

DARE Q & A with: Dr. Lora G. Weiss



Dr. Lora G. Weiss is a Lab Chief Scientist and Technical Director of Autonomous Systems at the Georgia Tech Research Institute. Her research is on the design and development of robots and unmanned systems, including air, ground, sea-surface, and undersea robotic systems. Dr. Weiss served on the Board of Directors for the Association of Unmanned Vehicle Systems International (AUVSI), the world's largest unmanned systems organization, and on the Technical Advisory Board of the nation's Robotics Technology Consortium. She is a member of the Executive Board of the National Defense Industrial Association and currently chairs the American Society for Testing and Materials (ASTM)

Committee on Unmanned Maritime Vehicle Autonomy and Control. Dr. Weiss has testified before the Science and Technology Committee of the Georgia House of Representatives and, in 2012, received Georgia's Women in Technology "Women of the Year in Technology" Award for medium-sized businesses.

Q: What is the most challenging thing you have ever had to do?

A: The most challenging thing I've had to do was leave a comfortable, established position that I held for sixteen years and uproot my family to embark on the next stage of my career. I could have easily stayed where I was for another twenty years, continued to climb the ladder there, and then retire. Instead, I decided that, with another fifteen years ahead of me, I had the opportunity to try something new.

I was working at Penn State's Applied Research Lab, where I was head of the Autonomous Control and Intelligent Systems Division (i.e., smart robots). I had worked my way up from Research Associate, to Senior Research Associate, to Division Head, and I was being offered the opportunity to work directly for the Senior Vice President of Research. I had a large group of talented individuals reporting to me and a hefty research budget. My kids were in decent public schools, the crime rate low, the cost of living reasonable, and I had an enviable three-mile commute. Why would anyone give that up? Well, I did.

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When the Georgia Tech Research Institute came courting, I had already been courted by other places many times before. I was used to declining offers. But something with Georgia Tech resonated. It wasn't the (cont.)

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A: (cont.) dire inner-city public school systems in Atlanta that attracted me, nor the higher crime rate and cost of living. And there was no way that I would be able to match my stress-free three-mile commute. What made me move was the prospect of exciting new research programs and the realization that a bold departure like the one I made was just the kind of challenge many women-in-charge must face as they ascend in the corporate world.

I've had no regrets about the move, but I did come to recognize an even more difficult challenge. It is one I face every day, and it takes a different kind of discipline and demeanor to overcome. It is the challenge of taking on so much work responsibility that I risk abandoning my wonderful and supportive family.

I cannot overemphasize how often I face this challenge. Responding constructively to it is completely different from responding to the single, big challenge of a big move, a one-time event. It is impossible to overemphasize the importance of maintaining a work-life balance. I have watched many men make great strides in their careers only to have their family lives dissolve during their professional advancement. Seeing

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what their lives are like after parting from their families is a drastic reminder to me to balance my work with my personal life. It is a constant reminder that work will always be there, but your family may not. Although the drop-everything-and-move challenge was significant and stressful, it was a one-time challenge that had to be overcome one time. The work-life balance is much more subtle. It is a challenge on-going for me each and every day.

Q: Where did you get the courage and confidence to do it?

A: After having a strong, sixteen-year career at Penn State, it was extremely stressful to make the decision to pick-up and move.

However, I was able to step back and examine the situation objectively; this gave me the confidence to know I could succeed. Call it the engineer in me, but being able to assess a situation objectively and re-focus the issue from being stressful to being instead a collection of trade-offs made the decision manageable. The objective view was that it was time for me to make a mid-career move. I was half-way through a great career, and now was the time to change. Instead of coasting in the same direction and in similar positions, I could instead move forward with new and equally interesting work. My children were young enough that they could weather the move. My husband had an equally exciting opportunity in Atlanta, so his career was not at risk. The only issues to resolve were which (cont.)

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A: (cont.) schools to send our kids to and where we should live that would not create a commuting nightmare. They were stressful issues, but they were manageable.

As for the challenge of managing work-life balance, I'd like to offer a perspective that reflects on the confidence and courage needed in any two-career family. Often, when both a husband and wife work, for one person to be extremely successful, the spouse has to take a supporting role. Look at the president of nearly any successful company. Is his or her spouse also president of a successful company? Probably not. In fact, nearly always, one spouse has to make a career sacrifice to enable the other to succeed.

There is a saying in the scientific community that "the two-body problem is harder to solve than the three-body problem." In physics, the three-body problem is one that requires determining all the possible motions of three bodies, such as planets or stars, moving under the force of gravity. After more than a century, it remains unsolved. Physicists have no trouble solving the two-body problem—unless those two bodies are a successful husband and a successful wife trying to find jobs in the same city without either making a career compromise. Balancing career aspirations of two highly talented individuals takes significant courage. My husband is a brilliant scientist, and we both have high career aspirations. We have made compromises in our careers to ensure the other's success.

"It's that old adage: 'pick your battles.'"

Having a supportive partner to work through the trade-offs of rapid career advancements with balancing our lives has provided the courage and confidence for each of us to excel in our careers at a pace that meets our family needs. We have learned the importance of being supportive of the other and of being flexible in our demands of one another, and it works. Sure, we have had many scheduling conflicts and have paid for plenty of babysitters to help with our child care. We have had many close-calls, as one of us is heading to the airport while the other is returning home from the airport, but we've always been able to ensure that one parent is home while the other is out of town. The question of who put their trip on the calendar first has become our family joke.

Q: What is the biggest mistake you have ever made? What did you learn and how did you recover?

A: I don't know if I have made any single, big life-learning mistake. I have made (and continue to make) lots of small mistakes. Sometimes, it involves being too demanding; sometimes, too domineering; sometimes, it is being inflexible; and sometimes, it is just being wrong. Recovery usually takes the form of long, deep breaths, increased patience, and realizing that some things are not worth fighting about—that it is better to roll your eyes, shake your head, and let it go. It's that old adage: "pick your battles."

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Q: If you had a young woman you cared deeply about entering the workforce today, what single piece of advice would you have for her?

A: I have two young women I care deeply about. They are my daughters. The biggest piece of advice I have for them—and other young women—is to constantly strive for technical excellence. Having technical mastery is indicative of one’s ability to think deeply, independently, and solve problems. This skill set transcends all disciplines and professions. No matter what career you select, a solid technical foundation is portable. It is what enables you to move within an organization and across organizations. By constantly expanding this technical foundation, you continually learn, giving yourself technical breadth as well as depth. Having this breadth will propel you upward; having this depth will give you credibility. Every company seeks such a talented individual.

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Q: How did you make the leap from middle to senior management?

A: Early in my career, I assumed responsibility for a fairly large program—a \$15-million project executed over three years. I had an excellent boss, who mentored me in navigating the expanse of technical and political challenges. This gave me an incredible start in understanding all aspects of managing large technical programs and directing large engineering staffs. From this, I was able to obtain my own programs and grow them. With that growth came increased workloads, but I learned early-on to delegate. This allowed me to grow my project base, which resulted in my assuming more senior roles. It was a very natural growth progression that went from being mentored, to independence, to growth, to leadership.

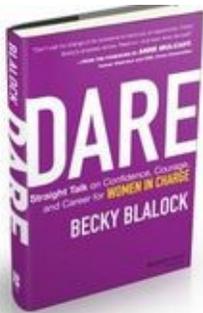
Q: What advice do you have for building self-confidence?

A: Female engineers need to excel. Their grades out of school need to be better than those of their male counterparts—if they want to avoid the accusation and misconception that they were hired just because they are girls. The higher expectation may seem unfair, but it can be used to build self-confidence as you realize that “your grades are better than his, so you must really be better.” Keeping this in mind can go a long way—throughout your career, in fact. We live in a numbers world. Everyone is assessed by metrics of some sort. If your numbers are better than his are, then you must be better. The thought is a real confidence booster. By striving for that extra bit to be better, you will greatly increase your self-confidence.

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Q: What is your greatest fear today?

A: I always ask myself whether I am living my life to its fullest or have my head stuck in my work. I fear missing out on life because I am obsessed with work. I love my job. It is exciting, it is inspiring, and it affords me creative ingenuity. But there is more to life than work, and I need to keep reminding myself of that, even as I respond to late-night emails or take work-related phone calls on weekends.



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