

Thank you, Provost Coleman, Rashid, Tony, and Yonggang, for your generous words. Thank you so much Yonggang for coming all the way from Northwestern. I know how busy you are. I am so blessed by your friendship.

And thank you all for being here today. I am honored, and humbled.

I am humbled by this recognition from our college. I know how rich our college is with extraordinary scholars and intellectuals—many of whom have contributed far more than I have. I simply got lucky.

I've been fortunate to work with some of the best graduate students and postdocs. They deserve the real credit. May I ask my current group members to please stand and be recognized? Thank you.

I am lucky to have my department heads—Richard Buckius, Huseyin Sehitoglu, Placid Ferreira, and Tony Jacobi—whose steady support shaped my journey here. The care I received from Tony and Placid during the most difficult time of my life—when my wife and I cared for my mother at home for six and a half years. Your support will always stay with me.

Let me share a story about Huseyin. During my second interview at UIUC, my one-on-one with him was scheduled for 1 a.m. I thought Illinois folks might be confusing AM and PM—but I was wrong. After I joined, I often traveled to Cornell to use their nanofabrication facility, working overnight for several days. One bitter winter night in Ithaca, at 2 a.m., I heard a knock on the lab door. It was Huseyin. I asked, “What are you doing here?” He said, “To see what you’re doing.” He had come to understand what I needed, so he could help bring those capabilities to Illinois. He left Ithaca that morning. He cared for me.

Since my career started, my colleagues gradually turned into my trusted friends. This is a priceless gift. Arne Pearlstein, Petros Sofronis, and Rajinder Khosla of NC State, among others, guided me through my good and difficult times. They had no shortage of time for me.

My sincere thanks to MechSE staff. They pave my way every day to ease my journey. Our business office, grad and undergrad programs, to name just a few.

I am lucky to have a few close friends in the Champaign-Urbana community, and family members far away who have always stood by me. Without their love and care, I would not be here.

I was fortunate to be mentored by some of the deepest thinkers in mechanics: William Nix of Stanford, Eduard Arzt and Huajian Gao of Max Planck, Yonggang Huang at Illinois and Northwestern, Ron Adrian of Illinois, Ben Freund, my PhD advisor Herbert Hui, and the late Professor Jamilur Reza Chowdhury of Bangladesh.

My intellectual journey has also been shaped by many visionary and bold thinkers at Illinois—Rashid Bashir, Joon Kong, Mattia Gazzola, Rohit Bhargava, Nancy Amato of Computer Science and Cathy Murphy of Chemistry. They inspired me to enter into new territories of living machines, computing with living neurons, or mechanics of cancer tumor. Rashid taught me to dream boldly, but he forgot to tell me the risks.

And perhaps most of all, I am grateful to my parents. My mother inspired my curiosity from childhood through to her final days. And my greatest fortune is my wife, Shahneela Chowdhury. Since 1993, she has stood by me through every high and low. She never gave up hope that one day I'd be home in time for dinner. I still haven't, but she's remarkably patient. She raised our two children, Farzad and Faaiza, with extraordinary dedication and love. They fill our lives with unparalleled joy. They both graduated from Illinois. Farzad is an economist and works for CVS. Faaiza is finishing her 2-yr research assistantship at the Harvard Medical School, and will start her PhD program at the Ohio State School of Medicine this Fall. She bakes excellent cakes.

Much of my path was shaped by unexpected encounters. After my PhD in theoretical mechanics, I couldn't find a job. Prof. Noel MacDonald at Cornell trained me on micro- and nanotechnology. That enabled me at Illinois to develop a new generation of microsensors. They allowed us to measure material properties at the nanoscale while simultaneously imaging the evolution of their microstructures at high resolution. This led to two discoveries: nanostructured metals, when deformed plastically, can return to their original shape with time. This is like a bent paperclip returning to its original form or a car bumper self-recovering after an accident in a day. It seemed paradoxical at first look. It took ten years to understand. The underlying mechanism turned out very simple. This mechanism has since been verified by many labs around the world.

Another turning point came in the early 2000s when I crossed paths with Matt Wheeler of Animal Sciences and Don Ingber at Harvard Medical School. They hand-held me into the world of biomechanics. I knew nothing about biology, but Martha Gillette encouraged me. Then Akira Chiba of Cell and Developmental Biology told me something amazing: neurons in fruit flies stop functioning when dissected, but start working again if their cut ends are gently pulled. This suggested that neurons might require mechanical tension to function—like guitar strings. Gene Robinson, then Director of the Neuroscience Program, invited me to join, opening the door to neuromechanics.

Over the next two decades, together with Akira Chiba, Justin Rhodes of psychology, and Paul Selvin of Physics, we found that mechanical tension may be a fundamental property of neurons—including brain neurons. This tension could help us understand memory, learning, and possibly neurological conditions like dementia, depression, and Alzheimer's disease.

Let me now take you back. When I was in grade 2 or 3 in Bangladesh, I used to listen to *Voice of America*. In the afternoons, they had a show for kids. What fascinated me most

was that American moms baked cookies and cakes at home. We didn't have an oven. My mother couldn't bake. A pound cake was a rare treat—something we had maybe once a month. America seemed magical. Cakes became my only motivation to go to America.

But that dream was quickly overtaken by reality. In grade 4, our liberation war broke out, leading to the independence of Bangladesh. Three million people were killed. We became refugees, moving from village to village, often surviving on a single meal a day. I lived in constant fear. At any moment, the military could arrive. My only peace came from watching birds in the sky and thinking, *I wish I were one of them—free, without fear*. At that point, freedom became more precious than cake.

We became independent in December 1971, after nine months of war. During the war our universities were among the first targets. Many students and professors were abducted and killed. I was told: *to destroy a nation's future, destroy its centers of knowledge*.

As I grew older, the American Cultural Center became my favorite library. Through its books and magazines, I came to see the United States as a land of freedom, discovery, and boundless possibility. I learned that American universities were not only engines of research, but also institutions that stood for justice. I learnt that during the war, universities across the U.S.—including Harvard, MIT, Stanford, UC Berkeley, and Illinois—protested the genocide in Bangladesh. They stood with my people. Their voices echoed my deepest pain. American universities became my dream.

I applied to several graduate schools in the U.S., including UIUC—and was rejected. Ten years later, I was accepted—not as a student, but as a faculty member.

I still hold hope. Our universities will remain the bedrock of free thought and innovation—the conscience of the global human family and a voice for those who are silenced. But we will be tested—again and again—to uphold our values and resilience.

A thousand years from now, when the world looks back, these institutions will be remembered as among the greatest contributions of American civilization. They will stand as enduring beacons, inspiring young minds across distant lands to cherish freedom of thought and inquiry, and to stand for a just world.

As the great Sufi poet Rumi asked, “Why do you stay in prison when the door is so wide open?” Universities will continue to illuminate that open door—for all of humanity, to free us from the prison of ignorance and hatred.

Thank you.