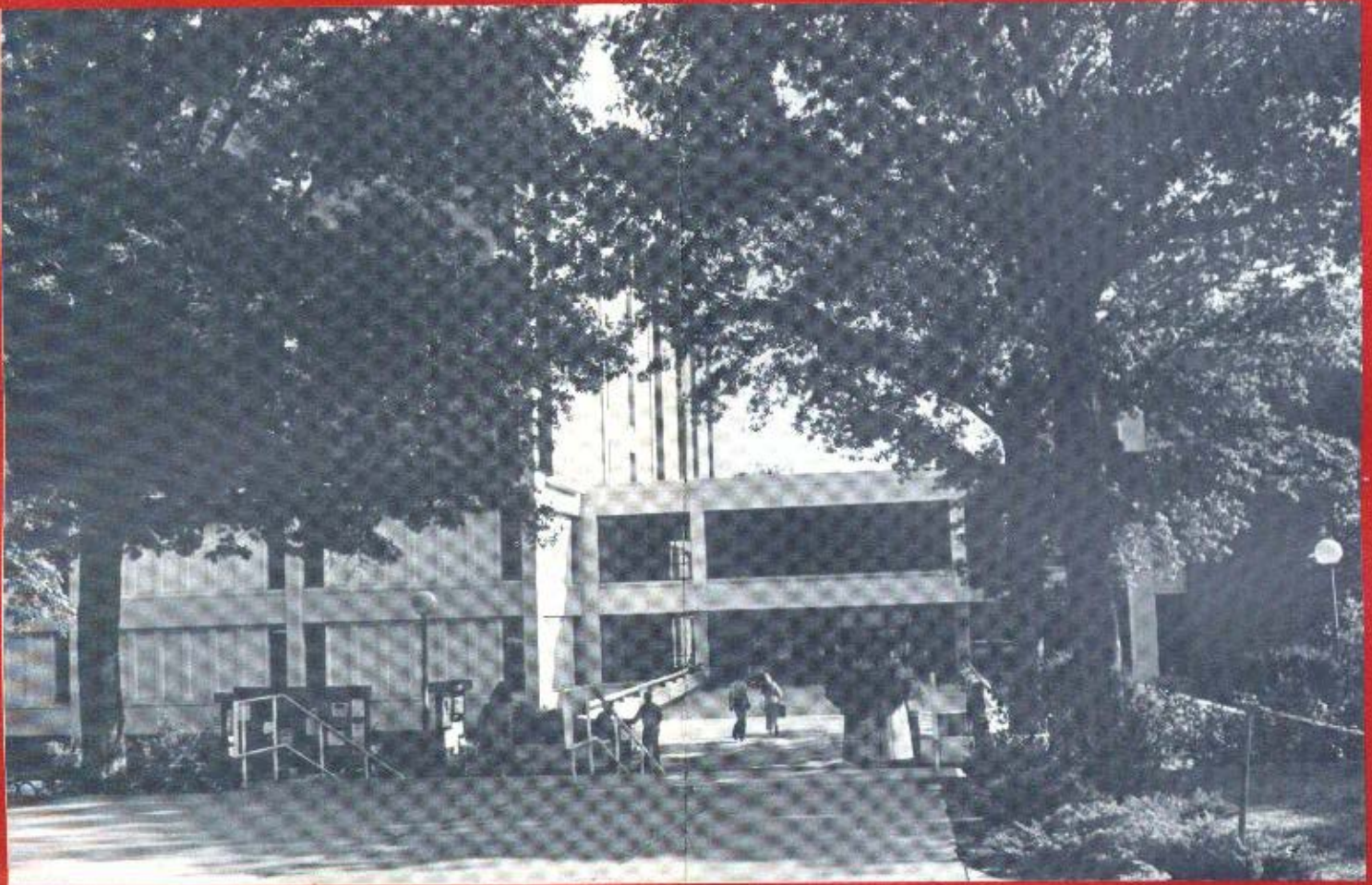


# Biochemistry



The University of Georgia  
Athens, Georgia



## General Information

The Department of Biochemistry is one of six departments comprising the Division of Biological Sciences in the Franklin College of Arts and Sciences at the University of Georgia. The department was organized in 1965 and degree programs are offered presently with a major in biochemistry at the BS, MS and PhD levels. An active postdoctoral program is also maintained. A National Science Foundation "Center of Excellence" Science Development Award in 1967 made possible greatly accelerated growth with the addition of new faculty and programs to give the department a well balanced program in both course offerings and research areas. Research interests of the staff are briefly described in the following section with a listing of the faculty, but it may be seen that these interests are varied and present a well rounded program appropriate to a department in the College of Arts and Sciences.

**Facilities:** The Department of Biochemistry moved into the newly-completed Boyd Graduate Research Center, a 255,000 square foot facility, in 1968. The seventh floor contains 10 large biochemistry research laboratories and the eighth floor houses modern animal quarters with surgery suite, incinerator and other support facilities. Departmental offices for biochemistry are located on the sixth floor with administrative offices of the Vice President for Research. Lower floors in the building contain classrooms and administrative offices of the Graduate School plus the departments of Mathematics and Statistics. The first floor houses the Computer Center. The Science Library, with approximately 325,000 volumes of the total university holdings of more than 1.8 million volumes, is conveniently located in a wing of the building occupying about 100,000 square feet in four floors of stacks, reading rooms, carrels and study areas.

Research facilities in the department include a Fermentation Plant, located in a nearby building, which contains two large research laboratories and houses two 400 liter fermenters, one of which is programmable, and five smaller fermenters plus the necessary equipment for harvesting and processing kilogram quantities of microorganisms. Five biochemistry research laboratories are located in the Biological Sciences Building, two are in Barrow Hall (across the street from Boyd) and two others are in the Biochemistry Annex, located in the same complex. A proposal is now pending for a new building which would bring back together the various research groups.

Other specialized research equipment in the department includes an analytical ultracentrifuge with scanner, an atomic absorption spectrometer, a YAG laser, an absolute spectrofluorimeter, a CD spectrophotometer, an electron paramagnetic resonance spectrometer, a polarization of fluorescence fluorimeter, a stopped-flow spectrophotometer, microcalorimetry equipment, a Beckman Sequenator, a Sequemat Solid-Phase Sequenator, two HPLC systems with integrators, two amino acid analyzers, with digital integrators, a mass spectrometer, and four in-lab NOVA computers which have been interfaced for on-line data acquisition and

control of many of the above instruments. A broad spectrum of other spectrophotometers, centrifuges, counters, fraction collectors and the other equipment needed for modern biochemical research is available within the department.

Supporting facilities available at the University, but not located in the department, include the Electron Microscopy Laboratory, which contains a high resolution scanning electron microscope and three transmissions microscopes plus EDAX, freeze-etch and other ancillary support equipment; The Computer Center, which houses a CYBER 70/74 and two IBM 370/158 computers, plus supporting facilities and services; Electronic Design and Maintenance Shop; Glassblowing Shop; Machine Shop; and Central Research Stores. The University also maintains a marine research station at Sapelo Island on the Georgia Coast. The biochemistry department has a research laboratory in this facility, which is utilized by a number of the staff for investigations into the biochemistry of selected marine organisms. Greenhouses and plant growth chambers are also available for plant biochemistry research.

**Undergraduate program:** The undergraduate major in biochemistry is designed primarily for the student with superior aptitude and motivation who plans to continue his/her education past the baccalaureate degree either in medicine, dentistry, some other professional school, graduate school in biochemistry, or some closely related discipline in the life sciences. The curriculum is rigorous and is designed to give a good background in both the physical and the biological sciences. In addition, the suggested courses give a broad exposure to the social sciences and the humanities. There is considerable flexibility in the selection of courses to meet general degree requirements. In the major, most students take a one quarter introductory biochemistry course plus a two quarter sequence at the advanced undergraduate-beginning graduate level. At least one quarter of laboratory work is also required, but this requirement may be satisfied either by taking a formal five hour laboratory techniques course or through independent research under the supervision of a faculty member in his laboratory. Many students take independent research after completing the formal laboratory and a number of students have prepared an honors thesis using results obtained in the independent research course.

**Graduate Studies:** A two quarter advanced general biochemistry sequence serves as the base for graduate work in biochemistry and is open to both majors and non-majors. Majors normally also take an introduction to research course their first quarter on campus. More advanced courses in enzymology, research techniques and physical chemistry of macromolecules are available, as well as subject matter specialization in carbohydrate metabolism, nucleic acid metabolism, lipid metabolism, molecular genetics, phytochemistry, reproductive biochemistry, mammalian biochemistry and enzyme kinetics, plus special topics courses. Formal training in biochemistry is

(continued inside back cover)



**Harry D. Peck, Jr.**

Professor of Biochemistry and Department Head  
B.S., M.A., Wesleyan  
Ph.D. (1956) Western Reserve University.

Dr. Peck spent two postdoctoral years with Dr. Fritz Lipmann at Harvard and Rockefeller before joining the enzymology group at the Biology Division of the Oak Ridge National Laboratory in 1958. In 1964 he spent a year with Dr. Jacques Seneze as Senior NSF Postdoctoral Fellow at the CNRS in Marseille. Dr. Peck came to Georgia as Department Head when the department was organized in 1965. His research is concerned with sulfur metabolism, with particular emphasis on mechanisms of oxidation and reduction of inorganic sulfur compounds plus comparative aspects of energy generation.



**Clanton C. Black, Jr.**

Professor of Biochemistry  
B.S., M.S., Ph.D. (1960) University of Florida.

Dr. Black worked two years as an NIH postdoctoral fellow in Biochemistry at Cornell University with Dr. M. Gibbs. In 1962 he became associated with the Charles F. Kettering Laboratory in Yellow Spring, Ohio, where he worked one year as a C. F. Kettering Foundation Fellow with Dr. A. San Pietro and then four years jointly as a Staff Scientist and Assistant Professor of Biology at Antioch College. He joined the University of Georgia in 1967 as an Associate Professor. His research is centered around understanding the biochemistry of carbon assimilation in plants. Emphasis is placed upon the  $C_4$  pathway of photosynthesis and the diurnal regulation of Crassulacean acid metabolism in higher plants.



**John M. Brewer**

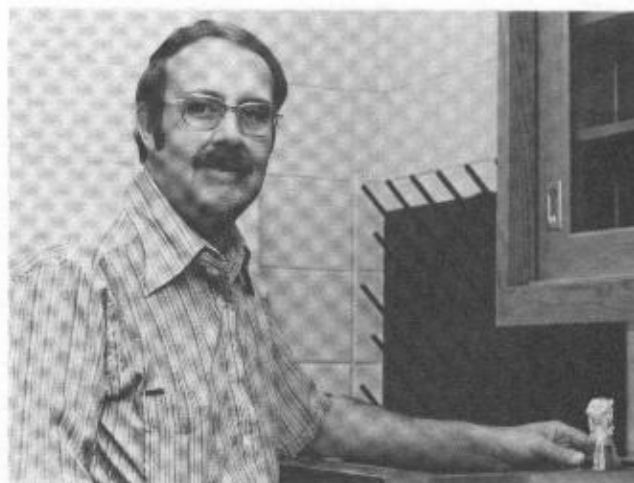
Associate Professor of Biochemistry  
B.A., Ph.D. (1963) Johns Hopkins University.

Dr. Brewer worked from 1963 to 1966 as a postdoctoral Research Associate in the laboratory of Dr. Gregorio Weber at the University of Illinois. He joined the Department of Biochemistry at the University of Georgia in 1966. He has studied the binding of various ligands (substrates, metals, salts, detergents, etc.) to several proteins utilizing calorimetry, stopped-flow spectrophotometry and a variety of other physical techniques.

**Bruce C. Carlton**

Professor of Biochemistry and Microbiology  
B.S. University of New Hampshire  
M.S., Ph.D. (1960) Michigan State University.

Dr. Carlton spent three years as a postdoctoral Research Associate with Dr. C. Yanofsky at Stanford University from 1960 to 1963. In 1963 he accepted a faculty appointment at Yale University where he remained until 1971. He came to the University of Georgia in 1971 where he has continued to work on regulatory control mechanisms in bacteria, with particular emphasis on the characterization of bacterial plasmids.

**Milton J. Cormier**

Research Professor of Biochemistry  
B.S. Southwestern University  
M.S. University of Texas  
Ph.D. (1956) University of Tennessee.

Dr. Cormier was a Research Associate with Dr. G. David Novelli at the Biology Division of the Oak Ridge National Laboratory from 1956 until 1958. He came to the University of Georgia in 1958. From 1964 to 1974 he held an NIH Career Development Award. His research interests concern the role of calcium binding proteins, such as calmodulin, in calcium-dependent stimulus-response coupling. Systems studied include fertilization of vertebrate eggs, coelenterate bioluminescence and stimulus-response coupling in fungi and higher plants.

**Daniel V. DerVartanian**

Professor of Biochemistry  
B.A. Boston University  
D.Sc. (1965) University of Amsterdam.

Dr. DerVartanian joined the Department of Biochemistry in 1968 after 3 years as a Research Associate at the University of Wisconsin Enzyme Institute where he worked with Dr. H. Beinert. His research interests center on the role of the respiratory chain (flavoproteins and iron-containing redox proteins) in the mechanism of oxidative phosphorylation. Electron transport in the chain as well as other redox-active metal systems and coupled phosphorylations have been studied by low-temperature electron spin resonance and dual-wavelength spectroscopy. He held an NIH Career Development Award from 1971 until 1976.



**Richard J. DeSa**

Associate Professor of Biochemistry  
B.S. Buffalo  
Ph.D. (1964) University of Illinois.

Dr. DeSa spent one year at the Johnson Research Foundation after receiving his Ph.D., then he worked with Dr. Q. H. Gibson at Cornell University as a postdoctoral fellow from 1965 to 1968. He came to the University of Georgia in 1968 where he has pursued three areas of interest: the biochemistry of flavoprotein oxidases with particular emphasis on their kinetics as revealed by stopped-flow and other rapid kinetic techniques, the application of on-line computer techniques to biochemical problems and the design and construction of electro-optical instrumentation.

**Leon S. Dure III**

Professor of Biochemistry  
B.A., M.A. University of Virginia  
Ph.D. (1960) University of Texas.

Dr. Dure came to the University of Georgia in 1960 as a Research Associate, working with Dr. John Totter and Dr. Milton Cormier. In 1962 he was appointed Assistant Professor of Chemistry, a position he held until the organization of the Dept. of Biochemistry. He was appointed Professor in 1970. His research is concerned with biochemical control mechanisms in differentiation and growth, particularly those changes in nucleic acid and protein metabolism during embryogenesis and germination in higher plants. Dr. Dure held an NIH Career Development award from 1967 until 1972.

**Richard V. Eck**

Associate Professor of Biochemistry  
B.S. (1943) University of Maryland.

Mr. Eck has wide ranging interests in biology, mathematics, and statistics. He has served as Biologist at the National Cancer Institute (1954-1963) and was with the National Biomedical Research Foundation from 1963 to 1968, where he was Head of the Biology Department. He joined the faculty of the University of Georgia in 1968 and is pursuing his interests in evolution of protein molecules and the cryptogamic approach to biochemical data.





#### **Judith A. Foster**

Associate Professor of Biochemistry  
B.A. Newton College of the Sacred Heart  
Ph.D. (1971) Boston University.

After completing the Ph.D., Dr. Foster worked for one year at the University of Utah College of Medicine, then returned to Boston University School of Medicine as Assistant Professor of Biochemistry in 1972. She joined the faculty of the University of Georgia in 1977 where she is pursuing her interests in the structure and biosynthesis of elastin and its involvement in pulmonary and cardiovascular disease. Since 1974 she has been an Established Investigator with the American Heart Association.



#### **Sidney R. Kushner**

Associate Professor of Biochemistry  
B.A. Oberlin College  
Ph.D. (1970) Brandeis University.

After completion of his Ph.D., Dr. Kushner spent one postdoctoral year (1970-71) with Dr. A. J. Clark at the University of California, Berkeley, then two additional years with Dr. I. R. Lehman at Stanford University. In 1973 he joined the faculty of the University of Georgia where he has continued to work on the enzymology of genetic recombination in bacteria, the characterization of certain nucleases and determination of their mode of action, and the mechanism of DNA repair. Dr. Kushner was awarded an NIH Career Development Grant in 1975.



#### **Robert A. Lansman**

Assistant Professor of Biochemistry and Microbiology  
A.B. Harvard University  
Ph.D. (1972) Stanford University.

Dr. Lansman worked in the laboratory of Dr. D. A. Clayton at Stanford University from 1972 until 1975 on the expression of mitochondrial DNA in animal cells growing in culture. He joined the faculty of the University of Georgia in September 1975 where he is working on bacterial plasmids which contain mitochondrial DNA sequences.

**John W. Lee**

Professor of Biochemistry

B.S., Ph.D. (1960) University of New South Wales.

After completion of his Ph.D. in Nuclear and Radiation Chemistry, Dr. Lee came to Johns Hopkins University where he spent two years (1961-63) with Dr. H. Seliger pursuing his interests in biophysics. In 1963 he accepted a position as Staff Scientist at the New England Institute for Medical Research where he remained until his move to the University of Georgia in 1969. His research interests are concerned with excitation mechanisms in chemiluminescent and bioluminescent reactions and the interaction of laser-generated singlet oxygen with biologically important molecules.

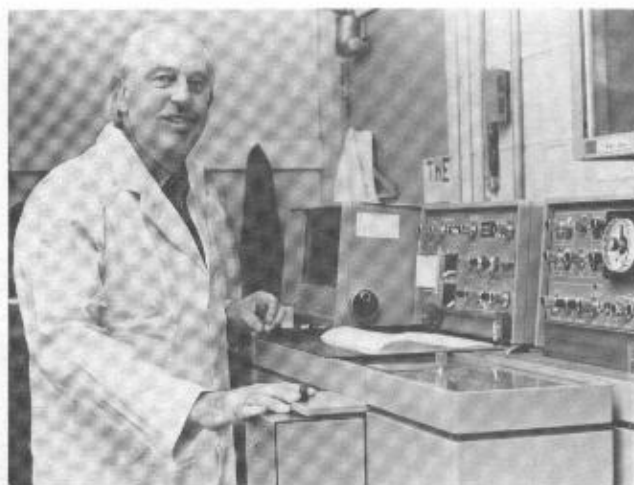
**Lars G. Ljungdahl**

Professor of Biochemistry

B.S. Stockholm Technical Institute

Ph.D. (1964) Case Western Reserve University.

After receiving the Ph.D., Dr. Ljungdahl accepted a faculty appointment in the Department of Biochemistry at Case Western Reserve where he continued to collaborate with Dr. H. G. Wood. In 1967, he joined the Department of Biochemistry at the University of Georgia where he is working on the biosynthetic pathway of vitamin B<sub>12</sub>, the mechanism of action of B<sub>12</sub> factors in CO<sub>2</sub> fixation and the characterization of enzymes from thermophilic bacteria. Dr. Ljungdahl spent 1974-75 on a von Humbolt Award at Göttingen University in the laboratory of Dr. H. Schlegel.

**Robert A. McRorie**

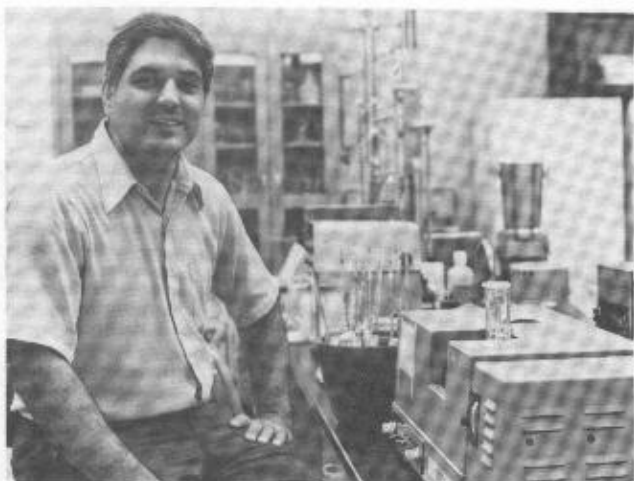
Professor of Biochemistry

B.S., M.S. North Carolina State University

Ph.D. (1953) University of Texas.

Dr. McRorie came to the University of Georgia in 1953 where he was jointly staffed between the Dept. of Chemistry and the Agricultural Research Station. He was instrumental in the development of the teaching program in biochemistry. He also organized the Office of General Research and served several years as Director. After a period of service with the AID program to Bangladesh, he returned to teaching and research. His research interests are primarily in the area of maturation of sperm enzymes and their role in mammalian fertilization. Dr. McRorie also serves as departmental Graduate Coordinator.





**Joseph F. Mendicino**

Associate Professor of Biochemistry  
B.S. Case Institute of Technology  
Ph.D. (1958) Western Reserve University.

From 1958 until 1962 Dr. Mendicino was a postdoctoral fellow, first with Dr. L. Leloir in Buenos Aires, then with Dr. H. G. Wood at Western Reserve. In 1962 he joined the faculty of Ohio State University, where he remained until he accepted his present appointment in 1968. His research is concerned with the effects of hormones on multienzyme systems in carbohydrate metabolism, biosynthesis of branched-chain monosaccharides and the formation of glycoproteins.



**Alan E. Przybyla**

Assistant Professor of Biochemistry  
A.B. University of California at Berkeley  
Ph.D. (1973) University of California at Berkeley.

Dr. Przybyla worked as a postdoctoral fellow in the laboratory of Dr. W. J. Rutter at the University of California Medical Center in San Francisco from 1974 to 1977. While there he worked on the regulation of transcription in the developing pancreas. Dr. Przybyla joined the faculty of the University of Georgia in 1977 where he is working on the biochemical role of steroid hormones during muscle development.



**Norman G. Sansing**

Associate Professor of Biochemistry  
B.S., M.S. Auburn University  
Ph.D. (1962) Iowa State University.

Dr. Sansing spent 1962 to 1964 as a Research Associate at the Biology Division of the Oak Ridge National Laboratory in the laboratory of Dr. E. Volkin. He came to the University of Georgia in 1964 where his research interests are in the area of nucleic acid metabolism, particularly in the mechanism of action of certain herbicides. He has been active in development of the undergraduate program in biochemistry and in student advisement. At the present time he serves as chairman of the Premedical Committee of the College of Arts and Sciences.

**Prakash N. Srivastava**

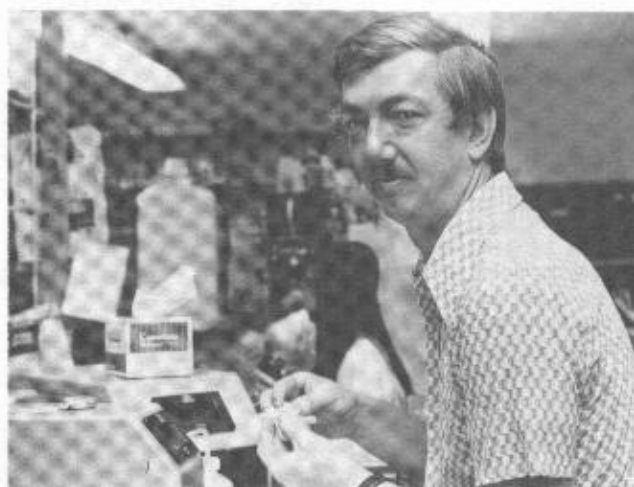
Associate Professor of Biochemistry  
B.S., M.S. Lucknow University  
Ph.D. (1965) Cambridge University.

After receiving his Ph.D. Dr. Srivastava returned to his former position in charge of the Endocrinology Laboratory of the Indian Veterinary Research Institute at Izatnagar. In 1968 he came to the University of Georgia as a Research Associate with Dr. W. L. Williams. In 1969 he accepted a regular faculty appointment and has continued to work on the enzymology of mammalian fertilization, particularly with the enzymes found in spermatozoa which appear to be involved in penetration of the ovum. In 1975 he was on a World Health Organization fellowship at Cambridge.

**James Travis**

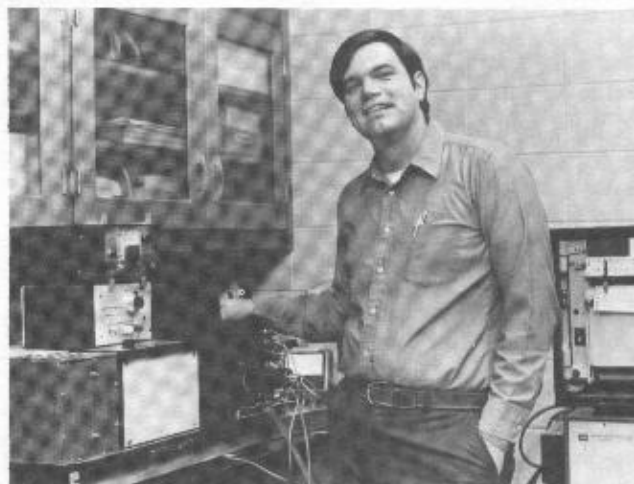
Professor of Biochemistry  
B.S. University of Manitoba  
Ph.D. (1964) University of Minnesota.

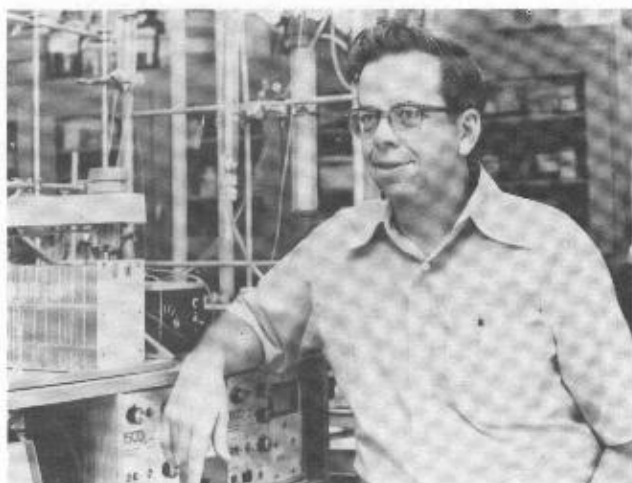
After completing his graduate work, Dr. Travis worked for two years (1964-66) at Johns Hopkins University with Dr. W. D. McElroy as a postdoctoral fellow. In 1966-67 he was a member of the faculty of the University of Maryland, coming to the University of Georgia in 1967. His research is concerned with human proteases and their inhibitors, the distribution of serum protease inhibitors and their possible involvement in certain debilitating diseases. He spent 1975-76 at Cambridge University on an NSF-NATO Fellowship. Dr. Travis held an NIH Career Development Award from 1972 until 1977.

**John E. Wampler**

Associate Professor of Biochemistry  
B.S., Ph.D. (1969) University of Tennessee.

Dr. Wampler came to the University of Georgia as a Research Associate in 1969 to work with Dr. M. J. Cormier. He remained in this position until 1972, when he was appointed an Assistant Professor in the Dept. of Biochemistry. His research interests are on the mechanism of catalysis of pyridoxal phosphate-containing enzymes, spectroscopy of bioluminescent reactions, and computer applications in biochemical research.





## JOINTLY STAFFED FACULTY

### William R. Finnerty

Professor of Microbiology and Biochemistry  
B.S., Ph.D. (1960) University of Iowa  
Research interests - mechanism of hydrocarbon oxidation in microorganisms.

### Joe L. Key

Research Professor of Botany and Biochemistry,  
Chairman Division of Biological Sciences  
B.S. University of Tennessee (Martin)  
M.S., Ph.D. (1959) University of Illinois  
Research interests - protein and nucleic acid synthesis and regulation in plants.

### G. David Novelli

Research Professor of Biochemistry and Enzymology  
Group Leader at the Biology Division,  
Oak Ridge National Lab.  
B.S. University of Massachusetts  
Ph.D. (1948) Harvard University  
Research interests - enzymology and regulation of nucleic acid and protein synthesis.

### Gordhan L. Patel

Associate Professor of Zoology and Biochemistry  
A.B., Ph.D. (1964) Washington University  
Research interests - enzymology of acidic nuclear proteins.

### James J. Peifer

Associate Professor of Nutrition and Biochemistry  
B.S. Ursinus College  
Ph.D. (1954) Rutgers  
Research interests - metabolism of polyunsaturated fatty acids.

### James R. Y. Rawson

Associate Professor of Botany and Biochemistry  
B.S. Cornell University  
Ph.D. (1969) Northwestern University  
Research interests - transcription of extranuclear DNA in eucaryotic organisms.

### Daniel Vapnek

Associate Professor of Microbiology and Biochemistry  
B.S., Ph.D. (1968) University of Miami  
Research interests - DNA replication, mechanism of transfer and replication of episomes in *E. coli*.

## William L. Williams

Research Professor of Biochemistry  
B.S. University of Minnesota  
M.S., Ph.D. (1949) University of Wisconsin.

Dr. Williams accepted a faculty position in the Department of Biochemistry at North Carolina State University in 1949-50, but in 1950 he moved to Lederle Laboratories where he became Head of Physiological Chemistry. Since 1959 he has been at the University of Georgia where his research interests center on the biochemistry of reproduction. He is particularly interested in the molecular mechanisms involved in fertilization. Dr. Williams held an NIH Career Development Award from 1962 until 1972.

## POSTDOCTORAL FELLOWS

Listed below are persons who held appointments as Postdoctoral Fellows in the Department of Biochemistry during the calendar year 1978. Also shown is the University awarding the doctorate and the faculty member with whom they worked. Support for the postdoctoral program is obtained from a number of state, federal and private agencies.

Name	University Awarding Doctorate	Research Sponsor
James Elliott	N. C. State	J. M. Brewer
Akfaq Farooqui	Aligarh Muslim	P. N. Srivastata
Glenn Galau	Calif. Inst. Tech.	L. S. Dure
Ben C. Gerwick	Washington State	C. C. Black
Sally Greenway	Univ. of Wales	L. S. Dure
Paul Hoffman	Virginia Polytech.	D. V. DerVartanian
Allan Holaday	Florida	C. C. Black
Kazuo Hori	Tokyo	M. J. Cormier
Harold Jones	Duke	M. J. Cormier
Hiralal Khatir	Georgia	R. A. McRorie
Prasad Koka	Texas Tech.	J. W. Lee
Richard Lenz	Illinois	W. L. Williams
Nancy Matheson	Georgia	J. Travis
Iraj Rouhani	Georgia	C. C. Black
Jurgen Wiegel	Göttingen	L. G. Ljungdahl
Shiow-shong Yang	Georgia	L. G. Ljungdahl

Two persons held appointments as Research Associate in the Department of Biochemistry during 1978. They were Dr. Elizabeth Holt and Dr. Ronald Makula.

The following individuals held senior faculty appointments on the research staff as either Assistant Biochemists or Associate Biochemists: Dr. James Anderson, Dr. Marion Bradford, Dr. David Johnson and Dr. Iain Matheson.

## VISITING PROFESSORS

Appointment as visiting professor is available for persons on sabbatical leave who wish to collaborate on a research problem with faculty members in the department. These appointments have ranged from 3 months to a calendar year.

## GRADUATE STUDENTS

The number of graduate students enrolled in the department during the past few years has varied between 50 and 60. These students are recruited nationally, and to a lesser extent internationally, although the majority of the students continue to come from the southeast. The 57 students enrolled in the graduate program in the fall of 1978 were from 31 different colleges and universities. The schools awarding the baccalaureate degree for these 57 students and their locations are shown below.

College or University	Location
Armstrong College	Savannah, Georgia
Bridgewater State College	Bridgewater, Massachusetts
Chung-Hsing National University	Taichung, Taiwan
Clemson University	Clemson, South Carolina
Denison University	Granville, Ohio
Drew University	Madison, New Jersey
Earlham College	Richmond, Indiana
Georgia Institute of Technology	Atlanta, Georgia
Georgia State University	Atlanta, Georgia
India Institute of Technology	Kharagpur, India
Mercer University	Macon, Georgia
New Mexico State University	Las Cruces, New Mexico
Oklahoma State University	Stillwater, Oklahoma
Osmania University	Hyderabad, India
Pahlavi University	Shiraz, Iran
Purdue University	West Lafayette, Indiana
Rutgers University	New Brunswick, New Jersey
Spelman College	Atlanta, Georgia
Taiwan National University	Taipei, Taiwan
University of Alabama	Tuscaloosa, Alabama
University of Baroda	Baroda, India
University of Florida	Gainesville, Florida
University of Georgia	Athens, Georgia
University of Guyana	Georgetown, Guyana
University of Massachusetts	Amherst, Massachusetts
University of New Mexico	Albuquerque, New Mexico
University of North Carolina	Greensboro, North Carolina
University of Patras	Patras, Greece
Valdosta State College	Valdosta, Georgia
Vassar College	Poughkeepsie, New York
Wake Forest University	Winston-Salem, North Carolina

Graduate students making normal progress toward their degrees have been financially supported from a number of

state, federal and private sources. Summer stipends are available for students on academic year appointments. Non-resident students pay only resident tuition fees when supported by a teaching or research assistantship.

## SEMINAR PROGRAM

An active seminar series is supported by the department as an important part of the research and graduate teaching program, with all faculty, postdoctoral fellows and graduate students participating. Five interest groups have been organized for seminars to supplement the general interest seminars. Topics covered in the special seminars include developmental biochemistry, photobiology, reproductive biochemistry, intermediary metabolism and molecular genetics. Everyone participates in the Monday and Friday general seminars, with interest groups meeting at various times during the week. Guest speakers normally meet with the Monday or Friday noon general interest seminars. A list of guest speakers for 1977-78 and 1978-79 is shown below.

## ACADEMIC YEAR 1977-78

Speaker	Institution
Dr. Jean LeGall	CNRS, Marseilles, France
Dr. Antonio Xavier	University of Lisbon, Portugal
Dr. Chris Leaver	University of Edinburgh, Scotland
Dr. J. van't Riet	Vrije University, The Netherlands
Dr. Edgar Barnett	Oak Ridge National Laboratory
Dr. Titus Huisman	Medical College of Georgia
Dr. Harland G. Wood	Case-Western Reserve University
Dr. S. H. George Allen	Albany Medical College
Dr. Gary Stoner	National Cancer Institute, NIH
Dr. Alberta M. Albrecht	Sloan-Kettering Institute for Cancer Research
Dr. Keith R. Yamamoto	Univ. California School of Medicine, San Francisco
Dr. Carl Franzblau	Boston University School of Medicine
Dr. August Maki	Univ. of California, Davis
Dr. Roderick K. Clayton	Cornell University
Dr. Gerhard Gottschalk	Univ. of Gottingen, W. Germany
Dr. Maarten Chrispeels	Univ. of California, San Diego
Dr. Dexter Northrop	University of Wisconsin
Dr. James S. Kittredge	Marine Biomedical Inst., Galveston
Dr. B. F. van Gelder	University of Amsterdam, The Netherlands

## ACADEMIC YEAR 1978-79

Dr. Joseph Santos	City College of CUNY
Dr. Morris Zimmerman	Merck, Rahway, NJ
Dr. Om P. Bahl	SUNY, Buffalo
Dr. W. J. Ray, Jr.	Purdue University
Dr. Jean-Pierre Belaich	University of Aix-Marseilles, France
Dr. James Free	University of Michigan
Dr. Sung-Ho Kim	Duke University
Dr. Aaron Lewis	Cornell University
Dr. Ludwig Brand	Johns Hopkins University
Dr. Carole Hall	Georgia Inst. of Technology
Dr. D. Rao Sanadi	Boston Biomedical Research Institute
Dr. Perry B. Hackett, Jr.	Univ. California School of Medicine, San Francisco
Dr. M. P. Coughlan	University College Galway, Ireland
Dr. Bert L. Vallee	Peter Bent Brigham Hospital Boston
Dr. Dale Edmondson	Univ. California School of Medicine, San Francisco
Dr. Robert D. Ivarie	Univ. California School of Medicine, San Francisco
Dr. Rolf H. Benzinger	University of Virginia
Dr. Michael Stallcup	Univ. California School of Medicine, San Francisco
Dr. Winston Brill	University of Wisconsin
Dr. Jack Szostak	Cornell University
Dr. James Catterall	Baylor College of Medicine
Dr. Paul Boyer	Univ. of California, Los Angeles
Dr. Andrzej Legocki	Agricultural University, Poznan, Poland
Dr. James Hagemen	New Mexico State University
Dr. Ronald C. Roberts	Marshfield Foundation for Medical Research
Dr. Katsuhide Yutani	Osaka University, Japan

## General Information (cont. from page 1)

supplemented by subjects in physical and organic chemistry and the biological sciences. Major emphasis is placed on research and an active seminar series throughout the graduate program. The objective of our graduate program is to train students to be creative, independent investigators. Students usually begin participation in research activities after their first quarter in the department. All students entering graduate school directly from a baccalaureate program prepare a thesis for the MS, normally at the end of the second year of study. A person may further develop the same problem for the PhD dissertation.

An active postdoctoral program has also been developed in the department. Postdoctoral fellows have been supported by grants from a number of different state and federal agencies including fellowships won in national competition.

Generous support from both the State of Georgia and various federal agencies has allowed the Department of Biochemistry to acquire a young and productive staff, adequate physical facilities, and most of the specialized equipment required for modern biochemical research. Federal research grants to faculty in Biochemistry are now approaching \$1.5 million per year. The undergraduate, graduate and post-graduate training programs are well established and are producing individuals well-trained in biochemistry at each level. In this environment the department has developed into an intellectually self-sustaining group who interact well and are now making significant academic and economic contributions to the University, the State and the Nation.

An Equal Opportunity/Affirmative Action Institution