

Distinguished Professor of Biology Keith Clay retired in June 2018 from an illustrious 32-year career at Indiana University, moving seamlessly into a new career as Chair of Tulane University's Department of Ecology and Evolutionary Biology. The position at Tulane returns Keith to his faculty roots and to the Cajun/Creole culture he has enjoyed since accepting his first Assistant Professor position at Louisiana State University in New Orleans in 1983.

Born in Banbury, England, on a US Air Force base, Keith's early years were spent at bases in Biloxi, Mississippi, and Savannah, Georgia, before moves to upstate New York and northwestern New Jersey. After high school and a year working jobs with the town road crew, a factory, and a grocery store, Keith enrolled at Rutgers University. Originally a premed student, Keith's intellectual interests moved from people to plants after taking a botany course with Dr. Barbara Palser. A summer wandering the vast, unpopulated New Jersey Pine Barrens for a vegetation mapping project with Dr. Murray Buell sealed his interests in plant ecology and evolution

Keith conducted his graduate research in the Botany Department at Duke University, working with Janis Antonovics on the reproductive biology of *Danthonia* grasses. Noticing that many of these grasses seemed to benefit from a fungal infection led to a *eureka* moment in the hot Carolina sun: Keith realized that such plant-fungal interactions were unexplored and potentially hugely important. He went on to become a leader in the field of endophytes (symbionts that live within plants), publishing a seminal paper explaining that endophytic fungi could act as a defensive mutualism by producing chemicals that protected plants from being eaten by mammals and insects. A 1999 *Science* paper and other significant papers followed over the years, demonstrating that endophytes could indeed shape -- and be shaped by -- the composition and diversity of grasslands, forests, and other plant communities over both space and time.

Keith met his wife Caroline at Duke, and they raised two sons, Zach and Ben, share a love of architecture and antiques that has made their homes places of beauty and history, and have enjoyed many outdoor adventures. One such adventure underscores Keith's legendary powers of nature observation (and Caroline's supportiveness as a spouse): while vacationing at Hanging Rock State Park, North Carolina, Keith made and subsequently published novel observations of ant seed dispersal (myrmeocochory) for trailing arbutus, an uncommon woody vine (and coincidentally, Indiana University's official flower).

After a short postdoc at the University of Texas, Austin, Keith briefly moved to his first faculty position at Louisiana State University before joining Indiana University's Department of Biology in 1986, earning the Outstanding Young Faculty Award in 1989. Besides his continued groundbreaking research with endophytes, Keith's tenure at IU was marked by highly influential work in other areas of plant ecology, including a 2000 *Nature* paper and other high-impact work demonstrating that the presence vs. absence of host-specific soil pathogens can determine whether plant species coexist or become invasive weeds, a 2012

Science paper demonstrating the ubiquity of stabilizing forces (factors causing members of the same species to limit one another more than members of different species) in structuring eastern deciduous forests, research on periodical cicada effects on forest trees that led to a National Science Foundation-sponsored educational video *Return of the Cicadas*, and research on pathogen-bearing ticks and their range shifts in response to global change that features in IU's *Prepared for Environmental Change* Grand Challenge.

To date, Keith has trained 19 PhD students, 9 MS students and 15 postdocs. Keith's students remember him as "incredibly patient, encouraging, and approachable," someone who "engages with his students to the level they want...and really allows room for his students to explore and build research that they find exciting" while providing "critical feedback at all stages." Students were inspired by Keith's "knowledge of and passion for botany and natural history," recognizing that "Keith has this knack for seeing an interesting pattern in nature, and following up on it...". At least once a semester, Keith would take his students on a hike in the local community, "often leaving a few...in the dust as he quickly popped back and forth on the trail identifying this tree or that flower."

Keith is a renowned scientist, elected to the *American Association for the Advancement of Science* in 2005 and respected internationally. Yet Keith is equally remarkable for his teaching and service excellence. His trademark teaching style is hands-on, and in addition to the world-class research he fostered as co-founder and Director of IU's seven Research and Teaching Preserve properties, Keith championed the preserve's use in teaching and educational outreach. In 1999, Keith earned IU's Teaching Excellence Recognition Award, partly on the basis of his redevelopment of *Field Ecology* to introduce students to ecological theory and experimental methods through immersion in Indiana's natural habitats. Keith generously lent his scientific expertise to the local community over the years, including service on the City of Bloomington's Environmental Commission, Commission on Sustainability, and Deer Task Force.

Keith will be sorely missed by his colleagues at Indiana University, who appreciate his "dry sense of humor, vast knowledge of the natural world, and razor-sharp intellect," admire his "uncanny ability to recognize important ecological problems," and consider him to be "one of those nucleating figures who simply makes everyone around him better." Fortunately, we need only head "down to the bayou" to find him.

*Heather Reynolds*