

# Meet Our Faculty: Erin Bell

Daughter of a steel fabricator

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*Editor's Note: This is the first in a series featuring UNH faculty telling their stories in their own words.*

**Erin Bell, associate professor, civil and environmental engineering**

"I am the granddaughter of a village blacksmith. My grandfather, born in the mountains of Tuscany in Italy, had a small forge and learned to weld in a German workcamp in Berlin during World War II. When Russian troops approached to liberate the camp, the German guards left and the Italian soldiers walked home. But there wasn't anything left for them in Italy — it's like it is for so many refugees in Europe now — so they came to the United States, and he started looking for work as an iron worker.

My father was a steel fabricator and started Santini Brothers Iron Works in Medford, Massachusetts, in 1969. So while most kids worked after school at a local grocery store, I worked at the iron works or 'the shop' as we called it. I could read structural plans and selected the steel elements for bidding.

When I was 14, my father took me to a Bruins game. I was a sophomore in high school. We went to dinner at a small restaurant in the North End before the game. During dinner, Dad asked me what I was thinking about for college and a career. I knew that I liked math and science but wasn't sure what I wanted to be when I 'grew up.' He said, 'Why don't you be an engineer?' and I asked what they did. The restaurant had exposed timbers, and he pointed to one and said, 'See that beam?' And then he told me engineers figured out how many beams were needed in a building, how long they needed to be, how much weight they could bear.

The Bruins game was in the old Boston Garden with exposed steel framing, and I spent most of the time looking up at the steel instead of watching the game. I was so fascinated that you could use math and science to do these things. That was it for me.

I went to Georgia Tech and majored in civil engineering. My family was particularly provincial — the idea that I was considering school outside of Massachusetts was a challenge, but Georgia? Although my family, especially my mother, didn't like the idea, I never felt anything but supported. My father was very old school, but he and my mom always told me I could do whatever I wanted, if I worked at it.

Once when I was home for break, I went over to Tufts and was looking at the job posting boards. Professor Masoud Sanayei, the head of the structures group in the civil engineering group, asked if I needed help. I said I was interested in graduate school because I was embarrassed to be caught looking at job postings since I was not a student there. He told me about a research project he was doing monitoring bridge structure health and said he had an opening for a graduate research assistant, that it would pay my tuition and provide a stipend. I loved the idea of using sensor data collected from a bridge to determine its 'health' — how it was feeling. I went home and started my application for graduate school at Tufts right then — something that was not even on the radar a few days prior.

I ended up staying on for my Ph.D. I was interested in the bridge work but I always thought I would one day take over Santini Brothers. After finishing my coursework, I took the Ph.D. qualifying exam and I passed and soon after got a job as a structural engineer. I was working designing buildings during the day and doing doctoral research on bridges at night. When it was time to complete my dissertation and prepare for graduation, professor Sanayei encouraged me to apply for an academic position. He

said, 'Academia will be missing out if you don't do this.' UNH had an opening — I was the very last person to apply."

*That was in 2003. Since then Bell, who is her department chair, has been involved with the Living Bridge project that is using the Memorial Bridge that spans the Piscataqua River Bridge in Portsmouth, New Hampshire, to gather information on such things as structural performance, wind patterns, tidal current, water turbidity and fish migration patterns. She also continues to teach, saying, "I'm glad that this is my job. I'm glad that I get to do this every day."*

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