Alfred Edward Kahn was born in Paterson, New Jersey on October 17, 1917, the son of Jacob and Bertha Kahn. His father, a Russian immigrant, worked in a silk mill. Fred graduated from NYU (AB, summa cum laude) at 18 and received his doctorate in Economics from Yale in 1942. He settled in Washington where he worked at the Brookings Institution, the U.S Department of Justice (anti-trust division), and the War Production Board. He also served as an economist on the Commission for Palestine Surveys. He completed his basic training (Army) but was discharged for poor vision.

Fred taught for two years (1945-47) at Ripon College (Wisconsin) where he wrote the first of his eight books entitled “Great Britain in the World Economy”. He joined the Cornell faculty in 1947, was promoted to Associate Professor (1950), to Professor in 1955, and received his endowed chair, the Robert Julius Thorne Professor of Political Economy in 1967.

Fred served as the chairman of the Department of Economics (1958-63), as a member of the Cornell Board of Trustees (1964-69) and as Dean of the College of Arts and Sciences (1967-74). During this period, he wrote his two volume treatise “The Economics of Regulation” (Wiley, 1971; MIT Press 1988), a classic work in his field.

In 1974, he returned to public service by accepting an appointment as Chair of the N.Y. Public Service Commission which regulated gas, electric, water and telephone services. At that time, consumers paid the same rate per kilowatt hour for electricity, no matter the time of day, or in what season they used it. That rate structure encourages waste, he explained; electricity is much more expensive to produce and distribute at some times than at others because peak demand is met with expensive auxiliary generators. If rates during peak demand periods reflected those
higher costs, Fred argued, consumers would face powerful incentives to reduce that demand by being more conservative or shifting their demands to off-peak periods, saving everyone a lot of money. Fred’s theory became common practice throughout the world and, sure enough, in every instance where seasonal and time-of-day rate differentials have been put into effect, electric utilities and their customers have enjoyed enormous cost savings.

Fred also moved to discontinue the telephone companies’ wasteful practice of providing free directory assistance for customers. Directory assistance operators and the equipment they used were costing the companies—and hence ratepayers—a lot of money, even though in most cases they were merely providing numbers that consumers could have easily looked up themselves. Even so, Fred’s proposal to institute a 10-cent charge for each directory-assistance call generated a firestorm of protest. The commission heard solemn testimony that the change would disrupt vital communication networks. Ever the pragmatist, Fred amended his proposal by adding a 30-cent credit on every subscriber’s monthly bill, paid for out of the savings made possible by the reduced volume of directory assistance calls. Opposition to the measure vanished immediately. Today, a return to providing that service without charge would seem unthinkable.

In 1977, President Jimmy Carter appointed Fred to the chairmanship of the Civil Aeronautics Board (CAB). He quickly eliminated restrictions on fares, allowed airlines to select routes of their own choosing, increased service by encouraging the entry of new low-cost carriers (e.g. Jet Blue, Midway and Southwest) that frequently operated out of airports that previously had extremely limited service, all of which significantly lowered fares (20% is frequently cited!). The following year, Congress passed and the President signed the “Airline Deregulation Act of 1978” which completed the deregulation of domestic airlines and even phased out the CAB. It also set the precedent for deregulation of the trucking industry.

Fred was quickly reassigned to the chairmanship of the newly created Council on Wage and Price Stability. The “father of airline deregulation” metamorphosed into the “inflation czar.”

Unfortunately, the position did not couple power with responsibility (which continued to reside with the Treasury and the Federal Reserve System). The Council appealed to enterprises and unions to enact “voluntary” wage and price controls but to little avail, and “stagflation” entered the lexicon.

Fred had an extraordinary facility with words and language and spoke in whole paragraphs without an “ah” or “you know.” Fred once was being cross-examined by a very polite attorney in a regulatory proceeding. At one point the attorney asked him to provide a one-sentence answer to the question that was to follow. The question was asked and Fred proceeded to expound at length, then paused to point out that his sentence had just reached a semicolon, and proceeded to complete the thought. It was just like one of many long sentences in his classic two volume *Economics of Regulation: Principles and Institutions*, a treatise that anticipated issues that were addressed by regulators decades after its publication, and contained an
enormous number of ideas (often found in extensive footnotes, so placed so as not to detract from the main theme found in the body of the text).

His candor and wit had earned him plaudits in Albany and at the CAB but rankled the Treasury officialdom, especially his use of the term “deep, deep recession” to refer to the likely consequences of the failure of firms and unions to co-operate in controlling wages and prices. He promised to desist and then subjected his critics to press ridicule by replacing “recession” with fruit as quoted in *Time*: “We’re in danger of having the worst banana in forty-five years” to indicate his view of the likely course that the economy would follow. He later changed to “kumquat” after banana companies objected. His return to Cornell in 1980 raised spirits in both venues.

Fred left footprints across the regulated tundra – airlines, electricity, ground transportation, natural gas and telecommunications. His principles were applicable across the spectrum. Shortly after becoming Chairman of the CAB he said: “I really don’t know one plane from the other. To me, they’re all marginal costs with wings.”

In the interval (1974-80) Fred had metamorphosed from a celebrated academic to a public figure commanding a world-wide audience. He was in demand as a public speaker, as an expert witness in all regulatory matters, and the recipient of numerous awards and citations among them: the Alumni Achievement Award of New York University and the Wilbur Cross Medal for Outstanding Achievement from Yale University.

He joined the consulting group, National Economic Research Associates, which included several of his former students as principals and provided expert testimony on matters related to regulatory policy, particularly relating to the airline and telecommunications industries. The collapse of major carriers during the “banana” of 2000-2003 was sometimes attributed, particularly by their management, to the Airline Deregulation Act of 1978, but no subsequent attempt to regulate the industry has “gotten off the ground.” Airlines may be crowded, and the service less satisfying, but the prices have put air travel in the reach of more and more people. Fred was rightfully proud to note that the real price of air travel has fallen since deregulation while travel has become safer. Those who worked with him became not only better economists and consultants, but better persons.

Fred loved music. He coupled that love with his sense of humor while singing (baritone) and dancing in numerous Gilbert and Sullivan operettas with the Cornell Savoyards. A seminar room in the Department of Music honors him.

Fred was always just Fred, working in his Ithaca office until just weeks before his death, traveling to speak when his schedule permitted (once lying on a table during his speech to relieve the pain in his back), dictating editorials and responses to virtually everyone who corresponded with him and greeting guests at his office in his stocking feet.
He is survived by his wife, Mary Simmons Kahn, his three children (Joel, Rachel, and Hannah), a nephew (Peter) for whom he served as legal guardian and a nation (and world) better off for his presence.

Tom E. Davis, Chairperson; Robert H. Frank, Jerome E. Hass
A central, strikingly revealing, characteristic of Michael Kammen's half-century-long scholarly career was the rapid growth of his national and international distinction, complete with the winning of a half-dozen of the nation's leading historical prizes and the presidency of the Organization of American Historians (1995-1996), while he simultaneously deepened his commitment to and affection for Cornell. Four months before his death, for example, he was invited to teach an intensive seminar in Buenos Aires about his interpretations of U.S. history to an elite group of young Argentinians. Then, on his return to Cornell, Michael temporarily left retirement to accept the History Department's invitation to teach and administer its Honors Seminar, which he had earlier done with distinction. He taught the seminar until mid-November 2013, when rapidly failing health forced him to resign. The exceptionally wide ranging scholarship delivered in numerous lectures and seminars abroad as well as in the United States, and the remarkable successes as a teacher and administrator at Cornell were two halves of his academic life, with Cornell (especially its students) enjoying much the larger half.

Born in Rochester, New York, Michael was raised in Washington,
DC. He graduated Phi Beta Kappa from The George Washington University in 1958. In 1964 Michael received his Ph.D. from Harvard University where he studied under Bernard Bailyn, a distinguished scholar of early American history. The next year he began his career at Cornell, a career marked in 1973 by his appointment to the Newton C. Farr Chair.

Michael's *vita* lists 27 books. It is a list that begins traditionally then evolves to studies analyzing subjects and approaches that throw strikingly new perspectives on American development. *A Rope of Sand: The Colonial Agents, British Politics, and the American Revolution* (1968), based on his Harvard dissertation, and *Empire and Interest: The American Colonies and the Politics of Mercantilism* (1970), became important contributions to an intense debate over the reasons for the controls the British Empire unsuccessfully attempted to impose on its rebellious New World settlers. But his interests and the range of his research quickly grew to be too large for even the British Empire. In 1971, an innovative text, *The Contrapuntal Civilization: Essays toward a New Understanding of the American Experience*, marked a major turn.

He began using his work in American colonial history to unlock fresh, telling perspectives on the nineteenth and twentieth centuries. In 1973, *People of Paradox: An Inquiry Concerning the Origins of American Civilization* (1972) won the Pulitzer Prize for history – and began its translation into thirty-three languages – for its analysis of the revealing paradoxes in American culture caused in significant part by their European origins being reshaped over several centuries in the New World's context. *A Machine That Would Go of Itself: The Constitution in American Culture* (1986) presented a unique approach to a much-studied subject by relating not the usual story of the making and political evolution of the Constitution, but how Americans over the following 200 years translated their own views, interpretations, and sometimes blatant
biases about the document's clauses to create different contexts and meanings for the original, supposedly venerated Constitution. Michael provided not only this unique approach to understanding the Constitution's history, but offered major, indeed fundamental, challenges to his contemporaries in U.S. Courts and elsewhere who insisted on interpreting the document with their doctrine of “original intent.”

The volume won the Frances Parkman Prize and the Henry Adams Prize, while becoming a foundation stone for the growing field of aptly named “memory studies.” Michael's contribution to defining the new field climaxed with *Mystic Chords of Memory: The Transformation of Tradition in American Culture* (1991), a book in which he began to apply works on American memory to the evolution of American art, a subject he had long enjoyably studied – not least through the original pieces his spouse, Carol, and he collected on their auto trips across the country. Michael next won the Popular Culture Association's Award for best biography of the year with *The Lively Arts: Gilbert Seldes and the Transformation of Cultural Criticism in the United States* (1996), a study that used Seldes to demonstrate how distinguished criticism not only helped transform certain arts in America, but could become a constructive center of debate that created wider interest in and perspectives on those arts.

Out of these studies exploring and defining the telling effects of Americans' memories (and also out of the Kammens' research on their auto trips) came the intriguing and highly readable *Digging up the Dead* (2010), in which Michael explored how the particular, and often peculiar, ideas and memories of some Americans led them to exhume famous compatriots (Jesse James, F. Scott Fitzgerald, and Frank Lloyd Wright, among others) and rebury them in places these authorities considered more appropriate.

In Michael's hands, memory could therefore exert considerable power on its subjects as well as revealing original, sometimes startling, insights into American character. In 1976, he was part of the year-long National Public Radio series that marked the Bicentennial by delineating the history of all 50 states and the
District of Columbia. Michael was elected to the American Academy of Arts and Sciences in 1979. During 1980-1981, he became the first person to hold the new visiting professorship in American history at the Ecole des Hautes Etudes in Paris. In 2009, the American Historical Association honored his extraordinary career with its Award for Scholarly Distinction.

But these impressive accomplishments seemed secondary to his commitment to the Cornell campus, its undergraduates, and his Ph.D. candidates, a number of whom became distinguished scholars in a variety of historical fields. As History Department chair in the mid-1970s, he found funding to initiate seminars that explored historical subjects not taught in the usual undergraduate classes, while emphasizing research in primary documents and sophomore level writing instruction. Out of these seminars emerged original faculty-authored books, prizewinning undergraduate essays, and a precedent for other departments. As director of Cornell's Society for the Humanities, he had the difficult task of replacing the leadership of the founding generation, but successfully continued turning the society into a national center for interdisciplinary humanities scholarship.

Michael's devotion to Cornell was uniquely exhibited when he published *What is the Good of History?* (1973), a superbly edited collection of Carl Becker's letters. Becker, an iconic Cornell historian who died in 1945, had provided a widely accepted motto for Cornell (“freedom and responsibility”), while challenging and redefining basic tenets of the historical profession. He had done so with an unmatched writing style that provided attractive camouflage for his trenchant observations, including the phrase that Michael used for his collection's title. Michael told one of his graduate students that even after completing his Ph.D. at Cornell, both he, the doctoral candidate, and his mentor would still be continuing their search for an answer to Becker's question.
In 1991, Michael seemed to confirm this opinion when he wrote, “What people believe to be true about their past is usually more important . . . than truth itself.” That obviously did not mean, however, that historians should give up the Sisyphean labor of making the record more accurate while noting where personal biases had distorted it. Michael made landmark contributions to exploring, and explaining, that record by investigating some three hundred years of American origins and cultural evolution in his books. He also did so by providing historical perspectives on contemporary issues in his many articles and book reviews written for public

All of this came from a gregarious person who enthusiastically (and sometimes engagingly critically) enjoyed theater, music, and sports as well as history and art, and with Carol did so in Ithaca as well as far outside that community. Michael explored those interests with a bottomless curiosity and an obvious passion that helped lead to an ever widening circle of friends, while setting a rarefied intellectual standard for the many students in his classes and the readers of his books and articles. David Blight, president of the Society of American Historians, recalled that “Most of all, he was simply a prince of the profession who supported younger scholars of all kinds. . . . He was a beautiful, decent man of deep humanity.”

His accomplishments at Cornell and far beyond the campus were remarkable, but two close, long-time friends testified that “his devotion to his family trumped everything else.” His spouse, Carol Kammen, an internationally recognized scholar of local history whose publications include significant histories of Cornell and Ithaca, survives, as do their older son, Daniel, the Class of 1935 Distinguished Professor of Energy at the University of California-Berkeley; their younger son, Douglas, Assistant Professor of Southeast Asian Studies at the National University of Singapore; Michael's sister, Edith; and three grandchildren.

Michael's ashes are buried close to the graves of Moses Coit Tyler and Carl Becker. Their careers shaped much of Cornell's 150-year history, just as their work became distinguished parts of that era's historical scholarship.

*Walter LaFeber, Chair; Richard Polenberg; Joel Silbey*
Carol V. Kaske, Professor Emerita of the Department of English, Cornell University, died at Cayuga Medical Center on June 15, 2016, at the age of 83. Born Carol Margaret Vonckx to J. Newell and Frances M. (Fitchie) Vonckx in Elgin, Illinois, on February 5, 1933, Carol received her B.A. from Washington University, St. Louis (1954), her M.A. from Smith College (1955), and her Ph.D. from Johns Hopkins University (1964). Carol married Robert E. Kaske (deceased in 1989), a professor of medieval literature, in 1958. Prior to moving to Ithaca, the Kaskes lived in Urbana, Illinois, and in Chapel Hill, North Carolina. An accomplished violinist and pianist, Carol considered a career as a professional musician before deciding on English literature, although her love of music remained strong. Often she would play in impromptu groups with friends.

During a teaching career that spanned from 1963 to 2008, Carol specialized in English literature of the late Middle Ages and Renaissance. She was particularly noted for her work on The Faerie Queene by Edmund Spenser on whom she published a number of important papers and a book Spenser and Biblical Poetics (Cornell University Press, 1999); her papers and book have been and continue to be widely cited and Carol was and is recognized as a major scholar in the field of English Renaissance literature. Her interests extended beyond this field, however, in that she published on Chaucer, Dante, Le Roman de la Rose, and Malory. Carol is also known for a scholarly edition and translation of Marsilio Ficino's Three Books On Life (1989, with John R. Clark) and an edition of Spenser's Faerie Queene, Book I (2006). Carol’s scholarship was characterized by meticulous accuracy and wide ranging learning and in addition to being a productive and widely respected scholar herself, Carol was supremely generous in helping students and colleagues in their work. Her assistance ranged from helping to edit colleague’s papers, to sharing her own wide learning and allowing and encouraging younger scholars to have access to the Kaskes’ personal scholarly library, arguably one of the best private scholarly libraries in North America.

One of Carol’s colleagues, who was chair at the time, recommended Carol for a teaching award in the following paragraphs:

The generosity that shines through in these [student] letters is something that will be recognized by any colleague who has ever had occasion to call
on Carol as collaborator, sounding-board, or source of information. Once
she knows what you are interested in she will go to tremendous lengths to
track down information that might prove useful to you, and to show her a
piece of one’s writing is to go back to school in the best sense of that
phrase. Like another wonderful teacher, Neil Hertz, she inhabits the
margins of other people’s writing as a sort of benevolent spirit, unfailingly
resourceful, honest and conscientious, and months later she will leave you
a note about some point in your argument that she has thought some more
about, or on which she has discovered new information.

And unlike many learned Cornellians, Carol invites others to respond in
the same way to her own thoughts and words. She is, I think, a genuinely
humble person, every bit as ready to learn as she is to teach, and ready to
learn from the greenest of her students. Everyone Carol meets is a
potential colleague, and this makes her a colleague of a unique and
wonderful kind.

Carol started her career teaching at Cornell as an instructor and then a
lecturer; but she was promoted to assistant professor in 1973, to associate
professor in 1985, and she was promoted to full professor in 1992. In
2002 she offered a special summer course on Malory for the Telluride
Association at Cornell. Carol was a member of the Renaissance Society of
America, Modern Language Association of America, and the International
Association of University Professors of English. Her colleagues in
Spenser studies honored her by selecting her to deliver the 2010 Kathleen
Williams Lecture for the Spenser at Kalamazoo Society at the 45th
International Congress on Medieval Studies, Western Michigan
University. During the same conference, Carol's friends and former
students held three special sessions celebrating her scholarship and
teaching. In 2012 the Spenser at Kalamazoo Society funded a graduate
student award in her name. After her retirement from Cornell, Carol was
active in the Cornell Association of Professors Emeriti (CAPE) and the
Cornell Retirees Association (CRA), fostering the continued intellectual
growth of their members and performing community service in the Ithaca
area.

Bob and Carol Kaske’s annual parties for students and friends of Medieval
Studies at Cornell were legendary, as were their dogs—first Rex and then
Wolf—encounters with whom figure in many stories told by house guests.
For the past thirty-odd years, Carol enjoyed weekly lunches with Ithaca
and out-of-town friends at the Statler Club, at the Corners Deli, then at JJ's
Café, and finally at Friends and Pho. Carol had a life-long love of travel.
In her 70's she made solo lecture trips to Japan and China, and with her
cousin Anne she visited the Belgian town from which the Vonckx family
originated.

Carol was a profoundly optimistic and friendly person who made friends
easily. She was beloved by her many friends, colleagues, and students, and
by the residents and staff of Old Hundred and of Bridges Cornell Heights,
her final home. She is survived by a son, Richard, of Ithaca; a sister,
Sylvia, of California; and cousins Paul "Skip" Vonckx of Washington and
Anne Weaver of Massachusetts.
Thomas D. Hill, Professor of English and Medieval Studies, chair; Alice M. Colby-Hall, Professor of Romance Studies, Emerita; and Winthrop Wetherbee, Professor of English, Emeritus
Judith Kellock, Professor of Music, died in Ithaca on March 27, 2015 from complications following cancer surgery. She was 64. Kellock was a beloved and active member of the Cornell music faculty, which she joined in 1991, and an enthusiastic participant in Arts College and University events campus-wide. She taught voice performance to generations of students and participated in numerous recitals and concerts. Her last performance on campus was a midday recital in Lincoln Hall on December 4, 2014: “Love, Loss, and Longing: The World of 19th-Century German Song.” She is survived by her brother James and a nephew, James Albert.

Professor Kellock was lauded in the press as “a singer of rare intelligence and vocal splendor, with a voice of indescribable beauty.” According to the Boston Globe, to listen to her voice "was to be plunged into another world, one of outright, risk-taking virtuosity, extremes of range and color." She sang with the Cayuga Chamber Orchestra and the St. Louis Symphony, the Minnesota Orchestra, the Brooklyn Philharmonic, the New World Symphony, the Limburg Symphony Orchestra, the Honolulu Symphony, the Pro Arte Chamber Orchestra and the Greek Radio Orchestra, among other ensembles in the United States and Europe. She performed major operatic roles in Italy and Greece, toured with the Opera Company of Boston, and performed with the Mark Morris Dance Company in Brussels. Her honors included a National Endowment for the Arts recitalist fellowship, which led to a string of innovative song recitals in California.

She also led master classes at institutions from Prague to San Francisco and gave voice lessons in New York at her studio in Jackson Heights. Also in Jackson Heights she launched an innovative grass-roots series at the Renaissance Charter School, "Chamber Music for the Neighborhood, celebrating the diversity and energy of Queens." As The New York Times reported, "The soprano Judith Kellock has been producing concerts in Jackson Heights since 2005, usually including music that reflects the neighborhood’s Indian, Latin American and gay residents." The series included local performers but also outsiders whom residents of the district hoped to hear in person. For instance, in 2012 she arranged for “an ambitious event: the world premiere of the first act from “Agni Varsha” (Fire and Rain), an opera by the veteran Bollywood composer Vanraj Bhatia,” who flew in from Mumbai for the occasion.
“It goes without saying that Judy was an important artist – one of the very few equipped to carry on the legacy of her own teacher, the great American mezzo Jan DeGaetani, in art song, in vocal chamber music and in championing the living American composer,” said Steven Stucky, Given Foundation Professor of Composition emeritus. “But more importantly, on a personal level with her colleagues and friends, she was warm-hearted, passionate and fiercely loyal. The outpouring now of love and grief from her legions of students reminds us that she was a teacher of rare gifts, utterly dedicated to passing on the secrets of her craft and to bolstering her students’ integrity and confidence. As a mentor and friend, she set a standard we can all aspire to but few can match. Her passing leaves a hole in the lives of so very many – scores of lives she changed decisively for the better.”

Assistant Professor of Music Roger Moseley adds: “My favorite memory of Judy is from the semester we taught a class on Lieder together. She hosted a dinner party attended by Johannes Mannov, a visiting Danish baritone who took part in the class, his wife Adrienne, my wife, Associate Professor of Classics Verity Platt, our twin three-year-old boys, and me. There was torrential rain that evening and Forest Home was hit by a blackout, throwing Judy's dinner plans into darkness and disarray. What amazed and amused us all about Judy that evening was the effortless panache with which she took this major disruption in stride: we grilled fish outside by candlelight as she told the boys stories before indulging them with deliciously soft ice cream. What could have been a disaster turned into an adventure.

“Poise under pressure, imagination, and generosity: these qualities were typical of Judy as an artist as well as a colleague and friend. Although I miss her intense devotion to her craft and her deep knowledge of her repertoire, I will always remember them. It was a profound pleasure to work and play alongside her.”

“Judy was one of the most positive and generous people I know, always looking for new approaches and creative projects that included friends and colleagues,” said pianist Xak Bjerken, professor of music. “Her singing was emotionally committed and expressive, and she was beloved by her students and by her many friends here in Ithaca and afar. Those who knew her and worked with her are left heartbroken.”

Professor Kellock held a master of music degree from Boston University. A primary influence in her musical life was the late Jan DeGaetani, with whom she studied for many years. Other teachers included Grace Hunter, Hazel O’Donnell, Phyllis Curtin at Tanglewood, and Wilma Thompson at Boston University.

On Monday, April 20, 2015, in Barnes Hall Auditorium, the Department of Music presented “A Concert for Judy.” Among the tributes on stage, five of Judy’s former students who are now professional singers — Arsenia Soto Brickley, Brian Ming Chu, Terence Goff, Jamie Jordan and Nathaniel McEwen — returned to campus to honor their mentor by performing some of her favorite vocal works. “Losing Judy creates a void in our hearts and in our department,” said Roberto Sierra, interim chair of the Department of Music. “She was a beloved teacher and colleague, and her artistry graced our stages for over two decades.”

Judy's repertory was wide and deep, but she especially championed 20th Century Music and young composers and performers, influencing the lives and careers of her many students at Cornell. She was a founding member of Ithaca's new-music group, Ensemble X.
Composer Kevin Ernste, associate professor of music, created his own memorial to Judy: a new composition using the sounds of her recorded voice. As Ernste explains, his piece was an electronic interpretation of the Cornell chimes stretching, manipulating and filtering the last five notes of the alma mater to produce new sounds and harmonies. Added to the mix was Professor Kellock's voice.

“The melody was constructed, note-by-note, from a combination of source recordings, projects that [Judy] and I worked together on over the years. I specifically sought to undermine any perceptible language, transcending words in order to more directly convey the indelible timbre of her unique voice. I was pleased to discover that many of my colleagues and students, those close to her, immediately recognized the source.

“The idea of using Judy's voice was one that I couldn't avoid. It anchored the piece, for me, in people and work, rather than the institution. Or perhaps I simply needed the joy of performing with her one last time, something my particular form of expression, with electronic sounds, makes possible.”

As Ernste's description reminds, Judy's voice is still with us on her recordings. They include The Astronaut's Tale, an opera by Charles Fussell, as well as the music of Samuel Barber, Paul Hindemith, Lukas Foss, Steven Stucky, Roberto Sierra, Judith Weir, Arthur Berger, Chen Yi, Toshio Hosokawa, Donald Womack, Peter Askim and Lawrence Moss. Those who wish to listen to Judy might begin with her Grammy-nominated disk of Paul Hindemith's song cycle, Das Marienleben, continue with Roberto Sierra's Cancionero, Steven Stucky's In Shadow, in Light, David Dies' Agevolmente or Samuel Barber's song cycle, Everything but the Hermit; then move on to Lucas Foss's Complete Vocal Chamber Music or Dan Welcher's Vox Femina, Seven Songs of Poems of e. e. cummings, The Bequest and Harbor Music. These recordings are available commercially and may also be sampled in Cornell's Sidney Cox Library of Music and Dance.

Neal Zaslaw, chair; Roberto Sierra, Steven Stucky, Xak Bjerken, Kevin Ernste, Roger Moseley
Professor Michael C. Kelley, pioneer of electric field measurements in space, renowned expert on the physics of the ionosphere, inspiring teacher and mentor, died peacefully in Ithaca, New York on June 23, 2018. He was 74.

Mike was born on December 21, 1943 in Toledo, Ohio, and grew up in Toledo and Detroit, Michigan. He attended Kent State University from 1961 to 1964 on an athletic scholarship, playing varsity basketball and majoring in mathematics. At Kent State, he won the Bordon and Manchester awards as outstanding Freshman and Senior man, respectively. Mike spent two summers at the Woods Hole Oceanographic Institute and then carried out graduate studies in the Physics Department of the University of California at Berkeley, earning his Ph.D. in 1970. In subsequent years, he was a post-doctoral researcher at Berkeley and held an appointment as a Von Humboldt Fellow with Gerhard Haerendel at the Max-Planck-Institute in Garching, Germany. In January 1975, he joined Cornell University as an Assistant Professor, advancing to full Professor in 1982.

A fervent experimentalist, Mike frequently combined measurements gathered with instruments carried into space on NASA sounding rockets with observations from NSF ground-based incoherent scatter and coherent scatter radars, consistently using the integrated scientific data to address unanswered questions regarding important physical processes. To this end, Mike led numerous NASA/NSF campaigns to international sites such as Peru, Puerto Rico, the Marshall Islands, and Greenland and was known for organizing multi-faceted research activities within the wider scientific community. In his career, Mike provided electric field experimental hardware and/or analyzed results from over 70 sounding rockets, 4 satellites, and numerous balloon flights.

During his distinguished career, Mike published more than 400 articles in the refereed literature. Mike literally "wrote the book" on the ionosphere, having authored "The Earth's Ionosphere: Plasma Physics and Electrodynamics," a seminal text now in its second edition with Academic Press. In addition, he wrote several monographs including one entitled, "The Earth's Electric Field: Sources from Sun to Mud," published by Elsevier in 2013 (written with R. Holzworth) as well as many reviews and articles for the general public including "Plasma: The Fourth State of Matter," for the Encyclopaedia Britannica.
Mike received many distinguished awards including the James B. Macelwane award from the American Geophysical Union. He gave the AGU Nicolet lecture in 2011 and received numerous teaching awards from Cornell and the IEEE. In 1998, Mike became a Weiss Presidential Fellow, and in 2001, he was elected the James A. Friend Family Distinguished Professor of Engineering. Mike was an associate of the National Academy of Sciences and was chair of the National Academy of Sciences Committee on Solar Terrestrial Research and co-chair of the National Research Council Heliophysics Decadal Survey Subcommittee on Atmosphere-Ionosphere-Magnetosphere Coupling.

Beyond his many scientific achievements, Mike's legacy includes legions of graduate students whom he mentored including 28 Ph.D. students, many of whom stayed in the field and are now professors themselves. He was extremely open-minded and had an infectious enthusiasm for science and experimental research that stayed with him his entire life.

Mike is survived by his wife, Patricia, of 52 years, his three children Scott (Varykina), Brian (Elizabeth), and Erica, three grandchildren (Aidan, Owen and Amelia), and his brother Edward Arthur Kelley, Jr. Mike and Pat were very active in the regional foster child program and were parents to nearly a dozen foster children.

Written by David L. Hysell (chair) and Robert F. Pfaff
W. Keith Kennedy, professor emeritus and Provost emeritus, spent most of his professional life as a researcher, teacher, and administrator at Cornell University. He followed a very productive teaching and research career with an exceptional administrative career at Cornell. He died on February 18, 2011 at the age of 92 in Ithaca, NY. He is survived by two adult sons and their families.

Keith Kennedy was born January 4, 1919 in Vancouver, Washington, and was raised on a diversified farm in western Washington. In 1940, after receiving a B.S. degree from the State College of Washington. He received the scholarship trophy for the top freshman in the College of Agriculture and graduated with highest honors. He began graduate work at Cornell in 1940, and obtained an M.S. degree in Agriculture in 1941. He began work toward a Ph.D. degree, but then entered the U.S. Army in 1942 as 2nd Lieutenant in the infantry. He rose from Platoon leader to Company Commander to Battalion Commander during his tenure. He obtained the rank of Major in 1945 and was released from the service in February, 1946, with two commendations and an efficiency rating of excellent. Returning to Cornell, Keith received his Ph.D. in agronomy in 1947, with minors in animal nutrition and plant breeding. His Doctoral thesis was a study of the effect of different pasture management practices on the yield, botanical composition and chemical composition of pasture herbage. In August, 1947 Keith joined the faculty of Washington State College. He turned down a Cornell job offer that included a salary ($4,500/year) significantly lower than his Washington State salary, but Dr. Richard Bradfield persisted and Keith was hired by Cornell as an Associate Professor of Agronomy in 1948. He was promoted to full professor in 1949.

During his early research years, Keith focused on methods of preservation of hay, silage and grain, and on increasing production of pasture and forage crops through improved management. He was a leader in the development of cooperative forage research by the Departments of Agronomy, Animal Science, and Plant Breeding, and was a life-long advocate of the interdisciplinary, problem-solving approach to research. He worked in New Zealand as a Guggenheim Fellow and Fulbright Research Scholar in the 1950s, and achieved international recognition for his research in forage crop production, preservation, and use.
Keith moved into administration in 1959, and remained in various Cornell administration positions for 35 years. He became the Associate Director of Research for the College of Agriculture and the Associate Director of Cornell University Agricultural Experiment Station in 1959. Three months later he was named Director of Research and Director of the Agricultural Experiment Station. In July 1965 he was appointed Associate Dean of the NYS College of Agriculture and in 1967 he was named vice-provost of the university. In 1972 he began a six-year term as Dean of the newly named College of Agriculture and Life Sciences. In 1978 he was named University Provost, and remained at that position until his retirement in 1984.

Keith Kennedy’s contributions to Cornell University and the College of Agriculture and Life Sciences are immeasurable. In retirement Keith continued to serve the university as acting dean of admissions and financial aid. He was a vice-president of the Atlantic Philanthropic Service Company, Inc., in Ithaca, and was active on behalf of numerous non-profit agencies in the Ithaca area. He received Cornell’s Frank H.T. Rhodes award for Exemplary Alumni Service in 2010. He also received a Lifetime Achievement Award from the Cayuga Medical Center at Ithaca, and the Agda Osborne Award from Family and Children’s Service of Ithaca.

Kennedy Hall was dedicated in 1990, a tribute to W. Keith Kennedy, as one of the great builders of Cornell and the College of Agriculture and Life Sciences. Keith stated his philosophy of administration clearly.

An administrative organization can do one of two things. It can make a lot of rules and regulations or it can provide facilities and funds to aid individuals. We try to avoid the rules and provide the help.

These words reflected Keith’s attitude and leadership skills. His administrative talents lead both the university and the College of Agriculture and Life Sciences through several decades of unprecedented growth. His vision and dedication helped create the multifaceted intellectual environment that today makes Cornell one of the world’s great teaching and research universities. Keith Kennedy’s unfailing honesty and integrity won him the admiration and respect of all who knew him.

Jerry Cherney, Chairperson; Ralph Obendorf, Gary Fick
Kenneth Adrian Raine Kennedy, professor emeritus of physical anthropology in the Department of Ecology and Evolutionary Biology died on April 23, 2014 in Ithaca after fifty years on the Cornell faculty. Professor Kennedy was an internationally known figure in the paleoanthropology and prehistory of South Asia who also made significant contributions to skeletal biology, forensic anthropology and the history of evolution and biological anthropology.

Professor Kennedy was born in Oakland, California in 1930. He entered the University of California at Berkeley in 1949 where he received bachelor’s (1953) and master’s degrees in anthropology (1954). In 1958, after a hiatus to discharge his military service obligation, he returned to Berkeley for a Ph.D. which he received in 1962. During his time at Berkeley which he remembered as “the golden age of paleoanthropology,” he was able to work with many
of the now legendary figures in twentieth century anthropology including Robert Lowie, John Heiser, Sherwood Washburn and others. It was at Berkeley as well that he established a life-long relationship with Theodore D. McCown, mentor, collaborator and friend with whom he co-edited Climbing Man’s Family Tree: A Collection of Major Writings on Human Phylogeny (1972).

Professor Kennedy’s Ph.D. dissertation research focused on fossil skeletal remains from Sri Lanka held by the British Museum. This work, undertaken in London, would seem at first glance to have been a somewhat solitary enterprise that might have foreshadowed an armchair career. It was actually the gateway to his energetic orchestration for decades to come of an ever widening set of collegial and mentoring relationships throughout the world and further to in situ field experiences in Sri Lanka, India and Pakistan.

As his student Angela Lieverse (Ph.D. 2005) wrote in connection with a special festschrift symposium held in his honor at the meetings of the American Anthropological Association in 2008, “the scope of Kennedy’s work has been nothing short of astonishing, ranging geographically from Sri Lanka in the southeast to Pakistan in the northwest and spanning extensive temporal periods from the Miocene (the anthropoid apes of the Siwalik hills) through the middle Holocene (Harappa, the Indus Valley Civilization).” A prolific publication record which included 200 articles and book chapters, 21 books and monographs and scores of books reviews cemented his place on the center stage of his field. He would become publicly remembered as “the father of human paleontology in South Asia” by his colleagues in India who held a special condolence meeting at Deccan College, Pune shortly after he died. Of his many works, he was best known for God-Apes and Fossil Men: Paleoanthropology of South Asia (2000) Ann Arbor, University of Michigan Press. This work, which surveys the prehistoric cultures of the South Asian region from multiple disciplinary perspectives, won the 2002 W.W. Howells Prize from the Biological Anthropology Section of the American Anthropological Association.
As a medical forensic expert, certified as a Diplomate of the American Board of Forensic Anthropologists, Professor Kennedy contributed significantly to the study and identification of skeletal remains throughout New York State. Perhaps the most famous of his on-campus applications of forensic science was his study of the skeletal remains of an Egyptian mummy that had been donated to Cornell in the 1880s, unwrapped and then exhibited on campus for many years, and eventually defleshed in the 1960s leaving the disarticulated bones (still held in the Anthropology Collections). The inscription on the sarcophagus identified this individual as a court scribe named Penpi, from the Third Intermediate period (c. 828-665 BCE). The exercise identified possible disease issues from the skeletal remains, and suggested a more Mediterranean genetic heritage on the basis of statistical assessment of measurements.

After completing his dissertation at Berkeley, Kenneth spent two years on a National Science Foundation fellowship at Deccan College, Pune with which he maintained a close association over the next fifty years. He was appointed as an assistant professor at Cornell in 1964. With brief interruptions for academic research leaves that took him to other institutions, especially to museum collections and to collaborative fieldwork sites in South Asia, he remained at Cornell for the rest of his professional career. His spring 2005 election to emeritus professor of Ecology and Evolutionary Biology, Anthropology, and Asian Studies was celebrated with tributes from students and colleagues who came from far and wide to attend a memorable reception at the Cornell Andrew Dickson White House.

Professor Kennedy’s outstanding experience as a student at Berkeley may well have shaped the unique and generous teaching and mentoring style that he brought to Cornell. His close colleague, Professor Michael Little of Binghamton University has called him a “warm and generous mentor who was committed to teaching, education and maintaining high standards for student’s work, work that he set by his own example.” Over the years, he taught a range of general and specialized courses in biological anthropology at both the graduate and undergraduate levels to thousands of students. Students who enrolled in his graduate seminars often recall the
hospitality extended to them by Kenneth and his wife Margaret. Many evening sessions were held at his house in Ellis Hollow where students would sit around his office fireplace sipping cider or sherry as they discussed the topic of the week. Then the evening would conclude with coffee and sweets – with cake baked specially by Mrs. Kennedy, as students were sent on their way.

Professor Kennedy supervised eleven doctoral dissertations in biological anthropology while at Cornell covering a wide range of topics, time periods and locales. These graduate students who eventually went on to establish careers of their own were given a sense of their place in the intellectual stream. They shared an ethos, imbued by Professor Kennedy, of a certain academic world view. It included a penchant for collaborative and multidisciplinary work, and an appreciation of the history of the field and a respect for the work of those scholars who had preceded them.

A review of Professor Kennedy’s professional life would not be complete without mention of his contributions to forensic anthropology which was often a subject of fascination to a general or popular audience. By examining a skeleton post-mortem, it was said that he could assess the physical stresses and perhaps even the occupation or habits of the person in life (in his case, violin playing) He served as an expert witness and analyst for law enforcement on forensic cases throughout the northeastern United States in the later stages of his career. In 1987, he was awarded the T. Dale Stewart Award by the American Academy of Forensic Scientists. This particular dimension of his work formed the basis of numerous, popular summer courses that he offered at Cornell’s Adult University to audiences of non-specialists between 1982 and 2000.

Professor Kennedy was married for 44 years to his second wife Margaret Carrick Fairlie Kennedy. In addition to her reputation as a baker of cakes, she was an accomplished filmmaker as well as a composer who shared his life-long love of music and his research interests in South Asia. She predeceased him by five months.

Bonnie Graham MacDougall; Jere D. Haas; Frederic W. Gleach
Harry Kesten, Ph.D. ’58, the Goldwin Smith Professor Emeritus of Mathematics, died March 29, 2019 in Ithaca at the age of 87. His wife, Doraline, passed three years earlier. He is survived by his son Michael Kesten ’90.

Through his pioneering work on key models of Statistical Mechanics including Percolation Theory, and his novel solutions to highly significant problems, Harry Kesten shaped and transformed entire areas of Mathematics. He is recognized worldwide as one of the greatest contributors to Probability Theory during the second half of the twentieth century. Harry’s work was mostly theoretical in nature but he always maintained a keen interest for the applications of probability theory to the real world and studied problems arising from other sciences including physics, population growth and biology.

Harry was born in Duisburg, Germany, in 1931. He moved to Holland with his parents in 1933 and, somehow, survived the Second World War. In 1956, he was studying at the University of Amsterdam and working half-time as a research assistant for Professor D. Van Dantzig. As he was finishing his undergraduate degree, he wrote to the world famous mathematician Mark Kac to enquire if he could possibly receive a graduate fellowship to study probability theory at Cornell, perhaps for a year. At the time, Harry was considered a Polish subject (even though he had never been in Poland) and carried a passport of the international refugee organization. A fellowship was arranged and Harry joined the mathematics graduate program at Cornell that summer.

During the year 1957-58, Harry held the Erastus Brooks Fellowship in Mathematics and, at the end of his second academic year at Cornell, he defended a thesis in which he created a new research area, random walks on groups. This remains a very active area of scholarship around the world today. It is an understatement to say that Harry impressed his Cornell professors during the two years of his graduate studies.

Upon earning his Ph.D., he married Doraline (they had met earlier, in Amsterdam), and took a one-year instructorship at Princeton. For the next year, he accepted a position at the Hebrew University in Jerusalem. Indeed, Harry had long thought about emigrating to Israel.
The couple had barely received their furniture and unpacked in Jerusalem when Harry received a letter from R. Walker, the chair of Mathematics at Cornell, indicating the department’s strong desire to bring Harry back at the earliest possible time.

After two fruitful years at the Hebrew University, Harry accepted a visiting assistant professor position at Cornell and returned in the fall of 1961. In May 1962, he was promoted to the rank of associate professor. Despite being sought out by other institutions, he stayed at Cornell for his entire career.

The story of Probability Theory at Cornell, from Mark Kac’s arrival in 1939 to the recent deaths of Eugene Dynkin and Harry Kesten, is one of extraordinary excellence and achievements. The year 1961-62 was pivotal with the departure of Marc Kac and the arrival of Harry Kesten and Frank Spitzer who would form the backbone of the Probability Group for thirty years. Harry was promoted to the rank of full professor in 1965 and became the Goldwin Smith Professor of Mathematics in 1999. He retired in 2002 and remained very active until he was weakened by health issues. He enjoyed working with younger colleagues and they enjoyed working with him.

Harry has been described as one of the greatest problem solvers in Probability Theory and his technical power and ability to bulldoze seemingly insurmountable difficulties is legendary among those who have worked closely with him. But his work has also provided essential building blocks for further studies. Some of the most active areas of current research in probability have been shaped by his contributions.

The theory of random walk on groups, the subject of Harry’s thesis, is a singular point in his body of work. Even though Harry’s two main papers on this subject are, today, among his most cited, it took one or two decades before others started to build upon Harry’s ideas on this subject. The problem of recurrence (classifying those groups on which a random walk returns to its starting point infinitely often with probability 1), a problem known as Kesten’s problem, was only solved in full generality by N. Varopoulos in 1985. During the years he spent in Jerusalem, Harry collaborated with Hillel Furstenberg on products of random matrices, a related subject whose applications are ubiquitous. He also tackled a variety of hard problems that impressed those who came into contact with him. The legendary mathematician Paul Erdös wrote to the department in 1962 “he is, in fact, one of the best young mathematicians I know.”

At Cornell, Harry and Frank Spitzer embarked on a long lasting collaboration and friendship that produced eight articles including several landmark works, in particular around the theory of random walks on abelian groups. Meanwhile, both became involved in rather different ways in studying models related to Physics and Statistical Mechanics. Spitzer developed the subject of particle systems whereas Harry tried his hands at some of the simplest and hardest models for random phenomena studied by physicists. He worked on self-avoiding random walks, branching processes (with Stigum, and Ney and Spitzer), growth models such as diffusion limited aggregation, first passage percolation, random walk in a random environment (with Kozlov and Spitzer) and, last but not least, percolation theory.

Here, percolation refers to an idealized model aimed at understanding the phenomenon of a substance percolating through a porous medium. Examples of real life interest vary from the making of your morning coffee to the confinement of nuclear waste and brine percolation through sea ice (salinity is an important measurable factor from which the thickness of the ice sheet and other key properties can be inferred). A simple description of the model goes as follows. Consider the square lattice in dimension two or higher. Now, imagine that each edge of this lattice is a conducting channel that is either left open with probability \( p \), or removed with probability \( 1 - p \), independently. If \( p = 0 \), all edges are removed and the lattice becomes a set of isolated nodes. If \( p = 1 \), all edges are open and it is possible to start at the origin and percolate to infinity. One question is to decide, for a given \( p \), if percolation to infinity can
occur. In fact, there is a critical value $p_c$ so that for $p < p_c$ there is no percolation and for $p > p_c$ percolation does occur. Computing the critical value $p_c$, in a given dimension, is a difficult challenge. Harry’s 1980 landmark paper on the subject is titled “The critical probability of bond percolation on the square lattice equals ½.” It solves the problem in dimension 2 while the values of $p_c$ in dimension 3 or higher remain unknown to this day. Harry’s book “Percolation theory for mathematicians” published in 1982 laid out the foundation of the mathematical theory of percolation models. His work on critical exponents and other deep aspects of percolation theory remains extremely significant and influential in today’s research.

Through his work and his collaborations around the world, Harry has touched many a mathematician’s career. He supervised the work of 18 graduate students including one at the Hebrew University, fourteen from the Cornell Mathematics Department, and one each in Operation Research, Electrical Engineering, and the Center of Applied Mathematics.

The International Congress of Mathematicians has been organized every four years since 1896 and being invited to speak at the Congress once in one’s career is one of the most coveted honors among mathematicians. Harry was invited on three occasions to speak about his work. In 1970, in Nice, France he spoke on “Hitting of sets by processes with independent increments.” In 1983, in Warsaw, Poland he spoke on percolation. In 2002, in Beijing, China he gave one of twenty plenary lectures, speaking on “Some Highlights of Percolation.” He also spoke at the 2012 Congress, in Hyderabad, India on the work of Stanislav Smirnov who was awarded the Fields Medal for his work on percolation models and conformal invariance.

Harry’s work and achievements earned him many honors. He held a Sloan Fellowship and a Guggenheim Fellowship, he delivered the Hedrick Lecture (Mathematical Association of America) and the Rietz and Wald Lectures (Institute of Mathematical Statistics). He was a recipient of the Brouwer Medal from the Royal Dutch Mathematical Society (1981), the George Pólya Prize from the Society of Industrial and Applied Mathematics (1994), and the Leroy P. Steele Prize for life time achievement from the American Mathematical Society (2001). He was a Fellow of the Institute of Mathematical Statistics, an inaugural Fellow of the American Mathematical Society, a Correspondent Member of the Royal Dutch Academy of Sciences (1980), a Member of the National Academy of Sciences (1983), and a Fellow of the American Academy of Arts and Sciences (1999).

In Ithaca, Harry rode his bicycle over the hilly landscape. A member of the Ithaca swim club, he swam regularly, always with a gentle constant rhythm. He loved really long walks. A fearless, powerful mathematician, he was also discreet and modest. He followed his Jewish faith. He spoke publicly on behalf of mathematicians around the world who are oppressed. In the mathematics department, at Cornell, and around the world, he was a beloved and much admired colleague.

Written by Laurent Saloff-Coste (chair) and Len Gross
Paul Kintner, Professor of Electrical and Computer Engineering, was born in Decatur, Illinois, and he died at age 64 of pancreatic cancer at his home in Ithaca, New York while still very active in his studies of space physics and space weather.

Paul received a B.S. degree in Physics from the University of Rochester in 1968 and a Ph.D. degree in Physics from the University of Minnesota in 1974. He then became a Research Associate (1974-76) in the Space Physics group at the University of Iowa, which was led by James Van Allen, namesake of the Van Allen radiation belts.

In 1976 Paul came to Cornell as a Research Associate in the School of Electrical Engineering (now Electrical and Computer Engineering). He became an Assistant Professor in 1981, an Associate Professor in 1985, and a full Professor in 1991. He was a Fellow of the American Physical Society, and he served as a Jefferson Science Fellow at the U.S. Department of State during the 2009-2010 academic year until his cancer was diagnosed. He founded the Cornell GPS (Global Positioning System) lab in 1998.

At the time of his death, Paul had been a Cornell researcher for 34 years and a Faculty member for 29 years. Along the way, he served the University, College of Engineering, and his School in a wide range of capacities, notably three years as Associate Director of the School of Electrical and Computer Engineering.

He was a devoted family man and an avid runner and outdoorsman. At conferences and on research trips he would often go running with colleagues or graduate students. He made time to be a regular spectator at his children's athletic events. He loved to go camping, hiking, fishing, canoeing, and sailing with his family.

Paul is survived by his wife, Constance Bart Kintner, and their four children: Douglas T.S. Kintner of Oakland, CA; Paul M.S. Kintner, a senior at the University of Rochester; Robert Bart,
studying law in Portland, Oregon; Rebecca Bart of Berkeley, California; son-in-law Kater Murch
and grandson West Bart Murch, also of Berkeley, California. Also surviving are his father, Dr.
Paul M. Kintner, Sr. and mother Vivian Kintner of Hendersonville, North Carolina; brothers
Douglas Kintner of Sun Prairie, Wisconsin, and Christopher Kintner of Delmar, California, sister
Victoria Kintner Griswold of Indianapolis, Indiana, and several aunts, uncles, nieces and nephews,
many of whom he was able to visit in his final months. He was predeceased by his first wife,
Janet Rae Smith-Kintner.

Paul was a pioneer in studies of Earth’s space environment and of space weather. His discoveries
from in-situ rocket measurements about plasma waves in space, wave-particle interactions,
nonlinear structures, irregularities, and radio wave propagation in random media revealed how
ionospheric heavy ions are injected upward from altitudes of a few hundred kilometers into the
magnetosphere well above one thousand kilometers. His GPS work, beginning in the mid-1990s,
characterized the sometimes catastrophic effects of scintillations produced in the ionosphere on
satellite navigation systems, e.g., the Global Positioning System (GPS).

Paul developed the technique of multiple-sensor electric field and plasma wave measurements on
sounding rockets and satellites, and he used these sensors (together the multiple sensors are
sometimes called a plasma wave interferometer) to characterize plasma waves by their
wavelengths and wave vectors and to identify new solitary structures in space plasmas and describe
their characteristics. This interferometer was particularly useful in investigating transverse ion
acceleration in the polar ionosphere. In a decisive sounding rocket experiment (called Sounding of
the Cleft Ion Fountain Energization Region, or SCIFER) in 1995 at 1400 kilometers over Svalbard,
Norway, Paul showed that the principal source of this acceleration (the source of mass in the
magnetosphere) is short-wavelength broadband waves. He is also credited with discovering lower
hybrid solitary structures and describing them as rotating modes in magnetic field-aligned density
cavities that produce transverse ion acceleration. He extended the approach to higher frequencies
and was the first to measure the speed and shape of electron solitary holes -- Bernstein-Greene-
Kruskal (BGK) modes. The SCIFER rocket launch created some international media excitement
when a Russian military radar detected the rocket heading their way! They had been properly
warned about the launch, but the message apparently did not reach all those who needed to know.
Fortunately war did not break out!

In 1996 the U.S. Office of Naval Research (ONR) asked Paul to investigate the effects of
ionospheric irregularities on GPS signals received on the ground. ONR was concerned that
scintillations might compromise GPS receiver performance, particularly at low latitudes, and they
came to Paul because of his reputation for building novel instrumentation and conducting incisive
experiments. He soon found that no GPS receivers existed that could measure scintillation, so he
designed his own, specifically for measurements that both characterized the scintillation and
investigated its effects on GPS performance.

In 1994 he single-handedly developed a popular program at Cornell with an upper-class-
undergraduate/graduate course dealing with GPS physics and receiver technology. He also
conducted a series of experiments in Brazil in cooperation with the Instituto Nacional de Pesquisas
Espaciais (INPE). These observations showed that scintillation of GPS signals was often intense
enough near the magnetic equator and in the auroral zone to interrupt GPS signal tracking. These
studies also determined the properties of scintillation fades.
A recent significant space weather contribution from Paul’s group was the confirmation that solar flare radio bursts of sufficient magnitude could completely black out GPS receivers, saturating them so that they could not receive transmissions from the GPS satellite constellation. GPS reception was continuously disrupted for many minutes across much of the western hemisphere during two solar flare events in the declining phase of the last solar cycle. In total Paul was the author or co-author of about 200 publications in scientific journals, and he supervised 9 Ph.D. theses.

Paul provided leadership for the ionospheric physics community in a variety of venues. During 2001-2002 he chaired NASA’s Geospace Mission Definition Team, which set the priorities for NASA’s investigation of space weather in geospace. He convened the AGU Chapman Conference on Mid-latitude Ionospheric Dynamics and Disturbances in 2007. During his recent Jefferson Fellowship at the State Department, he took responsibility both for space weather issues in the European Union-United States dialog on space situational awareness and for an agenda item of the United Nations Committee on the Peaceful Uses of Outer Space, namely the long-term sustainability of outer space.

Paul was doing a heroic job of trying to educate the U.S. government, and other governments as well, about space weather and the challenges that are likely to become serious issues during the coming solar maximum. Can pilots really land planes flying “blind” during bad weather using GPS? Can they do this always? A badly timed scintillation event might be catastrophic if not anticipated. What about power line grids and strong magnetic storms that can destroy huge transformers? During the recent long period of low solar activity, these concerns receded from public view, but space weather disruptions are likely to be of much more significance in the not-too-distant future.

A common thread in Paul’s career was to see a need and try to fill it. He took on numerous service jobs at Cornell that offered few rewards. He was a good citizen. For example, he supervised the responses of the School of Electrical and Computer Engineering to ABET accreditation reviews, after first educating himself about ABET and serving on review panels for other schools. When GPS appeared on the scene, he thought that students ought to be able to learn about it, so again he educated himself and then generated a series of courses and a graduate research program. When he had strong opinions about NASA’s research directions, he worked to influence them. When he thought that the U.S. State Department needed input from scientists, he set about providing it via the Jefferson Fellowship. Finally, even as his health was failing rapidly, he put in long hours making sure that funding and supervision for all his graduate students and his engineer were in place. He was a concerned citizen-engineer-scientist-educator on many levels. He died too young. He is sorely missed.

Donald Farley, Chairperson; Michael Kelley, Mark Psiaki, Charles Seyler
Robert W. Kirk was born on May 20, 1922. A native of Stamford, Connecticut, he came to Cornell in 1943 intent on becoming a large animal veterinarian. He attended the New York State Veterinary College (now the College of Veterinary Medicine) during World War II when the classes were accelerated to compress the normally four-year DVM curriculum into an approximately three years.

Following graduation in 1946, Dr. Kirk worked in a mixed animal practice in Brattleboro, Vermont before moving to New York City where he spent two years at the hospital for the American Society for the Prevention of Cruelty to Animals. He then returned to Connecticut, where he was again in general practice before joining the Air Force Veterinary Corps as a first lieutenant. During his service, he inspected packing houses, cattle and dairies in Maine and attained the rank of captain.

Upon the retirement of Professor Hadley Stevenson ’20, Dr. Kirk was recruited in 1952 to join surgeon Dr. Ellis Leonard ’34 in ushering in a new age of pet health care at Cornell. It was also the era when vaccines against scourges like canine distemper were being developed by Dr. James Baker and his colleagues at the new viral disease laboratory.

Dr. Kirk was both professor and practitioner. He insisted on the highest quality of medicine but always with a view to practicality and service. He also strengthened the ties between veterinary research and clinical practice. The quintessential professional, his white coat and bow tie were his sartorial trademark. He was promoted to professor in 1957.

Dr. Kirk was a prolific speaker not only in North America but throughout the world. When he retired in 1985, he was one of the most decorated and widely-known small animal veterinarians in the world. Among his many accomplishments was his famous book, *Current Veterinary Therapy*, which he edited by himself through its first ten editions. This series of books has sold more than a quarter of a million copies and has been translated into...
many languages. He also co-authored "Small Animal Dermatology", "Handbook of Veterinary Procedures and Emergency Treatment," and "First Aid for Pets."

Dr. Kirk was a superb teacher of both veterinary students and postgraduate trainees (interns and residents) and they populated some of the most important university hospitals and private practices in the country. He also served on numerous Ph.D. and MS committees. His various administrative positions at Cornell included head of the Teaching Hospital, director of Small Animal Medicine and Surgery, and department chair.

Dr. Kirk was a founder, past president, and diplomat of the American College of Veterinary Internal Medicine (ACVIM), a founding diplomat and past president of the American College of Veterinary Dermatology (ACVD), and an honorary diplomat and past president of the American Board of Veterinary Practitioners. Dr. Kirk served on the AVMA Council on Education from 1972-1983 and was a member of the board of directors of The Seeing Eye Foundation for 21 years. During his time with the foundation, he helped establish two dog facilities and a veterinary hospital.

Among his many career honors, Dr. Kirk was the recipient of the American Animal Hospital Association's Veterinarian of the Year Award (1964), the AVMA Gaines Award (1966) and the Mark L. Morris Sr. Lifetime Achievement Award. He was named New York State Veterinary Medical Society’s Veterinarian of the Year in 1971. He was the 1984 recipient of the AAHA Northeast Service Award and was honored that same year by the American Academy of Veterinary Dermatology for contributions to that field.

The ACVIM established and honored him as the first recipient of the Robert W. Kirk Distinguished Service Award in 1988. In 1991, Dr. Kirk received an ACVD Award for Excellence. The Royal College of Veterinary Surgeons conferred the status of honorary associate on him in 1993. The Seeing Eye dedicated the Robert W. Kirk Canine Health Library in 1997 in honor of his work. Kirk was a member of Phi Kappa Phi, Sigma Xi, Gamma Chi Epsilon Phi Zeta, and Alpha Psi.

In retirement, Dr. Kirk was appointed by the governor to a six-year term on the New York State Life Care Communities Council, overseeing and regulating retirement communities in the state.

Dr. Kirk was preceded in death by his wife of 57 years, Helen Margaret Grandish Kirk. Mrs. Kirk handled many publication production tasks amounting to thousands of hours for the eleven editions of Current Veterinary Therapy, and all editions of his numerous other books. They traveled together to meetings all over the United States, as well as Europe, Asia, Africa and South America. Dr. Kirk is survived by three daughters: Kathryn J., Barbara A. and Janet M.

*Donald F. Smith, Chairperson; Ronald R. Riis, Danny W. Scott*
Professor Emeritus Richard Paul Korf ‘46, Ph.D.’50 died on 20 August 2016 at the age of 91. He was born in 1925 and was a native of Bronxville, New York, with homes in Westchester County, New York, and in New Fairfield, Connecticut. He attended the Riverdale Country School in New York City and he subsequently wrote that he “chose Cornell University for study with the vague notion that I might like to become a gentleman farmer.” He had retired officially, but not actually, in 1992. At Cornell, Dick became fascinated by a group of organisms known as the fungi, and he studied them all of his life.

Dick was an internationally renowned mycologist (a person who studies fungi). He specialized in the taxonomy of a group of fungi called the “discomycetes” or cup fungi. Except for an initial year as a lecturer at the University of Glasgow (1950-1951), his entire career was at the university he loved, Cornell. As a mycologist, he identified and clarified the taxonomic position of hundreds of discomycetes. His contributions to the taxonomy of these organisms is solidified in their nomenclature; his colleagues have named at least three genera and 16 species after him. One of these is the false morel, *Gyromitra korfii*, which is common in the Ithaca area. He also helped shape international rules for naming plants and fungi, leading to a clearer and more stable system of nomenclature. A major accomplishment was his conception, launch, support, and publication of the journal MYCOTAXON with Belgian mycologist Grégoire Hennebert. This journal supports the inexpensive and rapid publication of formal descriptions of fungi new to science.

A major part of his accomplishment was the mentoring of 37 pre- and postdoctoral students who cherish his influence on their lives. They describe him as “ever youthfully exuberant, generous and hospitable.” Many experienced a sojourn at his cabin on Exe Island, which, in addition to his lab, “was a mecca for students and scholars from around the world.” He was an inspirational mentor.
These students were remarkably diverse in nationality and social position, but each felt valued. “There was never any doubt that his students were his academic family.” But he was also a demanding mentor and editor, and could be “gruff and forthright.” His students remember him as reviewing manuscripts with “a vengeance.” These students matured into very accomplished mycologists and seven of them went on to eventually follow him as presidents of the Mycological Society of America.

Dick was a force in the classroom – teaching a series of mycology courses. His courses dealt with the basic biology, ecology and taxonomy of the fungi. These basic biology courses were highly regarded in a department that had an applied, agricultural emphasis. Each class had a lab and in many, students were required to collect fungi, and then to observe them microscopically at the bench. Faculty in the department required that their students take such courses, because they respected the high quality of instruction. His faculty colleagues knew him to have the highest integrity, to be a sage counselor, to be a fearless defender of scientific freedom, and to be an unflappable liberal.

Collecting fungi in the field was a major pleasure for Dick – whether the “field” was at Beebe Lake, on Ringwood Road, or in the tropics. His enthusiasm at finding a tiny fungus on a twig underneath the leaf litter was contagious. “‘Sacrebleu!’ was a favorite profanity” at finding such a fungus. Collecting such findings was also important. He believed collections to be crucial to science and once said “above all, leave a luxurious legacy of data for future taxonomists to build upon.” He certainly did so. Throughout his career, he was the proud steward and Director of the Cornell University Plant Pathology Herbarium, from which his specimens continue to serve students and professionals around the world.

Dick loved the theater, and he acted on stage during his entire time at Cornell. He started as an undergraduate and he continued during his career into post-retirement. He had a booming baritone voice that is recorded in a 12 CD set of his reading of Stephen Vincent Benét’s “John Brown’s Body”. Dick’s advice to students was to avoid administrative work until late in a career, and he followed that advice. Interestingly (and reflecting his love of theater), at Cornell his only term in administration was as interim chair of Cornell’s Department of Theater Arts in 1985-1986.

Dick’s awards and recognitions are numerous and well-deserved. He received the Ainsworth Medal for extraordinary service to the international mycological community (2010); he was a Centenary Fellow of the British Mycological Society; and he was named a “Distinguished Mycologist” by the Mycological Society of America (1991). His teaching was recognized by receipt of the “Distinguished Teaching Award” (1993) from the Cornell chapter of Gamma Sigma Delta, and he received the New York Chancellor’s Award for Teaching in 1992.

Dick’s family further exemplifies his love of science and art. His beloved wife Kumi Korf is an architect and artist in Ithaca. Daughter Mia Korf is an actress. Son Ian Korf is a bioinformatician at the University of California. Son Mario Korf is in computer software. Daughter Noni Korf creates educational software.

John Kramer, age 84, died of pulmonary fibrosis at Oak Hill Manor on July 26, 2012. He and his identical twin brother James were born in Elgin, Illinois on March 13, 1928, the sons of R. H. and Anna B. Kramer. John and James were educated in the Elgin public schools, where they played high school football, participated in the Junior Walton league and the Fox Valley Rabbit Club.

John earned a B.S. degree in biology from Beloit College (1950) where he joined TKE fraternity. He earned an M.S. Degree in entomology from the University of Missouri (1952) and a Ph.D. in entomology from the University of Illinois (1958). John was a veteran of the Korean Conflict. He served as a U.S. Army Medical Entomologist (1952-1954) in Korea, where he obtained the rank of first lieutenant and won the Bronze Star Medal and Korean Service Medal with two battle stars.

John was an Assistant Professor of Entomology at North Carolina State University (1958-59) and an Associate Entomologist at the Illinois Natural History Survey (1959-1965). He joined the Entomology faculty at Cornell in 1965, was advanced to Professor in 1970 and retired in 1990. He served as major advisor for 14 doctoral students in entomology and several of these have gone on to work as university professors or government scientists in the field of insect pathology. One of the things that his students cherish most about Dr. Kramer was his continual encouragement and his keen interest in their families. His students also have many fond memories of accompanying Dr. Kramer on collecting trips to the woods and streams surrounding Cornell. They would go out and examine tree leaves for flies or snow pools for mosquito larvae and adult insects infected with various insect pathogens. From these trips Dr. Kramer found and described a new species, a fascinating
fungus, *Erynia* (now *Furia*) *ithacensis*. To the best of our knowledge, this is the only species of fungus named after Ithaca.

Dr. Kramer was internationally recognized for his research on characterizing fungi that cause fatal infections in pestiferous flies and mosquitoes and he demonstrated their potential usefulness in control practices. Dr. Kramer also made significant contributions to studies of insect pathogenic microsporidia, being one of the first to elucidate the complex microsporidian infection process. With colleagues in Brazil he characterized a protozoan new to science associated with the causative agent of Chagas' disease. Over his career as an insect pathologist, Dr. Kramer authored about 100 publications based on his research. Dr. Kramer participated in international conferences in Montreal, London, Paris, Prague and Washington D. C. and was a visiting scientist at the University of Alaska. He served on the Study Section for Tropical Medicine and Pathology at NIH and as a traveling consultant for WHO. His professional memberships included the Society for Invertebrate Pathology and New York Entomological Society. He was listed in "Who's Who in America."

John was a long time hobby fancier and breeder of Abyssinian cavies, English spot and Netherland dwarf rabbits. He authored several articles on the color coat markings found in rabbits. John participated extensively in the show scene both as an exhibitor and judge in NYS grand championship shows, at county fairs in NYS and PA and at 4-H division fairs.

John was preceded in death by his parents and his brothers Robert, Franklin and James. He is survived by a daughter Katherine J. Kramer of Santa Rosa, CA and several nieces and nephews and a very special friend, Carol J. Hardy, and her son and daughter.

*Arthur A. Muka, Chairperson; Ann E. Hajek, Donald Rutz*
Fred H. Kulhawy, Professor Emeritus of Civil and Environmental Engineering, died in Ithaca on May 12, 2015. He was born in Topeka, Kansas on Sept. 8, 1943. He received both his B.S.C.E. and M.S.C.E in 1964 and 1966, respectively, from Newark College of Engineering (NCE, now part of New Jersey Institute of Technology), where he was a part-time instructor and researcher. In September 1966, Fred and his wife, Gloria, began their graduate studies at the University of California, Berkeley, where he specialized in geotechnical engineering, geology and geomechanics. He finished his doctorate in September 1969. His dissertation on Oroville Dam in California was one of the early applications of the finite element method in nonlinear, geotechnical construction problems. After completing his doctorate, Fred joined Syracuse University as an assistant professor of civil engineering where he was promoted to associate professor in 1973.

In 1976 Fred joined the faculty of the School of Civil and Environmental Engineering at Cornell as an associate professor. In 1980 he joined Cornell’s graduate faculty in geological sciences. By 1981, he had become a full professor. In 2009, Fred retired from Cornell University as Professor Emeritus. Fred was a registered Professional Engineer in New York, New Jersey, and Pennsylvania, and as both Civil and Geotechnical Engineer in California.

During his 40-year academic career, Fred taught a wide range of courses in geotechnical engineering, including basic to advanced soil mechanics, engineering geology, basic to advanced foundation engineering, retaining structures and slopes, rock mechanics and engineering, embankment dam engineering, tunnel engineering, case studies and reliability-based foundation design. His courses emphasized engineering fundamentals and the development of basic and advanced analytical skills, and always focused on design and professional practice. At Cornell, Fred supervised the annual Master of Engineering geotechnical design project 17 times. He also supervised 21 Ph.D. and 33 M.S. and M.S.C.E theses.
Fred was an internationally acclaimed educator, consultant, and researcher widely recognized for his contributions to foundation engineering, development of reliability-based geotechnical design, mechanics of soil-structure interaction, and evaluation of soil/rock behavior. In recognition of his contributions, an American Society of Civil Engineers (ASCE) Geo-Institute Geotechnical Special Publication 229 was prepared in his honor. This 2013 tribute is titled “Foundation Engineering in the Face of Uncertainty.” Notable reliability papers, authored by Fred and republished in the proceedings, include the Sixth Casagrande Memorial Lecture “From Casagrande’s ‘Calculated Risk’ to Reliability-Based Design in Foundation Engineering” and the 5th Peter Lumb Lecture “Uncertainty, Reliability, and Foundation Engineering.” He had a profound impact on reliability-based design in foundation engineering, among other areas, and was honored by the ASCE Geo-Institute as the 2014 GeoHero during its annual congress in Atlanta, Georgia.

Fred was a prolific researcher, who received support from various government agencies and private companies. His research on transmission line structure foundations sponsored by the Electric Power Research Institute is now recognized as classic work, which was fundamentally important in developing the Institute of Electrical and Electronics Engineers standard for transmission structure foundation design and testing. He authored/co-authored more than 380 publications and made 1440 presentations in 102 cities in 36 states and the District of Columbia, within the U.S., and in 70 additional cities in 26 other countries around the world. Fred also contributed extensively to professional societies and their activities through his participation on National Academies, ASCE, American Society of Testing and Materials, and International Society for Soil Mechanics and Geotechnical Engineering committees. Among his many awards, Fred was honored as Distinguished Member of ASCE, the highest accolade of ASCE for acknowledged eminence in engineering, and reception of the Norman Medal, the oldest and most prestigious technical award of ASCE, the Karl Terzaghi Award, the ASCE Geo-Institute career accolade for eminence in geotechnical engineering, and the Canadian Geotechnical Society G. Meyerhof Award for outstanding contributions to foundation engineering.

Fred’s expertise was sought on numerous engineering projects worldwide. After his retirement, Fred maintained an active consulting practice. He travelled extensively to give lectures, provide consulting services, and indulge one of his passions, opera. He is survived by his wife, a brother, brother-in-law and sister-in-law, nieces, a nephew and several cousins.

*Philip Li-Fan Liu, chair; Thomas D. O’Rourke, Harry E. Stewart*
*With input from James L. Withiam and Kok-Kwang Phoon*