

Princeton University

HONORS FACULTY MEMBERS
RECEIVING EMERITUS STATUS



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The biographical sketches were written by colleagues
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JAMES L. GOULD



Throughout his career, James Gould has studied how animals behave. His early work focused on navigation and communication in bees, especially how dances in the hive directed others to food sources. Later he showed that bees used cognitive maps to develop routes from novel locations, over unfamiliar territory, to proven feeding sites. Jim has always been fascinated with the mechanisms of behavior and how the animal mind works. As a creative experimentalist and gadgeteer, Jim could always design the perfect experiment and associated technical tools for unambiguously teasing apart competing hypotheses.

Jim was a precocious undergraduate at the California Institute of Technology, where he studied molecular biology, before immersing himself in the study of animal behavior in graduate school at the Rockefeller University with an award for graduate study by the National Science Foundation. After earning his doctorate in 1975, he immediately came to Princeton as an assistant professor, declining a prestigious Harvard Junior Fellowship to do so. At Princeton, he established the first fully integrated research program at the Stony Ford Center for Ecological Studies in the late '70s. There he pioneered the input of tracking data into computers for analysis and experimental manipulation. A Rube Goldberg apparatus with giant, clear, acrylic plastic pulleys over the comb of a beehive was linked to Apple II game paddles by lengths of dental floss to record the orientations and movements of dancing bees. In another groundbreaking experiment, Jim dynamically canceled changes in the Earth's magnetic field around an entire beehive to test the improvement that magnetic sense could make in bee orientation.

When he developed a dangerous allergic reaction to bee stings, Jim switched his focus to fish behavior, particularly the study of how females choose mates. Charles Darwin's ideas on sexual selection, especially the role of female choice, were controversial. Jim, never

shying away from a good debate, dove in and did some of the pioneering research showing how behavior magnified morphological features that impressed females. Subsequently, he and his wife, Carol, have written synthetic books on sexual selection and animal communication, with an extraordinary combination of technical rigor and rhetorical flair that enlightens both the general public and academic researchers. Jim's research accomplishments have been recognized by various awards, including election to fellowship by the American Association for the Advancement of Science and the Animal Behavior Society.

In addition to being a masterful experimentalist, Jim has been an exceptional teacher and dedicated mentor. In the Department of Ecology and Evolutionary Biology (EEB), Jim has taught extremely popular courses in "Animal Behavior" and "Introductory Biology," a feat not matched by many. His introductory biology text and his definitive text on animal behavior were the envy of their respective fields. For these many pedagogical accomplishments, Jim received the Carnegie Foundation's New Jersey Professor of the Year in 1996 and the Animal Behavior Society's Distinguished Teacher of the Year Award in 1997. Subsequently, Jim initiated the summer program in marine biology at the Bermuda Institute of Ocean Science (BIOS), which has enabled students to study abroad in a rigorous and challenging way, and has served as an outstanding gateway introduction and enticement for some of these students to join the EEB department. For others, it provided a unique and lasting introduction to science and biology for those who would join the world of educated non-scientists. Jim mentored more undergraduates than any other EEB faculty member and could always be counted on to ask just the right question—"Why couldn't you do a manipulative experiment of this or that type to settle that point?"—at just the right time during a presentation or an oral examination. He served as departmental representative for over two decades, during which time he shepherded thousands of students through the department's curricular maze and performed some impressively thoughtful rescues when an occasional student froze along the senior thesis path during the final year. Jim also led the way in

getting an inordinate number of senior theses published so that their work would become part of the mainstream literature.

Outside of the department, Jim was an icon of the Princeton Writing Program, a senior fellow at Mathey College, one of the most engaging professors involved with Alumni Colleges and Princeton Journeys, as well as annual Alumni and Parents Days. He has always been the consummate professor embodying the Princeton spirit of scholarship and teaching, touching numerous lives at so many levels.