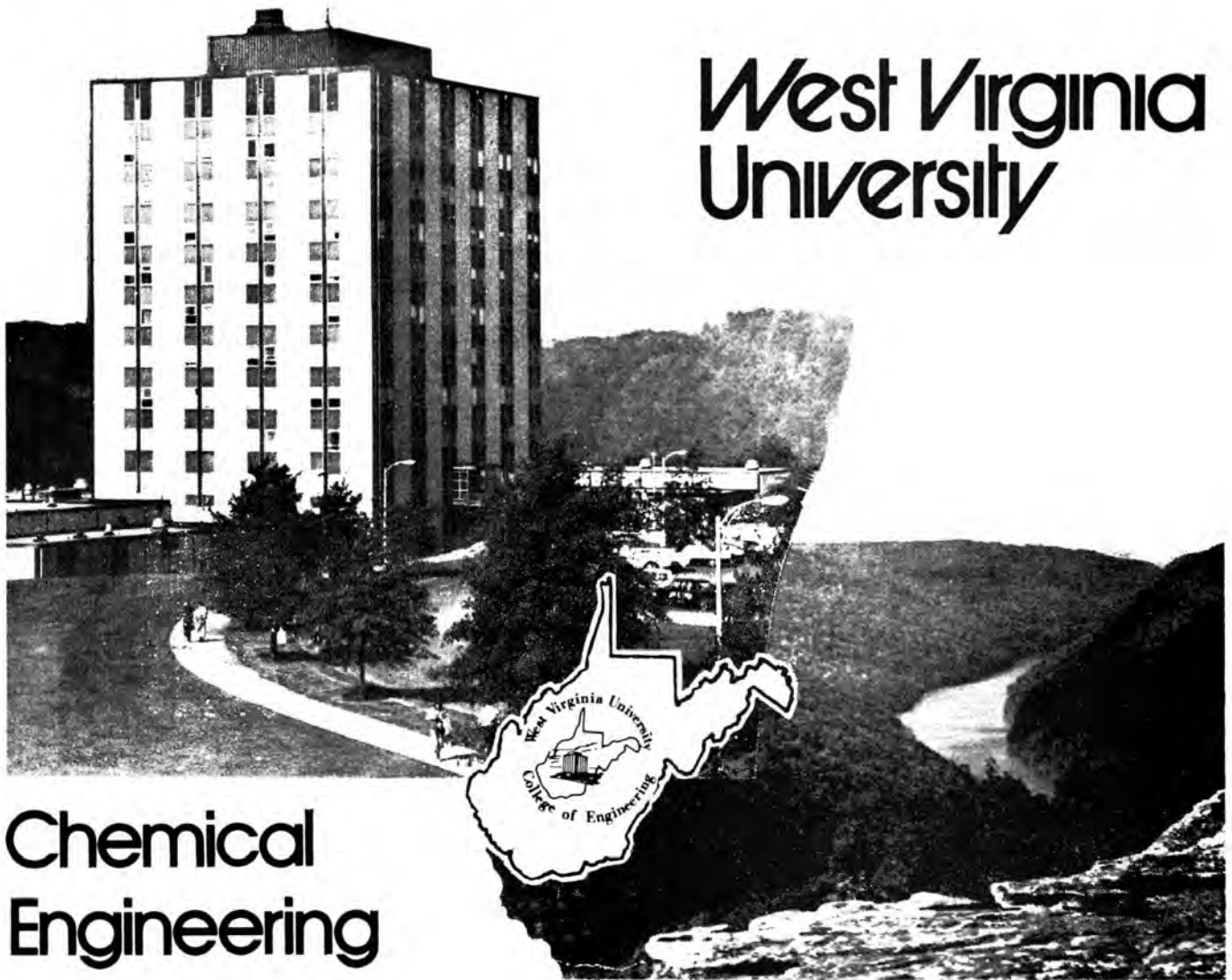
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Department of
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MS PROGRAM

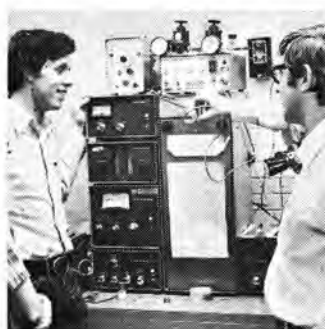
R. E. Slonaker, Jr., Chairman
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Clemson University Clemson University is a state coeducational land-grant university offering 78 undergraduate fields of study and 54 areas of graduate study in its nine academic units which include the College of Engineering. Present on-campus enrollment totals about 10,300 students which includes about 1,500 graduate students. The campus, which comprises 600 acres and represents an investment of approximately \$139 million in permanent facilities, is located in the northwestern part of South Carolina on the shores of Lake Hartwell.

For Information For further information and a descriptive brochure, write D.D. Edie, Graduate Coordinator, Department of Chemical Engineering, Clemson University, Clemson, SC 29631.

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MASTER OF SCIENCE PROGRAM IN

CHEMICAL ENGINEERING



AREAS OF SPECIALIZATION

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Porous Media

Bioengineering

Simulation Processes

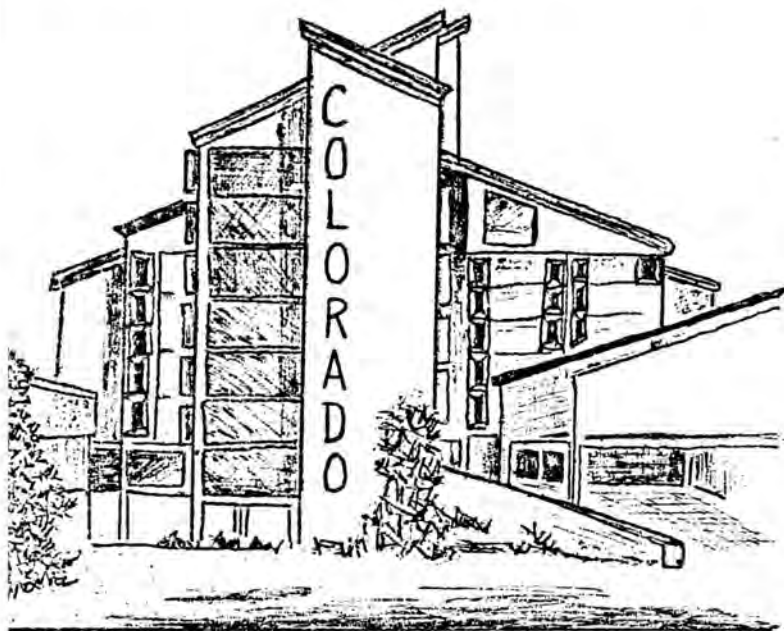
Zeolites

The program may be designed as terminal or as preparation for further advance study leading to the doctorate. Financial assistance is available.

FOR FURTHER INFORMATION, PLEASE CONTACT:

Department of Chemical Engineering
The Cleveland State University
Euclid Avenue at East 24th Street
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**CONTACT: Dr. A. E. Hamielec, Chairman,
Department of Chemical Engineering
Hamilton, Ontario, Canada L8S 4L7**

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Turbulence, Stability and Transport in Fluidized Beds, Separations

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P. E. Wood
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For additional information write:

**Dr. Donald K. Anderson, Chairman
Department of Chemical Engineering
197 Engineering Building
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East Lansing, Michigan 48824**

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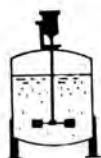
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- Catalysis
- Energy Sources and Systems
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- Heat and Mass Transport Influence by Fields
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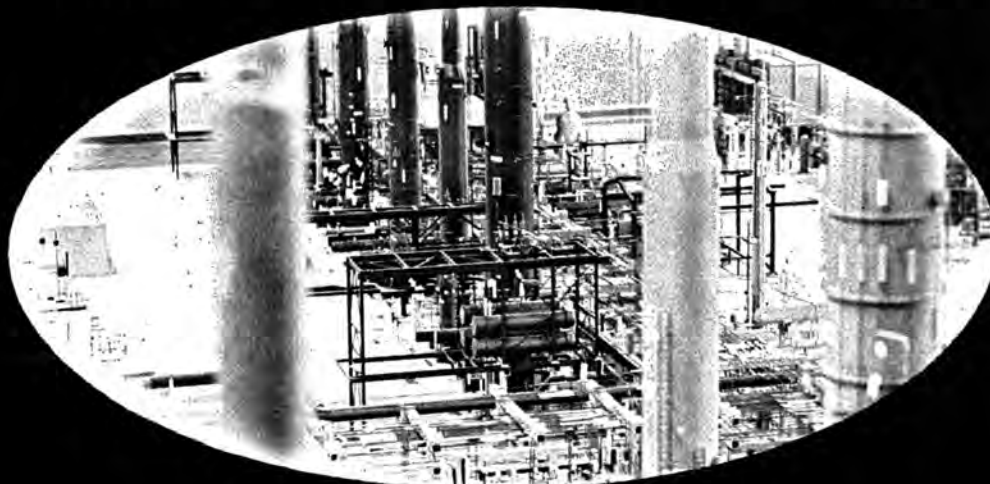
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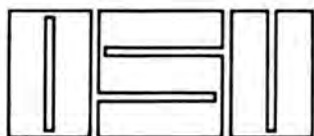
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- F. Kayihan — Process Systems Simulation and Analysis
- J. G. Knudsen — Heat and Momentum Transfer, Two-Phase Flow
- O. Levenspiel — Reactor Design, Fluidization
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Chemical Engineering
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Princeton, New Jersey 08540





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ROCHESTER, NEW YORK 14627

MS & PhD Programs

The Faculty

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G. R. Cokelet, Sc. D., 1963, MIT

B. E. Dahneke, Ph.D., 1967, Minnesota

T. L. Donaldson, Ph.D., 1974, Pennsylvania

R. F. Eisenberg, M.S., 1948, Rochester

M. R. Feinberg, Ph.D., 1968, Princeton

J. R. Ferron, Ph.D., 1958, Wisconsin

J. C. Friedly, Ph.D., 1965, California (Berkeley)

R. H. Heist, Ph.D., 1972, Purdue

K. C. D. Hickman, Ph.D., 1925, London

H. J. Palmer, Ph.D., 1971, Washington (Seattle)

H. Saltsburg, Ph.D., 1955, Boston

W. D. Smith, Jr., D.Eng., 1963, Yale

G. J. Su, Sc. D., 1937, MIT

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Aerosols, Surface Phenomena, Biotechnology

Enzymes, Biotechnology, Mass Transfer

Corrosion, Physical Metallurgy

Complex Reaction Systems, Continuum Mechanics

Molecular Transport Processes, Applied Mathematics

Process Dynamics, Control, Cryogenics

Nucleation, Solid State, Atmospheric Chemistry

Boiling & Condensation Phenomena, Distillation

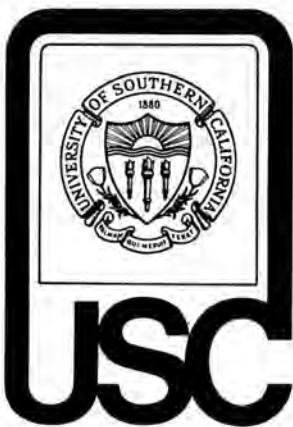
Interfacial Phenomena, Mass Transfer

Surface Phenomena, Catalysis, Molecular Scattering

Catalysis & Reactor Design, Computer Applications

Colloidal & Amorphous States, Glass Science

For information write: H. Brenner, Chairman



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Rheological properties of polymers and composites, adhesion

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(Ph.D., Phys. Chem., Delft, 1965)
Mechanical properties of polymers, thermosets and composites, polymerization engineering

JOE D. GODDARD

(Ph.D., Ch.E., U.C. Berkeley, 1962)
Rheology and mechanics of non-Newtonian fluids and composite materials, transport processes

LYMAN L. HANDY

(Ph.D., Phys. Chem., U. of Wash., 1951)
Fluid flow through porous media and petroleum reservoir engineering

FRANK J. LOCKHART

(Ph.D., Ch.E., U. of Mich., 1943)
Distillation, air pollution, design of chemical plants

CHARLES J. REBERT

(Ph.D., Ch.E., Ohio State U., 1955)
High pressure vapor-liquid equilibria, two-phase flow, liquid thermal conductivity

RONALD SALOVEY

(Ph.D., Phys. Chem., Harvard, 1958)
Physical chemistry of polymers, polymer characterization, irradiation of polymers

THEODORE T. TSOTIS

(Ph.D., Ch.E., U. of Ill., Urbana, 1978)
Chemical reaction engineering, process dynamics and control

JAMES M. WHELAN

(Ph.D., Chem., U.C. Berkeley, 1952)
Thin Films III-V, heterogenous catalysis, sintering processes

TEH FU YEN

(Ph.D., Organic and BioChem., V.P.I., 1956)
Biomaterials, energy resources, environmental science, fossil fuels, oil shales, coals and petroleum, biochemical engineering, chemical comminution

YANIS C. YORTSOS

(Ph.D., Ch.E., Caltech, 1978)
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MICHEL BOUDART (Ph.D., 1950, Princeton)
Kinetics & Catalysis.

CURTIS W. FRANK (Ph.D., 1972, Illinois)
Polymer Science.

GEORGE M. HOMS Y (Ph.D., 1969, Illinois)
Fluid Mechanics & Stability.

ROBERT J. MADIX (Ph.D., 1964, U. Cal-Berkeley)
Surface Reactivity.

DAVID M. MASON (Ph.D., 1949, Cal Tech)
Applied Thermodynamics & Chemical Kinetics.

ALAN S. MICHAELS (Sc.D., 1948, M.I.T.)
Membrane Separation Processes.

CHANNING R. ROBERTSON (Ph.D., 1969, Stanford)
Bioengineering.

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RICHARD E. BALZHISER, E.P.R.I.,
Palo Alto, CA (Ph.D., 1961, Michigan)
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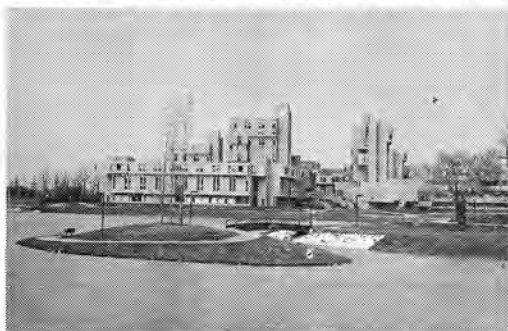
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K. M. Kiser	Fluid mechanics, turbulence
E. Ruckenstein	Catalysis, interfacial phenomena, bioengineering
M. Ryan	Non-Newtonian fluid mechanics, polymer processing
P. Stroeve	Transport, surface science, biomedical engineering
J. J. Ulbrecht	Rheology of dispersed systems, mixing
T. W. Weber	Process control, dynamics of adsorption
S. W. Weller	Catalysis, coal conversion
R. T. Yang	Catalysis, coal conversion, chemical kinetics
D. W. Zabriskie	Biochemical engineering, process dynamics

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Thomas R. Hanley, Ph.D. (Virginia Polytechnic Institute & State University)	Kinetics and Reactor Design, Polymer Systems, Wastewater Control, Energy Recovery Systems
James M. Henry, Ph.D. (Princeton)	Chemical Kinetics, Chemical Reactor Analysis, Process Energy Efficiency, Advanced Energy Conversion
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Thomas R. Harris	Physiological Systems Analysis, Transport Phenomena, Biomedical Engineering, Tracer Analysis
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- Process Dynamics and Control
- Reinforced Plastics
- Rheology
- Thermodynamics
- Transport Phenomena

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**Dr. R. L. Motard, Chairman
Department of Chemical Engineering
Washington University
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P. K. Rol, PhD
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kinetics-molecular lasers
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environmental engr.-kinetics
energy conversion-heat transfer
computer applications-nuclear engr.
process dynamics-mass transfer
polymer science-combustion processes
molecular beams-vacuum science
molecular beams-analysis of experiments
multi-phase flows-environmental engr.



FOR FURTHER INFORMATION on admission and financial aid contact:

Dr. Ralph H. Kummler
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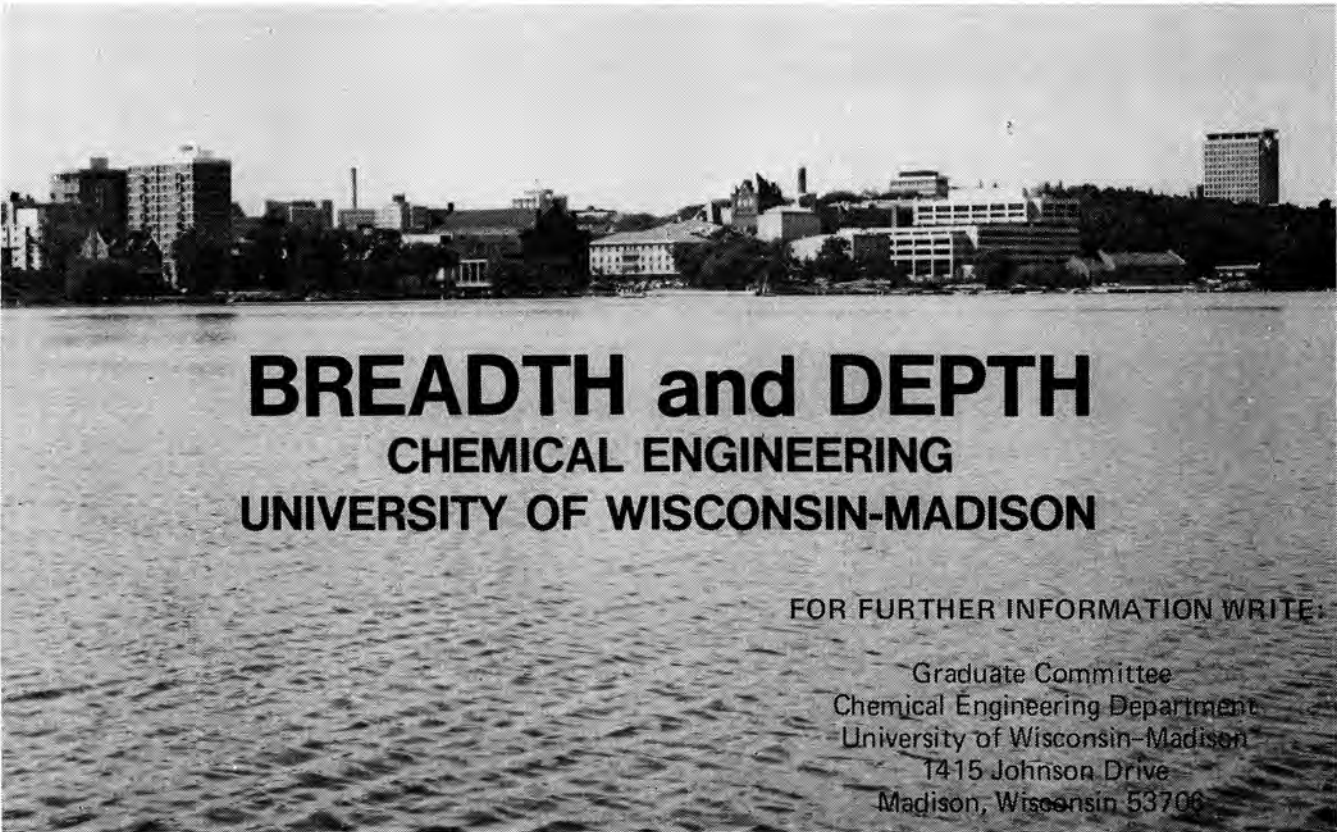
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To apply, contact:

The Associate Chairman (Graduate Studies)
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Further information: See CEE, p. 4, Winter 1975

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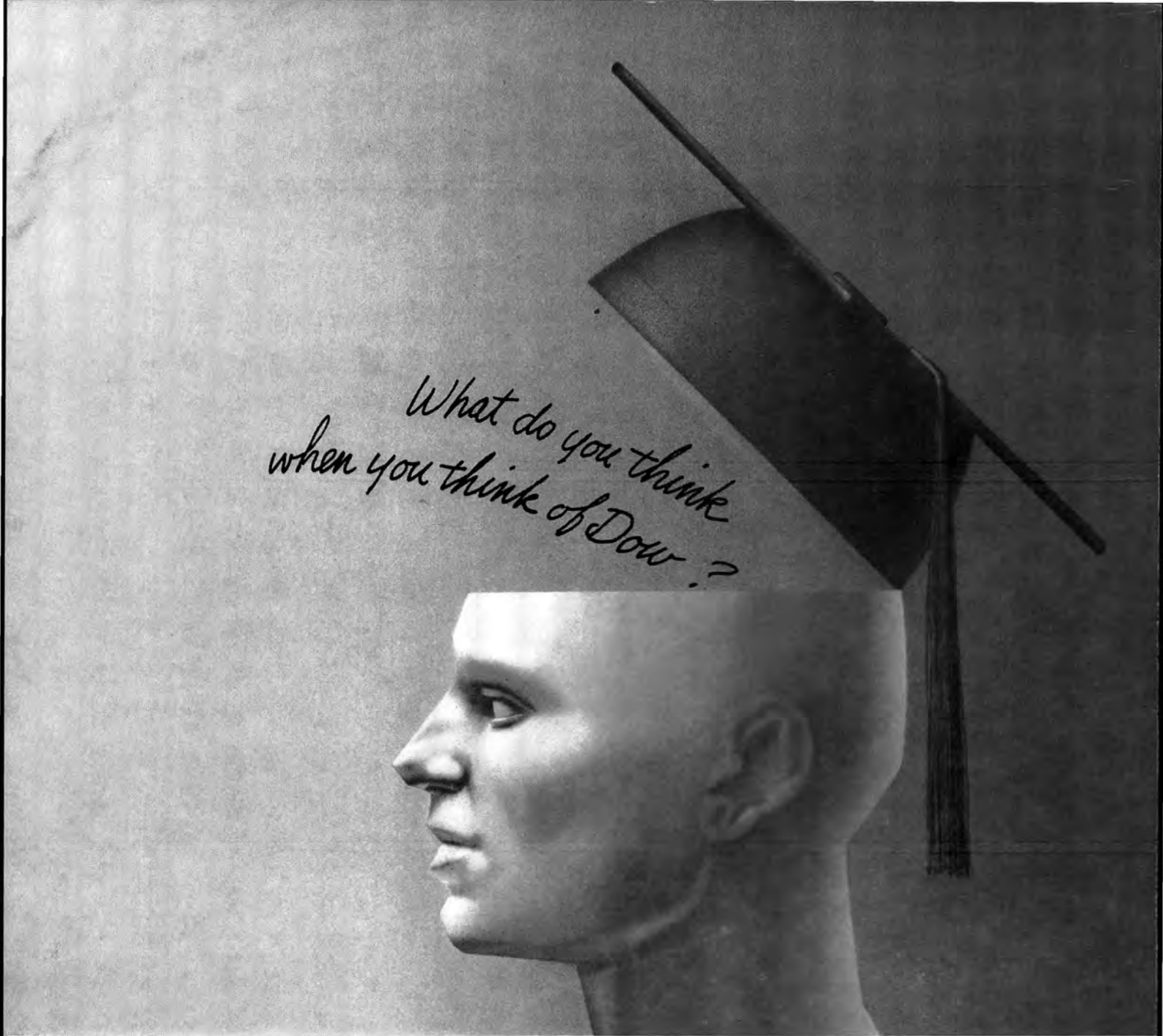
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