



S U N Y College of Environmental Science and Forestry Campus Conversations: The Podcast

Episode 1

Dr. Lindi Quackenbush, Chair and Professor, Department of Environmental Resources Engineering

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Lindi Quackenbush: I went into the department chair's office and said, "Where can I go? I only speak English, so that's my limitation." And we had an exchange program at the University of Maine. I grew up in a country I think that's quite welcoming of travelers. "I want to do a grad degree somewhere in commuting distance of Utica, New York. Got any ideas?" And he knew Paul Hopkins, who was at E.S.F. And so I reached out to Paul, and I have memories of snowshoeing out to look at your locate forest plots to do reference data collection for remote sensing studies when I was a grad student. Do you like physics? Do you like math? Do you like working outdoors, surveying as a career for you? The rest is history.

Joanie Mahoney: Welcome. This is Joanie Mahoney, and I am with my first faculty member that I get to interview on my podcast. And I am very grateful that Dr. Lindi Quackenbush has agreed to be first. So you're very brave. Thank you very much for being here.

Lindi Quackenbush: Thanks for having me.

Joanie Mahoney: I think the best thing to do is to just ask you to introduce yourself, so folks know what your role here is at E.S.F.

Lindi Quackenbush: I currently serve as the chair of the Department of Environmental Resources Engineering. I've been at E.S.F. since '95, came in as a master's degree student, worked through my on that degree, worked in a staff position for a couple of years before I joined the faculty while I was still working on my Ph.D. actually.

Joanie Mahoney: And what is your Ph.D. in?

Lindi Quackenbush: Remote sensing and image processing. My degree was focused on looking at impervious surface classification and looking at types of impervious surfaces, and trying to see if we could do a better job. Things that we do as humans really well. It's still computationally challenging that I can look at an image and classify a road, a roof, and different types of impervious surfaces. Computationally, it's still more challenging than your human brains, pretty powerful.

Joanie Mahoney: Where did you spend your time as a child?



Lindi Quackenbush: Yeah. So I was born in the suburbs of Melbourne. We moved out of Melbourne when I was three. My dad was the headteacher at a local elementary school. And so we moved into the school residents and lived in the school residence adjacent to the school, a one-room schoolhouse. We grew to a two-room schoolhouse. The school, the largest in my six years there, got to 42 students. I never had more than five in my grade, and that was in a big year. It was very personalized to that. Your dad was the headteacher when I was in kindergarten. Dad was the headteacher when I was in sixth grade. I was thinking about it the other day, and of the five students in my grade, I'm the only one that went on to college or university. The others went into trades and things like that. The expectation of me was different than the expectation of them.

Joanie Mahoney: Because you are the daughter of the educator.

Lindi Quackenbush: And just because I was good at math, so let's push you further. And then I went from there into our regional high school, that they were 250 kids in my grade.

Joanie Mahoney: That must have been quite the culture shock.

Lindi Quackenbush: It was the culture shock, and I learned very quickly. In my elementary school, if you got asked a question, you raised your hand, and you answered it. You do that in high school, and you get labeled as a nerd really quickly.

Joanie Mahoney: I can still remember the students that raise their hands and the front of the classroom. But that obviously, from your perspective as a teacher, is something you would probably love in a student.

Lindi Quackenbush: Absolutely. I think getting students talking, and you gotta get them talking to each other first year, sort of having them sitting there and making them talk to me is a lot harder than having them talk to each other. And then they're more likely to share because they've already gone over that "is this a reasonable answer?" question.

Joanie Mahoney: So what brought you from Australia to the United States?

Lindi Quackenbush: I did my undergrad degree in surveying at Melbourne Uni. I actually have two bachelor's degrees, that was very common at the time. About half of Melbourne Uni's student population was doing two bachelor's degrees. Mine was surveying. It's a bachelor of surveying as well as a bachelor of science. And so, I was working on that five-year degree program, and I wanted to go abroad. But the honest truth



was I was dating a guy and then when he dumped me, I went into the department chair's office and said, "where can I go? I only speak English, so that's my limitation." And we had an exchange program at the University of Maine. So my first year in the U.S. was at the University of Maine.

Joanie Mahoney: So is that your senior year of college, your final year?

Lindi Quackenbush: It was my fourth of five years because of the dual program. So I did my fourth year in Maine and then went back to Australia and did my fifth year. Maine was a great experience. And I actually worked in the summer in Boston for an engineering firm there and then worked as an undergrad teaching assistant in the second semester that I was there. I wouldn't be generous enough to call it spring in Orono, in Maine in January, but the second semester and this semester, I would say.

Joanie Mahoney: So how did you like that?

Lindi Quackenbush: It was a really great experience. I arrived. I had a job that started on the Monday. I didn't know where I was going to stay. I had no accommodation lined up. I was couch surfing with the sister of somebody else temporarily, went to the office to work out how I would get there on Monday morning, and found one of the employees they're heading out on a three-month, out-of-town jaunt who was willing to sublet his apartment to me. So I moved into an apartment.

Joanie Mahoney: Oh my gosh, Lindi, you are brave.

Lindi Quackenbush: I look at it now. Well, I'm not quite sure if brave is the right word, but I had no cell phone, no credit card.

Joanie Mahoney: Because I also did a semester abroad when I was in college, but I didn't get that full experience that you just described. I didn't stay and do the internship as you did in Boston or do the T.A. role, which I would imagine gave you a much broader perspective on the United States.

Lindi Quackenbush: My dad had a philosophy of I had to do what he said when he said it until I turned 18. And then after that, I was an adult, and I could do what I want, where I wanted. He just didn't want to hear about it. So I think of living and was probably the safety net for them, that you're dialing in the payphone with 75 cents a minute in quarters.

Joanie Mahoney: Oh my goodness.



Lindi Quackenbush: Sort of how I reached for them for the while. So I suspect they didn't really know exactly where I was, but...

Joanie Mahoney: Or that you didn't have a place to live or transportation to the job in the city you had never experienced before?

Lindi Quackenbush: I had bought a car. I never owned a car in Australia. I never needed one. Public transportation in Melbourne was very good. I had a Subaru Hatchback that I put ten thousand miles on that summer.

Joanie Mahoney: Had you whet your appetite for the United States at that point, did you think you'd be back?

Lindi Quackenbush: I had met my now-husband.

Joanie Mahoney: In Boston or in Maine?

Lindi Quackenbush: In Maine. He finished his undergrad degree. He has an undergrad degree in surveying as well. And so I met him in Maine. He graduated in May and moved back to Utica. And so I went back to Australia and reached out to Ray Hintz, one of the faculty at the University of Maine, and said, I want to do a grad degree somewhere in commuting distance of Utica, New York; got any ideas? And he knew Paul Hopkins, who was at E.S.F. And so I reached out to Paul, and the rest is kind of history.

Joanie Mahoney: That is such an interesting story. And how great for us at E.S.F. that your life took that circuitous path. And you came here, then got your Masters, as you said, and then worked here while you were working at a Ph.D. and then started out as an instructor or a research associate?

Lindi Quackenbush: I started. I was a lecturer and non-tenure-track title while I was working on my Ph.D. And Bill Tully, the provost at the time, had said to me when you finish your Ph.D., you come and see me. And so I went from my defense to his office and said I defended successfully. Can we talk about changing title? So I did.

Joanie Mahoney: A lot of people would benefit from hearing you describe how you got where you wanted to be and, you know, obviously an advocate for yourself. I knew that you had a much better history here at E.S.F. and could help me as the new incoming president. But I had no idea how deep you've seen this college through a lot of



different lenses. As a grad student, as an employee, as a Ph.D. candidate, as somebody who worked your way up through the line of succession all the way to now, chairing ERE. So right now, are you in a position where you're able to continue your research as a chair?

Lindi Quackenbush: To some degree that I certainly still have graduate students working and I spend more time as an editor than doing research. I sometimes feel like, but yeah, I had two Ph.D. students graduate last year, and I have a couple sort of working now, and it's through them that I'm largely keeping engaged in research.

Joanie Mahoney: So how about your connection with students here now? How do students connect with you? How are you able to connect with them? I imagine in the classroom because you're teaching, but outside the classroom, do you feel like you have a pretty good connection with students on this campus?

Lindi Quackenbush: So, for our undergrads, I teach our first-year, fall and spring sequence. So I get to know the first-year students there. I regret that I don't get to teach here. I don't have time to teach an upper-division course because I certainly got to know the students even better there. I also am the faculty advisor for the E.R.E. club. So I sort of get to know some of the students through that part of it as well. And then we always have E.R.E. club takes a trip up to the Adirondacks in the fall semester, and I try to make sure, you know, I go on that to be able to get to see the students outside the classroom. Because I think that's really important. For my grad students, we meet every week, and I do one-on-one meetings with, with all of my grad students to try, dear, to keep their research moving and to keep me honest in your "Sorry, I didn't get to look at this year, this week, but I have to look at you and tell you that rather than just send an email and say, I didn't get to this week."

Joanie Mahoney: And I imagine that like everyone, you get really busy. And then, when somebody is with you right in front of you on a weekly basis, it does tend to keep you moving. Where do you go up in the Adirondacks with the E.R.E. students?

Lindi Quackenbush: To the A.E.C.

Joanie Mahoney: Okay. Yep. So Newcomb. We are having our board meeting at Newcomb in September because a lot of our board members haven't seen our satellite properties. And I was talking yesterday to the organization that's updating our facility master plan about how this is such a tremendous asset for our college, and our competitors that are in the same space don't have that real-world field



experience that they can offer students. So I would imagine that your E.R.E. students just loved that experience of being up there.

Lindi Quackenbush: We use them in non-physical ways as well that the forest data that's collected up there, we've been publishing with that data for years. And some of my students, I always try to make sure they always get up there at least once, but I have memories of snowshoeing out to look at our locate forest plots to do reference data collection for remote sensing studies when I was a grad student.

Joanie Mahoney: And the whole world of remote sensing has changed so much since your time as a grad student that keeping up on the technology has probably also been interesting?

Lindi Quackenbush: Yeah, very much so.

Joanie Mahoney: Is there something that you can point to looking back where you say that launched my career, that launched my passion?

Lindi Quackenbush: Well, I think part of it was, you're absolutely growing up that way, and I was never discouraged to learn. My parents were both teachers and, and so that was certainly education was important. But growing up in Australia, this sort of a different, everybody doesn't have to go to university. You're going into the trades. There were lots of opportunities, and there were lots of career paths. But it was, it was clear that I was, I was heading in that way, and I was encouraged right from the start. And it never occurred to me not to be positive about education. And every time I hear someone say, 'oh, girls get taught they're not good at math.' And I'm kind of like, "I never heard that," and I get mad when people reinforce that because I don't think it's true of a lot of teachers. So they're looking to, to grouping students into the way here. But I certainly had a very unusual experience. But I think what changed my path was actually getting into the upper end of high school. I was going to be a dietitian. I had my career mapped out, and then I took chemistry and decided I didn't like chemistry, and I didn't want to pursue chemistry. And there was a brochure in one of the education flyers as that said, 'Do you like physics, Do you like math? Do you like working outdoors, surveying as a career for you?' And I kind of went okay. I hadn't even thought about surveying, and I went and visited a couple of local surveying firms and ended up working in summers for one of those people when I was in college in the end.

Joanie Mahoney: It says a lot about you, you know, how many people would see the same flyer and not hear, "Oh, that is exactly what I'm interested in." It didn't say chemistry. I am



interested in physics and math, and the outdoors. And I have this impression that (unfortunately, I've never been to Australia), but I have this impression of Australia where there is a love of the outdoors. I don't know if it's just what is curated for us to watch on T.V. about Australia. But it does seem like a place where people really appreciate nature and the outdoors.

Lindi Quackenbush: We certainly did. I could probably count the number of times I stayed in a hotel in Australia on one hand, that my family's vacations were always camping. We were members of the local four-wheel-drive club. So we did a lot of car camping into some really remote areas, but then I also did a lot of hiking. I had the option to take outdoor education as an elective. And my dad said to me, "You either do P.E., or you do outdoor ed. I don't care which one, but you have to do something that keeps you active." And so I picked after it, and we did rock climbing, and we did canoeing and ski touring.

Joanie Mahoney: So I'm wondering about your role models. Is there anybody that you met or saw along the way that really inspired you and your career?

Lindi Quackenbush: Lots of people in different ways. And as I said, the surveyor that I talked to, who ended up later employing me was probably 30 years ago, said to me, "You have to take G.I.S., you have to get into G.I.S. This is going to be really important going forward." And he was absolutely right. And so it's certainly sort of your pieces like that. I had a math teacher, Mr. Cain, who pushed me in ways that you've gotta keep going. Yeah. I'd go and visit him, trips, hire him up until he passed away a couple of years ago. But then I also have the people who live down the road from me, the farmers who when my parents were working, I would wander down to Mr. and Mrs. Marshall's house and pick peas out of their garden.

Joanie Mahoney: You sound like you had this ideal childhood.

Lindi Quackenbush: It was a very different experience, and 30, 40, 50 years ago, people were a lot more secure, but I would walk from home down the road when we lived in the school residence, down to the neighbor's house, and there was never a concern about that. We used to, when we moved, we moved to the top of the hill, and I used to ride my bike. It was about four or five miles to school. And you just ride downhill here up until you had to catch the bus into town for high school, but there was a sense of security. I mentioned there were five kids in my grade level. None of them were girls. There were no girls in the grade above me.

Joanie Mahoney: Really?



Lindi Quackenbush: None either in the grade above that and only one on the grade below mine.

Joanie Mahoney: So, you went to a boys' school?

Lindi Quackenbush: Well, the other grade levels, different levels were more balanced, and we had a very small school, and then not very far away was another small school. And I got to know one of the girls who was in that school. And I could walk through the woods to her house, and we were just kind of like, yeah, just go down. When you catch the stream, you'll follow it down. And here I sort of look at it now. And we were into orienteering when I was a kid, and I competed twice in the under 10s, and I sort of look at it now and think, would I send my kid out with a map and compass and good luck?"

Joanie Mahoney: I don't know, would you? You have two children?

Lindi Quackenbush: Yes.

Joanie Mahoney: And they're school age still?

Lindi Quackenbush: Eighth grade and eleventh grade, or going into.

Joanie Mahoney: I'm wondering if it's because time has changed things or if it's that way in Australia today. And if you were raising your children in Australia, you'd have a different impression.

Lindi Quackenbush: I grew up in a country I think that's quite welcoming of travelers. I often talk about what my parents had; there was a group of twelve that they went to school together. It's coupled up, six couples. They all got married in the same calendar year. They're all still married. They will celebrate their, each year they have an anniversary trip. They've all had their fiftieth wedding anniversaries. Now, of them, all of their children had traveled overseas. Some of us are still based. Yeah, the one based in Hong Kong, I'm based over here, and there are others. Everybody traveled by this sort of willingness to if somebody says to "You, oh, you're welcome to come and stay and visit." They do mean that, it's not just a hi, how are you that you hear people say and don't mean it. My dad was very much. He took a year off after school and hitchhiked around the country, and worked before he went back to school to become a teacher. And I think he just sort of, "Yeah, you've gotta be independent." He struggled when I left Australia, but that was a, "You know, it's a long way away."



Joanie Mahoney: Yeah. Do you get to see your parents very often now?

Lindi Quackenbush: Before COVID, we were going reasonably yeah, we would see them reasonably often, and we met in L.A. two years ago. Fortunately, we had that planned, but it's been now four years since I've been back because of just the timing we had planned on that trip, and I wouldn't have gone somewhere in the last two years, but they're still not really open at the moment to even consider it.

Joanie Mahoney: So, do you have siblings?

Lindi Quackenbush: I have two brothers.

Joanie Mahoney: Are they in Australia?

Lindi Quackenbush: Yes, one's on the West Coast in Australia, and one's just outside Sydney.

Joanie Mahoney: So, your husband's from central New York, and your roots now are with him and where his family grew up in the Utica area?

Lindi Quackenbush: Yes. So we built, we have a log cabin that we built on land that his grandparents owned, and I often joke about it. So to say, we built the log cabin, not we had it built for us, but we actually put the logs into place.

Joanie Mahoney: You did?

Lindi Quackenbush: Which was another experience. While I was a grad student, we were working on that. We had cleared the lot and then built the house.

Joanie Mahoney: Oh, my goodness. So, you have the benefit of kind of both. You have somewhere where you have roots, and you have your family here in the United States.

Lindi Quackenbush: It's home both ways. I've now lived in the U.S. longer than I lived in Australia, which was a really strange turning point when I hit that. When the Olympics come up, I am definitely Australian.

Joanie Mahoney: Oh really?

Lindi Quackenbush: Absolutely.



Joanie Mahoney: How did they just do in the last Olympics?

Lindi Quackenbush: So they did this year. I always think they do remarkably well when you think about the fact that Australia has a population, a tenth the size of the U.S. And I think it was like seventh in the medal count or something like that, but they do reasonably well. And I think that actually comes back to that idea of what Australians would think is important. That growing up, everybody was involved in things. That your netball was the girls' sport, the most popular girls' sport in the area. But in my small community, which probably has twenty-five thousand people in the rural area, you would have hundreds of girls every Saturday morning, all morning long, playing netball and your football for the boys and primarily in winter. But there was a place for everyone through the adult level that I still have friends who are playing now and in all sorts of leagues, and it's always been very much getting people active.

Joanie Mahoney: And would you say that looking back with the benefit of hindsight, there is a step along the way that you wish maybe you had taken the other fork in the road?

Lindi Quackenbush: I don't know. I sometimes sort of feel like I look at people who're contributing to the community, and I sort of think, "Should I get into medicine or something where I could give back more?" I sometimes worry that I love what I do and I see the value in it, but I wouldn't be very good if you dropped me in a remote community somewhere and sort of said, you know, "We've got sick people. Help!" or we've got here like, huh, "Are there other things that I could have done to make myself more valuable to the outside world?"

Joanie Mahoney: When you think about what's happening in the world right now, there isn't a bigger help than people that are studying nature and how to heal nature. I mean, we're, none of us, is going to be able to live here if we don't get scientists like you, your message, resonating with people who are in policy-making places that can put the changes in place that we need. I tell people my uncle was a climate scientist in the 1980s. He's since died. But I was watching the news last night with all the water in New York City and in Philadelphia, and the West Coast is on fire. And I said, you know, there are people like you, like a lot of the faculty at E.S.F. like my uncle, that have been ringing these alarm bells for a long time. And you have data that you've been collecting for all of these years, that once you have folk's attention and you can present that data in a compelling way, I don't think there's a more important mission than the mission of E.S.F. right now. And you've gotta be one of the leading voices here for this college. So I would disagree about whether you should have a different meaning for Dr. Lindi Quackenbush, and I'm sure you would have



been fabulous as a doctor, but thank goodness that you're focusing your attention on the environment and environmental engineering in particular. I had the benefit as county executive of working with a lot of your students doing capstone projects on some of our stormwater issues that we had in the county. And I say this, and I mean it so sincerely, your students changed the community! And I would argue the country because we had the first consent order that dictated green infrastructure. We got that because of the expertise here at E.S.F. And then we did so many projects that were ideas that came from your students. And I have personally been in meetings in San Francisco and Philadelphia, and New York City with teams that wanted to copy what we were doing. And so when you think about those students that you're educating, and how broad their impact already is, and how it's just going to be greater and greater all the time now because we're finally getting the attention of people that these solutions are going to be what protects our kids and grandkids going forward.

Lindi Quackenbush: Yeah, our students are amazing in their willingness and interest in giving back. Well, the students involved in Engineers Without Borders, Engineering for a Sustainable Society, and the volunteer efforts that the club trips do when they're up at A.E.C. and I would not want to be trying to compete for a job with some of our students coming out of here because their resumes are amazing.

Joanie Mahoney: I know the resumes coming in are amazing. Yeah, I can't get over when I meet new students on campus this semester some of the things that they've done. They're very mature, and they're very much dedicated to the mission of the college, and how fun for them to be at a college where everybody's got the same mission!

Lindi Quackenbush: Yeah.

Joanie Mahoney: How do you think your students will remember you when they are sitting in front of a podcast a couple decades down the road, and they're hearing about the people who influenced their lives? What do you think they will remember and take away from their experience here at E.S.F. with you?

Lindi Quackenbush: I think they will, a lot of them, will talk about my attention to detail and being meticulous and caring about communicating. We start that we are at the lowest level. And I remember the first paper I had marked up by my advisor, and I thanked him and went home and cried. But it's something that I want students to be comfortable with. And so I think that they have heard from alums that they'll see a presentation and be sort of like, I knew you would be you would be really mad the way somebody had done this and yeah, there was too many exclamation points in



other views, exclamation points in my writing. And so, the things that sort of detail and it doesn't really matter. You know, a lot of them, a lot of our alums. I taught surveying for a number of years, and they took surveying. And we just heard from an alum recently who was beating up his new employees because they hadn't taken surveying and they needed to take it, and they should have done it. And what I taught that was really useful. And but beyond that is sort of the ideas of you're just, like I said, attention to detail.

Joanie Mahoney: But that's an interesting way to be remembered. But it's crucial because you can know how to do all of the things that we need to do to move in the right direction. But if you can't communicate those things, it's, you know, you're not going to get policy-makers, as I call them, to put the right solutions in place. So, communication is everything. I mean, once you become an expert in your field, if you want that to matter to others, you have to know how to communicate that so you're doing them a service.

Lindi Quackenbush: Yeah. Well, certainly, the course that I teach in the spring semester is about engineering design, and it's about understanding our curriculum, but it's also about communication. And your Matt Marko actually came into my class for a number of years to do guest lectures, sort of talking about, okay, what she's saying matters. Dave Gerber comes into my class regularly, both practicing engineers in the community who have a connection to our programming in different ways. But understanding that, here, that what I'm saying, yeah, really matters and I can say it and then they hear it from somebody outside. And so to think, "What was it she said because maybe I should have taken more notes on that."

Joanie Mahoney: Exactly. And you've come full circle on that part of the story with me because it was actually Matt Marko, who was introducing me to your students because he was meeting them because you were having him come in the classroom. He was introducing them to us and then the federal judge who granted our request to use green infrastructure instead of the traditional methods that clearly haven't worked. It mattered to him that E.S.F was putting its stamp of approval on what we were doing. So, I would say that you have had a tremendous impact on this community, and, more broadly, your students are lucky to have been able to interact with you. I thank you for your time, and I'm hoping that people will get to know more about Lindi Quackenbush than they knew, despite the fact that you've been here, and I can tell you, twenty six years. I know that because my oldest was born in 1995, so when you said that, I thought, Okay, now I can keep that in mind. But, thank you very much for doing this!



Lindi Quackenbush: Oh, I'm happy to be here.

Joanie Mahoney: It's a pleasure to know you, and I am grateful that you work here.

Lindi Quackenbush: Well, thank you.

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