

MENTORNET MENTORS AND PROTÉGÉS: THE REAL STORY FROM PARTICIPANTS, IN THEIR OWN WORDS

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Abstract — *MentorNet (www.MentorNet.net), the E-Mentoring Network for Women in Engineering and Science, is a nonprofit organization focused on furthering women's progress in scientific and technical fields through the use of a dynamic, technology-supported mentoring program. Since 1998, nearly 20,000 professionals and students have participated in MentorNet's signature One-on-One e-mentoring program. MentorNet has collected a great deal of quantitative and qualitative data about their experiences, summaries of which have been provided in a wide variety of presentations and papers. Yet there are aspects of the power and value of these human relationships that are difficult to capture in frequency distributions, percentiles, correlations, and regression analyses, or even in a single quote. And we, as humans, are emotional as well as scientific, and frequently understand that human relationships cannot be completely quantified or otherwise analyzed and tabulated. There are leaps of faith, risk-taking, altruistic and caring, empathy, and a wide variety of emotions and behaviors that guide such relationships. To help provide some insight into these aspects of the value and importance of these relationships, a few participants in MentorNet's One-on-One program share their experiences with this program in their own words, prompted by a few commonly-asked questions -- What made you sign up for MentorNet? What objectives did you have for the mentoring relationship? What have you learned from the experience? Were your expectations met? Did anything surprise you about the MentorNet program or your relationship? What did you and your partner talk about?*

Index Terms — mentoring, MentorNet, mentors, protégés.

KATARINA MIDELFORT

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I signed up for MentorNet because I was wondering how real women do science in their real lives. I do not have

family members in science careers and I don't see many examples of "regular, normal" women doing science everyday.

I was involved with MentorNet for three years, as a student, and chose to have three different mentors. I had one who was a post-doc at a government lab, one who was a new employee at a chemical company, and a third who was a senior manager at a pharmaceutical company. The range of perspectives from my mentors was one of the best things about my MentorNet experience!

I wanted to find out how to succeed in science and to find out if women can be happy in science and how they balance traditional roles of women (mothering, being a nurturing figure in their community, being involved in community events) with science careers (often considered very driven, non-people oriented careers). I have learned that there is a range of different ways women are involved with science. I have learned that you have to make choices, that you can't always have it all, and that that is okay!

In one of my mentoring relationships, we shared resumes, and this was incredibly helpful. We discussed more than just what order to put the information, but rather what an employer was really seeing as they read a resume for the first time. It was a very insightful conversation.

My mentors and I talked about what they liked best about their jobs and what they thought about as they decided on their career paths. My mentors also gave me encouragement about what I was going through with graduate school.

I have gained perspective on the different career paths available in industry (both for a beginning employee and over a career in science) and an appreciation of industrial jobs that are often overlooked in academics. Academic culture does not value all the same things in science that are valued in jobs in industry, and so it is nice to have more aspects of a scientist validated and appreciated, by having mentors outside of the academic realm.

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MICHAEL VINARCIK

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My company has an internal mentoring system that helped me to develop professionally, and I saw MentorNet as a good vehicle for positively influencing students. I have mentored two students through MentorNet's One-on-One program. When I started, I wanted to share personal experiences from early in my career that would help these students transition into the workforce; I also wanted to expose them to resources and opportunities that can speed their development. I also knew that I would learn from the experience, both through the introspection required to be an effective mentor, as well as from the students' experiences.

I have learned that students today have many of the same issues and concerns that I did a decade ago when I graduated, and that the development of a good mentor/mentee relationship is very rewarding. The "thought starter" e-mail messages from MentorNet were valuable, and provided a 'nudge' to keep the relationship developing. It is easy to be swept away by duties (both as a professional and a student), and the support from MentorNet staff helps to keep everyone moving towards our goals.

One of my mentees was from mainland China, and I learned a lot from her about the cultural and social issues facing foreign students who come into contact with our culture. It was very rewarding to learn about her concerns and to help her seek positive resolutions of her issues.

I talk with my student-protégés about everything! – work, family, school. It is important to develop a climate of trust and sharing. Without openness, any mentoring relationship is doomed to failure.

I find I've gained perspective about the issues faced by female engineers that I would not have gained simply through interaction with my female colleagues at work. In many ways, the MentorNet relationships were deeper, with more exploration of the fundamental issues and concerns facing women in this field. My participation in this program was definitely a growth experience for me, and I hope that my mentees benefited as much as I did.

GEORGE DELLAGIARINO

George Dellagiarino is a Geologist - Team Leader with the U.S. Minerals Management Service of the U.S. Department of the Interior.

I became involved with MentorNet in the summer of 1999. I saw an advertisement for the program in a trade journal, *Geotimes*, and after reading it, I contacted MentorNet staff, and was encouraged to join the program. That fall, I was paired up with a freshman majoring in Bioinformatics and Cell Microbiology at Rensselaer Polytechnic Institute. We have stayed together for four

years through her graduation. My original understanding of the MentorNet process was to link up female graduate or undergraduate science and engineering majors with those in the workforce who were in the same or similar disciplines. I suppose, at first blush, this student and I couldn't have appeared to be a more dismal match – she is a female Bioinformatics/Microbiology major, probably looking for and expecting a female mentor, and what she gets is a male who is a petroleum geologist. What could we possibly have in common? Well, what we had in common was everything. I saw in her all the newness and enthusiasm that I had my freshman year. Maybe what she saw in me was someone who had the same set of values that she did. Maybe that initial biologist-geologist mismatch worked in our favor. Maybe, without saying it, subconsciously, we might have thought we were paired up because each of us could not get paired up individually. Perhaps there were too many Biological Science majors and not enough Geological Science majors. So, she could not get a mentor and I could not get a protégé. But, we had each other and we made the best of it! We've traded e-mails, electronic greeting cards, post cards, telephone calls. We talked about anything and everything, from courses to grades to grad school, internships, and jobs to other things, more personal things such as family and friends, sororities, and yes, even boys. Our relationship transcended mentor-protégé and became just so comfortable we often knew what each other was thinking. We often vented with each other and, importantly, we were always there for one another. Most important of all, we trusted one another. What I think made our relationship work so well is that we each learned from one another. The key to our relationship, and any one of this kind for that matter, is communication. Keep it open and keep it consistent. It doesn't have to be every day or every week. Just be there for one another and continue to be open to each other. My student-protégé has been an absolute delight and a truly wonderful person to know. The one thing that we haven't done, and maybe we need to do in order to make our relationship complete, is to meet. And I believe that one day we will. For, as I have said to her, though our "Mentor/Protégé" relationship ends in three weeks, the one that I hope will always continue, the one that I will always treasure, is "Friend/Friend."

MIROLEE ZIEBA

Mirolee Zieba is a graduating senior and a bioinformatics/geology major at Rensselaer Polytechnic Institute.

Originally, as I recall, I signed up with MentorNet "just because." Literally, I was a freshman at a new school and what I was told would be good to do, I did. I was put in contact with my mentor. I think that at the time I thought it would be a relationship that started with some email contact and faded over time, especially considering neither of us had

prior obligations to one another. What surprised me was my mentor's steadfastness. Not only did he continually email me, but he didn't care when it took me a couple days (or weeks) to respond. He also called me and sent me postcards when he went traveling! The only thing left is to meet in person; we're just too far apart to make accommodations as of now.

He and I have talked about everything I feel like. He knows so much about me and it's nice to have an opinion from an outside source – someone who isn't biased in any way. We have had conversations from work to grad school to my grades, but also about personal experiences such as family and friends. I certainly did not expect such a commitment from a professional and most certainly not the genuine interest I feel he has in me.

Lastly, I was most surprised by how receptive we are to each other. My understanding of MentorNet was to link undergraduates up with professionals that are in the same (or approximate) field as their major. I am a Bioinformatics/Molecular Bio & BCBP major, female, and George is a geologist, male. This has never interfered with how we interact and if anything, it provided insight from "the other side" for both of us.

Overall, my experience with MentorNet has been fulfilling and enlightening. I would encourage anyone to sign up for this program. The key is communication, keeping it open and continual.

BRYMER CHIN

Brymer Chin works at Lucent Technologies.

I am a PhD physicist who joined MentorNet as a mentor in its first full year of operation (1998-99). The program piqued my interest; my wife is a researcher, several of my closest friends are female researchers and engineers. And, most importantly, I have a daughter.

I have been matched with four students now, and I would like to summarize my overall experiences, not just with my current student. Not all matches will yield positive benefits, for either the students or the mentors. I can tell you what has worked, and what hasn't worked, for me and my students. But I have been matched with an extraordinary group of students – "extraordinary" in the figurative sense—women of keen intelligence and impeccable character, and "extra-ordinary" in the literal sense—out of the ordinary, beyond the "6 sigma limit" of the distribution. The students matched with me as their mentor through MentorNet's One-on-One program have been a Polish student in the U.S., a German student in Sweden, a refugee from Bosnia in the U.S., and a student in Russia.

MentorNet offers on-line training and sends suggested topics. I glance over them, but I really don't follow them. I tell my students from the start that they can discuss anything at all with me, professional or personal...whatever they are comfortable with. Many of the suggested topics come up as a matter of course – life in industry vs. life in academia, PhD

or not, balance of career and family life. If you simply check off a menu, though, you will gain little more than a perfunctory experience. The key to a successful relationship is to develop a personal rapport and implicit trust with your student. I have developed close bonds with my students because I was able to help them address (and, in two unfortunate instances, redress) personal problems which had strong impacts on their lives. My students and I have discussed careers, etching titanium films, personal problems at home, rheology and colloidal physics, favorite music and poetry, the relationship between spins in figure skating and rotational dynamics...the whole range from dark sexual obsession to sledding down hills on cafeteria trays.

Throughout, though, we have had a lot of fun and laughs. Fun and laughs sustain a relationship; fun and laughs are key elements in facing serious problems. Mentor-student relationships develop like all other relationships. Some falter from the start and never recoup, some mature gradually over the course of the year; others click instantly.

One student, in her introductory email, sent me some quotes; one from a Hungarian philosopher, one from a German poet, and then the following, "'Because I'm evil, e-v-i-l, evil' –Spike." I knew she was toying with me. She expected me to think, "Hmmm. Hungarian philosopher. Hmmm. German poet. Hmmm. Very impressive young lady." But, I knew she also expected me to write back, "OK, who the hell is Spike?" Instead, I sent her a passage from Schiller, a passage from Wordsworth, and the following – "'OK, OK, so you're evil, do we have to chat about it all day?'–Buffy." So here she was – a physics undergrad who wanted to go to MIT for grad school. So here I was – a physicist who had attended MIT. So here we both were – fanatics of "Buffy the Vampire Slayer"! This was a match with nearly 100% correlation. MentorNet sent us recommended topics. And she once wrote, "Brymer, MentorNet suggested that we talk about balance between career and family. We're not supposed to be talking about Buffy. Oh, well, how did you like this week's episode?" I told her that we were going to have one strange report for our final program evaluation.

That was my third student. The beginning of my program was not so quirky. My first student, a grad student in her fifth year, and I had a hard time "gelling." She really didn't like to write much. The official MentorNet session runs from Oct to May. Suddenly in the following September, I got a desperate plea from her. She was being sexually harassed by her own thesis advisor. I spent long hours on the phone with her.

The second MentorNet year had started, and I was matched with Natalie,⁷ who had just started her graduate program. After the initial round of "Hi Natalie, I'm Brymer and we have been matched by MentorNet. I'm a physicist at AT&T Labs..." and "Hi Brymer. Glad to meet you. I'm a physics grad student at..." she suddenly announced that she

⁷ Fictitious name

had decided to quit her graduate program because of problems (professional, not sexual) with her professor. My first reaction was, “I really should quit this program. I’m a jinx!” But it so happened that I also had gone through a rough time in grad school with my professor, and I also had almost quit in my fifth year. That was over 20 years ago, I had buried those memories, and I was scared –terrified, if I care to admit it – to unearth them. Since we had just traded three emails, she was reluctant at first to give me details. With a little nudging, though, she told me the whole story. Almost line by line it was the same as my story 20 years ago. I did feel a quirky grand scheme in our match.

It is easy to see how students may benefit from MentorNet, but the question always arises, “How do you as a mentor benefit from this program?” Some mentors may pause and then give standard, generic, impersonal, politically-correct answers. But I don’t have to pause, again because of my close personal ties with my students. My MentorNet students have taught me much. My current student is Russian and when the Berlin wall came crashing down in the late 80’s, all of us in the West viewed the event positively, only good could arise from it. But my student was a young girl in Russia at the time, and she has a far different story to tell. The Soviet system crashed so abruptly that there was no system in place to take over. Food was in short supply. Her family received ration coupons. But the coupons were often useless – there simply was no food to ration. She went hungry for long spells.

My participation in MentorNet helped me take more initiative than I would have before; I did things that I would never have imagined doing earlier. After the first full year of MentorNet, the VP of research at AT&T Labs threw a thank-you luncheon. Just the week before, I had started my campaign to find my protégé a R&D position in the States. After the luncheon, I approached the VP directly, explained to her the student’s situation, and asked for help. This was the very first time I had ever approached a high-level executive directly (except one I had reported to for several years). When I transferred to Lucent, which was not a MentorNet sponsor, I decided to make Lucent become one. I approached the VP of HR, made an appointment, and gave her a presentation. I never had such confidence before.

Life at Lucent and other high-tech corporations these days is extremely stressful. Even senior engineers and researchers such as I often feel powerless – often are powerless – to resolve their own problems. I function on a low layer of the corporate hierarchical architecture, but, relative to students, I function on a high layer, high enough to improve their situations. MentorNet has helped me become less self-absorbed, and has helped restore my sense of self-worth. My current student recently asked me whether I’ve ever felt completely alone. She then went on to tell me the details of why she felt that way. Her concluding sentence was, “As I am finishing writing this letter, I realize that I feel a lot better now.” As I was finishing reading her letter, I realized that I felt better, too.