



Sloan Career Cornerstone Center

Profiles of Materials Science and Engineering Professionals



Douglas Armbrust

**Senior Associate Engineer
IBM Burlington
Essex Junction, VT**

Education:

1995 - BS Ceramic Science & Engineering, Penn State University

Job Description:

Research and Development

Advice to Students:

"Concentrate on truly understanding engineering concepts and on developing interpersonal communication."

Video Transcript 1:

"I think working as a team is something that is important in a lot of ways. And you end up being placed on some teams, and a lot of teams come together very naturally. A lot of teams you need to create yourself. And I think that becomes a real key, your ability to recognize that a team is necessary, and go out and collect those people and interest them in the problem you're trying to solve. And a lot of that is looking at motivation. I know for certain problems I can find someone who I know if I show them the right picture, or I paint them the right description of the problem, it'll intrigue them. It'll get them curious. And that's what it takes to get their support, and get them to be working with me. There's enough flexibility in everybody's schedule that they end up doing what they're most interested in doing. There's enough responsibility in everybody's schedule that it's very hard to get them to do something that they don't want to do. So going out there and finding a team to work on a problem that relates to what you're doing is a real key to getting something done, and a lot of -- how you interface with people to gauge whether or not you'll be successful with doing that."

Video Transcript 2:

"The biggest surprise was how much of being successful on a job was related to some basic skills that have nothing to do with your understanding of technology. Things like persistence. Learning how people are motivated, and adjusting to that. Learning how to get ahold of the right people. How to network within a company and how to do things on your own. Those were all things that were very important and still are day to day. Very important things that I didn't necessarily expect to be such a part of whether or not I'd be successful, or whether or not I'd be able to do the job that I was asked to do. I think that spending so much time in an

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academic environment really led me to believe that work wouldn't be too much different from that, and the reality is it's very different. I don't spend the long hours staring at information, at least in the independent way that I did in my academic experience. I spend the majority of my time working with other people in some capacity, and finding who the experts are that can help out. And in doing that you can become an expert on your own, but it certainly takes a lot of interfacing with people."

Video Transcript 3:

"Interviews are very odd things to me. At the time, I thought a lot of interviewers come looking for some almost mystical match. Where if you say the right thing then that's going to be what they are looking for. And they're looking for some match of your interests relative to their immediate need. And, I almost thought that was in some respect silly, because a lot of people go into job interviews simply looking for a job, and they're not as specifically focused on what they want. But I think that's something that really helps. When you can come into a job interview and have a clear idea of what you want, and if that matches something the company can offer. I knew that this was a field I was interested in working in. I knew something about it. I had some experience with this field through my research at college and through my classes. And so I think that's one of the things that contributed to the success. I think another thing, is that the interview has to go as a conversation. It has to be fairly natural. An interview is an opportunity to show those things. It's an opportunity to show an employer that you're not a nerd. That you can work with people and accomplish a task effectively and communicate what your feelings are, what your thoughts are about a particular item. I think that becomes extremely important - even more so than I appreciated until I actually got into the process.

Interview:

- Typical Day

7:00 AM - Arrive at work.

8:00 AM - Answer/send e-mail, phone calls.

9:00 AM - Working meeting with technicians.

10:00 AM - Technology meeting (engineers/managers).

11:00 AM - Lunch

12:00 PM - Review experiments/data.

1:00 PM - Prepare summaries- set up appointments/meetings.

2:00 PM - Technology meeting (engineers/managers).

3:00 PM - Teleconference with vendors.

4:00 PM - Set-up testing/physical analysis/material characterization work.

5:00 PM - Phone calls and e-mail.

6:00 PM - Review papers/experiments/data, leave for home.

Evening - Time with friends, sports, church, read.

- Career Experience

7/95-Present: IBM, Senior Associate Engineer

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- Internships & Coops

1994 - Intern, The Dow Chemical Company
1993 - Intern, American Piezo Ceramics, Inc.

- Honors & Awards

George Brindley Crystal Chemistry Award, Evan Van Pugh Jr. & Sr. Leadership Awards, Dow Chemical Outstanding Jr. Award, Academic Excellence Scholarship, Glass Container Industry Scholarship, Golden Key Society, Lions Paw Sr. Honor Society, Cooke's Scholarship, Earth & Mineral Science Dean's Scholarship, Keramos Ceramic Engineering Fraternity

- Best Preparation

I was most directly prepared for my career through research experience and internships. Although classroom learning and college activities were important.

- Getting First Job

My first job resulted from an on-campus interview I arranged through the Career Resource Center.

- Advice

Concentrate on truly understanding engineering concepts and on developing interpersonal communication.