

Gaining Skills That Last a Lifetime

By Nancy Parrish, Staff Writer

Editor's note: Twins Natalie (Bucheimer) Collins and Elaine (Bucheimer) Cagnina were Werner H. Kirsten student interns at NCI-Frederick in 1995–1996. In the December 2010 issue, we featured Natalie, and now we focus on Elaine.

Elaine (Bucheimer) Cagnina was honing her problem-solving skills even when she was in high school. The former Werner H. Kirsten student intern recalled a time when she was working on a custom-designed DNA sequence analysis program, and she encountered a problem she couldn't solve with the tools at hand. Her mentor handed her a book on the programming language and told her to figure it out.

A few days later, after several hours of studying the book and tinkering on the computer, she had the problem solved.

Skills like these, she said, have served her well throughout her career. "The skills I gained as an intern, specifically critical thinking, asking the right questions, reading the primary literature, and designing experiments, are skills I use each and every day, and will for the rest of my career."

"Summer Gig" Opens Career Path

A 1996 Middletown High School graduate, Cagnina's interest in science was inspired by "a fantastic high school biology teacher." As an intern, she worked with Thomas Schneider, Ph.D., in the Laboratory of Experimental and Computational Biology (now the Center for Cancer Research Nanobiology Program) during her senior year, as well as for the next three summers—an

experience, she said, that was "the best summer gig a college student could get when home from college."

Her "summer gig" turned into a lifelong passion for science. "I have never considered [a] career path other than science," she noted. The internship, she said, "really laid the groundwork for developing my early career."



Cagnina (R) holding her son, following her graduation from the UVA M.D./Ph.D. program in 2010. At left is her sister, Natalie Collins.

Following graduation from Middletown, Cagnina attended the University of Richmond, Virginia, where she earned a degree in biology, mathematics, and English. She went on to pursue graduate studies at the University of Virginia (UVA), where, in 2010, she earned an M.D./Ph.D. in molecular physiology and biological physics. She is currently a resident physician in internal medicine at UVA. She expects to finish her residency in 2013, when she hopes to obtain a fellowship in pulmonary and critical care medicine.

Along the way, she married husband Shawn in 2005, gaining two "fabulous"

stepsons, now ages 12 and 9, and in 2008, their own son was born. "When I'm not working 30-hour shifts," she said, "we like to spend time traveling, playing sports, and being outdoors with the boys."

Internship Opens Doors, Presents Unique Opportunities

Cagnina believes the internship experience "has definitely opened doors in terms of other research experience and graduate programs. I felt as if I have always had an advantage, having had a publication come out of my internship experience, and people still ask me about this experience when I interview."

Students need to take advantage of the opportunities presented by the internship, she said. "Life will only get busier and more complicated. Take the time now to read as much as you can and learn from all the talented scientists to whom you are exposed at NCI. Being able to effectively read a journal article is a skill that will take you far."

She also recommends that interns "go to as many lectures as you can tolerate." Citing a talk she heard as an intern on HIV and infection, she noted, "This is still a hot topic in research today, and I was able to hear about it in the field's absolute infancy." ■