

Dr. Linda Katehi: Engineer, Chancellor, Inventor, Researcher, Educator and Champion of Gender Equity, Social Justice and Interdisciplinary Research

By Aphrodite Matsakis

Special to *The National Herald*, New York, NY. Circa 2011

Greek born Dr. Linda Katehi was so good at math and science in elementary school that her teachers encouraged her become a high school teacher, a traditionally feminine but respectable position. But when, at age 12, Katehi saw video clips of the Apollo Space Program during the late 1960's moon landing, she realized that she wanted to become something different – an electrical engineer.

“I was thrilled to see the space capsule guided by the control room at the Houston NASA base, and I decided that I wanted to become like one of these men: to work with electronics. It was then that I told my parents that I wanted to become an electrical engineer. My dad became very upset. He said that two things would happen to me: no one would marry me and no one would hire me,” Katehi recalls.

But her father, now one of her “biggest fans,” proved wrong. After earning her degree in mechanical and electrical engineering from the National Technical University (NTL) of Athens in 1977, not only was she hired as a senior engineer by the Naval Research Laboratory in Athens, but she became engaged to Spyros Tseregounis, also an engineer.

She now holds **17** U.S. patents (with five more in the application process) and has earned so many honors and awards for her work that a list of them could easily fill two pages – single

spaced. Among Katehi's dozens of awards are the Presidential Young Investigator Award from the National Science Foundation, the URSI Booker Ward, a Humboldt Research Award 1994, the IEE MTT-S Microwave Prize, IEEE Third Millennium Medal, the IEEE Marconi Prize, five best paper awards, the Distinguished Educator Award from the IEEE Microwave Theory and Techniques Society and the Leading Light Award for Women in High Tech from the state of Indiana. She is an IEEE Fellow and was elected to the National Academy of Engineering. In 2007 President Bush appointed her to be one of the 12 select scientists and engineers on the President's Committee on the National Medal of Science. *During her years as Provost and Vice Chancellor for Academic Affairs and Professor of Electrical and Computer Engineering at University of Illinois at Urbana-Champaign, Katehi played a key role in shaping the future course of this prestigious institution. Today as Chancellor of the University of California at Davis, she is **exercising** an even greater opportunity to shape the direction of yet another prestigious institution.*

Nevertheless, at the outset of her career, as her father had predicted, Katehi did encounter negative attitudes. During the 1970s, in Greece as in the U.S., increasing numbers of women were entering higher education. Yet few were encouraged to pursue traditionally masculine occupations such as engineering. As a freshman at the NTL, Katehi was one of two women in a class of 180. "During my first week, the class president called privately and asked me why I decided to go to the Polytechnic and take away the position from another male student who could put the profession in use, as opposed to me who would graduate and stay home to raise a family. That discussion shook me up. It took ... a tremendous effort ... to decide to stay ... and finish despite the hostility that I felt early on," Katehi remembers.

But she finish she did. Afterwards she and her fiancé came to the U.S., married and enrolled in the University of California at Los Angeles (UCLA), one of the top engineering schools in the US. Here they both completed their master's and doctoral degrees in record time.

In 1984 Katehi became an assistant professor of electrical engineering at the University of Michigan in Ann Arbor. By 1994 she had achieved full professor status. During her 18 years at Ann Arbor, she not only taught electrical engineering, but was advanced to a series of increasingly influential administrative posts which culminated in her becoming Associate Dean for Academic Affairs.

In 2002 she went to Purdue University where she was dean of engineering at the Electrical and Computer Engineering Department. In 2006, she became provost at the University of Illinois. All the deans and directors of every academic department reported directly to her. She also oversaw all academic and financial programs and policies. Even though, at the time, the campus had a budget of some \$1.5 billion, with over \$400 million allocated for research, she was often faced with difficult choices between competing priorities. Despite encountering similar difficult choices, state budget cuts, layoffs and other obstacles as Chancellor of University of California at Davis, she is determined that UC Davis involve itself in researching the critical issue of global climate change and help “uncover and deliver the facts so that the world’s opinions can flow from there.”

Thus far, she has mentored and graduated over 70 post-doctoral fellows, Ph.D. and M.S. students in electrical and computer engineering.

In line with her Greek heritage, Katehi holds the twin passions of advancing knowledge and effecting social justice, goals she has worked tirelessly to achieve throughout her academic

career. Indeed, one of her motivations for accepting the positions of provost at the University of Illinois and afterwards, in 2009, of Chancellor at the University of California were that these roles would expand her opportunities to promote interdisciplinary research and ethnic, religious, racial, gender and intellectual diversity on campus.

For example, during her first year as provost at the University of Illinois she helped create a campus Gender Equity Council, which addressed gender inequalities not only on campus, but throughout the world, especially in the area of education. Katehi also started an annual lecture series on gender equality which hosted a brilliant array of men and women.

“This recognition of their contributions,” Katehi comments, “helped create a wonderful intellectual dialogue around the status of women and the slow progress we have seen in improving the conditions of work and recognition of their contributions.”

Four years ago a calendar was published which displayed “hot not nerdy” women University of Illinois engineering students in Playboy attire and poses. “It’s not brains or beauty, but brains and beauty,” one of the models naively stated, not realizing that the calendar was selling female submission in the guise of liberated sexuality.

“It is difficult enough to be treated as equals. I don’t think posing half-nude in the calendar helps us any,” protested the president of one of the campus’ professional and social sororities for female engineers. Katehi agreed. “As a female engineer, I feel this act is demeaning,” she stated. “Women engineers do not fit the stereotype of a ‘nerd’ just because of who they are and what they stand for. ... In fact promoting their sexuality emphasizes yet another stereotype of women as the ‘less intelligent.’” Although Katehi could not ban the calendar out of existence, she ordered that the university name be stricken from its cover, and it was.

As provost at the University of Illinois, Katehi dealt with politically complex and heated issues, such as pressure for more Islamic studies and the presence of Blackwater contractors on campus. As Chancellor at the University of California, she has continued to confront controversial issues and has taken a firm stand against racism, gay bashing and contempt for other cultures by developing a Hate-Free Campus Initiative which includes a Hate-Free Campus Distinguished Speakers Series and a Campus Action Plan with two components: a Rapid Response Team to respond promptly to instances of discrimination and an educational program to help “further the Principles of Community.”

“Universities are a microcosm of the broader society. We deal with complex issues all the time,” Katehi explains.]

Despite her many achievements, Katehi also must cope with another complex dilemma which commonly confronts women who chose traditionally masculine professions or who hold positions of power whether in academia or in other institutions. Often such women are expected to meet the usually opposing requirements of the stereotype of the ideal man and that of the ideal woman. However, when they act like the ideal man, that is, decisive, self-confident, self-reliant, rational, assertive and emotionally controlled, they run the risk of being labeled “controlling” or “unfeminine.”

Yet, when they act in a submissive or an emotional manner or in other ways like the stereotype of the ideal woman, they may be viewed as “touchy” and less competent as leaders. Although not as explicit as in the past, Katehi notes that these and other forms of sexism still exist in the male dominated profession of engineering. “You receive many comments that make you feel different and at times, you feel your colleagues doubt your ability. For example, a female

engineer will qualify as either ‘too soft’ or ‘too aggressive’... or as ‘too irrational’ or yet ‘too young’ or ‘too old.’ It seems there is no middle ground for anything.”

When asked how she handled this situation, she replied, “By just doing your best work and moving forward. I’ve learned not to worry about innuendos and comments that may challenge my competence. I ignore them and keep working towards my goals.”

She describes her extensive electromagnetic **work in reducing the size and cost of communication systems as “similar to what we have in cell phones, miniature radars and miniature sensors. My work led to new technologies that are now widely used by civilian and military communication systems.”

When asked which of her many scientific innovations are the most meaningful to her, she replied, “I have a few papers that really change the way we do circuit design in miniature communication systems and sensors – these are the ones I value the most.”

Katehi’s father is from Corfu; her mother, from Salamis. Katehi was born in Athens, but grew up on Salamis because her father was in the navy band. She describes her father as “a trained musician who learned music before he learned how to read and write;” her mother, as a housewife who eventually started her own business; and both parents, as being “very supportive” and as having given her a strong set of values.

“My mother taught me to try to finish an effort before I start something new ... to never lie and never take advantage of anyone. When I was young, my parents told me that the only way not to be punished for any bad deeds was to ... tell them everything I did wrong. So every night ... my dad would ask me what I did wrong and I would tell him. I would also argue with him if I felt

that his judgment was unfair. He would give me only one pass. I was told never to make the same mistake twice.”

Katehi began learning English in the second grade when her father was assigned to the naval base in Crete where the wives of many Americans in the NATO base taught English at school after hours. “So I started fairly early and I continued until after I entered college. I spent many years attending classes at the Greek American Union in Athens.” Katehi and her husband are the only engineers in their families. Their son is a microbiologist; their daughter, a law student; and the members of their extended family include doctors, architects and lawyers. At home, Katehi and her husband speak mainly Greek, but use English when discussing work.

While at the University of Illinois, this dedicated couple helped organize events and raise funds to promote a new Modern Greek Studies Program at the University of Illinois. Katehi’s goal was to make it “one of the best in the country.” Although she does not collaborate with any specific scientific or other institutions in Greece, she has many colleagues there and, due in part to her efforts, several years ago the University of Illinois began to work closely with the Cyprus Institute. Part of this program includes a faculty and student exchange.

Katehi is also a board member of the EU of Cyprus, and she and her husband visit Greece at least once a year. “My husband and I came to UCLA to get a master’s and then go back to Greece. We ended up staying to get our Ph.D.’s as well, so our dream to go back to Greece changed to a dream to stay here. However, our love for Greece has remained strong,” she states.

When asked what her Greek heritage means to her, she replied, “Being Greek is a gift that we are given at birth. We carry a tremendous history of many mistakes and achievements. We have an attitude towards life that is marked by pride and endurance. The skill for survival is very

deeply embedded in our culture, and this is what makes us strong and successful. We have very strong family ties, and we draw strength from them.”

“I believe we can be both Greek and Americans at no expense to each other. We have the capacity for being both and combining the best of both. The Greek culture has been attuned to multi-nationality since Greeks left their homeland for the first time to explore other places thousands of years ago. It is part of our identity and a skill we should be proud of.”

“You seem like a superwoman to me. How do you handle your myriad of professional responsibilities and the social obligations that go along with your various academic roles and still find time to be involved in science and meet your family responsibilities?” I asked Katehi at the end of our interview.

“There are no superheroes; just simple people who are driven by the desire to make an impact. I am one of them,” she replied. “What was unique about me is the support I have from my husband, my children and my parents. They have been my greatest fans, and they always tell me that everything is possible.”

Aphrodite Matsakis, Ph.D., counseling psychologist, is the author of “Back From the Front: Combat Trauma, Love and The Family” as well as 13 books on a variety of psychological topics and “Growing Up Greek in St. Louis.” (Arcadia Publishing, 1998). Visit www.matsakis.com for further information.