

Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356
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Lin Olsen – class of 1967

Interviewed by Kathleen Schwind, class of 2019

March 20, 2019

Margaret MacVicar Memorial AMITA Oral History Project

Lin Olsen (SB Electrical Engineering '67) was interviewed on March 20, 2019 by Kathleen Schwind (SB/MCP Urban Studies and Planning '19) at MIT.

Lin Olsen broke new ground at MIT and in the workplace – as one of the few female students in the MIT Department of Electrical Engineering during her years as an undergraduate, one of the first members of the MIT women's sailing team, one of the only female managers at the companies she worked for, and one of the first female engineers at RCA. Olsen worked on weather satellites and ground stations for those satellites. She was also the main computer interface designer for the command and control system for Disney World, among other projects. In her retirement, she has helped preserve and celebrate the history of women at MIT through her involvement with the Association of MIT Alumnae (AMITA) (which sponsors this oral history project). The spirit of adventure that first brought Olsen to MIT was in evidence most recently during a Lewis and Clark-inspired trek from St. Louis to the West Coast that she took with her husband.

SCHWIND: I'm here with Lin Olsen at MIT in Cambridge, Massachusetts. I'm excited to be talking with her today about her life, and her experience at MIT and beyond.

Let's start with your background: Can you tell me a little bit about your childhood – where you grew up, what it was like?

OLSEN: I grew up in Lawrence, Mass. Now, Lawrence is an immigrant community. It's always been poor. It still is poor.

My father graduated from sixth grade. My mother graduated from secretarial school. And my sister, who's 15 years older than I, went to nursing school and was a nurse. I was sort of like an only child because of my sister's age difference – until, unfortunately, she became a widow and came to live with us for seven years. I suddenly became one of four, with her three boys.

I went to Lawrence High School, which is adequate. (I'm being generous.)
[LAUGHS] I never took a class or test longer than 45 minutes until I took the SATs.

SCHWIND: Wow.

OLSEN: There were no advanced classes. You took what was offered within a specialty such as college, secretarial, automotive, printing or general. Trigonometry was advanced, there wasn't any sort of calculus. I was quite a dweeb. You know, I was in the band, and that was my main activity. I learned football. I mean, you know, if you're going to be in the stands, and you have to be there to play seven songs, you might as well learn the game, so I learned football in high school. [LAUGHS] Still could watch it. Marched in the parades. My main friends were those that were in the band. I was in the college course, valedictorian, without working. I never really developed great study habits...

SCHWIND: Hmm.

OLSEN: ...because things were easy.

I like building things. When I was in something like the seventh grade, I built a float to be in a boat parade. It was a swan, fully covering a little rowboat. The wings hid the driver and were cross braced against the wind. But I had no idea of what an engineer was, no idea of doing things. I liked math, I liked science; those were good subjects. I hate writing, I still hate writing! [LAUGHS] I thought of being a high-school math teacher.

The people who were taking the advanced courses were all looking at going to college. I looked at my math teacher, and he'd gone to MIT. I thought that was a good idea, though, to have good math basic courses. I could go on and be a high school teacher like him. Right. [LAUGHS]

SCHWIND: Well you made it to MIT and really thrived!

OLSEN: I know, I've done so much more. Well, I got to MIT, and I got through first year without any specialization. The second year, I started to specialize in what I would need to be a math teacher. I got through two weeks of linear algebra, and that was not going to work. Looking for an alternate major, I noted that I liked cooking and had enjoyed a programming course as one of the 'look-at things' elective in freshman year, so I tried to double major in electrical engineering and chemistry. That didn't work, either! [LAUGHS] You can't fit it into the week, never mind actually studying. And as I said, "I don't have great study habits. I live by the word of there's only 24 hours a day. Thank goodness there's night."

So I went into electrical engineering. And while I still don't believe in transistors, luckily, I was here at the time that they were starting to really look at

computers, computing, digital logic. You didn't have to get the transistors to amplify; you just made them represent the ones and zeros. That was my joy.

SCHWIND: Where did you live?

OLSEN: I lived here at MIT. I lived at the dorm. We were the first class that had the dorm. [McCormick Hall, the women's dorm that enabled MIT to admit more undergraduate women.] and there were more rooms than women students. For the first year, you could move to another room for any reason. My roommate and I shared two singles and a double. Sometimes we both lived in the singles, other times we lived in the double. It was a corner double, so it's a big double.

SCHWIND: That's great.

OLSEN: Of course, by my senior year, the dormitory was so full that they had some of the seniors move up to Westgate. They dedicated two floors of Westgate and made it apartments for upperclassmen women students.

SCHWIND: That's incredible--

OLSEN: The dorm holds 100. Before they started tripling up the doubles, it held 118 girls – and my class was 36. We had grad students, and seniors, and upperclassmen. They could live in the dorm, too – paying more money. [LAUGHS]

But by my senior year, they had converted large doubles to triples and were willing to let upperclasswomen live apartment style. We were cooking our own meals, It was convenient to live in Westgate.

SCHWIND: It sounds like, from your first year to when you finished, there were quite a few women who joined the Institute – which is fantastic – and you got to live through that period of growth. When you were growing up, did you feel like there was ever a difference between the way that girls were treated and the way that boys were treated? Either in school itself or when talking about career paths? You mentioned that you were inspired by one of your teachers who went to MIT. Was it usual for a girl to be aiming for that kind of school?

OLSEN: My mom worked from the time of my birth. She did the payroll for the company in the delivery unit when I was born. Then she worked at home until she could go back to work full time. I went to school from my grandmother's house, which was an easier walk and also put me in a more modern school. I always expected that a woman would work, even though most of my friends had moms who were home with cookies and milk. But--

SCHWIND: Cookies and milk are good, too. [LAUGHS]

OLSEN: Oh, yes.

Did I notice something different? If I looked around church, it was the women who were getting a lot of things done and the men who were the deacons. My mother would not become a deaconess because she didn't feel that it was held in as much regard as a deacon.

I knew I had to be careful walking home from school because people could try to pick you up and talk to you, and maybe bad things would happen. I don't remember much daydreaming about future careers. The focus was on a job rather than a career. I bought into the idea of women's work – teacher, nurse, secretary, factory worker.

But, I mean, there were different things. In Lawrence schools, there were a plumbing course, a woodworking course, a printing course, and so on, and girls didn't sign up for them.

SCHWIND: I see.

OLSEN: You didn't take those. Those were down with the guys who were wearing dungarees and dirty clothes. So there were those guys. They weren't very vocal, I have to admit. And, of course, there were the jocks, who were the kings at the school. I didn't expect to be with them because I was a nerd. I was not philosophical, unfortunately. I didn't look at the broad picture and get mad or anything.

I went to look at MIT. I'm not sure I met any girls there during that visit. It was long ago. [LAUGHS] But if you wanted to major in math, you were going to go to a school like that. The other schools I looked at were UMass, of course, or Pembroke, which was [the name then for] Brown, Radcliffe, and there was one other.

SCHWIND: What do you think drew you to MIT? Was it solely because your teacher went there, or were there other reasons?

OLSEN: Well, the other thing was that my brother-in-law had spent a year at MIT and then had to drop out because of financial reasons.

And my sister had gone to nursing school near here, so we had driven past MIT. I wasn't used to something being that big – unless it was a mill. Maybe I was competing with my sister.

SCHWIND: When you were admitted to MIT, how did your family feel about you going, especially since the students and faculty were mostly men?

OLSEN: Well, my father commented that I would either come out brilliant or crazy – he wasn't sure which. And if, in fact, if I had gone steady with my boyfriend in my senior year of high school, Dad wouldn't have paid my tuition at MIT. Would have figured I'd get married rather than complete my education.

My first year at MIT I had a scholarship, but after that, my parent paid the room and board and I had to come up with the tuition. And with my study habits, after my freshman year, the full scholarship went away. The next year I had loans, the next year I had half loans, and the next year I got most of my scholarship back.

SCHWIND: Got it.

OLSEN: But backtracking a little, my sister had taken me to all of the college interviews. My folks, I don't think they'd been to MIT. The first parents' open house, we walked the length of the Infinite Corridor and my father then said how he's been through MIT. My mom came down to MIT-- Well, living in Lawrence, it's only an hour away. But at that point, you know, [Interstate] 495 wasn't built and [Interstate] 93 wasn't there. But my mom came down about every three weeks or four weeks. She and my grandma would go to church and then come down. They'd take a ride and talk with me for an hour or so. Bring me a goody, and then go back.

SCHWIND: That must have been really nice.

OLSEN: It was nice.

SCHWIND: Yes, having that touch of home.

You mentioned that when you came and visited the first time, you don't recall meeting any women. Or at least, that didn't stand out.

OLSEN: No.

SCHWIND: When you first got here, and then realized that your classes were almost all male, did you see that as a challenge or as an opportunity to prove yourself?

OLSEN: I didn't expect to have oodles of guy friends. For lectures, I would sneak in the back door and find a seat, and then just be calm about it. I wasn't a big socializer. I was really glad to have women who were similar to me in their liking for science. I'd been used to being a relative loner, and continued that pattern at the Institute. I didn't, you know, go and have a cadre of boys that were my pals. It was hard finding lab mates because the guys didn't really want a woman; they didn't know how much experience one would have. And indeed, I had very little. I mean, I could swing a hammer, but I couldn't solder a joint yet.

SCHWIND: So McCormick became the heart of your community?

OLSEN: They did a very good job with orientation. At McCormick, there were 36 of us. That was it. Thirty-six freshman. And then some older students. It was instant: there were people you could talk to. You know: "Oh, I'm not alone."

SCHWIND: Of course.

OLSEN: There were a couple of girls who were gorgeous. And there were other girls who were not gorgeous. Also, people who were very sophisticated, and talked with a funny accent. And what are bagels? We didn't even do pizza in my house! [LAUGHS] So I looked forward to that, to experiencing new things, learning new things, and doing stuff with them. We walked everywhere, and we made friends.

SCHWIND: That's great. You know, today, people talk about how the MIT experience is so much more than the academics; it's also the communities that you form outside of classes. Sometimes those are almost more valuable than what you learn in the classroom.

OLSEN: Yes. I'm not sure what I would have done if I was assigned to the third floor of Baker Hall, known as Baker three, and had to form a whole support network in a very mixed environment. I appreciated having some elements of an all-girls' school in the dormitory.

SCHWIND: Exactly. While going to a school that wasn't. It sounds like you got the best of both worlds.

What did you major in at MIT?

OLSEN: Electrical engineering. I finally settled on electrical engineering. I had a programming course in my freshman year, which used punched cards. You've heard of computer cards?

SCHWIND: I have. Yes.

OLSEN: Yes, well, the course was in civil engineering. They had a computer for solving problems, so you could get up close and personal with the machine. You could run your own deck. So you would come in and work, and set up your deck, and run things, and immediately have a printout so you could see what needed changing, et cetera. This was in contrast to the programming courses in Electrical Engineering, where you submitted your deck to the 7094, which was behind glass with a red velvet barrier.

SCHWIND: Really? Wow.

OLSEN: And you got your results the next day. I mean, it was, like, a 12-hour turnaround. We enjoyed having the hands-on in our course. Then of course, the first year of electrical engineering you're taking basic electronics, with transistors and resistors. And meanwhile, in physics, they're hitting you with field theory. [LAUGHS] I did fail one course: 8.03 [Physics III].

SCHWIND: Most people who are not physics majors don't even venture that far in physics. The only graduation requirements in physics are 8.01 [Physics I, Classical Mechanics] and 8.02 [Physics 2, Electromagnetism and Electrostatics]. Our first two years were heavily required course with up to X.04 in Physics, Calculus and Humanities and 5.02 in Inorganic Chemistry.

SCHWIND: Got it.

OLSEN: Freshman year, after the first four weeks, there was a quiz every Friday. First a chem quiz, the next week physics quiz, the next week calculus quiz, and repeat.

SCHWIND: Keeps you on your toes!

OLSEN: Set the pace for life. [LAUGHS] So I went into electrical engineering, and I absolutely adored it. It was great fun because the professors were teaching us what they had discovered the week before. There was a system called Multics, which was going to try to be a super-duper time-sharing system sold by GE. [Multics was an operating system being developed jointly by GE and MIT and used as an illustration in the electrical engineering course on operating system design, which was the second or third of the programming courses offered, the

first being assembly language programming.] The professor would come in and say, "OK, today we're going to talk about say database management, and finding data." And away we would go in 26-100, [one of MIT's largest lecture halls], filling all six boards. That was Tuesday's lecture. And Thursday's lecture would start, "You can rip those pages out. The reason is it doesn't work that way. It clogs up, and (insert full explanation)." So we'd put up the new theory.

SCHWIND: On all six boards.

OLSEN: On all six boards. But, you know, it was fascinating to one, watch the invention, and two, then at least hear the directness of "yes, it works" or "no, it doesn't work." And "we can build on this," or "we can't build on this."

SCHWIND: Exactly. And here's what we learned from it, and what we learned between Tuesday's and Thursday's lecture!

OLSEN: That was great. And then building things was good.

But I experienced the discrimination because, let's see, the course that had sessions when you worked out in industry, and sections when you come back (Co-op). You would have to be an extraordinary woman to have been chosen then. Industry didn't keep up with MIT. An ordinary woman electrical engineering student really couldn't get into that. And I wanted to do stuff, versus just look at books.

SCHWIND: Sure. Or six boards filled with stuff. [LAUGHS] That's a really interesting thing.

Back then, what was the ratio of men to women at MIT?

OLSEN: In our class, 900 to 36. In Electrical Engineering, there were four of us; four women. And that was already, by that time, when at least half the class was in electrical engineering. So, four out of 400. Something like that. You know, 1%. Me, Carol Hoffman [Dr. Carol Scott-Conner, SB Electrical Engineering and Computer Science '69; became a surgeon at the University of Iowa], Sandy Foote [SB Electrical Engineering and Computer Science '67] and Ruth Goldstein [Ruth Fax, SB Electrical Engineering and Computer Science '67].

SCHWIND: I love that you can still remember their names.

OLSEN: Well, we just had our 50th reunion – not last year, but the year before. We had more than 18 women come back, out of 36.

SCHWIND: That's incredible.

OLSEN: They're just as fantastic as ever. They really are.

SCHWIND: That's awesome. So, going back to the classes that we were talking about: Do you feel like your high school education prepared you well? I think you said not.

OLSEN: No. [LAUGHS]

SCHWIND: What did the journey look like, then – from when you got here, to then, when you were put through the General Institute Requirements?

OLSEN: I had always been able to put things off and do things at the last minute. I could not do that at MIT, so I put things off and then I worked through the night. My roommate and I between us logged more all-nighters than anybody else in the dorm. We would go up to the penthouse on the top of the first tower [at McCormick]. Did you live there, or did you just tour McCormick?

SCHWIND: I've toured it, but I think the top floor now is called The Penthouse. It has gorgeous views that distract me from studying when I'm up there. [LAUGHS]

OLSEN: It was quiet.

SCHWIND: Yes, indeed.

OLSEN: It stayed warm there, and you weren't bothering other people. But no. Lawrence [High School] did not prepare me for tackling things that were beyond me, or for being able to change my view.

That's my problem with transistors. I can't believe in current sources. I've tried. My husband has tried. We've fought about it – he's another electrical engineer. I can believe in voltage differences, but not current sources. It's very hard. So I went into digital circuitry instead of analog circuitry.

SCHWIND: What were some of the most memorable classes, exams, labs, Eureka moments that you had – besides all the all-nighters?

OLSEN: Well, a story that's told about me is the time my roommates came in to take me off to a quiz. Yeah, a quiz. And I sat up and said, "Silver sulfide is very insoluble and I don't think it's a bit nice." But I was just dead to the world. It must have been a chemistry quiz. [LAUGHS]

SCHWIND: Can you tell me about some of the non-academic things that you were involved with? I seem to recall you were on the sailing team and in the concert band?

OLSEN: Yes. We were in the dorm in February of our freshman year, and the boy's sailing team came over. They said, "We believe MIT ought to have women's sailing team. We will teach anybody who wants to learn how to sail, how to sail. We will start on--" they picked a time. I knew nothing about sailing. I was one of the ones who got there, and got to sail, and to rig the boats. Of course, what you did in March especially was you rigged the boats, and you tied knots, and you learned the rules, and all parts of the boat so you could talk about it. Before the river melts.

SCHWIND: Exactly.

OLSEN: And then in April, you're out there with the crew people. And they are not compatible people. Either way, we would put ourselves in front of them, and they would be mad at us. [LAUGHS] I was OK. I was a good crew; I wasn't a good skipper. My friend got more into it than I did. Typically, I have a very standard histogram of time. I'd start out enthusiastic on things like band and sailing, and I would enjoy it greatly. And all of a sudden, there came a time when I realized I was going to flunk if I didn't change something. I would have to go into solid study mode and only occasionally do engage in the activity. So I didn't stay on the sailing team, although I stayed supporting them. I didn't do a lot of the traveling that I wish I had. But we (My husband and I) ultimately did own a sailboat. So I learned how to sail enough that when we were looking for things to do, we could get a sailboat.

SCHWIND: That is really great. I have some friends who are on the sailing team, so I'll have to tell them that I got to meet one of the first members of the women's sailing team. It's great that some guys at MIT said, "I'll teach you how to sail."

OLSEN. Yes.

SCHWIND: Sounds fun. I sail back home in California. We have two lasers. It's one of my favorite things to do.

OLSEN: We finally sold our laser. We had a 470. I really enjoyed that. We still have a Windsurfer around, but we should sell that too.

SCHWIND: I took the PE sailing class here my sophomore year, and that was really fun. It's kind of a refresher for me because I hadn't sailed in a year, and it was also just great to see all of the MIT kids out there talking about the technical side of

sailing, like wind angels and velocities. And I'm thinking, "This is very different than when I sailed back home!"

OLSEN: Is it fluttering?

SCHWIND: Yes. At home it was more like, "Is this in the no-go zone? And what is the tell-tale doing?" And here we got the whole scientific explanation.

OLSEN: We started with a thing called a Bonito, which is sort of a laser. More casual than a laser in its transom is flat, so it doesn't keep any water in it. And we car-topped it. I would get a call at 4:00 in the afternoon from my husband. "Wind's up." So I would leave on time. We would meet at Cochituate State Park. I live out in Framingham, and Cochituate has a boat ramp.

SCHWIND: I wanted to ask: Did you meet your husband at MIT?

OLSEN: I met my husband [Richard E. Olsen, SB '65 and SM '66, Electrical Engineering and Computer Science] via a job I got through MIT career services, where I replaced him for a summer – but he didn't really leave. I was very naive. There are two situations that my kids love [to hear about]. One is that we met each other at a mental hospital, because the job was in a lab that was in McLean Hospital [in Belmont, Massachusetts]. The second is I didn't know he was dating me. He had a girlfriend doing a tour of Europe, so I figured he couldn't be dating that summer. I thought the things we were doing, we were doing as a group, not as a date. The next semester he was a TA for one of the labs that I had to take. Ironic.

SCHWIND: How interesting.

OLSEN: Yes. [LAUGHS]

SCHWIND: After MIT, what happened next? You went to grad school, right?

OLSEN: When I graduated, I had been dating Rich for quite a while. I looked at him and said, "If I'm here around Boston, and dating you, I want to know we're going somewhere. What do you think I should do?" And he said, "I guess you should go someplace else." So I went to New Jersey to RCA, where we worked on weather satellites and ground stations for weather satellites. I did the first computers that they programmed to do checkout rather than hard wire custom testers. I was the first woman engineer in the building.

SCHWIND: That's fantastic!

OLSEN: When Secretaries Day came, they didn't know what to do, so they gave me a flower too. [LAUGHS]

SCHWIND: That's really funny. Things were so different then.

OLSEN: They were great. They gave me challenges. They asked my advice because I'd worked with computers mostly in the lab. I had worked on both PDPs – Digital Equipment Corporation called their computers Programmed Data Processors – and on HP computers.

When I got engaged, I transferred within RCA to come up to Boston. The first thing we were doing there was trying to militarize an RCA spectra series – a big computer, 794 type. Really high-technology. Eight layer-- This won't make any sense. Prepare to be snowed! Eight-layer boards with ICs in between, being able to get signals back and forth, integrated circuits on board. How to repair them, how to build them. It was fun. But we didn't win the bid, so I joined another team that was building the monitoring control system for Disney World.

SCHWIND: Wow.

OLSEN: RCA sponsored Space Mountain.

SCHWIND: That's my favorite ride!

OLSEN: For sponsoring Space Mountain, they got to bid on the command and control system that was monitoring people coming in, lightning strikes, pumps. I mean, Disney World is on a swamp, so sump pumps everywhere.

If both sump pumps in a sump went away, the corridor would flood in three minutes. So you really had to be able to tell somebody, both of them are down. [LAUGHS]

I got to be the design electrical engineer in this thing. They had decided to use Data General computers. I designed the interface boards that were going to go into the computers to receive the monitored inputs. I tested the boards. I wrote the test program so manufacturing could test them themselves. The most complex board came in, I worked on it.

Then I went flying into – bouncing into – my boss's office saying, "It works. It works 100%. No changes." He says, "Great. Now I've got to lay you off."

SCHWIND: Oh no!

OLSEN: We were having troubles. And indeed, he had to lay me off. I said, "Oh!" and was very sad for 24 hours. Then I said, "Well, I'll just finish this little job, OK?" Right. Eventually he had to hire me back because I worked too long, and legally he had to just hire me back. I actually worked there for seven more months.

But meanwhile, a team went down to install all this hardware. The team consisted of guys – their families all transferred down to Florida for six months. The other woman engineer, and the male engineer who had a working wife, were not on the installation team because they wouldn't deprive a man of his supper.

SCHWIND: Interesting.

OLSEN: Do you know, one of the points against me when they were deciding layoffs was that I didn't have installation experience. [LAUGHS]

SCHWIND: Wow.

OLSEN: Eventually, I went from there and secured a job at Digital [Digital Equipment Corporation], adapting their computers to customers' equipment. The customers didn't want to do it themselves; they wanted somebody to do it. And they wanted to be able to call field service to get it fixed. That's what we did.

SCHWIND: What were some of the best parts of that job?

OLSEN: I really enjoyed the design and debug of a product. We had things like when your telephone long distance call doesn't go through internally within the telephone system, they capture the information that tried to go through so they can fix it. I did one of those.

SCHWIND: Really?

OLSEN: It was ugly, because previously they punched the information on a card punch. So when I finished, I had this cable that brought the signals for the card punch out, and then exploded into something like nine different connectors. But it was supposed to be the only one. They ultimately ordered 57 of them. [LAUGHS] Yes, it worked. I felt good that it worked. I was a pretty young engineer. But then we had to make 57 more of those things.

We also had a computer control for a cardboard box cutting-folding-printing machine.

SCHWIND: That sounds cool.

OLSEN: I love installations.

Then, the biggest project, the one that took the longest time— A company came in that had developed a ink jet printing machine for carpets: how you printed floral carpets, for instance. They had these spouts, one for each color. And of course, they had white because that's what it starts with.

Their PhDs and doctors had figured out how to do this thing, and they had made one that had two colors. It worked very well, so they expanded it to four colors, and that took quite a bit of time.

The issue was that whenever it broke, which it would, they had to call in the PhDs to fix it. So they came to Digital. They wanted it made into a product that our field service could fix. What they were called was gun bars – you know, little inkjet things that were installed in 12-foot-long containers because they made 12-foot carpets. It was a big aluminum container. It had compressors behind it to turn on relays and turn off relays, and logic had to go back and forth. Then they wanted eight colors total – so eight of these things. [LAUGHS]

Well, the project came in, and I tried to recruit one guy to the team. He said, "No. I won't work on the project with you. I don't think it's going to make it." So I went and took the project, and I broke it down into 15 sub-projects. Because of our bookkeeping, I had five tasks under each of the 15 projects. You know: design, software, documentation, debugging, prints. I could carry that around in my head, because you can carry around five things and 15 things, you just can't recite them. The matrix. We ultimately shipped eight big systems. It was a \$4 million project.

And the guy who told me, "No, I wouldn't make it" came and worked for me. He worked on it. He did a good job. We made one mistake. A power supply mistake.

SCHWIND: Mistakes happen, though.

OLSEN: Yes. Mistakes happen, and you learn from them.

SCHWIND: Exactly. It sounds like overall, it was very successful.

OLSEN: Overall, it was very successful. Then I went on to do product management versus project management. I should have stayed with project management.
[LAUGHS]

I product managed a couple of the Digital systems in the PC space that didn't make it: an interactive video instructional system that had two strikes against it. One is, everybody wants something different. The other is that the software to create computer-based instruction is tedious and expensive, and you couldn't do it economically and quickly. And second, a software system to support high-speed trading of options and other financial instruments, working with a financial institution. Each of those took a couple of years to develop. In other areas, Digital was having trouble competing so it started laying people off. I finally took a [layoff] package and left after 21 years.

SCHWIND: During those 21 years, it sounds like you worked on a lot of different projects and took on a lot of different roles. It also sounds like it was a constantly changing environment. How did your time at MIT help you prepare for that work?

OLSEN: Well, I would tackle anything. Nothing was too big.

SCHWIND: I think even today, MIT instills in all of its graduates this can-do attitude. It's not like, "Is it possible?" It's more of like, "How are we going to make this possible?"

OLSEN: "How are we going to do it?"

SCHWIND: Exactly.

OLSEN: And in what time frame? I mean, there are some things that can't be done. And nowadays, text and video together on your screen are nothing. You know, you watch clips on YouTube daily. It's now all digital. But before, we were still trying to live within the NTSC standard of broadcast television. It didn't work.
[LAUGHS]

SCHWIND: I'm wondering: How did you feel as a woman in these project management and product management positions? Were there many women, or were you an anomaly?

OLSEN: The issue for RCA was that some of their plants were unionized, and some weren't. I was working at a non-unionized plant. The technician who was assigned to support me was pro-union and would want to make trouble. He had

a real hard time taking instruction from an engineer, a woman engineer. Finally, I just went up to him, and I said, "Look, I don't need to be your friend. I won't try to be your friend. I do want to respect your work, and you do good work, so let's just calm down, and both be professional. I'm not going to stop you from doing your union activity or anything else. But, you know, I don't need to have "whoopie" sounds as I come in, or something like that." And it worked. It worked. Rather than having to go to my boss-- That wouldn't have worked at all. It would have left a broken team.

SCHWIND: Instead, you faced the problem head on.

OLSEN: Yes.

SCHWIND: A thing that you learn at MIT, whether you know it or not.

OLSEN: Whether you know it or not, yes.

SCHWIND: You also went to grad school, right?

OLSEN: When I was at RCA in New Jersey, it was obvious that everybody went to grad school. Everybody was going to night school, so I started going. I went down to the University of Pennsylvania and took a couple of courses. The courses were great, but the environment was terrifying. Going across the University of Penn campus at 9:30 p.m. to get to the railroad station was the terrifying part.

When I came back up here, I had some courses already. Why waste them? So I started going to Northeastern [University, in Boston] in the evening, doing engineering management. I got my engineering management degree there.

When I got laid off from Digital 20 years later, I looked for work, but engineering had advanced tremendously from when I was last in it. If I wanted to get into the design side, I would need to back to engineering school. I was not sure I wanted to do that, so I went and studied for the LSATs. I thought I could do a decent job as a patent attorney or agent, so I took the LSATs. I think I got a 176 out of 180. I said, "OK. I guess maybe I'm good for this."

SCHWIND: That is so impressive. I'm studying for the LSAT right now.

OLSEN: I went to Franklin Pierce, which is a very good patent school. Very good for an engineer-lawyer. I commuted. I had a room up in New Hampshire, because it's an hour and 15 minutes [to the Franklin Pierce Law Center]. I stayed up there

during the week and came home weekends. Then I passed the bar in New York and Massachusetts.

I worked at various auxiliary jobs at GTE, and at Cognos. And then got a job at a law firm. I worked at the law firm for four years. I wasn't as productive as they wanted, frankly. I hate writing. Why did I become a lawyer when I hate writing?
[LAUGHS]

The mistake I think I made is that I should have gone to a Boston school. I was going to try to work in Boston. I should have gone to a Boston school so I could have developed relationships. It would have been better than going to the best patent technical school but not develop the relationships.

SCHWIND: Got it.

OLSEN: So when I left WSGH law firm [Weingarten, Schurgin, Gagnebin & Hayes], I went off to Waters [Waters Corporation, in Milford, Massachusetts, makes sophisticated test equipment, like chromatographs, that are computer based]. I worked for the Waters for a couple of years. But again, the same problem: writing. So I took more time off. Then applied to the [U.S.] patent office, which would teach you how to be a patent agent or patent examiner, and then you could work from home. So I worked in Washington for three years, and then I did work from home for a couple of years. Then I retired.

SCHWIND: Were there more women in your law school class than there were at MIT? What did that dynamic look like?

OLSEN: Yes. There were more women than at MIT. The number of women at MIT was 1%. At law school, it was probably 35 to 45%. Not all of them wanted to be patent attorneys, but that's OK. There were only around 75 people in the class. What New Hampshire does that's good is they offer a master's in intellectual property that a lot of foreign professionals come to take, so they understand U.S. law better as they're trying to get their Taiwanese invention covered in the United States.

SCHWIND: Interesting.

OLSEN: I got to know a girl from Mongolia and stuff like that. That was nice.

SCHWIND: You've had so many different professional experiences. When you were an undergrad at MIT, did you have any idea that you would do as much as you did? What were you thinking then that you wanted to do?

OLSEN: I think by junior year, yes, I did think I would want it to go that way. I mean, I looked at it myself and said, "I want to do stuff. So, therefore, I'm not going to go after a PhD." What would I do with a PhD that I couldn't do with a master's? I'd go for the master's. But I sort of had a better feel for what the work world was than I did coming out of high school. Well, obviously. And I think MIT Career Services did a good job in terms of preparing me to talk to people, and helping me to understand the opportunities that were available.

SCHWIND: I've talked with Career Services quite a bit too, and they're fantastic.

Well, we're especially excited to have you as part of this project because you've been involved with AMITA [the Association of MIT Alumnae, which funds this oral history project]. Can you tell me a little bit about AMITA and you got involved?

OLSEN: Well, AMITA is the association of women who have graduated, or who have gone to MIT but did not necessarily graduate. I guess that now, it's people who have graduated from MIT who identify as women. I'm not good at that new [gender] language. [LAUGHS]

Anyway, when I came in, AMITA was the only organization that tried to do some continuity and tried to give you a helping hand. They had to really scramble to pair all 36 women with an upperclasswoman when we were coming in. And they wanted to have Big Sisters, just to tell you that it's OK to feel overwhelmed; it's OK to not succeed every time – the first time especially. How to get people to let you work in the lab.

AMITA always provided a chance to catch up with other women, too. Even though by my generation, more mothers were working and couldn't take time off. Actually, my husband has missed a couple of anniversary dinners [with me] because I had a deadline. One time, he colluded with my technician to cover a couple hours of test time so that I would go on a date with him!

With AMITA, you could see that level of commitment in other people, peers carrying the same burdens – and advantages.

SCHWIND: What is your role in AMITA?

OLSEN: I'm the archivist right now. We had a 100th anniversary celebration of Ellen Swallow Richards's graduation. [Ellen Swallow Richards, class of 1873, was the first woman admitted to MIT; she became MIT's first female instructor and was

an influential industrial and safety engineer and environmental chemist.] We put together an extensive slideshow, and a poster board show for the Infinite Corridor, et cetera. Sarah Simon [SB Civil and Environmental Engineering '72; AMITA president 2006-2010] spearheaded that, but I was there a lot of hours, gluing, cutting and pasting, and finding stuff. I worked extensively on that. It was over a four-month period. We put in 80 or 100 hours. I'm also very busy in church, and we did the Walk for Hunger any number of times. I can only have about three major things going at a time.

SCHWIND: That's still impressive! It's that MIT spirit, right? Doing everything at once.

OLSEN: Yes.

SCHWIND: Why did you choose AMITA as one of the things you wanted to put time into?

OLSEN: I wanted to be able to be available to incoming engineers who were going into the Institute, to try to make it easier.

SCHWIND: How do you think institutions like MIT have changed over time to accommodate women?

OLSEN: Well, you know, physically, we've seen they've actually put in more bathrooms!

SCHWIND: They have indeed, yes. [LAUGHS]

OLSEN: I think using a gender-blind admissions policy has been a good thing. I know for a while there, there was a suspicion, or a feeling, that the women were less qualified. I've very seldom seen that true. Very seldom. Now, of course, MIT is trying to make sure that the women on the faculty are treated equally.

I've had the problem [in my career] where I've suggested a solution and it's been ignored or passed over. And then later in the meeting, a guy comes up with the same solution.

SCHWIND: You mentioned your husband before. I heard that the two of you recently took a trip that re-traced Lewis and Clark's journey?

OLSEN: Yes. We got interested in a Lewis and Clark trip, so we started researching it. Lewis and Clark started from St. Louis and then went up the Missouri as long as they could. Then they arduously got over to the Pacific, where they wintered. Then they came back in various other ways. They established that you could get to the other side of the country; that was what Jefferson wanted to do.

My husband's a pilot, so he suggested, "Why don't we fly the Lewis and Clark route out to Oregon and back?" We started looking at that, taking mountain flying lessons, too, because half of the trip is over the Rockies. However, there were forest fires like crazy in the West. People reported that the only flying being done was instrument flying. No visual flight rules were possible because of the smoke. Also, our engines started giving us trouble.

SCHWIND: Oh, no!

OLSEN: So we took the car. We drove out to St. Louis, and we stopped in Iowa to see my roommate [Carol Hoffman, graduated as Carol Scott, 1969 S.B. Electrical Engineering] from MIT. In St. Louis, we saw various things. It turns out we were there two years after the centennial of Lewis and Clark. For the centennial, they had built a number of exhibit spaces, et cetera, about where they had stopped. Gorgeous places. Just amazing. And they were still working, still functioning.

We also went up the Missouri River, up to South Dakota and over to Montana. We did, in fact, do the canoe trip down the Missouri that we'd planned for the plane trip. [LAUGHS]

SCHWIND: That's a lot of canoeing!

OLSEN: Three days. But we had very good mattresses, good tenting.

SCHWIND: Good.

OLSEN: And this was also the year of the eclipse. We went to Casper [Wyoming] to watch it because it was 100% visible there, and we went to Cedar City [Utah] because we knew there was a Shakespeare Festival there. We didn't go on to Oregon, but swung southwest through New Mexico and Texas to see amazing places on our way home.

SCHWIND: That sounds like an incredible trip.

OLSEN: It was.

SCHWIND: Well, thank you so much. It's been great talking with you, and getting to hear about your time at MIT and beyond.

OLSEN: Perfect. Thank you, Kathleen.