

## Excited to Go to Work

An Interview with Heidi Shyu

By Andante Lee

Heidi Shyu, as the recently appointed Vice President, Corporate Technology and Research, of Raytheon Company, laughingly named one of her personal goals within her new role: “Sleep less!”

In the following dialogue with *AsianLoop*, she continued with the same wry sense of humor, despite the pressures of her many high-profile roles. She also serves as Chair of the Air Force Scientific Advisory Board, a position that provides advice to senior Air Force leadership on topics in research and development.

In a field where women are underrepresented, and within a world where Asian Americans tend to stall their careers at what Jane Hyun referred to as the “bamboo ceiling”, Shyu holds powerful leadership roles, and sees no reason why others shouldn’t strive for similar responsibilities. Many have documented the struggle of countless Asian American professionals, who find a clash between their cultural values and the qualities needed to advance in corporate America. Shyu has spoken on this topic at the Asian American Leaders Forum.

“I was born in Taiwan, with the same old traditional values. One thing I had to learn was that you have to learn to speak up,” she said. “In the Asian culture, you stay silent until you’re spoken to. I went to junior high school in the U.S., and at first, I was not getting good marks. Teachers said I never said anything, and I



Heidi Shyu,  
Raytheon Company’s Vice President,  
Corporate Technology and Research

thought, but you never asked me anything! So I learned that I had to speak up and raise my hand, and that dramatically changed my grades. You’ve got to learn to speak up and voice your thoughts and opinions. In traditional Asian culture, you don’t disagree with an elder because it’s disrespectful, so you have to learn that it’s okay to disagree with someone. In

American culture, you should be speaking up. Otherwise, they’ll feel that you are not a valuable contributor.”

Diffidence could be seen as a symptom of a larger drawback: being risk-averse. “There are a lot of interesting Asians who are excellent in terms of their technical know-how. They’ve graduated with Ph.D’s from top universities. Their credentials are impeccable, and yet I don’t see them moving up. I questioned that. I observed them, and saw that they tended to stay within the fields of their expertise, their comfort zones. They didn’t branch out. When you branch out, you take on responsibilities where you’re not the expert. It’s an uncomfortable position to be in, but that’s how you grow. Don’t be risk-averse.”

Shyu added, “One other thing that’s very important is the ability to articulate and communicate succinctly. A language barrier on top of a cultural barrier makes things that much harder.” But even fluent speakers of English are not necessarily effective communicators. “You ask some people a question, and they dive twenty layers into the onion—they talk about the

minutiae, as if you, too, are an expert in their narrow field. This is a complex problem, how to explain top-level information so even someone who isn't an expert can understand the issue. The further you move up, the broader you have to be."

### Narrowing down a career path

"I left Taiwan when I just turned ten. I was a horrible student." She laughed at my surprise. "When I was in the elementary school, it was pure rote memorization. It was boring, boring, boring. There was nothing interesting, so I completely tuned out. When I went into the American educational system and instantly, I started to love school. I went from being a horrendous student who hated school to someone who cried when I was sick because I didn't want to miss school."

Her emerging skill in math, leaving the rest of her class far behind, surprised even herself. She was soon a straight-A student. "Once, I was talking to a kid who sat next to me, and she had gotten a D in math. And I was completely, truly perplexed. It never occurred to me that people had different fundamental capabilities—I thought achievement reflected whether you wanted something or not."

She soon discovered a special affinity to math and science. "In high school, one of the things that made me get into science was that it wasn't subjective, it was objective. You had a right or wrong answer. There weren't grey areas in English or history, where you could argue the perspective that there were no right or wrong answers. I'm a black-and-white kind of person! I liked the cleanness, the factuality of the subject, and when I went to college, I wanted to be a science major."

In college, she went from chemistry to physics to math. "I loved them all!" Her explanation of her path is matter-of-fact and wry. An accident in a chemistry lab that scarred a friend turned her off from chemistry. A physics scholarship sent her for four months at Memorial University in Newfoundland, building a laser. "As much as I enjoyed doing that, it was such a

pain to scramble around the lab, having to beg and borrow to get equipment. And I decided, forget this, it takes too long to get equipment together. I'm going to do math. Life's good—all you need is paper and pencil."

Not even calculators?

"I don't need calculators, I can just think!"

### About working in technology

"There's something that people don't realize about working in technology. In my entire career, I've never done the same thing twice. Every project is new. And the number of opportunities in a large corporation like this will enrich your mind. You are always learning new things. There is a tremendous amount of opportunity—all you have to do is take the initiative. If you're determined to learn different things, you can—if you want to become VP, you can. All you have to do is apply yourself."

In 1997, Shyu led a project to design an antenna for a radar system. The goal was to get the 325-pound system down to less than half its weight. "It was too heavy, the reliability wasn't good enough, it wasn't competitive. We had to get it down to half the cost, half the liability, half the weight. They initially told me I had thirty-five months, so I was told that it should be 170 pounds. Two weeks later, he came back after a meeting with Boeing, and they wanted the system to weigh 140 pounds—and please deliver it in 32 months, because we need integration time."

The engineers on her team were understandably not pleased. "They were livid with me! They said it was outrageous, ridiculous, impossible. What's a woman to do? I took the whole team out for lunch to a nice restaurant by the beach, and said, well, our competition must have figured out a way to get the weight down. You guys are just as smart as the competition—if not smarter. So, I challenge you guys to get the weight down to 140 pounds. In fact, I dare you to get it down under my weight."

So the “outrageous, ridiculous, impossible” task became a game. “It was hilarious. I had all the free cookies and brownies I could possibly eat! There were two variables in the equation—Heidi’s weight, antenna’s weight, and having to get one up and one down.” In the end, it weighed 112 pounds and was delivered three months ahead of schedule, per Shyu’s request.

She brushed off credit for her leadership as being all in a day’s work. “As a leader, it is your job to motivate your team to excel and to exceed their own expectations. At that point in your career, you no longer do all the design work yourself. And I do miss the design work—sometimes as a manager, you feel like you’re standing in the sidelines and not playing, and that can be hard.”

When asked about the most rewarding part of a leadership position, she answered, “I think it’s the opportunity of meeting people across the corporation. We have a lot of bright people at Raytheon, really enthusiastic people who love what they do. I get briefings on what they’re doing, and I get excited. There are all kinds of neat technologies that they’re working on. I love my job.”

### Words of advice

“Look for a mentor a couple levels above you. It’s part of traditional Asian culture to think that people at that level are too superior to want to spend time with them. I sought out mentors throughout my career, looking for someone who was two levels above me. Someone at least two levels above you will have much broader experience. So I encourage you to find one, and have meetings at least once every six months for an hour. Your career’s not going to change quicker than that, and every six months, just talking to someone for a vector check is good.” Shyu herself serves as a mentor at a program within Raytheon. “I have a high-potential junior person to delegate some of my work to as well as to mentor. It’s a rotational eighteen-month

assignment to train a high-potential candidate to corporate level.”

Even in organizations without such programs, there’s another, oft-ignored, but absolutely integral professional development resource that Shyu would recommend. “Use yourself to think. Am I heading in the direction I want to head? Am I satisfied? Do I feel enriched? You ought to love your job, you ought to wake up in the morning excited to go to work.”

Shyu practices what she preaches. Those last words are from a person who, if she wakes up an hour early, goes to work that much earlier.

###

*Email: [DLee@AsianLoop.com](mailto:DLee@AsianLoop.com)*

*Excited to Go to Work: An Interview with Heidi Shyu, Raytheon Company’s Vice President, Corporate Technology and Research By Diana Lee reprinted with permission.*