The Finite Element Method (FEM), to which Lars Wahlbin, in the Department of Mathematics, devoted his professional career, is a powerful tool for approximating solutions to partial differential equations. It is used by engineers and scientists throughout the world to help solve problems of practical importance. But why does it work? How does it work? How can it be tweaked to work even better? These were the kinds of questions that interested Lars, and allowed him to use the subtle insights of mathematical analysis to make lasting and significant contributions to practical questions.

In essence, the FEM takes an infinite dimensional problem that is basically intractable and replaces it with a sequence of finite dimensional problems that can be solved by well-known methods implemented on a computer program. But how well do the solutions to the new easy problems approximate the solution to the original problem? To answer this question one needs error estimates, theoretical bounds on the size of the difference between the solutions of these two problems. These error estimates come in many different styles and flavors. Wahlbin is noted for two types in particular, called “maximum norm estimates” and “interior estimates.” Another striking feature of the FEM is a phenomenon called “superconvergence.” While the approximations converge to the true solution at a rather ho-hum rate throughout the whole space where the problem is posed, there are some special points in space where the rate of convergence is much snappier. Wahlbin made major contributions to understanding this phenomenon and how it can be used, and indeed he wrote the definitive book on the subject.
“Superconvergence in the FEM.” He also wrote a second book, “Local error estimates in the FEM” that has been very influential in the field.

When he arrived at Cornell in 1974, Lars joined a group of three mathematicians, the others being Jim Bramble and Al Schatz, who specialized in the FEM, and they made Cornell’s Mathematics Department one of the world’s leading centers in the area. Lars supervised the Ph.D. theses of thirteen students. From 2003 to 2012, Lars was a co-organizer of the “Finite Element Circus,” a regular twice yearly conference (at rotating northeast locations) on the theory and applications of the FEM. His graduate students fondly remember the wonderful camaraderie during car trips to the Circus with Lars and Al Schatz. As one of them reported, the discussion topics included the latest scientific developments in our area, “but we also heard about Lars’ prowess as a handball goalie, his time serving in the Swedish military during the Cold War, and many other experiences that I might not have expected of an Ivy League Professor”.

Lars was an editor for the prestigious journal “Mathematics of Computation” for many years, and served as its Managing Editor from 1996 to 2002, a kind of thankless task that “somebody has to do,” and which Lars did with grace and skill and boundless energy. It is even reported that when some referee candidates failed to deliver timely reports on submitted papers, Lars would step in and do the refereeing work himself. This is consistent with his defining character trait that was observed by everyone who interacted with him: his selfless determination to give everyone the support they need to succeed. Another illustration of this was his service to the mathematics department as Director of Undergraduate Studies (July 1, 2007 – June 30, 2013), where he showed great patience and consideration helping students deal with their most pressing problems. But above all there was his wonderful sense of humor, and his contagious laughter.

Lars Wahlbin was born in Linkoping, Sweden, one of a pair of identical twins, and educated at Chalmers University of Technology in Gotheborg where he received his Ph.D. under the direction of Vidar Thomee in 1971. He was a fellow at the University of Chicago 1972 – 1974 and then came to Cornell where he remained for the rest of his career. He is survived by his wife Anita, whom he married while still an undergraduate student; his son Stefan and daughter-in-law Kathy; and two grandchildren.

Robert S. Strichartz, Chair; John Guckenheimer, Timothy Healey, Al Schatz
Bruce Wallace was born in McKean, Pennsylvania on May 18, 1920 and died on January 12, 2015 in Blacksburg, VA at the age of 94. He was predeceased by his wife, Miriam, and is survived by his children, David B. Wallace, of Blacksburg, VA, and Roberta Wallace, of Wauwatosa, WI. He graduated from McKean High School then attended Columbia University where he received his Bachelor's degree in Zoology in 1941. His Ph.D. study under the eminent population geneticist Theodosius Dobzhansky at Columbia University was interrupted by World War II, during which he served in the army as Statistical Control Officer under Robert McNamara. After four years in the army, he returned to Columbia and received his Ph.D. in 1949. He took a position at, and later was Assistant Director of, the prestigious Long Island Biological Laboratory (LIBL) at Cold Spring Harbor, NY. In 1958, he joined Cornell University, where he was a professor of genetics until retiring in 1981 to take a position at the Biology Department at Virginia Polytechnic Institute and State University. There, he became a University Distinguished Professor of Biology (1983) and was active until he retired again in 1994. He authored over 150 research articles, mostly in the field of population genetics using *Drosophila* as a genetic model. During his years at Cornell, he published no fewer than 70 research papers or book chapters. He also wrote more than 15 books, many translated into other languages. Most of his books were written while he was at Cornell. Four books in particular, *Radiation Genes and Man* (1959, with Th. Dobzhansky), *Adaptation* (1961, with Adrian Srb), *Topics in Population Genetics* (1968, W.W. Norton & Co.) and *Genetic Load: Its Biological and Conceptual Aspects* (1970, Prentice-Hall) were well received by the evolutionary geneticists of the time. In 1981, his textbook, *Basic Population Genetics* (Columbia Univ. Press) was published. This book was one of a very few written at the time and was very popular because it was not full of mathematical equations.

Bruce Wallace was recruited from the LIBL by R. P. Murphy in 1958 to replace H.H. Smith in the Department of Plant Breeding at Cornell. Murphy’s justification for hiring a geneticist who did not work on plants argued for the best scientist to fill the position and Wallace fit the job. He was
a member of the American Academy of Arts and Sciences (1971), and served as President of the Genetics Society of America (1974), the American Society of Naturalists (1970), the Society for the Study of Evolution (1974), and the American Genetics Association (1990), as well as an editor of *Evolutionary Biology*. In 1970, he was elected to the National Academy of Sciences. However, during the Vietnam War, his social conscience prompted him (and several others) to resign from the Academy when it was discovered that the Academy, through its operating arm, the National Research Council, had committees doing secret war research, funded by the Defense Department. If not unprecedented, resignation from the Academy was certainly a profound action and one which necessitated great strength of conviction. Happily, Professor Wallace was reinstated in the Academy after the war was over.

Professor Wallace was a truly original thinker. He had a sometimes eclectic, but always insightful view of population genetics and biology. As Theodosius Dobzhansky’s graduate student, Bruce Wallace viewed natural populations as genetically diverse (now well documented at the molecular level) with polymorphisms maintained by heterozygote superiority or overdominance. His research initially centered on irradiated populations of *Drosophila melanogaster* and the fitnesses of the flies in those populations. Professor Wallace maintained that the additional heterozygosity generated by the irradiation was beneficial to the genetic health of the populations. This viewpoint was not immediately accepted by the population geneticists of the time, but Wallace persisted by obtaining extensive data that supported his view of population diversity.

Professor Wallace’s imagination never stopped generating new ideas and innovative ways of testing popular theories. For example, in order to test certain assumptions regarding island biogeography, he devised an “island machine,” a large plexiglas population cage where founding populations could be controlled in number and density and immigration could be controlled by the length of time vials remained attached to the machine. Island size or the number of ecological niches available could be controlled by exchange rates between vials representing an island, and extinction rates could be measured. In so doing, Professor Wallace devised the best way to estimate the equilibrium number of species and what was the major determinant of extinction (Wallace, B. 1975. The biogeography of laboratory islands, *Evolution* 29:622-635).

Another novel experiment was prompted by Hampton Carson’s descriptions of several species of *Drosophila* whose larvae live amongst the bristles underneath the excretory pore of certain tropical land crabs. Wallace devised an “artificial crab” consisting of a rectangle of indoor-outdoor carpeting inside a population cage. Dilute urine was slowly dripped onto the carpeting via an I.V. tube. The population was initially started with eight different *Drosophila* species, but *D. virilis* quickly became the only species that survived. This population maintained itself for more than a year, when they essentially ran out of pupation sites. When the remaining adults were removed and put on standard *Drosophila* medium, they failed to survive. Thus, Professor Wallace demonstrated that a small population had adapted to this unusual niche so that, within one year, they became virtually unable to survive on the standard Drosophila medium. (Wallace, B. 1978. The adaptation of *Drosophila virilis* to life on an artificial crab. *Amer. Nat.* 112:971-973). Bruce also correctly anticipated the structure and roles of enhancers in gene regulation, well before they were discovered by molecular biologists (Wallace, B and T.L. Kass. 1974. On the structure of gene control regions. *Genetics.* 77: 541-558).
Bruce loved to travel and did so extensively as a visiting scientist and scholar, teaching and working at various universities and academic institutions worldwide. Devoted to his family, he frequently travelled with his wife and two children. Lee Kass remembers Professor Wallace at Cornell as a brilliant educator, making difficult or abstract concepts clear to both the scientist and the public. He graciously offered his time and assistance to professional societies, yet he was always available for guidance to family, friends and students, often with his wife, Miriam. Following the example they learned from Dobzhansky, Bruce and Miriam freely hosted visiting faculty at their home, inviting graduate students and colleagues for dinners, good Scotch and lively conversation, lasting long hours into the evening.

Bruce Wallace and his close colleague Adrian Srb hosted and arranged for future Nobel Laureate Barbara McClintock to return to Cornell as one of the first A.D. White Visiting Professors (1965-1974). Previously members of Cornell’s Department of Plant Breeding, they had moved to the Section of Genetics, Development and Physiology (GDP) in 1965, as members of the newly established Division of Biological Sciences. As a graduate student in GDP, Kass, other graduate students, and faculty colleagues were encouraged by Wallace to engage with and learn from McClintock and other visiting faculty.

Cornell celebrated Bruce Wallace’s second retirement (1994) by a symposium in his honor. Colleagues and former students lauded his contributions and legacy on October 27, 1995; many published subsequently in *Evolutionary Biology* Volume 30.

After retirement, he turned his attention from genetics to complex environmental, and associated societal issues. He became concerned about environmental degradation and wrote extensively on the subject.

Bruce Wallace gave us the opportunity to learn from him, and, in essence, started us off on our careers in science. We, and his many students and colleagues both at Cornell and Virginia Tech, will never forget nor cease to appreciate this remarkable man.


*Ross J. MacIntyre, chair; Thomas Fox, Lee B. Kass*
Armand Robert Henri Van Wambeke was a Professor of Tropical Soil Science in the Department of Crop and Soil Sciences (initially Agronomy) at Cornell University from 1976 until his retirement in 1995. He was born on May 16, 1926 in Ghent, Belgium and enjoyed a rich and diverse professional career. He worked for many organizations around the world before he and his family settled down in Ithaca, NY.

Armand’s education was based in Ghent where he graduated from the Royal High School in 1944, and studied Tropical Agriculture at the University of Ghent from 1945 to 1949. He was also an accomplished basketball player and represented his country at the 1948 Olympics in London. After military service in the Ordinance Corps, Armand worked as a soil surveyor in the Belgian Congo, Rwanda and Burundi from 1951 to 1960. This formed the basis for his doctoral dissertation at the University in Ghent (1958) on the properties and classification of soils in the Kivu area, eastern Congo. This work was expanded in a 1974 publication for the FAO on the management of Ferralsols, the most highly-weathered and supposedly infertile soils of the tropics. During this time, Armand and his wife Francine had six children - Paul, Jan, Luc, Philippe, Annika and Caroline. Armand assumed a number of assignments around the world: the University of the Congo (1960-61), the United Nations Food and Agriculture Organization (Colombia 1961-64, Nepal 1965), and the Belgian Center for Soil Survey (1965). He became acquainted with Cornell University during an interim position as International Professor in 1966, after which he returned to Latin America as the regional soil survey officer for the FAO, and in 1970 to the University of Ghent to serve as project leader for the soil survey program. His arrival at Cornell University in 1976 initiated a very productive phase as Professor of Tropical Soil Science. He regularly traveled around the world in support of soil survey and educational efforts and did two sabbaticals in Ghent.
Armand made many contributions to the field of soil science, especially on tropical soils and land evaluation. His language skills (fluent in Dutch, French, English and Spanish) allowed him to effectively work in many international settings. He taught undergraduate and graduate students about tropical soils and his research contributed to their appraisal and classification. For ten years his group supported the international outreach of the US Soil Survey with a series of practical publications on cartography, map unit names, evaluating the quality of soil surveys, and soil moisture and temperature regimes. He gained international recognition for his research in land evaluation and the development of a computer based expert system with his Ph.D. student David Rossiter (ALES, Automated Land Evaluation System, 1987), which is used around the world. He was an enthusiastic early adopter of any technology that could improve his work, including personal computers and geographical information systems.

Armand’s primary teaching responsibility was with a course titled Soils of the Tropics, which he continued to teach for many years after his formal retirement. Many students considered this course a seminal experience in their academic training at Cornell, and Armand was especially highly regarded by international students. Towards the end of his career he wrote a textbook (1992) on the geography, properties and management of tropical soils, which was later adapted by the FAO (2003) to their new international soil classification. Armand was known for his great analytical mind and ability to bring structure to the evaluation of complex soil systems. He took pride in challenging his students to think broadly. His reputation was that of a critical and demanding scholar and a fair and inspiring teacher.

Harold van Es, Chairperson; Stephen DeGloria, David Rossiter
Carol Edelman Warrior, assistant professor of English in the College of Arts and Sciences, died July 4, 2018 in Montana. She was 56.

Dr. Warrior’s scholarship centered on Native American, First Nations and Alaska Native literatures, indigenous philosophies, worldviews and critical theory. She researched the “fearsome” in indigenous literatures and representation, as well as the formation and assertion of indigenous group identity and sovereignty outside of the treaty context.

“Carol was a bright light in our department and our college. Her brilliance and expertise was only matched by her kindness and generosity,” said Ella Diaz, associate professor of English and Latina/o studies. Gretchen Ritter, the former Harold Tanner Dean of Arts and Sciences, called Dr. Warrior “one of the rising stars of our faculty.”

In 2018, Dr. Warrior was recognized as an inspirational mentor by a Merrill Presidential Scholar. “She managed to strike a rare balance between generosity and rigor, kindness and toughmindedness, and I know she made a huge difference in the lives of a number of students,” said Derek Chang, associate professor of history and Asian American studies. “She’ll be missed.”

Dr. Warrior began at Cornell as a postdoctoral fellow in 2016 and became assistant professor in 2017. She taught Introduction to Native American Literature, Native American Poetry of Resistance and Indigenous Literary Criticism and Theory.

Prior to Cornell, Dr. Warrior was an instructor in the departments of English and of American Indian Studies at the University of Washington. In 2008, she was a fellow of the Graduate Opportunities and Minority Achievement Program at the University of Washington.
Born March 19, 1962, Dr. Warrior was enrolled with the Ninilchik Village Tribe and was of Alutiiq (Sugpiaq), Dena’ina Athabascan and A’aniiih (Gros Ventre) descent. She was committed to indigenous community-building and activism and was involved with gathering and processing traditional foods and medicine, visiting indigenous communities for relationship-building and ceremony and helping with urban Native American youth organizations. At Cornell, Dr. Warrior was actively involved in the American Indian and Indigenous Studies Program and served as an adviser for indigenous graduate students at Cornell, and as a faculty fellow for Akwe:kon Residential Hall.

“Carol’s approach to life was wholistic in the indigenous way, seeking balance in all things, extending kinship to all the life around her. As such, she had a deep commitment to social justice. It is people like Carol, and they are rare, who are the conscience of the institutions within which they work. Her loss to Cornell, then, goes much deeper than her admirable scholarship, advising and teaching. It is of a profound moral, ethical, and political dimension,” said Eric Cheyfitz, the Ernest I. White Professor of American Studies and Humane Letters and former director of the American Indian and Indigenous Studies Program.

In a script for the “What Makes Us Human?” podcast, Dr. Warrior reframed the question as, “What does it mean to be a human being in the world as we know it?” The answer, she wrote, “can be found in indigenous value systems, since concern for all relations in that web of life, and those who will come after us, are paramount, and are foremost in our minds.”

Said Sofia Villenas, associate professor in the Department of Anthropology: “She lived out her scholarship in her relationships with others and the natural world. Carol was all about love, healing, resistance, relationships, and community.”

Dr. Warrior received an M.A. in 2010 and a Ph.D. in 2015 in English language and literature from the University of Washington, and a B.A. in 2008 in English and American Indian studies, magna cum laude, with distinction in English, also from the University of Washington.

She enjoyed hiking and late-night Dungeons and Dragons sessions with her large family. She liked to make clothing, quilts, jewelry, paintings, and ceremonial items. In “A Meditation on Fixity and Flexibility” published in Indigenous Collectives, she described how she became “enamored with the process of glassblowing.” She learned to make paperweights, Christmas tree ornaments, cups, vases and bowls, and how to use color, an exacting process with glass.

Carol Warrior is survived by her husband, Shaawano Chad Uran, and eight children.
Professor William J. Wasmuth, who taught at Cornell’s ILR School for 48 years, died on March 29, 2018, at the age of 93. Born on February 6, 1925, Professor Wasmuth earned a Bachelor’s degree in Aeronautical Engineering from Jefferson College (St. Louis) in 1945, an MBA from Washington University (St. Louis) in 1955, and a doctorate in Business Administration from Indiana University in 1961. Coming to ILR in 1961, Professor Wasmuth taught a variety of extremely well-received management courses to undergraduate and graduate students, and to off-campus students in outreach programs, until he retired in 2009.

Before coming to Cornell, Bill served in the Air Force (1946-47), worked as a methods and procedure analyst for several business organizations and the federal government (1947-53), was Vice President/Consultant to the President of Business Collaborators, Inc. in St. Louis, then an assistant plant manager at the Freund Baking Company (1954-58), also in St. Louis, and ended up serving as Member and Secretary of the Executive Committee of Freund in 1957-58.

A major part of Professor Wasmuth’s teaching involved the development and use of management simulation scenarios. He developed in 1977 the Management Organizational Simulation–An Innovative Challenge (MOSAIC) course for supervisors in health facilities. Later, still exhibiting skills with acronyms, he co-developed Cornell Hotel and Restaurant Management Simulation (CHARMS) for training supervisors in hotel and other service establishments. Students in the CHARMS course would make various decisions about running a hotel, involving such things as finances, marketing, operations, and human resources. These decisions were run through the simulation and the results (occupancy rates, revenues, profits, etc.) would be calculated. The enrollment limit of the joint course was 35, and it filled every time out; in addition, it got great ratings from students.
Among Professor Wasmuth authored a variety of publications on supervision and training, including two books: *Dynamics of Supervision: Organizational Cases and Intrigues*, and *Effective Supervision: Developing Your Skills through Critical Incidents*.

Off campus, Professor Wasmuth had an entrepreneurial spirit and provided consulting and training services (including his CHARMS course) to a variety of business, nonprofit and governmental organizations both in the United States and in 15 countries across Europe, the Middle East, and Asia. During his tenure at Cornell, Bill was also appointed to Visiting Professor positions in hotel management at France’s Ecole Supérieure des Sciences Economiques et Commerciales (three times) and Switzerland’s Glion Institute of Higher Education (twice).

In the early 1960s, Professor Wasmuth began a project to introduce smart business management principles and management simulations to sheltered workshops, which were quickly popping up all over the United States in response to the deinstitutionalization movement. This early work caught the attention of the US Department of Education’s Rehabilitation Services Administration (RSA), which served as an early precursor to long-term training grants sponsored by the RSA focused on community rehabilitation programs.

By the early 1970’s, Professor Wasmuth was leading a group of ILR researchers on disability, in a program called the Human Services Administration (HSA). These researchers not only examined how sheltered workshops were operating from a business perspective, but their endeavor broadened to include looking at public policy and the increasing need for independent living and supported employment training. In 1991, HSA was replaced by the Program on Employment and Disability (PED), which was designated as an institute about a decade later. Thus, Professor Wasmuth was a key scholar and innovator in the ultimate development of the ILR School’s prestigious K. Lisa Yang and Hock E. Tan Institute on Employment and Disability.

Professor Wasmuth is survived by his wife Norma; his children: Craig, Scott, and Toni; his daughter-in-law Victorina; his son-in-law Everett; and his grandchildren: Elizabeth, Christine, Abigail, Sara, and Jennifer.

*Written by Robert S. Smith, Lee D. Dyer and Thomas P. Golden*
On May 23, 2018, Cornell University mourned the loss of James Law Professor Emeritus, Robert H. Wasserman, an esteemed colleague, friend and beloved family member. Professor Wasserman was born to Joseph and Sylvia Wasserman, in Schenectady, New York on February 11, 1926. His first experience at Cornell, and Ithaca, was after enlisting in the United States Army. At age 17, he arrived in Ithaca for ROTC training. Once he turned 18, he was sent to Georgia for basic training, and then to Europe in Fall of 1944. After WWII concluded, he returned to Cornell where he earned his B.S. degree in the College of Agriculture and Life Sciences and subsequently his M.S. degree at Michigan State University. His formal education concluded with his award of the Ph.D. degree at Cornell in 1953.

Professor Wasserman began his career as an independent scientist at the Atomic Energy Commission Project (AECP), at Oak Ridge, Tennessee, where he advanced rapidly to the position of Senior Scientist. Dr. Wasserman was a vibrant member of the Cornell University faculty from 1957-1998. He served as Department Chair, for the Physiology Section, from 1983-1987, and in 1989 was named as the James Law Professor of Physiology. His research at AECP, and later at Cornell, provided novel insights into calcium homeostasis and mineral transport mechanisms in the intestine.

Many awards were conferred on him for this groundbreaking work. Prominent amongst them was his appointment to the National Academy of Sciences in 1980 for his discovery of the hormonal nature of Vitamin D through its induction of a calcium binding protein (now known as Calbindin) in cells of the intestine. At the National Academy of Sciences, Dr. Wasserman Chaired the Committee on the Scientific Basis of Meat and Poultry Inspection, and was a member of the Food and Nutritional Board.

Additional awards include the Mead Johnson Lectureship at Iowa State University, the Lichtwitz Prize of the Institut National de la Sante et de la Recherche Medicale in Paris, the MERIT status...
award of the National Institutes of Health, the William F. Neuman Research Award from the American Society of Bone and Mineral Research, and the Career Recognition Award from Vitamin D Workshop. He was awarded the Guggenheim Fellowship twice: in 1964-1965 to work with colleagues at the University of Copenhagen, in Denmark, and in 1972 to work with researchers at the University of Leeds, in England.

As an engaged scholar, Wasserman served on the editorial boards of multiple scientific journals, including Proceedings of the Society for Experimental Biology and Medicine, The Cornell Veterinarian, Calcified Tissue International, and the Journal of Nutrition. His distinguished scientific career impacting the field of nutrition was recognized in his election as Fellow of the American Institute of Nutrition.

As an academic, Professor Wasserman was recognized as a gifted teacher and role model for individuals who aspired to a career in science. Others knew him more informally through shared interests in the fabrication of furniture, sailing, music and card games. Students, faculty and staff benefited greatly from his comprehensive knowledge of mineral metabolism.

Other features of Professor Wasserman’s research included a passion for accuracy and a penchant, whenever possible, to quantify the kinetics of chemical and biological reactions. Application of those skills in brilliantly conceived inquiries into basic biological mechanisms served him well in formulating hypotheses that could be tested definitively using techniques best suited to the task. His dedication to research was greatly admired. Many who had the privilege of working with him cited that experience as critical to their development as a discovery-based scientist.

Throughout his career, Professor Wasserman was recognized as an outstanding teacher and role model for individuals who aspire to discovery-based careers. Yet his impact on science was balanced by an unwavering devotion to his family. His wife Marilyn of 63 years predeceased him by five years, a loss made bearable only by the loving relationship as proud father and grandfather of his three daughters, Diane Wasserman Herrup of Pittsburg, Pennsylvania, Arlene Wasserman of Ithaca, New York, and Judith Wasserman of Morgantown, West Virginia, and grandchildren Sofia and Ella Wasserman-Smith of Brooklyn, New York, and Madeline and Jacob Herrup of Pittsburgh, Pennsylvania.

Professor Wasserman was a remarkable person and an inspiration to all who knew him. He will long be remembered at Cornell.

Written by Douglas McGregor
Dr. Roger Way, world-renown pomologist and fruit breeder, and emeritus professor of horticultural science, died on June 2, 2019 at the age of 100.

Roger was born November 7, 1918 in Stormstown, Pennsylvania on a fruit and dairy farm that is still run by family. Roger earned both his Bachelor of Science degree (1940) and his Master of Science degree (1942) in Horticulture from Pennsylvania State University.

Roger was a Quaker and he declared conscientious objector status in 1942, after receiving his selective service notice during World War II. Roger spent four years in a Civilian Public Service Camp in Maryland. After the war, he spent two years doing relief work in rural China for the Quaker Organization, American Friends Service Committee. This organization received the Nobel Prize in 1947 in recognition of their activities.

Roger was hired as a research assistant at Cornell in 1949 and quickly was promoted to a research associate. He received his Ph.D. from Cornell in 1953 and became an assistant professor that same year. Roger was located at the New York State Agricultural Experiment Station in Geneva, New York, which is now called Cornell AgriTech. Roger was promoted to associate professor in 1959 and to full professor in 1970. He served as acting department head of the Department of Pomology and Viticulture in 1974 and 1982-1983 and was head of the department in 1983. He retired and was granted professor emeritus status in 1983 as well. Roger continued to work for 16 years after his retirement.


In 1982, Roger received the Wilder Medal from the American Pomological Society in recognition of his work in apple cherry and elderberry breeding. Roger received the Milo Gibson Award in 1986 from the North American Fruit Explorers in recognition of his “many improved fruit varieties.”

Roger received great notoriety for his release of ‘Empire’ and ‘Jonagold’ apples, both for their quality, but also due to their positive impact nationally and internationally. ‘Empire’ ranks #10 in apples produced in the U.S. In the late 1980s, New York growers planted more than 50,000 ‘Empire’ trees annually. From 1988 to 1990, 27 percent of all apple trees planted in New York were ‘Empire’. From 1996-2004 the annual production of Empire in the U.S. averaged 4.2 M bushels with a fresh market value of 41.1 million dollars. At that time, New York growers produced 50 percent of the total U.S. ‘Empire’ crop.

‘Jonagold’ is one of the major varieties grown worldwide. It ranks sixth overall in world rankings, with production of 1,078 thousand metric tons. (Note: Production in China is excluded from these figures). ‘Jonagold’ also accounts for nearly 60 percent of apple production in Belgium. Japan was so enamored with Jonagold’ that they invited Roger and his wife Mary to Japan and presented Roger with a Samurai warrior’s helmet in honor of his introduction of ‘Jonagold’ in Japan.

Roger conducted research of benefit to the industry and gave equal attention to scientific refereed publications and extension articles and bulletins of use to the fruit industry and growers. He studied the role of crabapple trees and blossoms as an efficient means of providing pollen for cross pollination in orchards, and with collaborators he studied the suitability of new selections and varieties for the processing industry. Roger wrote bulletins on pollination, orchard layout and design to maximize fruit set and these bulletin were a valuable resource in teaching and for orchard managers. Roger and Dr. Gilmer proved that key cherry viruses were pollen-transmitted, which was crucial knowledge for growers and nurseries. Roger also documented a lethal gene that impacted apple hybridization decisions, and this was shown by a recent Cornell graduate student (Ben Orcheski) to be due to an inability to produce vitamin K (phylloquinone), and likely linked to genes with favorable effects.

In 1984, Roger was both heralded, and teased in a People Magazine article “A couple hundred of apples a day keep Dr. Roger Way feeling good to the core.” In the game show, Jeopardy’, under a “By-The-Way” category, the $400 clue was “Roger Way tasted 200 of these a day, helping him to develop ‘Empire and Jonagold’ types. Answer: What are apples? A local newspaper article on Roger’s death suggested that maybe the 200 apples a day for 50 years explained Roger’s longevity. Roger was also interviewed for Charles Osgood/CBS news in 1983, where he can be seen biting into multiple apples, discussing research and with a broad smile, asking “everyone loves apples, don’t they?”
Rogers work-ethic, his passion for apples, his knowledge base, and his attention to detail were well known, as was the fact that his work boots always had a spotless shine and his lunch was transported to work in a black metal lunch pail. He was a natural during grower tours, where his voice was heard above any noise.

Roger’s colleague, Dr. Bruce Reisch said that “Dr. Way earned the respect of both his peers and his industry stakeholders. He was dedicated, motivated and driven to excel, and was also one of the most even-keeled individuals I’ve ever known. He was careful, thoughtful, and methodical. Fellow plant breeders always admired him for the success of the high-quality apples he developed.”

I had the honor of being Roger’s successor and he, and his family, were incredibly generous to me. The Way home was one of the first to welcome my husband and me for dinner. Roger was a world expert and revered by the US industry, especially in New York. Yet, as soon as I started with cherries and then apples, Roger insisted that questions be directed to me. He offered advice to me, but let me learn and gain the respect of the industry. I will be forever grateful for his kindness and his vote of confidence. He took me to meet key industry members the day before I officially started, and I believe he was pleased that I was ready to start, no matter the date.

Roger is survived by his wife, Mary of State College, Pennsylvania, son, Edward and his wife, Sue of Carbondale, Colorado, their daughter, Vanessa of Glenwood Springs, Colorado, son, Charles of San Diego, California, son, Thomas of Auburn, Alabama, and daughter, Shirley of Ithaca, New York. Roger’s legacy lives on through his family and his many contributions to pomology and breeding.

Written by Susan K. Brown
Robert L. Wehe, Sr., Professor Emeritus of Mechanical & Aerospace Engineering, died in Ithaca on March 16, 2012 at the age of 90.

Bob grew up on a small farm near Topeka, Kansas. He served in the USAAF as a bombardier flying missions over Germany in World War II before pursuing higher education under the GI Bill at the University of Kansas. Following graduate school at the University of Illinois, he was hired as an Assistant Professor of Mechanical Engineering at Cornell, where he taught until retirement in 1990.

Soon after joining the then Sibley School of Mechanical Engineering, Bob became involved with the NACA/NASA bearing lubrication project and co-authored with George DuBois and Fred Ocvirk a series of landmark technical notes and papers which are still cited half a century later. Bob also served the American Society of Mechanical Engineers as an officer of its Lubrication Division and as faculty advisor to its student chapter at Cornell.

Bob contributed in many ways during his 39 years of service to Cornell. He loved teaching his students how to make things work. In the mid-sixties his students built a "lunar rover" prototype and proudly drove it all over campus for months. For many years he was the faculty advisor for the so-called Mini Baja project, for which student groups designed and built an all-terrain vehicle and participated in nationwide competition, winning several first prizes. The students in these projects valued his advising and mentoring highly, as did many international students whom he counseled.

Bob also provided meritorious service as a faculty advisor for many design projects and as a teacher in a number of courses related to design. Notable were the Mechanical Engineering Design course taught for many years to students in the Master of Engineering program and the much appreciated Naval Ship Systems course taught for the Navy ROTC. He participated actively
in the Engineering Coop program, teaching courses during the summer and making visits to companies which hosted Coop students during the academic year.

Before entering military service Bob had married his hometown sweetheart, Marjorie McComb, and his family was always central to his life. He was a participatory father long before it was fashionable, home at 5:30 sharp every night to spend the evening with Marjorie and their five children; he waited until the children were in bed to grade student's papers and prepare for classes the next day. Bob was a scoutmaster and loved taking his own family on camping trips, hikes and picnics in all the area's parks.

Bob and Marjorie were co-founders of the NAACP in Ithaca, and they marched side by side at the 1964 Martin Luther King, Jr. rally in Washington, DC. Bob served many years as an elder and officer of the First Presbyterian Church; he was president of the Garden Club for several years and grew prizewinning roses; he was active with Cornell United Religious Work as well.

Marjorie and Bob moved to Kendal of Ithaca when it first opened. Marjorie passed away in 2001, after 58 years of marriage. Bob is survived by his five children, four grandchildren, one greatgrandchild, and a sister.

John Booker, Chairperson; Donald Bartel, Francis Moon
(Some information obtained from Ithaca Journal Obituary)
James Carrick White, professor emeritus in both Food Science and Hotel Administration, died at his home on Cayuga Lake just short of his 102nd birthday. He was born October 29, 1916 in Scobey, Montana.

His trip from Scobey to Cornell took almost 20 years. Shortly after his birth, his family moved to Moosejaw, Saskatchewan, Canada where his father was a homesteader, and found work in major construction projects. During that time, the family moved a total of 13 times, mostly in western Canada, with Jim attending as many different schools. His secondary education greatly improved in 1930, when the family moved east, landing first in Tully, New York and finally in Canastota, New York, where he finished high school. His Math teacher, a Cornell graduate, helped him apply to the College of Agriculture and he entered in the Fall of 1935.

Professor White received his bachelor's degree in 1939 and Ph.D. from Cornell University in 1944, with a major in Bacteriology and minors in Biochemistry and Dairy Science. During his doctoral studies, he worked in the laboratory of Cornell chemist and Nobel laureate Dr. James B. Sumner.

With degree in hand, he spent the next two years as director of research for the Borden Cheese Company, where he was responsible for the sanitation program, as well as the development of new products and research in a large number of food processing plants throughout the East and MidWest. He returned to Cornell in 1946 as an associate professor in the Department of Dairy Industry, with responsibilities in teaching, research, and extension. He became a full professor in 1951.

Dr. White taught courses in Market Milk, Introductory Dairy Chemistry and Food Quality Control, and lectured in the Hotel School, as well as the Colleges of Human Ecology and Veterinary Medicine. In the latter, he teamtaught the Food Inspection Course for Veterinarians with Professors Bob Baker and George
Wellington (Veterinarian graduates were often drafted to serve as food inspectors in the military.) He published extensively in the fields of dairy and food bacteriology, farm sanitation, milk processing, dairy engineering, and bacteriological control in large quantity cooking and cooling. During the period 1954 to 1965, he also served as Department Extension Leader, managing the department’s outreach activities.

Professor White was active in the American Dairy Science Association, The New York State Association of Milk and Food Sanitarians (now the NYS Association for Food Protection), the International Association of Milk, Food, and Environmental Sanitarians and the Institute of Food Technologists. He was a past president of NYS Association for Food Protection and the recipient of the Emmitt R. Gauhn Award, the association’s highest honor. He was also a representative to the 3A Sanitary Standards Committee of the US Public Health Service and the National Labeling Committee of the American Dairy Science Association.

After 27 years at the College of Agriculture & Life Sciences, Jim joined the Hotel School as a full professor with tenure. There he taught Food Safety and Sanitation. The sanitation course he presented was more science based than previously presented. It was a required three credit course for all students, consisting of two lectures and a two-hour lab each week. In addition to basic microbiology, each student was required to complete a special project. There were some strange and revealing results, proving that toilet seats were often cleaner than drinking fountains and that Jalapeno peppers did not kill bacteria! “Some students complained about the difficulty of the course, but most enjoyed the subject,” according to co-instructor Bonnie Richmond.

During his time at the Hotel School, he also served as assistant dean for Academics. Emeritus Dean John Clark remembers Professor White as a caring and supportive colleague. “Jim showed wonderful capabilities in dealing with the needs of both graduates and undergraduate students, as well as faculty, staff and alumni. All felt he had their best interests at heart and that his advice and counsel were excellent.”

His tenure in both colleges afforded an opportunity for several academically related sabbaticals. The first, in 1955, was to Colorado with the Denver Department of Health, where his mission was to evaluate the quality of milk and make recommendations to improve the flavor and shelf-life of the milk supply. That led to his next sabbatical in 1962 to Minneapolis, Minnesota where he was a visiting professor of Public Health, studying the costs of inspecting dairy farms and milk processing facilities. He also served as a delegate to the International Dairy Conference, held in Munich, Germany during the summer of 1966.

His final dairy related leave came in 1969-70, when he went to New Zealand at the request of their Department of Agriculture. He made an extensive survey of the New Zealand industry, which resulted in many changes and improvements to their milk collection system.

1979 was the year of his sabbatical from the Hotel School. The Brazilian Government invited him to help start a school for hoteliers in Sao Paulo. He provided the curriculum, and locals with a better grasp of Portuguese were hired to carry out the program. His last overseas mission came after
recently retired Dean Beck asked him to come to Paris, France to help start a hotel school there. Jim stayed three months and returned to Ithaca to start a new phase of his life.

Upon full retirement, Jim continued his active career, working in the area of climate change and acid rain, organizing the programs and editing and publishing 16 conference proceedings on the subject. Much of his international travel was dedicated to attending and presenting at meetings all over the world. He also had time to share his leadership skills with a variety of organizations. He served as chair of the Tompkins County Environmental Management Council, founding chair of the Cayuga Lake Watershed Network, scientific advisor and director of the Center for Environmental Information in Rochester, New York and founding president of the Mariposa DR Foundation in the Dominican Republic. He also found time to be commodore of the Ithaca Yacht Club! During his retirement, he spent his winters in Fort Myers, Florida, where he was an avid tennis player, playing his last game at age 99.

In 2016, on the occasion of his 100th birthday, he was honored with a celebration at the Ithaca Yacht Club attended by over 100 family, friends and colleagues from around the United States and beyond. After the ceremony, he drove to Florida for the winter.

He was especially proud of the fact that he shook the hand of 11 of the 14 Cornell presidents (!) - beginning with President Livingston Farrand and ending with current President Martha Pollack.

His final year (2018) was just as active as any of his most productive in the past. From his winter home in Fort Myers, he made a visit to Cuba via Key West and the Truman White House, returning to Cayuga Lake in April. His last International trip was to a climate meeting in Halifax, Nova Scotia. Unfortunately, he had a fall at the ferry station on the way to Prince Edward Island, which led to eight days in the hospital with a mild head injury, which then turned into pneumonia. After improvement, he was able to return to Ithaca. Full recovery was not to be, and Jim died on October 2nd at his beloved lake front home.

A “Celebration of Life” was held at the Ithaca Yacht Club on June 9, 2019. Four generations of the White / Babcock family attended, along with friends, neighbors and colleagues to share in a life well lived!

Jim was married on September 7, 1941 to Ruth Babcock White (died in 1998). They had three children, James C. White, Jr. (Sonya), Deborah (Ray) Pavelka (died in 2010) and Waldo (Loretta) White. He is also survived by his loving grandchildren: Betsy (James) Hanks, Victoria (Wilson) Spears, James C. White III, Amy Pavelka and Ashley White (Chris) Georgakis, in addition to the much-loved great grandchildren Jacob, Katherine, Hadley, Cora and Jack.

Written by David K. Bandler; with assistance from Robert Gravani and Elizabeth Thorndike
Richard “Dick” N. White, the James A. Friend Family Distinguished Professor of Engineering Emeritus of the School of Civil and Environmental Engineering (CEE), died at the age of 75. He was born in Chetek, Wisconsin and grew up on several different dairy farms in Wisconsin. His father alternated farm ownership with operation of a small contracting firm. Work on the farms, helping his father in construction, and his classroom interests made civil engineering his clear choice while still in high school.

Dick pursued his civil engineering education at the University of Wisconsin, Madison, earning a B.S. in 1956 and an M.S. in 1957. He and his wife Margaret “Marge” C. Howell, met while they were undergraduates and were married in December 1957. After 6-months of active duty in the U.S. Army Corps of Engineers, he returned to Madison to work as a structural designer for a firm of consulting engineers. He continued this work part-time when he re-enrolled at UW-Madison for study leading to his Ph.D. in structural engineering, awarded in 1961. While still a graduate student, he began to develop his famously effective teaching skills by serving as an Instructor with full responsibility for several undergraduate courses.

He joined the CEE faculty in 1961 and rapidly developed a versatile research program to complement his teaching of undergraduate and graduate courses. Although his research interests spanned all the traditional areas of structural engineering – experimental, analytical and computer approaches to concrete, steel and timber structures – he held a special love for topics in concrete and for structural model studies. In support of the last, he led the creation and use of a structural models lab for both instruction and research that was one of the finest in the nation. Among his many publications, he was the
senior author (with faculty colleagues Peter Gergely and Robert Sexsmith) of a remarkably successful set of textbooks, *Structural Engineering*, a three-volume series that integrated aspects of mechanics, analysis, behavior, materials and design – and also disseminated widely the essence of the Cornell CEE undergraduate curriculum in structures.

Among his numerous appointments and positions at Cornell, he most notably served as Director of the School of Civil and Environmental Engineering (1978-84). Among his proudest accomplishments as Director was the fundraising, planning, construction and dedication for a 5,000-square-foot addition to Hollister Hall to house the Joseph H. DeFrees Hydraulics Laboratory. He served the College as Associate Dean for Undergraduate Programs (1987-90), and he was named the James A. Friend Family Distinguished Professor of Engineering in 1988. Dick retired from Cornell in 1999 but remained active in the School until illness overtook him in 2005. Thanks to the financial support of alumni and friends, the Richard N. White Instructional Laboratory was dedicated in 2004 within the newly refurbished Bovay Laboratory Complex of CEE. Posthumously, a fund drive has been launched to endow the continued maintenance and upgrading of this lab as well as the other instructional labs in the School of CEE.

Throughout his 39 years at Cornell, Dick also maintained a part-time consulting practice for dozens of clients, including leading companies, national laboratories, government agencies, publishers and universities. This consulting involved structural analysis, design and development work; structural investigations, reviews, and evaluations; structural research and development oversight; preparation of design aids; and editorial development work.

During the course of his career, he received two teaching awards from Cornell’s College of Engineering (1965 and 1996), three “Professor of the Year” honors from the Cornell chapter of the civil engineering
honorary society Chi Epsilon (1972, 1987, and 1996), the University of Wisconsin Distinguished Service Citation (1993), and the Collingwood Prize of the American Society of Civil Engineers (ASCE) in 1967. He was elected to the National Academy of Engineers in 1992 and was also named an Honorary Member of the ASCE in 2001.

An American Concrete Institute (ACI) member since the late 1950s, Dick was elected ACI Vice President in 1995, served as ACI President from 1997 to 1998, and was Chair of the Standards Board from 2002 to 2005. He was a member of the Technical Activities Committee for 7 years and served as its Chair from 1991 to 1994. He also served a 3-year term on the ACI Board of Direction. White was a member of numerous ACI committees; and he was the first Chair of the ACI Committees 335: Composite and Hybrid Structures, and 444: Experimental Analysis for Concrete Structures. White received the ACI Joe W. Kelly Award in 1992 and was the co-recipient of the ACI Wason Medal for Most Meritorious Paper and the ACI Structural Research Award in 1993 and 1994, respectively. He was named an ACI Fellow in 1974 and was elevated to ACI Honorary Membership in 2006.

During his sabbatical leaves from Cornell, he was a staff associate at Gulf General Atomic (1967-1968) and a visiting professor at the University of California at Berkeley (1974-75), the University of Puerto Rico at Mayaguez (1982), Southwestern Jiaotong University in China (1982), and Durham University in England (1990).

Through his mentoring of many international graduate students and his duties as ACI President, he was able to enjoy travel to a great many places in the world: Egypt, Saudi Arabia, the United Arab Emirates, Qatar, Puerto Rico, Costa Rica, Colombia, Chile and Brazil, to name a few. He also lectured in many places, including an extended stint in China in the early 1980s that included Beijing, Hong Kong, Shanghai, Wuhan, Xian, and Chendu. Of course, he always
carried his favorite camera, recording his trips, the scenery, the people, the foods, and life wherever he was.

Photography was a major pastime for Dick. He enjoyed taking pictures of people, birds, animals, flowers, and all the things around him. He later entered many photographic exhibitions, and had numerous one-man shows of his various works, both locally in Ithaca and a major show in eastern Massachusetts. He also recorded the growing years of his daughter, Barbara, and son, David.

Dick was very proud of his years at Cornell University and of the colleagues and students who were an integral part of his career and life. He enjoyed his many friends and neighbors through his Ithaca years, as well as his beloved schnauzers. He is survived by his wife, Marge, one daughter and one son and their spouses, a sister, and several grandchildren, nieces and nephews.

Dick’s personal and professional accomplishments were outstanding as shown, in part, by the array of distinguished awards and recognitions that were presented to him throughout his career. But in addition, we particularly acknowledge the statesmanlike and humane role he performed as a distinguished member of the Cornell University Faculty – a role that infused and yet transcended his specific area of research and which demonstrated his personal warmth, knowledge, compassion and commitment to students, staff and faculty in Civil and Environmental Engineering and in every aspect of the University in which he participated. Dick was uniformly admired and respected and will be long remembered for the many roles he fulfilled as a Cornell faculty member.

*John Abel, Chairperson; Kenneth Hover, Walter Lynn, William McGuire, Arnim Meyburg*
Professor Emeritus William (Will) Deakins White died on October 11, 2019 after an extended illness. We at Cornell and Sloan miss him dearly, as do the hundreds of students he educated and mentored along with the faculty he collaborated with. We are grateful for his friendship, passion to improve the health care system, and innovation in health education.

Will was born July 13, 1945, in Philadelphia, the son of the late Gilbert F. and Anne White. Will White received his B.A. from Haverford College and holds a Ph.D. in Economics from Harvard University. Raised as a Quaker, Will was a conscientious objector and completed his alternative service at Massachusetts General Hospital, which sparked his keen interest in health care policy.

Prior to coming to Cornell, he headed the program in health management at Yale where he revitalized the program. Prior to this, he was a professor and associate
director of the Institute of Government and Public Affairs at the University of Illinois at Chicago.

Will was a pivotal member of the “first generation” of health economists. His seminal research on the economics of health systems, physician practices, and managed care organizations continues to influence the profession and shape our understanding of health care markets. He had many appointments as a visiting scholar including as a Distinguished Academic Visitor at Queens College, Cambridge University; the Judge Business School, Cambridge; Kellogg Graduate School of Management, Northwestern; University of Chicago; MIT; and Harvard.

Among his fellowships and awards, Will was a Woodrow Wilson Fellow, winner of the Annual Health Care Research Award, National Institute for Health Care Management; Article-of-the-Year Award, Association for Health Services Research; Sodexo Marriott Corporation Health Care Services Faculty Publication of the Year Ward, American Academy of Medical Administrators. He also received numerous grant awards from groups such as the Robert Wood Johnson Foundation, the U.S. Agency for Healthcare Research and Quality (AHRQ), New York State Health Foundation, and the Anthem Foundation. He published a wide variety of academic papers in many prestigious journals and authored or edited all or part of a number of books, organized a number of conferences and made numerous presentations both in the U.S. and abroad. He has also been an expert witness in many cases regarding anti-trust in the health field. His primary research interest is health economics and his professional career focused on the organization and operation of healthcare markets.

Will was a professor in the Department of Policy Analysis and Management and the Director of the Sloan Program in Health Administration at Cornell University from 2003 through 2014.

Through his leadership, vision, and tireless work, Will turned the Sloan Program around. The program is greatly indebted to Will for his extraordinary leadership - his tenure as director was transformational. Under his direction Will attracted many faculty to Cornell (including Sean Nicholson, Julie Carmalt, Nicolas Ziebarth, Brooke Hollis and Colleen Carey), student enrollment nearly tripled, alumni became more engaged, and the program soared from 29th in the U.S.
News & World Report ranking of health administration programs to its current top-10 ranking. He taught microeconomics and the Colloquium course, led several successful and important accreditation processes, and raised the visibility of the Sloan Program externally through his leadership in national health education and administration organizations. His impact on the quality of the program is also reflected in reactions of so many alumni and other leaders in the field who have recruited Sloan graduates to work for them.

Professor White also positioned the program for a strong future by recruiting and developing an administrative team and exploring the potential for an executive M.H.A. program. One of Will’s most important legacies is training hundreds of students who are now helping health care organizations provide high-quality, affordable, and accessible health care throughout the country and beyond. His stewardship of the Sloan Program will continue having an impact for years to come. Among his contributions to the greater Cornell mission, he was the lead author of the health-related portion of the successful Tech Campus proposal.

Will’s other interests included 19th Century political cartoons, history, horse riding, and cross-country skiing. He is greatly missed by his cherished wife Olivia, children Gilbert and Lydia (Giovanni), and sisters Mary White and Frances Chapin.

There are a variety of funds and charities that he actively supported: the Friends Committee for National Legislation. Another is the White/Hollis Sloan Prize Fund at the College of Human Ecology that recognizes Dr. White for his contributions and helps to carry on some of his initiatives that encouraged students to engage in case competitions, hackathons and entrepreneurial activities by providing modest funds for prizes.

Written by Brooke Hollis, Rosemary Avery, and Sean Nicholson
Professor Herbert Frederick Wiegandt of Cornell’s School of Chemical Engineering, was a unique resource as a teacher and researcher.

Professor Wiegandt was born in Newaygo, MI on January 4, 1917 and died August 22, 2011 in Rochester, NY. His family moved to Chicago in 1921. Herb completed his B.S., M.S., and Ph.D. in Chemical Engineering at Purdue University. In 1944 he married Jane Scott and they had two children, a son Ralph and a daughter Ellen, and four beloved grandchildren, Eric and Anna (Ralph and Kathleen Wiegandt), Samuel and Jeremy (Ellen and Urs Luterbacher). Following in his grandfather’s footsteps, Jeremy received his doctorate in chemical engineering in 2012 from Cornell.

Herb Wiegandt joined the faculty of the Chemical Engineering Department in 1946 and retired in 1987. His career was dedicated to teaching, research, and applied chemical engineering. Herb was an expert in the practice of process engineering, with an innate skill to solve problems in a refreshingly simple fashion.

His remarkable career included a span of 15 years during which each year he worked for the French national petroleum company, ELF, for one academic semester, then continued his faculty appointment at Cornell for the other. Upon retirement from ELF in 1982, and Cornell in 1987, he and Jane traveled widely, and continued to maintain residences in Ithaca, Paris, and Provence. In 2005 the challenges of a transatlantic lifestyle became too great so Herb and Jane settled in Rochester.
For many years during the 1960s Herb’s weekly seminars, which were structured to introduce freshman engineering students to chemical engineering, led to many new “recruits” majoring in chemical engineering. This enrollment trend was not at all typical at the time, because chemical engineering had a reputation for being the most challenging major among Cornell’s engineering disciplines.

Herb was an early pioneer in large scale saline water conversion research, and led the development of the Cornell Desalination Process during the 1960's. This was an innovative, energy efficient approach that utilized direct contact cooling to freeze sea water and offered a viable alternative to distillation and membrane separation processes.

Robert Finn, Emeritus Professor in Chemical Engineering, recalls that “from time to time Herb would recount the challenges they had in field trials in the pilot plant in trying to make fresh water from sea water by freezing (and of course praise its advantages).” For example, Bob said that Herb frequently pointed out that conventional desalination processes involving distillation lose as much energy from the opening and closing of their control valves, than the total amount of energy used in the Cornell freezing process.

Peter Harriott, Emeritus Professor in Chemical Engineering, was quick to credit Herb with being the first one in our department to engage several of the faculty in a joint research project. Pete Harriott fondly remembers how much he enjoyed spending a summer working with Herb, Bob VonBerg and Jean Leinroth on scale-up and design of the Cornell freezing process for desalination.

I myself also recall many insightful discussions on the freezing process with Herb while I was a Master’s degree graduate student in his group in the late 1960s. “I was working on trying to understand why certain hydrocarbons would form solid water clathrates during the direct contact cooling with a boiling hydrocarbon. These clathrates or gas hydrates would compete with the desired process outcome which was to form ice. Herb had a rich intuitive understanding of hydrate thermodynamics and kinetics and by thinking in at least three and often more dimensions, he always seemed to be several steps ahead of me in interpreting the results of my latest experiments.

A major reason why Herb continued to work at ELF in France for so many years was a combination of his inherent ability to solve engineering problems and his deep understanding of how to apply principles of unit operations to petrochemical manufacturing. He learned a lot from this experience and was eager to share his personal experiences with students in the classroom when he returned to Ithaca every year. Peter Harriott remembers listening to Herb tell about some of his work at the French petroleum refinery, where he used common sense and sound engineering principles to solve problems. For example, when a large tank used for liquid-liquid separation was not performing well, Herb filled the tank with many lengths of cheap PVC drain pipe instead of just going to a larger tank, and with the increased surface area, it gave complete phase separation.
All who knew Herb, family, friends, and colleagues, would agree that he lived life to the fullest for his entire 94 years. In many ways he was far ahead of the profession in terms of appreciating the important aspects of sustainability that are so apparent today. In discussions with his students in the 1960s and 1970s he often expressed concern about the impact that a growing population was having on the planet. He was particularly troubled by increasing risks to water availability and quality along with the growing quantities of energy and mineral resources that we are consuming. Herb strongly believed that engineers need to address these challenges as a high priority in their work.

Jefferson Tester, Chairperson; Peter Harriott, Robert Finn
L. Pearce Williams, ’49, PhD ’52, the John Stambaugh Professor of History of Science Emeritus, died on February 8, 2015, at the age of 87. Pearce was one-of-a-kind. Tall, bombastic in both voice and attitude, politically conservative, a distinguished scholar, fiercely devoted to his students, and dedicated to teaching writing of the highest quality, he was a well-known figure on campus from 1960 until his retirement in 1994. He was a committed Cornellian.

Born Leslie Greenberg in 1927, Williams grew up in Croton-on-Hudson, New York, the son of George and Addie Adelia (Williams) Greenberg. He entered Cornell in 1944, intending to study chemical engineering. He left for a year in the U.S. Navy at the end of World War II. On his return, to fulfill a requirement, he took Henry Guerlac’s history of science course. He was smitten. For the rest of his life, he argued that one could not understand Western Civilization without understanding the history of science. After graduating in 1949 (and that year marrying Sylvia Alessandrini ‘49), he stayed on at Cornell to earn his Ph.D. under Guerlac, writing a thesis on “Scientific education in France during the revolutionary and imperial periods, 1789-1815.”
In 1948, Pearce and his brother Charlie ’44 (who later became the long-time business manager of the Cornell Alumni News) tried to volunteer for the army of the newly-created State of Israel. But, Pearce recalled, because they were only half-Jewish (and, by Jewish religious law, not Jewish at all), their service was declined. A few years later, finding that anti-Semitism was keeping Sylvia from finding a job, he and his brother legally changed their name, taking their mother’s family name.

On graduation, he taught at Yale, spent a year as historian at the National Foundation for Infantile Paralysis, and then taught at the University of Delaware. He claimed that one night, while teaching at Delaware, the bridge to his home had washed out and he had to ford a rushing creek, holding student papers high over his head to keep them dry. Pearce returned to Cornell in 1960, and never left. He became Professor in 1965, and took up the John Stambaugh chair in 1971.

Pearce began his scholarly work by looking at the social context of French scientific education. But he was ahead of his time, and “externalist” history of science was not yet in vogue. From the late 1950s, he focused more on the “internal” history of science, looking at the development of scientific ideas, with particular attention to the intersection of philosophy, religion, and science. He was best known for his 1965 biography of Michael Faraday (entitled, not surprisingly, Michael Faraday: A Biography), which won the History of Science Society’s Pfizer Award for best book in the history of science published that year. In the book, he argued that Faraday was the true father of electromagnetic field theory, providing the foundation on which James Clerk Maxwell would later build. Pearce published several other books in the area, and
compiled a two-volume set of Faraday’s correspondence. Pearce also edited a number of readers placing the history of science fully into the Western Civ syllabus. In the final years of his career, Pearce worked on a biography (alas, never finished) of André-Marie Ampère, the great French physicist. Pearce was proud that, at age 60, he taught himself Latin so that he could read Kant in the version to which Ampère has access. Pearce also edited the Cornell University Press series in the field and served on the Board of Editors for the *Dictionary of Scientific Biography*.

His teaching was legendary, both for the quality of his lectures and for the detailed comments he provided on student essays. Born to a vaudeville family, he was a natural performer. For many years, he presented to entering freshman “The Notorious Note-Taking Lecture (hint: it’s not about taking notes).” Among the topics was the founding of the university. Sample line: “One day, Ezra said to Andrew Dickson White, ‘I’ve got it! Our motto will be ‘An institution where any student can find instruction in any study.’ ‘Ezra, you can’t do that!’” White replied. ‘We’ll be overrun with students.’” Pearce waited a beat to give Ezra’s reply. “‘Not where I’m going to put it!’” After Pearce’s death, one student commented on Facebook that the Notorious Note-Taking Lecture “was the moment I knew I was at the right school.”

A key element of Pearce’s scholarship and teaching was his commitment to rational thought. In 1989, the *Cornell Daily Sun* wrote that “L. Pearce Williams found his religion of rationalism 40 years ago and has been preaching the search for truth ever since…. Like most fanatics, he is eager to teach by preaching the Word whenever and however possible – dynamic lectures to classes of 250 students, sarcastic letters to the editor, scathing critiques of colleagues’ work, stormy public debates and quiet one-on-one discussions with a student. These activities have earned the … history of science professor the respect of some (including a 1971 award for distinguished teaching), the resentment of others and the attention of all. On one thing everyone can agree: L. Pearce Williams cannot be ignored…. The story captured Pearce’s distinctive voice: “He acknowledges that his freely shared views are filled with strongly held value judgments, but he wonders what’s wrong with that. ‘This will come across as, ‘You pompous
“ass,” he said, ‘but I am a moral human being. I have standards of behavior.

Students are desperate for this, by the way, for someone who will fight for values.’”

Students did respond to him. In the Facebook comments after his death, one student wrote that he “chose History as a major because of [Pearce’s] masterful storytelling.” Tamar Terzian, herself the daughter of an extremely popular Cornell professor, wrote that Pearce was “my best professor at Cornell. I took four of his classes and used to trudge up Libe Slope on Friday mornings to be in his 8 am section.” Pat Munday, one of his last Ph.D. students, called Pearce “a great mentor.” Pearce also helped recruit funding from Philip Merrill ’55 to provide TA support for the Western Civ courses.

The upheavals of the 1960s tested Pearce’s politics, and he became adamantly conservative. He wrote frequently to the Cornell Daily Sun and the Ithaca Journal, gaining (according to his obituary) “a certain local notoriety, or fame, depending on one’s point of view.” Years later he told another story, recalling a time when radical students were threatening to march on the homes of professors they opposed. One African-American graduate student, Pearce said, had been a TA for him and dissuaded his colleagues from heading to Pearce’s home. “‘He’s got guns,’ the student said, ‘and he’ll use them!’” Whether the stories were true or not, Pearce loved the role he played. When he retired, the Cornell Alumni Magazine described him as “either a pompous blowhard or a tough-minded teacher who bludgeoned his students into becoming better writers; an erudite lecturer on the history of science, or, as the Cornell Daily Sun dubbed him, ‘Cornell’s Biggest Loudmouth.’ … ‘I don't think it's an exaggeration for me to say that throughout about 28 of my years at Cornell, mine was the only voice speaking up for Burkean conservatism. I'm not a Republican. I am, in fact, a Roosevelt Democrat who has stood still for the last 40 or 50 years while everyone else has moved.'
Pearce also served the institution in a variety of ways, including as Chair of the History Department (1969-1974). Then, in 1984, Pearce joined with astronomer Martin Harwit to lead a group on campus creating a graduate Field in History and Philosophy of Science and Technology (HPST). With seed money he raised from the National Endowment for the Humanities, he helped bring a cadre of young historians and philosophers to campus, placing them in departments across the university. A few years later, the HPST graduate field combined with the two-decade-old Program on
Science, Technology, and Society to form in 1991 a new department of Science and Technology Studies. I am not sharing any secrets – and holding back wouldn’t have been Pearce’s way anyhow – to say that not being the founding chair of S&TS was deeply disappointing to him. But according to records in the S&TS files, the department faculty at the time quite explicitly had hoped that he could somehow be formally acknowledged as a department founder.

Pearce retired in 1994, continuing to hunt with his Weimeraners and swim in the pool at his home on West Hill. Unfortunately, dementia arrived in the mid 2000s, robbing him of his beloved rationality, and Pearce spent his final years in a nursing home in Ithaca. He was survived by his wife of 65 years, Sylvia; by his children David, Alison, Adam, and Sarah; and by nine grandchildren.

*Bruce V. Lewenstein*
David B. Wilson, Ph.D., joined the Cornell faculty in 1967 and served 50 years. He received his bachelor’s degree from Harvard University in 1961 and completed his doctorate at Stanford University in 1966, both in biochemistry, and did postdoctoral research at Johns Hopkins University. He was a pioneer in the study of cellulases, which are enzymes from bacteria, fungi and plants that have evolved to decompose cellulose, the principal structural component of plant cell walls and the most abundant polymer in the biosphere. Cellulases break down cellulose so it can be converted into sugars, a critical step for making biofuels.

“David was a true biochemist who was devoted to understanding how the world might derive clean fuels from plants,” said Linda Nicholson, professor of molecular biology and genetics. “He was a world leader in this area, and was immensely generous with his time and knowledge. He was a wonderful colleague who will be tremendously missed.”

Wilson hailed from a family of distinguished scientists. His father was renowned chemist Edgar Bright Wilson, considered a father of microwave spectroscopy and co-author with Nobel laureate Linus Pauling of the seminal textbook “Introduction to Quantum Mechanics.” His brother was the late Cornell physicist Kenneth G. Wilson, who won the Nobel Prize in physics in 1982.

While at Cornell, Wilson was a member of the fields of molecular biology and genetics, microbiology and toxicology, where he took part in many interdisciplinary collaborations. Wilson used a combination of genomics, protein engineering, structural biology and
molecular biology to develop detailed mechanisms to explain how cellulases and related proteins work to break down cellulose.

“He was a brilliant scientist and a very generous colleague who was always interested in other people’s ideas,” said John Brady, professor of food science, who collaborated with Wilson by combining molecular modeling of cellulases and genetic engineering techniques to slightly alter amino acids in cellulases to make them work faster and more efficiently. “It’s a great loss to the university and to the field of enzymology.”

Wilson’s research on cellulases began in the 1980s and initially involved investigations into the basic biochemical principles for how these enzymes work. In the 1990s his work took on a more applied importance because of the growing interest in using biofuels as renewable energy sources. Researchers have been working to efficiently break down cellulose from waste biological materials such as the leaves and stalks from corn or wood chips from lumber sawmills into sugars, which can then be fermented into alcohol for biofuels. He focused on understanding the diversity of these enzymes in nature, the key reaction mechanisms used by them to hydrolyze crystalline cellulose, and how they interacted synergistically to yield much higher rates of hydrolysis than one would expect from their individual activities. David also pioneered the use of molecular biology methods to produce clones that yielded large quantities of a particular cellulase, and he used protein engineering methods such as directed evolution to understand and manipulate bases and acids in the enzymes’ catalytic sites.

During his career, he authored or co-authored over 200 papers. In 1999, Wilson co-founded with Ed Bayer of the Weizmann Institute the highly successful biennial Gordon Research Conference on Cellulases and Cellulosomes. He served as Chairman, Key Note Speaker, and Session Chairman of this conference, which celebrated its 10th meeting in 2017. Wilson was known to organize long walks with the Gordon Conferences participants that often led to insightful scientific discussions on exploring global sustainability challenges while taking in the beautiful nature.

Wilson also worked in the field of toxicology, especially early in his career, where he focused on developing new bioremediation technologies, including systems for concentrating, removing and recycling heavy metal contaminants such as mercury in soils and water with genetically engineered bacteria in bioreactors. He served as director of the Cornell’s Institute for Comparative and Environmental Toxicology from 1997 to 2005. He also directed the Biotechnology Program Fermentation Facility from 1990 to 2005.

Wilson taught courses in biochemistry and molecular biology, including Biosynthesis of Macromolecules, which he co-taught for many years with colleague Jeffrey Roberts, and sat on graduate committees of students in biochemistry and microbiology.

“He was always very patient in the lab with everybody,” said Maxim Kostylev, Ph.D. ’13, a postdoctoral researcher in microbiology at the University of Washington and former graduate student under Wilson. “Anytime I was stuck with my experiments, when things weren’t going well, I’d start a conversation with him, and that always made me feel much better.”
“He has received much recognition for his work, including election to major scientific organizations, being asked to run major meetings in his field and prestigious journal editorships, most recently at the Journal of Biological Chemistry and Applied Environmental Microbiology,” said Eric Alani, professor and former chair of the Department of Molecular Biology and Genetics.

Wilson received honors from the Johns Hopkins University Society of Scholars (1990) and the American Academy of Microbiology (2003). Locally, Wilson served as chairman of the board of directors at Cayuga Medical Center in Ithaca from 1994 to 1999, and he also was a lifelong sports fan and a coach of youth sports teams when his daughters were young.

Wilson is survived by his wife, Nancy, three daughters, two sisters and two brothers.

Written by Eric Alani, Larry Walker, and John Brady
This statement was modified from an article written by Krishna Ramanujan published on May 15, 2017 in the Cornell Chronicle.
Professor Emeritus Madison J. Wright passed away on April 27, 2019 in Ithaca, New York. Madison was born on April 9, 1924 in Washington, DC, the son of Elvira and Carlton Wright (Admiral of WWII fame). His undergraduate work was in chemistry at the University of North Carolina – Chapel Hill from 1942-44 and 46-47. He served as an electronics technician in the Naval Reserve from 1944-46. He received his doctorate in agronomy and botany from the University of Wisconsin – Madison in 1952. He was appointed assistant professor of forage crops (production and management of crops to feed livestock) at UWM and held that position until 1959. He then became associate professor of agronomy at Cornell University, specializing in research and teaching of forage crops. Professor Wright was promoted to full professor in 1968. He was chairman of the Department of Agronomy at Cornell from 1970 to 1975. Before becoming department chairman, he worked with colleagues in the college to develop experimental field trip courses around the United States and then in foreign countries. This program helped establish Cornell’s prominence in international agriculture. Subsequent field courses in international agriculture development are still being taught today. While department chair, Professor Wright used aerial tours for new faculty from other parts of the world to help them become familiar with the diversity of agriculture in New York State. He also fostered very productive research exchanges with other countries of which the seed science program with Poland was exceptional.

After his term as department chair, Professor Wright focused on international agriculture and taught the Cornell course on tropical crops. He also became the extension and research leader for Cornell in oilseed crops, focusing on soybean. Professor Wright is credited with the reintroduction of soybean to New York agriculture. At the start of that work, soybean
was a minor crop in New York State, but based on his work, soybean is now a crop of major importance here. His reflections on this and other aspects of his career can be viewed in the joint presentation with Professor Tom Scott at ecommons.cornell.edu.

Always a servant citizen of the groups to which he belonged, Professor Wright received several recognitions for his contributions to the college, the university, and New York State agriculture. In 1976, he was elected as a Fellow of the American Society of Agronomy, its highest honor. In 1990, he received the Career Service Award of the Northeast Branch of the American Society of Agronomy. Professor Wright had retired in 1989.

His extra-professional contributions include 16 years as a county representative to the Central New York Resource Conservation and Development project. He also served for several years on his local Environmental Management Council and worked as a volunteer with the Ithaca Neighborhood Housing Service. Professor Wright had 40 years of membership and active service with the First Congregational Church of Ithaca. He also helped to start the “Information Outposts” to provide travel directions to students and parents as they arrived in Ithaca at the start of Cornell’s fall term. As a resident of Kendal at Ithaca, he was active in the Ithaca Woodshop Committee and was declared to be their “Screw-Master General Emeritus” in 2018.

Professor Wright is survived by his wife Mary, four children (David, Martha, Bill, and Sarah) and five grandchildren. He will be remembered as a catalyst in innovation and as a model gentleman.

*Written by Gary W. Fick, William J. Cox, and Ralph L. Obendorf*