Thank you, David, for the kind introduction. I am honored to receive an award bearing the name of Victor McKusick, one of my heroes in genetics, and to join the ranks of the distinguished previous awardees who have inspired me in my career. I thank the board and the selection committee. Most importantly, I thank my patients and their families for their trust and support. Over the next few minutes, I would like to share with you why I love genetics and believe it holds the secrets to advancing medicine and health.

My life has been punctuated by remarkable chance events and incredible people. I began medical school at the American University of Beirut, but the Lebanese civil war led me to complete my degree at Meharry Medical College, thanks to the intervention of the dean who allowed me to transfer mid-semester. Although I had excellent grades, most residency programs passed over my application. Once again, my fate hinged on one special person: during a rotation at Baylor, I met Ralph Feigin, the chair of pediatrics, who expressed real interest in me, and on Match Day, learned that I would be in Houston. Ralph taught me not to overlook any clinical detail and to master the literature. I’d intended to pursue pediatric cardiology, but when I rotated in neurology under Marvin Fishman, I was inspired to become a neurologist.

My career path changed again when, as resident, I met a girl named Ashley who had been healthy until she turned two. Then, over a period of a few weeks, she stopped speaking and gradually lost all the milestones she had achieved. She withdrew from her parents and spent hours wringing her hands. Ashley was referred by her pediatrician, who suspected Rett syndrome based on a paper just published by Bengt Hagberg, describing the syndrome for the first time in English. I saw Ashley with Alan Percy and Vincent Riccardi, the attending neurologist and geneticist. I was intrigued by Ashley’s diagnosis, but a serendipitous meeting a week later with a girl diagnosed with cerebral palsy sealed my relationship with Rett syndrome. As she walked into the exam room, wringing her hands, I immediately realized it wasn’t cerebral palsy, but Rett syndrome. Combining through the clinic’s medical records, I ended up identifying and examining six girls with Rett syndrome within a few weeks. Rett was unlike any other disease I had seen, being neither congenital nor neurodegenerative.

After seeing these girls, I was convinced the cause was genetic and felt compelled to figure it out. I approached Art Beaudet about doing a research fellowship in his lab to learn molecular genetics. Art took me on despite my having no research background whatsoever. I shared my desire to work on Rett, but Art urged me to find a Mendelian disease to study because finding the causal mutation for a sporadic disease with the technology available in 1985 was not possible. Though I kept working on Rett, I took his advice and expressed interest in dominantly inherited neurodegenerative disorders. He introduced me to members of a family with a rare, dominantly inherited ataxia. I traveled to Montgomery, Texas for months to examine the extended family and collect blood for DNA. Art taught me how to do science. He is a dear friend to this day and I remain forever in his debt.

During my efforts mapping the ataxia gene, I read a paper by Harry Orr, describing a family in Minnesota with spinocerebellar ataxia that had its gene localized to chromosome 6—the same chromosome my research had pointed to. Strangely, the genes in our respective families mapped to two different regions of chromosome 6. Back then, there weren’t many DNA markers, but the late David Cox had developed radiation hybrids to generate fragments of chromosomes. Under David’s guidance over the phone, I learned the protocol and developed radiation hybrids for chromosome 6, which gave me a good excuse to call Harry and offer to collaborate.
To my delight, Harry agreed to collaborate. We worked together on our different regions of chromosome 6, but it bothered me that the same clinical entity could map to two different regions of the same chromosome. (This would not seem strange today, given our knowledge of genetic heterogeneity.) I did a lot of detective work and figured out that in a small branch of the Texas family, the disease did not come from the main bloodline but from a spouse who died before developing symptoms. The odds of a disease with a prevalence of 1/100,000 to run in the same family through two unrelated bloodlines were unfathomable, but it happened. I realized that by including this individual, my gene mapped on top of the gene in Harry’s family.

Between 1988 and 1993, we continued marching through genes. David Nelson and I had many discussions about the CGG repeat expansion causing Fragile X syndrome, but I never suspected any connection with SCA1. But one day, Tom Caskey, then-chair of genetics at Baylor, gave a seminar about CTG expansion causing myotonic dystrophy. He described how the repeat expansion explained anticipation, the worsening of the disease as it passes through generations, and I realized this was exactly what I was seeing in my SCA1 family. I called Harry, and we agreed to divide the million-base-pair candidate region between us and search for triplet repeats. We also agreed that we would both cover a 75kb region in the middle. Within weeks, on April 8, 1993, we both discovered the same gene on the same day.

Two different regions of chromosome 6 were covered, so we decided to search for triplet repeats. We also agreed that we would both cover a 75kb region in the middle. Within weeks, on April 8, 1993, we both discovered the same gene on the same day. We collaborated with Carolyn Schannen and Uta Francke and pooled our efforts on three families with two affected females in each to exclude about two-thirds of the X chromosome, but there was no gene at the breakpoint. Another had an inversion on the X chromosome, but there was no gene at the breakpoint. Yet another had an inversion on the X chromosome, but there was no gene at the breakpoint.

My incredible Baylor colleagues and wonderful chair Brendan Lee. The collaborative and nurturing environment of our department has made my career pure joy.

Beyond mentors and colleagues, the support of family and friends was essential at every step of my career.

• My husband, William, who has been my partner every step of the way while leading his own passionate and successful career in cardiology. His unconditional love and support while we raised our two children, Roula and Anthony, allowed me to go to the lab on nights and weekends and gave me the emotional support I needed when the rewards did not come from experiments.

• My other extended family of trainees, “the Zoghbians,” make my career in science a most rewarding one. The 87 graduates and the current 23 trainees have taught me as much as I have taught them. Their hard work, commitment, and passion give me faith that neurogenetics and disease research will be in capable hands for decades to come. Thank you.