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## Resolution of Respect

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Fakhri A. Bazzaz  
1933–2008

Fakhri Bazzaz, Mallinckrodt Professor Emeritus of Biology at Harvard—“Chief” to his devoted students—passed away on 6 February 2008 following complications of a stroke, in Lexington, Massachusetts. Fakhri is survived by his wife of nearly 50 years, Maarib Bakri Bazzaz, his daughter Sahar, and his son Ammar. His academic family included 56 graduate students, 36 postdocs, and 17 undergraduate research students at the time of his retirement in 2004.

Fakhri was born in Baghdad, Iraq, on 16 June 1933, into a family prominent in public service, as exemplified by his brother, Abdul Rahman Bazzaz, who rose to the office of Prime Minister in 1965. Early scientific influences included the biologist Abdul Karim Al-Khudairy, and the meteorologist Abdul Jabbar Abdullah, who were founders of the modern Baghdad University. He earned a biology degree from that university in 1953. His connections to the culture and venerable civilization of Iraq were illustrated by his long-term interests in Arabic calligraphy and classical Arabic poetry. Fakhri and Maarib became United States citizens in 1978, which was a source of pride, but also made bittersweet his long separation from Iraq. He continued to contribute to the intellectual life of the Middle East through his founding membership in the Iraqi National Academy of Science (2003), and his contribution to founding the Arab Science and Technology Foundation, on whose Advisory Board he later served.

Upon completing his undergraduate degree, he was appointed Deputy of the Rasafa Education District in the east of Baghdad. However, he was soon awarded an Iraqi government scholarship for postgraduate study. He earned a Master's in 1960 and a Ph.D in 1963, working under the guidance of Professor Lawrence C. Bliss at the University of Illinois in Urbana-Champaign. Upon completion of the doctorate, Fakhri was appointed Visiting Assistant Professor at Illinois. However, the pull of home was strong, and he returned to Baghdad University as a Lecturer for two years, until 1966. At that time he returned to an Assistant Professor position at the University of Illinois. He rose through the ranks to full Professor there, and served as Head of the Department of Plant Biology from 1981 through 1984. He also served as Acting Director of the School of Life Sciences from 1983 through 1984, where he ushered Illinois biology into the molecular era. In 1984 he answered the call from Harvard University, where he served as H. H. Timkin Professor of Science from 1988 to 1997, and then Mallinckrodt Professor of Biology from 1997 to his retirement in 2004.



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Fakhri's contributions to the science of ecology were broad and remarkable. He raised the study of plant succession from its mid-20th century descriptive slumber to an experimental, adaptively based mechanistic pursuit. Later, during the Harvard years, he pioneered the understanding of the effects of climate change on plant community dynamics, writing a ground-breaking review paper on CO<sub>2</sub> effects in 1990. In addition to these specific accomplishments, Fakhri's career stands as an exemplar of scientific synthesis. Never satisfied with narrow disciplinary success, he constantly strove to find unity across disparate fields. His linkage of physiological ecology with plant population biology, which he consummated during a sabbatical year with Professor John Harper in Bangor, Wales, was an unprecedented and foundational move. His work also unified levels of organization, including the concerns of plant physiological ecology, community ecology, and ecosystem ecology. Ultimately, he linked his groundbreaking work in plant allocation, competition, and genetic strategies, with the then nascent field of global change biology. His work was preeminently experimental and mechanistic, regardless of the scale and topic. Fakhri's work utilized a broad array of ecosystem types, including old fields, prairies, temperate forests, tropical forests, and deserts. His research examined and unified competition, allocation, evolution and genetics, ecophysiology, succession, disturbance, plant regeneration, and demography. The importance of this incredibly broad, synthetic, and brave body of work is attested to by his ranking as the 10th "Most Cited Scientists in Environment/Ecology, 1992–2002" by ISI <[www.incites.com/scientists/env-eco.html](http://www.incites.com/scientists/env-eco.html)>. In a piece that immediately follows, his long-time colleague and friend Peter Grubb highlights some of Fakhri's many scientific contributions.

The broader impact of Fakhri's work is clear. He was a pioneering voice about the dangers of global warming, and was cited in publications of record, including the *New York Times* and the *Boston Globe*. He was invited by Vice President Al Gore to testify before Congress concerning global change in 1992, and he was a signatory of the scientific letter to President Clinton in 1997, advising serious and careful attention to global climate change. Fakhri worked within the Global Change and Terrestrial Ecosystems program of the International Geosphere Biosphere Program (IGBP), where he chaired the working group on the effects on biodiversity.

Fakhri was always willing to serve the Ecological Society of America (ESA). He contributed a charming piece (graced by a photograph that abundantly illustrates his cheerful countenance) to the student- and public-oriented page on the ESA web site, entitled "What Do Ecologists Do?" He chaired the Eminent Ecologist Awards Committee in 1984–1985, and served the Physiological Ecology Section as Secretary for two terms, from 1986 to 1992. He served on the Society's Nominating Committee in 1983–1984. He was an author on the ESA's Issues in Ecology Series, Number 5, entitled *Biotic Invasions: Causes, Epidemiology, Global Consequences and Control*.

His honors were many. He was very proud of his election as a Fellow of Clare Hall of Cambridge University in 1981. He was elected a Fellow of the American Association for the Advancement of Science in 1987. In 1988 he was awarded a Guggenheim Fellowship. He was elected a Fellow of the American Academy of Arts and Sciences in 1989, and of the Japanese Society for the Promotion of Science in 1993. The Humboldt Research Prize was awarded to him in 1996. He was a candidate for the King Faisal Prize for Biology in 2000, and in that same year, was awarded a Leverhulme Professorship in British Universities, which took him to Bangor, Sheffield, Edinburgh, Cambridge, Oxford, and Imperial College. The University of Illinois College of Liberal Arts and Sciences awarded Fakhri its Alumni

Achievement Award in 2003. The Desert Research Institute awarded him the Nevada Medal in 2004. In 2006, he was made an Honorary Member of Phi Beta Kappa at Harvard.

In an era when science grows increasingly “industrial” and corporate in its operation, Fakhri stood as a beacon of vigor with civility, awareness of history while pushing the intellectual frontiers, honoring disciplinary depth while pursuing cross-disciplinary synthesis, a deep appreciation of rootedness coupled with a love of adventure, and the nurturing of a sharing intellectual community.

We invited Fakhri’s former students and his associates to share reminiscences of him. We received far too many to incorporate within the scope of this essay. However, in order to give a flavor of Fakhri’s deep generosity of spirit, habits of nurturing, joy of discovery, and appreciation of the personal, here is a reminiscence shared by Prof. Kelly McConnaughay of Bradley University, who completed her Ph.D with Fakhri at Harvard in 1990.

*Whenever I would bounce into Fakhri’s office with good news about something—interesting data, a paper accepted, whatever—he would start bouncing as well. Then he would hug himself, stare off into the distance (mind working), and look at you with a grin and ask “What’s next?” That single phrase sticks with me to this day.*

*“What’s next?” sort of sums up his approach to things—never looking back, always pushing ahead, always looking forward. Always asking more of himself and those around him. Constantly challenging himself was kind of like a drug; it was his high.*

*I also remember his incredible tolerance of my son Kevin being in the lab so much as a baby. He loved kids, his own and others’, and he loved his students and postdocs to have families. Family was key, and he valued that for his associates as well.*

In addition to the thoughts from Kelly, we have received warm, thoughtful remembrances from Jeannine Cavender Bares, M.-Teresa Sebastià and Jose M. Arenas, Don Levin, Dick Mack, Alex Goloff, Mary Beth Kirkham, Sonia Sultan, Stan Rice, Shili Miao, Manuel Lerda, Line Rochefort, Miguel Martínez-Ramos, and Peter Vitousek, at the time of this writing. These are collected at <http://www.ecostudies.org/Bazzaz-remembrance/> We invite readers to visit this web page. Those wishing to add to this online collection are encouraged to forward their comments to the authors of this essay. That web site also includes a complete list of Fakhri’s more than 300 publications, and a complete CV.

We close with a deep sense of the abiding kindness Fakhri showed all those who worked with him, and with a deep appreciation of the richness of science in the context of the larger, multifaceted culture that Fakhri bequeathed to us.

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Source: Bulletin of the Ecological Society of America, Vol. 89, No. 2 (April 2008), pp. 92-94. Courtesy of JSTOR

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