



Dr. Marwa Sallam, a Senior Scientist at Brown University and a CRS leader, shares her journey of navigating motherhood, international research, and scientific collaboration. Her story exemplifies the importance of perseverance, cross-cultural teamwork, and the value of community within the Controlled Release Society.”

The Controlled Release Society (CRS) has given me more than professional connections, it has offered a true sense of belonging within a global community united by a commitment to advancing drug delivery science for real-world impact. As I reflect on my professional journey, I recognize how deeply it is interwoven with my personal identity: an Egyptian woman, a wife, a mother of two daughters, and a scientist driven to make a difference. Every step forward has required navigating complex decisions, cultural transitions, and the ongoing challenge of balancing family, career, and self.

I was born and raised in Egypt, in a quiet inspirational home. My father, a university professor, was my earliest role model for his deep respect for education, dedication to science and his quiet perseverance through his battle with cancer. My mother, a chemist, chose to leave her career devoting herself to raising and educating us. From her, I learned the value of family, sacrifice, and unconditional support. Painfully, during my final year of pharmacy school exams, my father passed away at the age of 55. His illness & loss was a profound personal tragedy and a turning point in my life. I was determined to honor his legacy. In Egypt, academic positions at public universities are fiercely competitive and reserved exclusively for the top-performing undergraduates. I had to keep my GPA at the very top to secure a position. Despite the emotional weight, I graduated from Alexandria University with distinction and honors at the top of my class knowing that academic excellence would be my way forward.

Soon after graduating, I began a new chapter, starting my academic career and building a family. While pursuing my Master's, I had my two daughters and it was the beginning of a life-long balancing act; planning research with babies in my arms, supervising lab sessions after sleepless nights and early mornings preparing my children for school, and later preparing lectures while organizing my daughters' intense gymnastics training alongside their British-system schoolwork. Yet balancing a demanding academic career and family life in Egypt was often challenging, especially amid social expectations that women prioritize home life over career ambitions, limited research funding, few collaborative opportunities, and almost no support for translational research. Driven by my scientific curiosity and desire to broaden my perspective, I sought research

opportunities abroad. Over the following years, I was awarded multiple international fellowships that enabled me to conduct research visits across Europe, including at the University of Granada and Centro de Investigación Príncipe Felipe in Spain, and the EPGL in Geneva, Switzerland. These visits were critical in shaping my expertise and widening my perspective. I collaborated with researchers from diverse cultures backgrounds, and disciplines gaining not just technical training but a deep appreciation for global science.

These experiences were intellectually enriching, but also logistically and emotionally demanding. I often had to leave my young daughters behind for months at a time. It was never easy, but I saw these trips as investments, in both my career and future I wanted to build for them.

The pivotal moment came in 2019, when I was awarded a Fulbright Fellowship to join the Mitragotri Lab at Harvard University. That opportunity was transformative. Immersed in an ecosystem of innovation and translational research for the first time, I felt that my work must be shaped to have a real impact. It wasn't easy to leave my family for months at a time, nor to manage the long-distance parenting of two adolescent girls. But their encouragement along with my husband's unwavering support & belief in my mission carried me through.

That fellowship catalyzed a broader shift. It reminded me of why I had chosen this path and showed me what was possible when science is fully supported. I returned to Egypt during COVID, where I was promoted to full professor, however, it became clear to me that I could no longer reconcile my aspirations for translational research with the structural limitations I faced. In 2023, I joined Brown University's School of Engineering as a Senior Research Scientist, working with Dean Desai on developing advanced biomaterials for immune modulation, among other translational research projects.

Of course, relocating to a new country at a mature career stage is not without its struggles. It meant rebuilding my professional network, adapting to new systems, navigating visa bureaucracy, and accepting the emotional toll of geographic separated from my family.

One of the most empowering aspects of my professional life has been the support and inspiration I've found through the Controlled Release Society (CRS). CRS has been an anchor, opening doors to intellectual growth, leadership, and global collaboration. Through serving on the Young Scientist Committee (YSC), the Women in Science (WIS) subcommittee, and as part of the leadership in several CRS focus groups including nanomedicine, oral delivery and Bioengineering focus groups, I found not only a platform, but a voice. These roles elevated my visibility as a scientist, deepened my commitment to mentorship and inclusion in the scientific community, and connected me with peers and pioneers who share a passion for excellence and interdisciplinary impact.

To those navigating similar paths, especially women in STEM, mothers, and researchers from underrepresented regions, know that success isn't defined by how straight or smooth your journey is. The choice between staying and leaving, between home and ambition, is deeply personal and often difficult. But we don't have to sacrifice one for the other. With determination, persistence, and the right community, it is possible to build a life and career that honor both our values and your aspirations. Balance isn't a destination; it's a journey of constant recalibration.

I don't claim to have it all figured out. There are days I miss being present in my daughters' daily lives. But I also know I am honoring them, showing them, through action that courage, growth, and contribution transcend borders. They've seen me navigate cultural transitions, long absences, and scientific setbacks. Today, they are forging their own paths in pharmacy and engineering. That, to me, is the most meaningful success.

In the end, our stories matter, not because they are perfect, but because they are true. By sharing them, we illuminate what's possible. I hope mine offers encouragement to anyone striving to integrate personal and professional purpose: with conviction and community, the balance is not only possible, it's powerful.