A TRIBUTE TO ACADEME'S ELITE

The George Lynn Cross Research Professorships

The first in a series on the University of Oklahoma's most distinguished faculty members

Certain benchmarks exist in the academic world by which professional growth and achievement are measured. Their own degrees safely secured, faculty members then struggle diligently through the ranks from instructor to assistant, associate and full professor. Each research grant is precious, each teaching award treasured, each publication carefully recorded. Anxiously they await the tenure decisions which determine their futures at the institutions at which they serve.

Finally the very best of their number arrive at such a position of peer respect and value to their universities that they are granted most distinguished status. At the University of Oklahoma, this recognition comes in the form of three categories of distinguished professorships: the George Lynn Cross Research Professorships, the David Ross Boyd Professorships and the Regents' Professorships. Starting with this issue, Sooner Magazine will pay tribute to the current holders of these academic appointments. Future issues will deal with another form of faculty distinction, the privately endowed chairs and named professorships.

The George Lynn Cross Research Professorships were the University's first effort to single out extraordinary faculty members for special distinction. Established in 1943 with the first appointments effective January 1, 1944, the concept was somewhat revolutionary, even controversial, for OU.

Writing for Sooner Magazine in Summer 1983, President Emeritus Cross recalled that the new category of professorship grew out of a desire by his predecessor, Joseph A. Brandt, to stem the flow of the University's top professors to other institutions. At the time, Oklahoma A & M College was attempting to lure the eminent OU historian Edward Everett Dale to Stillwater with a tempting salary increase. Brandt suggested making Dale a “Distinguished Professor of History” at a salary of $5,000, approximately 25 percent higher than any other member of the teaching faculty. Dale demurred, commenting that such a title would spotlight him unfavorably among his colleagues. Brandt countered with the designation “Graduate Professor,” which Dale found acceptable. Later Brandt opted for simply “Research Professor.” Upon Cross's retirement in 1968, the Board of Regents renamed the professorships in honor of his 25 years as OU’s president.

In addition to Dale, the first appointments went to the acclaimed artist Oscar B. Jacobson, physicist J. Rud Neilsen and geologist Charles E. Decker. A total of only 65 George Lynn Cross Research Professors have been named since 1944, 26 of whom are still active members of the faculty in 16 different departments. As the list on Page 12 indicates, the recipients include many of the most renowned names in OU history. Interestingly, only nine failed to complete their academic careers at the University of Oklahoma, a tribute to the original intent of retaining as well as rewarding the most distinguished of the faculty.

Today the monetary award is relatively modest, a one-time $5,000 for the year of designation. The appointment is, however, for life. The selection process is arduous. To qualify, the faculty member must have demonstrated outstanding leadership over a period of years in his or her field of learning or creative activity and have been recognized by peers for distinguished contributions to knowledge or distinguished creative work. In most years, only one or two are named after exhaustive documentation and evaluation by the heads of individual academic units, knowledgeable persons within the University, a panel of outside evaluators, the graduate dean in consultation with the Research Council, the provosts and finally the president.
Glenn Dryhurst's research concentrates on developing an understanding of the oxidation chemistry of N-heterocyclic molecules by studying their oxidation reactions at electrodes. Dryhurst's studies utilize almost all contemporary electroanalytical techniques, and his students obtain a broad training in modern analytical, electrochemical and enzymatic methods. Chair of the department of chemistry, he joined the OU faculty in 1967.

Dryhurst is working with a grant from the National Institutes of Health and the North Atlantic Treaty Organization (NATO) and in 1986 completed two National Institutes of Health studies, the combined totals of which exceed $1.4 million. He will be a Fulbright senior fellow in Germany during the 1987-88 academic year.

Dick van der Helm, an OU faculty member since 1962, researches molecular structure and conformation using single crystal X-ray diffraction. He seeks structure identification of new natural products from marine organisms with anticancer and other biological activities, as well as synthetic antineoplastic compounds.

Named a GLC professor in 1977, van der Helm works on another project which involves production of siderophores from fungi and bacteria, their isolation and identification and a conformational study to understand the molecular process occurring at the cell wall for the active transport of the iron chelates of the siderochromes into the cell. Both projects receive National Institutes of Health grants.

Sherril D. Christian works in the fields of solution thermodynamics, molecular complex chemistry and surface chemistry. He has contributed highly accurate physical data relating to the formation of electron donor-acceptor complexes stabilized by hydrogen bonding, charge-transfer, dipole-dipole and dispersion forces. Christian utilizes several experimental methods not commonly available in chemistry laboratories, including a research ellipsometer, the diamond anvil cell and a microcomputer-controlled thermodynamic apparatus for solution and gas phase studies.

An OU Faculty member since 1966 and a Fulbright fellow, Christian has received federal and external foundation support for 30 years, including uninterrupted National Science Foundation research grants for the past 20 years.

Francis J. Schmitz's research is concerned with the study of marine organism chemistry. His research seeks to isolate and determine the structure of novel compounds produced by marine animals and plants and to discover potential new drugs by identifying cardiovascular and central nervous system active compounds and antineoplastic compounds. He studies sponges, soft corals, soft bodied molluscs, anemones, tunicates and gorgonians. A member of the OU faculty since 1963, Schmitz has discovered a wide variety of new natural products including sterols, brominated and chlorinated aliphatic and terpenoid compounds, and different types of alkaloids. The research utilizes mass spectrometry, optical rotatory dispersion and circular dichroism and nuclear magnetic resonance spectrometry.

J.J. Zuckerman focuses on the inorganic and the organometallic chemistry of the fourth group elements, including the spectroscopic and structural study of these compounds. The application of physical methods plays a major role in the research program. Tin-119 Mössbauer spectroscopy has become a routine physical tool in the study of organotin compounds.

Zuckerman served as apprentice for three internationally known inorganic chemists, professors A.G. MacDiarmid at the University of Pennsylvania, E.G. Rochow at Harvard and H.J. Emelius, FRS, at the University of Cambridge. He joined the OU faculty in 1976.
Jack Metcoff, pediatrics

Jack Metcoff joined the OU faculty in 1970 and currently serves as head of the division of clinical nutrition and interim director of the Child Study Center of the Oklahoma Teaching Hospitals. His field is nutrition, within which his interest lies in how nutrients modify cell metabolism. In pursuit of that goal, Metcoff researches the influence of nutrients on cell metabolism in uremia, how nutrients affect fetal development during pregnancy and the synthesis of proteins by cells in newborns. He has been president of the American Society of Pediatric Nephrology and is a recipient of the Alexander von Humboldt Prize to a senior distinguished U.S. scientist from the government of West Germany. His visiting professorships include service at Brown University, MIT, Children's Medical Center of Boston, Polish Academy of Sciences at Krakow, the University of Pennsylvania and in Turkey, France, Germany and Japan.

J. R. Sokatch, a College of Medicine faculty member since 1956, is currently conducting research on an enzyme from bacteria called branched chain keto acid dehydrogenase. Humans possess the same enzyme, which is defective when found in a genetic disease called maple syrup urine disease. Sokatch's team has cloned the enzyme from bacteria and is studying the DNA sequence of the clone for comparison with the mammalian enzyme. They are interested in the evolution of this enzyme from bacteria to man.

Sokatch serves as chair of the biochemistry and molecular biology department and has been associate dean of the Graduate College and associate director of Research Administration. He served on a peer review panel for the National Institutes of Health, the Microbial Physiology and Genetics Study Section, and chaired the panel two years.

Oscar Parsons, psychiatry and behavioral sciences

Oscar A. Parsons is currently the vice head (research) for the department of psychiatry and behavioral science, whose current research programs include alcoholism with emphasis on neuropsychological deficits and reversibility and behavioral deficits associated with brain damage. In addition, he is conducting personality research in the areas of stress, sensory isolation, adaptive and coping behavior and locus of control. Since joining the OU faculty in 1959, he has been a research associate at Harvard University, a Fulbright lecturer at Copenhagen University and a consulting psychologist at the veterans center. He has been president of the Oklahoma and Southwestern Psychological Associations, a member of the board of directors of the International Neuropsychological Society and a consulting editor for several scholarly journals. A fellow of the American Psychological Association, he was chair of HSC Faculty Senate.

John Sokatch, microbiology and immunology
Tom J. Love's varied research interests include heat transfer in bio-systems, medical thermography, radiative characteristics of flames and surface coatings, radiative heat transfer and geothermal energy recovery. He joined the OU faculty in 1956 and has served as director of the School of Aerospace, Mechanical and Nuclear Engineering, and adjunct professor of Radiological Sciences (thermography) at the Health Sciences Center, interim dean of the College of Engineering, and chair of the Norman Campus Faculty Senate. He has served on a number of major University councils, committees and boards.

A registered professional engineer, he is a fellow of the American Society of Mechanical Engineers, an associate fellow of the American Institute of Aeronautics and Astronautics and was a special fellow of the National Cancer Institute. Love is a fellow of the American Society for Engineering Education and was a special fellow of the National Cancer Institute. He serves as a consultant to the private sector and since 1972 has held the additional title of Halliburton Professor of Engineering.

Charles W. Bert, holder of OU's Perkinson Chair in Engineering in addition to his GLC research professorship, has conducted extensive aerospace research including the design of the payload doors for the space shuttle. His primary area of research is the mechanics of composite-material structures including such diverse aspects as fatigue, biaxial strength, projectile impact, and the buckling, buckling, and vibration of sandwich and laminated composite beams, plates and shells. His design and research work has been applied to the USS Nautilus and aircraft landing gears and fuselages.

Bert joined the faculty in 1963 and has been director of the School of Aerospace, Mechanical and Nuclear Engineering. A member of the editorial board of Composite Structures, he is associate editor of Experimental Mechanics and of Applied Mechanics and a director of the Society of Engineering Science. Bert has been elected a fellow by several prestigious scholarly and professional groups.

Cedomir M. Sliepcevich is the author of a three-part textbook on thermodynamics whose research has covered a variety of additional fields including flame dynamics, energy scattering, high pressure reaction kinetics, natural gas technology, cryogenics, heat and mass transfer, extractive metallurgy and desalination. Since joining OU in 1955, he has served as a chair of chemical engineering and general engineering and associate dean.

Sliepcevich is an Oklahoma Hall of Fame inductee and an OU Distinguished Service Citation recipient. His awards include the Curtis McGraw Research Award for research contributions and the George Westinghouse Award for distinguished contributions to the teaching of engineering students, both from the American Society for Engineering Education; the International Ipatieff Research Prize for contributions to high pressure and catalytic chemistry; and the Gas Industry Research Award for advancement of gas industry technology.

Kenneth E. Starling has described his research as work that “has attempted to bridge the gap between theory and practice in the area of thermodynamics.” A faculty member since 1966, his research has emphasized developing equations for fluid properties of interest in the natural gas, petroleum and energy conversion industries. Recent work has involved the development of a correlation for predicting natural gas properties which has become the U.S. industry standard for accurate measurement of natural gas flow rates.

He is a past fellow of the Institute of Gas Technology, holder of a Welch Foundation Postdoctoral Fellowship and a guest professor at the University of Leuven in Belgium. Prior to joining OU, Starling conducted industrial research at the Esso Production Research Company. He is the author of Fluid Thermodynamic Properties for Light Petroleum Systems.
H. Wayne Morgan's research interests are varied, ranging from American political parties to the Spanish-American war and from the history of Oklahoma to an examination of the art, culture and writers of America. He is the author of 10 books, the most recent of which is *Drugs in America: A Social History*, and editor of numerous others.

An OU faculty member since 1972, Morgan has served on University committees dealing with research policies, the library, instruction and curriculum. He currently serves on the editorial board of *Social Science Quarterly* and formerly served in the same capacity for *Pacific Historical Review*. He was the principal speaker at the 1968 Conference of Anglo-American Historians in London and was editor-in-chief of *Newcomers to a New Land*, a series of 10 volumes on ethnic groups in Oklahoma. The series won the National Award of Merit of the American Association of State and Local History.

Arrell Gibson is the author of 23 books and 150 articles on the American Indian, the frontier, West and Southwest; his book *The Chickasaws* placed second in Pulitzer Prize competition. Gibson was named a Goldwater Distinguished Professor of American Institutions at Arizona State University; he also served the People's Republic of China as a consultant/adviser for the humanities.

A faculty member since 1957, Gibson is a recipient of OU's Distinguished Service Citation and an Oklahoma Hall of Fame inductee. Recently he represented Oklahoma at a Washington, D.C., meeting of a national organization founded to promote reading. Gibson conducted a seminar at Arizona State on Pacific Basin affairs for Australia and New Zealand members of Parliament.

Kurt M. Dubowski's research interests include alcohol-related studies on the analysis, metabolism and pharmacokinetics of ethanol. He also has studied various forensic science aspects of ethanol, such as breath-alcohol analysis for traffic law enforcement purposes. In recent years, his research also has emphasized studies in the behavioral toxicology of marijuana and other substances which affect the central nervous system and are subject to abuse.

Dubowski joined the College of Medicine in 1961 and also holds appointments in biochemistry and molecular biology and pathology. A frequent consultant to federal and state agencies, his outstanding contributions have been recognized in the field of alcohol, drug and traffic safety with the international Widmark Award; to the profession of clinical chemistry with the Fisher Award; and to forensic toxicology with the first Hager Award of the American Academy of Forensic Sciences.
Paul G. Ruggiers is one of the world's foremost authorities on Chaucer and is general director of A Variorum Edition of the Works of Geoffrey Chaucer. Through 1987, seven volumes have been published, and he is at work on two more volumes. Other research and writing interests have included medieval comedy and the age of Dante. In addition, he has translated several works from Italian and is a frequent reviewer of books in several scholarly journals.

An OU faculty member since 1946, Ruggiers is the only faculty member to hold three distinguished professorships. In addition to the GLC, he is also a David Ross Boyd Professor and holder of the Sutton Chair in Humanities. He has received Ford and Guggenheim Fellowships and a Fulbright Research Professorship in Italy. Founder of the New Chaucer Society, Ruggiers performed significant work on Studies in the Age of Chaucer and The Chaucer Newsletter. He served six years as Honors Program director.

Leonard Beevers, chair of the department of botany and microbiology, has been an OU faculty member since 1971. His research interest is concerned primarily with various phases of nitrogen metabolism in plants. He is the author of Nitrogen Metabolism in Plants and is at work on a textbook, Plant Physiology: A Developmental Approach. He serves on the editorial board of Plant Physiology and Tree Physiology.

Beevers has been secretary, president and chairman of the public affairs committee of the American Society of Plant Physiologists. He has served as a National Science Foundation panelist for National Research Council postdoctoral fellowship awards and chaired the biological sciences postdoctoral award panel. A member of outside review panels for Cornell and Western Australia universities, he is an ad hoc reviewer of federal funding agencies. His University service includes membership on the Research Council and chair of the ad hoc committee on cell and molecular biology.

John J. Skvarla is a senior fellow of OU's prestigious electron microscopy laboratory and is affiliated with the Oklahoma Biological Survey. Skvarla, who joined the OU faculty in 1965, has received funding from external foundations and governmental agencies for 20 years. In 1976, he was instrumental in securing $497,000 from the Samuel Roberts Noble Foundation of Ardmore for the electron microscope facility.

Skvarla's recent research efforts have resulted in publications on ontogeny, taxonomy and systematics of pollen in living plant families and the role of fossil pollen in elucidating plant evolution and biogeography. His work has pioneered the greatly expanded use of electron microscopy in the study of pollen morphology.

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Douglas K. Lilly has been an OU faculty member since 1982 whose research interests include a variety of meteorological subjects including rotating convective storms, mesoscale meteorology, weather forecasting, severe storms and storm systems, thunderstorms and squall lines and waves and turbulence in the stratosphere. Prior to joining OU, he was a research meteorologist for the U.S. Weather Bureau in Washington, D.C., and a senior scientist at the National Center for Atmospheric Research in Boulder, Colorado.

Lilly is the recipient of the Half-Century Award and the Carl-Gustav Rossby Medal from the American Meteorological Society and has been elected as a fellow by that group. He edits or serves on the editorial board of four scholarly journals. Lilly has held visiting appointments or been a guest lecturer in New Mexico, Colorado, Georgia, Wyoming and Pennsylvania, and was a guest scientist at the German Research Institute for Air and Space Travel, Oberpfaffenhofen, West Germany. In addition, he has served as a consultant to the National Oceanic and Atmospheric Administration.

Yoshi K. Sasaki, who came to OU in 1961, is known and respected in the meteorology field worldwide for his research on variational objective analysis. He is one of a five-member international committee for the Global Atmospheric Research Program. He also has studied other meteorological areas including atmospheric convection, thunderstorms, tornadoes, typhoons, internal gravity waves and numerical weather prediction.

Sasaki is a past director of the Cooperative Institute for Mesoscale Meteorological Studies, supported jointly by OU and the National Oceanic and Atmospheric Administration. He was a research fellow in meteorology at Tokyo University and a research scientist and graduate faculty member at Texas A&M Research Foundation. Sasaki's current research focuses on the utilization of new meteorological data, such as is obtained with Doppler radar, to improve local weather forecasting.
Victor H. Hutchison's research interests are concerned principally with amphibians and reptiles, including their environmental physiology, physiological ecology, respiration and metabolism, thermoregulation and temperature tolerance and metabolic scope for activity. He also has studied the significance of respiration in the ecology, systematics, evolution and zoogeography of amphibians and the role of photoperiod and the parietal eye in reptile thermoregulation.

A member of the OU faculty since 1970, Hutchison served for 10 years as chair of zoology. He has been a research associate of the New York Zoological Society, director of the University of Rhode Island's Institute of Environmental Biology and program director of the NIH training grant in environmental physiology at Rhode Island. The recipient of a Guggenheim Fellowship, he has conducted research supported by the National Geographic Society. He is president-elect of the American Society of Ichthyologists and Herpetologists, a fellow of the Herpetologists League and is on the board of directors of the Society for the Study of Amphibians and Reptiles.

Cluff E. Hopla has been an OU faculty member since 1951 and has conducted research in the feeding habits of subarctic mosquitoes, the ecology of container breeding mosquitoes in the Southwest, ecology of tularemia in the Nearctic Region, long-term studies of endemic foci of plague, host associations and systematics of Siphonaptera and the ecology and adaptation of ectoparasites to avian and mammalian hosts. He is a consultant to the National Communicable Disease Center in Colorado and the Romanian Institute for Molecular Biology.

Chair of the department of zoology for eight years, he also has been chair of the Faculty Senate and has served on numerous University councils, committees and search committees. Elected to the Oklahoma Hall of Fame, Hopla is a lifetime trustee of the Oklahoma Zoological Society, former president of the International Council for Laboratory Animal Science and was a charter member of the Entomological Society of America. He has lectured or been associated with scholarly groups in Norway, Russia, Poland, Canada, South Africa, Sweden and England.

Don E. Kash's fields of interest are energy policy, policy analysis and science and public policy. He established OU's program in the latter field and remains a research fellow in the program. He is author or co-author of seven books concerned with U.S. energy policy and energy development, energy alternatives and space cooperation. Currently he is working on a study of policymaking in the technological society.

Since joining OU in 1970, he has had numerous scholarly and government appointments, including the posts of assistant director for regulation and chief of the conservation district of the U.S. Geological Survey. His U.S. Congress Office of Technological Assessment appointments include chair of advisory panels on technologies to control illegal drug traffic, on airport system development and on energy research and development. He chaired the public policy section of the American Political Science Association.
Lerner Hinshaw, physiology and biophysics

Lerner B. Hinshaw’s research is in the field of critical care with a particular emphasis on shock. Recent studies have included the physiological aspects of septic shock, the effects of prior administration of steroids upon recovery from lethal sepsis and the mechanism and therapy of septic shock. He is a member of the Oklahoma Medical Research Foundation and chair of the research and development committee of the Veterans Administration Medical Center and a Research Career Scientist and Medical Investigator of the Veterans Administration.

Hinshaw is past president of the Shock Society and a council member and chair of the International Relations Committee of that group. At the University of Minnesota, he was a Life Insurance Medical Research Fellow and recipient of the Lederle Medical Faculty Award. A member of the editorial board for Circulatory Shock, Hinshaw also serves on the Scientific Program Committee of the Society of Critical Care Medicine.

David R. Branch has been an OU faculty member since 1973 and chair of the Physics and Astronomy Department since 1985. His research fields include stellar spectra, stellar chemical compositions, supernovae and extragalactic distance scale. His recent study of supernovae has included the ultraviolet spectra, light curves and radio emissions.

He has been a research fellow at the Goddard Space Flight Center and the California Institute of Technology and a senior research fellow at the Royal Greenwich Observatory in England. He has been a visiting professor at the University of Texas and visiting research professor at Lick Observatory, the University of California. His honors include the Sigma Xi Faculty Research Award at OU and selection as an honor lecturer by the Mid-American State Universities. Among his professional memberships are the American Astronomical Society and the International Astronomical Union.

David Branch, physics and astronomy

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