



Sloan Career Cornerstone Center

Profiles of Engineers



Lisa Edge

**Advanced Gate Development Engineer
IBM @ Albany NanoTech
Albany, NY, U.S.A.**

EDUCATION	▶ Ph.D., M.S. & B.S. Pennsylvania State University
JOB DESCRIPTION	Lisa develops and evaluates new materials for semiconductor chips.
ADVICE TO STUDENTS	"Get a mentor. Job shadow (follow someone around at work), this is a great way to figure out what people do at work. Ask questions. It is also ok to change your areas of interest. Be flexible."

▶ INTERVIEW

▶ **Q: When did you know you wanted to become an Engineer?**

▶ **Edge:** I knew I wanted to become an engineer when I was in 10th grade in high school. I attended a day program at a university for careers for women in math and science and learned about all of the opportunities for engineers. You can do everything from designing bridges, to selling products, testing materials, to designing toys ...etc. Engineers are involved with everything in our lives. The wide range of opportunities with 1 degree really excited me. I also like the salaries. They were very good for a bachelor's degree.

▶ **Q: What was your college experience like?**

▶ **Edge:** College was very challenging, but also a lot of fun. The work load for engineer is challenging, with 15-18 credits every semester. But, unlike most other majors the classes every semester are very well planned out. I knew every course that was required, since I entered engineering my freshman year. It is important to try to start in engineering because the requirements start freshman year, but they are basic classes that can also transfer to other majors, but it is difficult to transfer into engineering after starting in another major (without taking an additional semester or 2 to catch up on the courses).

▶ **Q: Did you incorporate work experiences while you were an undergrad?**

▶ **Edge:** Yes, I did summer internships every year between school years.

▶ **Q: How did you get your first job?**

▶ **Edge:** I got my first engineering job, by picking up the phone book. When I came home for spring break my freshmen year, I looked in my local phone book under engineering and started calling the companies to see if they had any openings for a young engineering student. This took me 3 calls and I got someone that was interested in me coming in for an interview. I went for the interview and I was hired. I did drafting for testing equipment. It was a great experience.

▶ **Q: What's the most rewarding thing about being an Engineer?**

▶ **Edge:** The most rewarding thing about being an engineer is all of the different types of projects you can work on. I love the diversity of the projects that I work on. I also like the flexibility of my work. I can be working from home and still running experiments in the fab.

▶ **Q: Is there an example you can provide that shows how something you've worked on has positively impacted the world?**

▶ **Edge:** The chips I work on for IBM have gone into supercomputers that are used to decode the human genome and many other advanced research programs. The chips are also used for all 3 of the big game stations, so I think there are a lot of children that also enjoy the chips that we make!

▶ **Q: Do you spend a fair amount of time traveling?**

▶ **Edge:** No, I travel 3-5 times per year. I travel for meetings.

▶ **Q: Do you have a mentor? Or did you in your college years?**

▶ **Edge:** Yes, both in my college years and at my current job. Having a mentor is very valuable to discuss questions you may have about different situations and understanding different career paths. I highly recommend having a mentor throughout your schooling and your career.

▶ **Q: Do you find yourself working more in a team situation, or more alone?**

▶ **Edge:** Everyday, I work in team situations. I don't know many people that work alone in today's jobs. I work with people from all different backgrounds and from all over the world, from technicians to others with Ph.D.s. It is impossible to do every job needed to make a semiconductor chip, so we are always working in groups.

▶ **Q: Do you find you are able to balance work with social/family life while working in your current job?**

▶ **Edge:** Yes, but you need to make time for your family. Any job will try to consume all of your time, but you need to figure out the balance between work and family. I found this challenging going from school to work, because at school when you finish your homework you are done for the day and can do whatever you would like with your time. At work, the job actually never ends, there is always more projects coming up, and it is learning when to stop for the day and come back to the project the next day.

▶ **Q: If you had to do it all over again, would you still become an Engineer?**

▶ **Edge:** Yes, I think this is the best profession. There are so many different careers that are available with an engineering degree. I still don't know any other degree that can open so many different opportunities all over the world.

▶ **Q: Did you think that school prepared you for the way the work gets done in the real world?**

▶ **Edge:** Yes, school prepared me for handling the projects at work. I wish there was a course on managing all of the people issues. I feel school didn't discuss all of the people issues that you will face in a job. I have taken classes at my job to improve my people skills.

▶ **Q: Where do you see jobs for Engineers in the future? What should students be doing to prepare themselves to take on those roles?**

▶ **Edge:** There are going to be lots of new opportunities in alternative energy. As the world tries to figure out other ways to produce electricity there are lots of new opportunities in wind and solar energy research. I think it is important for students to look at jobs and areas that they are interested in. You want to find an area that you are excited in, this will make going to work much more exciting. I don't think there is specific training that is necessary to enter these fields. The specifics in these jobs will be learned at work. School teaches you the necessary skills for logically solving problems that can work for any type of job of the future.

▶ **Q: What other advice do you have for students?**

▶ **Edge:** Get a mentor. Job shadow (follow someone around at work), this is a great way to figure out what people do at work. Ask questions. It is also ok to change your areas of interest. This can happen many times over your career both in school as well as at work. Be flexible. There are many times you might need to take positions you aren't interested in, but it may turn out as an opportunity to learn something new.