

Paleontology at KU

The Program

Paleontology at The University of Kansas is studied in five academic departments: Geology, Systematics and Ecology, Botany, Anthropology, and Geography. Some paleontologists in these academic departments also have joint appointments in the Natural History Museum, the Museum of Anthropology, the Kansas Geological Survey, or the Paleontological Institute. The Geological Survey has a long tradition of research in paleontology and sedimentology, especially carbonate petrology. Staff members of the Survey often teach courses and direct the research of graduate students in the academic departments, especially in the Department of Geology. The University recently entered into a joint agreement with Kansas State University in Manhattan, Kansas, whereby faculty members in the KSU Department of Geology can direct the doctoral dissertation research of geology students at KU, thus offering a wider level of expertise for graduate students.

Paleontology is interpreted broadly herein and is practiced widely at The University of Kansas. It involves invertebrate paleontology, especially the study of Paleozoic faunas; vertebrate paleontology, especially the higher vertebrates; Paleozoic and Mesozoic paleobotany; Quaternary palynology; and paleoanthropology. In addition, the study of paleoecology and the interpretation of ancient environments play an important role in the studies, often involving interactions with sedimentologists, Quaternary geologists, geomorphologists, biologists, and archaeologists.

Paleontology

The faculty and staff include 22 doctoral-level paleontologists including the emeritus faculty members who maintain active research programs. Some of the faculty members are more heavily involved in the study of recent organisms than fossils and 3 are paleoanthropologists. It also includes 3 other staff paleontologists and 12 doctoral-level faculty members or research staff members in such supporting areas as sedimentology, soils, and Quaternary studies. A report prepared by **U. S. News and World Report ranked KU's program in paleontology fourth in the nation**, and the **Paleontological Society, in its assessment of paleontology collections, ranked KU's fifth** among universities.

The Academic Departments

The graduate program of the [Department of Geology](#) involves 17 full-, part-time, or active emeritus faculty members, 12 adjunct faculty members, 3 research faculty members, and some 50 graduate students from all parts of the nation and several foreign countries. This allows a great deal of student-faculty interaction in teaching and research. M.S. and Ph.D. degrees are awarded. The department has been successful in placing graduates both in academia and industry. Paleontologists who teach in the Department of Geology have focused their attention primarily on invertebrate paleontology, especially trilobites, ostracodes, and echinoderms. Their studies include biostratigraphy, paleoecology, systematics and the quantitative study of morphology.

Traditionally the [Department of Systematics and Ecology](#) has been the home department for graduate studies in vertebrate paleontology, although a significant number of degrees have also been granted through the Department of Geology. Systematics and Ecology, which has recently been ranked nationally among the top 25 departments by the National Research Council, has 30 faculty members, 12 adjunct or emeritus faculty members, and some 75 graduate students. The study of vertebrate paleontology at KU has established an international reputation in paleoecology, biostratigraphy, functional morphology, and systematics of a wide range of vertebrate organisms. In recent years especially notable studies have involved the origin of tetrapods, the earliest birds, and various Tertiary and Pleistocene mammals.

Paleobotany is centered in the [Department of Botany](#), a department with some 20 graduate students and 13 faculty members, several of whom have joint appointments with the Department of Systematics and Ecology. Faculty members in the department have close associations with the Museum of Natural History. The study of paleobotany at KU emphasizes the Paleozoic and Mesozoic and has an important program of research in the Southern Hemisphere that is supported by extensive collections.

The [Department of Anthropology](#) has 15 full- and part-time faculty members and some 70 graduate students. The department offers graduate-level education in archaeology, biological anthropology, anthropological linguistics, and sociocultural anthropology. The department is especially strong in the areas of applied anthropology, anthropological genetics, evolutionary studies, medical anthropology, Native American languages, paleoanthropology, symbolic anthropology and both New World and European prehistory.

The [Department of Geography](#) emphasizes both cultural and physical geography. Current areas of faculty research in physical geography in which paleontologists are involved include alluvial, eolian, and soils geomorphology; plant geography; paleoenvironmental reconstruction of the Quaternary; geoarchaeology; and Quaternary palynology. The department has 16 faculty members, 4 emeritus faculty members, and some 80 graduate students

Research Centers in Paleontology

The [Natural History Museum](#) provides one of the most complete support bases for paleontology that can be found anywhere. It includes more than half a million invertebrate fossils and 150,000 vertebrate fossils, some very large osteological study collections, and an important herbarium with a large collection of fossil plants. There is also an important collection of fossil insects in the Division of Entomology. The museum offers a number of curatorial assistantships that are valuable means of educating graduate students in systematic paleontology.

The [Museum of Anthropology](#) is closely allied with the Department of Anthropology through common interests and joint faculty appointments. Offices and laboratories for archaeological research are in the museum as are systematic collections from the Great Plains. The Museum offers a major, permanent exhibition on the nature of culture that is frequently complemented by temporary displays on specialized topics.

The [Kansas Geological Survey](#) employs more than 50 scientists who are assisted by about 80 full-time staff members and student employees. These scientists specialize in a variety of geological disciplines including hydrogeology, geochemistry, geophysics, stratigraphy, paleontology, mathematical geology, engineering geology, mineral economics, and computer science. The Geological Survey is housed on the campus and is an integral part of The University.

The [Paleontological Institute](#) publishes the Treatise on Invertebrate Paleontology and The University of Kansas Paleontological Contributions. The Treatise project, founded in 1948 by the late Professor R. C. Moore, involves some 300 paleontologists worldwide and is one of the longest-running scientific enterprises in history, providing an invaluable resource for all aspects of invertebrate paleontology.

The Paleontology Faculty

Timothy R. Carr	(Courtesy Professor of Geology; Kansas Geological Survey)	Ph.D., University of Wisconsin-Madison, 1981. Petroleum geology, stratigraphy, and paleontology.	Current research includes integrated subsurface geology and geophysics, stratigraphy, petroleum geology, and conodont biostratigraphy.
David W. Frayer	(Professor of Anthropology)	Ph.D., University of Michigan, 1976. Late Pleistocene human evolution	Current research includes biological anthropology, paleoanthropology, human osteology, and old world prehistory.
Jack L. Hofman	(Associate Professor of Anthropology)	Ph.D., University of Tennessee, 1986. Late Pleistocene New World archaeology.	Current research includes archaeology, hunters and gatherers, evolutionary ecology, and lithics.
William C. Johnson	(Associate Professor of Geography)	Ph.D., University of Wisconsin, 1976. Fossil pollen and phytoliths and climatic history.	Current research includes chronostratigraphy, biostratigraphy, and magnetostratigraphy of loess deposits in the Great Plains.
Roger L. Kaesler	(Professor of Geology; Director, Paleontological Institute; Curator, Natural History	Ph.D., University of Kansas, 1965. Micropaleontology, paleoecology, and quantitative methods in paleontology.	Current research includes morphology and paleoecology of late Paleozoic and Holocene Ostracoda, especially study of ostracodes from nearshore environments. Editor of the Treatise on Invertebrate Paleontology and The University of Kansas Paleontological Contributions.

	Museum)		
Leonard Krishtalka	(Professor of Systematics and Ecology; Director, Natural History Museum)	Ph.D., Texas Tech University, 1975. Systematics, evolution, and paleobiology of Paleogene mammals; patterns and processes in mammalian evolution.	Current research includes study of Eocene mammals of the Wind River basin.
Christopher G. Maples	(Courtesy Associate Professor of Geology; Kansas Geological Survey)	Ph.D., Indiana University, 1985. Invertebrate paleontology.	Current research includes paleontology, paleoecology, and taphonomy of late Paleozoic fossils; trace fossils and their depositional environments; and crinoid systematics and paleoecology.
Larry D. Martin	(Professor of Systematics and Ecology; Curator, Natural History Museum)	Ph.D., University of Kansas, 1973. Vertebrate paleontology with emphasis on mammals and birds	Current research includes study of morphology and paleoecology of Cenozoic mammals, morphology of Archaeopteryx, and biostratigraphy and paleoecology of continental Cenozoic rocks.
Anta Montet-White	(Professor of Anthropology; Curator, Museum of Anthropology)	Doct. et Lettres, University of Bordeaux, 1965. Upper Paleolithic archaeology of Europe.	Current research includes paleolithic archaeology, lithic technology, and Pleistocene environments of Europe.
Richard A. Robison	(Hollis D. Hedberg Professor of Geology)	Ph.D., University of Texas, 1962. Invertebrate paleontology and biostratigraphy with emphasis on the early Paleozoic.	Current research includes biostratigraphy of trilobites and Middle Cambrian faunas of North America, Greenland, and China.
Albert J. Rowell	(Emeritus Professor of Geology; Curator Emeritus, Natural History Museum)	Ph.D., University of Leeds, 1953. Invertebrate paleontology with emphasis on lower Paleozoic faunas and stratigraphy.	Current research includes early evolution of Brachiopoda and Cambrian development of the continental margins of the western United States and eastern Antarctica.
Edith L. Taylor	(Professor of Botany; Curator, Natural History Museum)	Ph.D., Ohio State University, 1983. Fossil tree rings and paleoclimate; diversity and distribution of Antarctic floras.	Current research includes Permian and Triassic permineralized plants from Antarctica and function and phylogenetic trends in fossil phloem.
Thomas N. Taylor	(Roy A. Roberts Professor of Botany; Curator, Natural History Museum)	Ph.D., University of Illinois, 1964. Paleobiology of Antarctic floras; fossil fungi.	Current research includes plant-animal interactions, the origin of land plants, and symbioses.
Valery J. Terwilliger	(Assistant Professor of Geography)	Ph.D., University of California, 1988. Biogeography; stable-isotopes geochemistry.	Current research includes use of isotopic methods to investigate plants' response to the environment.
Linda Trueb	(Professor of Systematics and Ecology; Curator, Natural Museum)	Ph.D., University of Kansas, 1968. Systematic biology and morphology of amphibians with emphases on osteology of anurans.	Current research includes phylogeny of frogs including those known from the fossil record.
Philip V. Wells	(Professor of Botany and of Systematics & Ecology)	Ph.D., Duke University, 1959. Quaternary paleoecology of western North America and Mexico; ecomorphological	Current research includes biosystematics of Arctostaphylos (Ericaceae).

analysis of forest trees.

Ronald R. West	(Professor of Geology, Kansas State University)	Ph.D., University of Oklahoma, 1970. Paleontology and paleoecology of the Upper Carboniferous and Permian invertebrates.	Current research includes systematics and paleoecology of fossil chaetetid sponges.
Edward O. Wiley	(Professor of Systematics and Ecology; Curator, Natural History Museum)	Ph.D., City University of New York, 1976. Mesozoic and Cenozoic fishes.	Current research includes relationships of higher teleost fishes, fossil and recent.

Research and Support Paleontologists

Orville W. Bonner	(Paleontologist)	M.S., Fort Hays State University, 1964. Preparator of vertebrate fossils.	Current research interests include the Niobrara Chalk beds of Kansas and their fauna.
John Chorn	(Research Associate)	Ph.D., University of Kansas, 1984. Paleontology of Permo-Carboniferous vertebrates.	Current research includes systematics of late Paleozoic lungfish.
C. D. Frailey	(Professor of Biology, Johnson County Community College)	Ph.D., University of Kansas, 19XX. Cenozoic history of Florida and South America.	Current research includes studies of the Cenozoic faunas of the Amazon Basin.
Alice M. Hart	(Geologist, Natural History Museum)	M.S., University of Kansas, 1984; M.S., Emporia State University, 1993. Holocene foraminifera; information science.	Current research includes information management of paleontological data.
Alan Kamb	(Collection Manager, Natural History Museum)	B.S., University of Kansas, 1962. Late Paleozoic invertebrate fossils.	Current research includes study of the herpetofauna of Kansas
De Sui Miao	(Collection Manager, Natural History Museum)	Ph.D., University of Wyoming, 1987. Primitive mammals	Current research includes origin and early evolution of mammals.

Sedimentologists, Stratigraphers, Geomorphologists, and Soil Scientists

Robert W. Buddemeier	(Courtesy Professor of Geography; Kansas Geological Survey)	Ph.D., University of Washington, 1969. Hydrological systems, water resources, climate change, coral reefs, and atoll island environments.	Current research includes effects of climate variation on the quality and quantity of water resources and the role of sea level and carbonate saturation state in determining the structure and function of coral-reef communities.
John H. Doveton	(Courtesy Professor of Geology; Kansas Geology Survey)	Ph.D., University of Edinburgh, 1969. Log analysis and sedimentology.	Current research includes applications of log analysis to subsurface geology, mathematical geology, sedimentology, and petroleum geology.
Wakefield Dort, Jr.	(Emeritus Professor of Geology)	Ph.D., Stanford University, 1955. Quaternary geology, geomorphology and archaeological geology.	Current research includes Quaternary geology and geomorphology of the central plains and northern Rocky Mountains, origin of complex loess columns, and geological interpretation of archaeological sites.
Paul Enos	(Haas Distinguished Professor of Geology)	Ph.D., Yale University, 1965. Sedimentology, especially carbonate facies and diagenesis.	Current research includes study of carbonates of Pacific atolls, Cretaceous of Mexico, Permo-Triassic of China, and mass-flow deposits, modern carbonates, and Midcontinent cyclothems.
M. Randy	(Research	Ph.D., University of Texas,	Current research includes Paleozoic and Cenozoic

Farr	Assistant Professor of Geology)	1988. Paleomagnetism, sedimentary geochemistry, and sedimentary petrology.	magnetostratigraphy and paleomagnetic dating and the geochemical characterization of diagenetic events in Paleozoic carbonate rocks.
Evan K. Franseen	(Courtesy Assistant Professor of Geology; Kansas Geological Survey)	Ph.D., University of Wisconsin, 1989. Carbonate sedimentology and stratigraphy.	Current research includes sequence stratigraphy, study of ancient submarine erosion surfaces, and processes in formation of carbonate rocks.
Lee C. Gerhard	(Courtesy Professor of Geology; Kansas Geological Survey)	Ph.D., University of Kansas, 1964. Carbonate sedimentology and petroleum geology.	Current research includes study and modeling of architecture of reefs, basin analysis, global supply and demand of petroleum, classification and anisotropy of reservoirs, and processes in the formation of carbonate rocks and evaporites.
Robert H. Goldstein	(Associate Professor of Geology)	Ph.D., University of Wisconsin, 1986. Carbonate sedimentology and diagenesis.	Current research includes study of diagenesis and stable-isotopic composition of Paleozoic subaerial-exposure surfaces and the study of fluid inclusions to solve problems in carbonate diagenesis.
Curtis J. Sorenson	(Chair, Associate Professor of Geography)	Ph.D., University of Wisconsin, 1973. Physical geography, soils geomorphology, Quaternary studies, field methods.	Current research includes paleosols as paleoclimatic and paleoenvironmental indicators.
Anthony W. Walton	(Chair, Associate Professor of Geology)	Ph.D., University of Texas, 1972. Sedimentology with emphasis on terrigenous clastic and volcanoclastic rocks	Current research includes the effects of facies and diagenesis on oil production from sandstone reservoirs and the deposition and diagenesis of sediments in volcanic terranes.
Lynn Watney	(Courtesy Professor of Geology; Kansas Geological Survey)	Ph.D., University of Kansas, 1985. Stratigraphy and sedimentology.	Current research includes sequence stratigraphy and modeling late Paleozoic cyclothems of the Midcontinent.

Financial Support of Students

The five academic departments, the Natural History Museum, and the Kansas Geological Survey offer a number of teaching, curatorial, and research assistantships to students, and the Department of Geology annually offers at least one research fellowship that is funded by the petroleum industry. These awards are open to graduate students in paleontology, and students who apply for admission to the graduate programs will receive additional information about them. In addition, the Department of Geology and the Natural History Museum award several thousand dollars each year to support the research of graduate students, funds that are contributed by alumni, friends of The University, and industry. Students typically obtain additional support for their research from Sigma Xi, the Geological Society of America, the American Association of Petroleum Geologists, the Paleontological Society, and federal and state granting agencies.

Application Prospective graduate student may request application forms and detailed information on any of the departments' activities, requirements, and assistantships from and of the academic departments listed below:

Director of Graduate Admissions
 Department of Geology
 The University of Kansas
 120 Lindley Hall
 Lawrence, Kansas 66045-2124

Director of Graduate Admissions
 Department of Systematics and Ecology

The University of Kansas
2045 Haworth Hall
Lawrence, Kansas 66045

Director of Graduate Admissions
Department of Botany
The University of Kansas
2045 Haworth Hall
Lawrence, Kansas 66045

Director of Graduate Admissions
Department of Anthropology
The University of Kansas
622 Frazer Hall
Lawrence, Kansas 66045

Director of Graduate Admissions
Department of Geography
The University of Kansas
213 Lindley Hall
Lawrence, Kansas 66045

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Thanks!