



Oral History of Mary Law (nee Cook)

Interviewed by:
Craig Addison

Recorded: May 24, 2004



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CHM Reference number: X6196.2011

Craig Addison: How did you first become involved with the SEMI organization?

Mary Law (nee Cook): Rich Banks was a friend of mine and he told me that they were looking for someone part-time, just through the west coast show in 1973. So I was interviewed by Phil Gregory and Trevor Law...and it seems to me one other director, but I can't remember which one. They were all local directors. And I then I was invited to a board meeting in February of that year. And they hired me that day. And it wasn't a part time job, it was a full time job. And in fact, the first board meeting that I went to, which was just a few months later, was right before the SEMICON West show. They decided to go to New York for the first trade show for Long Island.

Addison: What year did you join SEMI?

Law: 1973.

Addison: So SEMI had been going for three years by that stage.

Law: Yes. They had had someone that had done a little bit of work for them. He had tried to do a survey on standardization of silicon wafers. And it was, I thought, a badly designed survey. So that was one of our first projects that we started. Trevor helped me with that. And he was president of the silicon wafer manufacturing company, Galamar. And we held a meeting at Rickey's, probably about April of '73, with all the major manufacturers of silicon wafers. And then held another one during that SEMICON show in 1973.

Addison: So the meeting in April '73 would have been the first real standards activity?

Law: Absolutely, yeah.

Addison: So before that you said somebody had tried to do a survey?

Law: They sent out a survey to some of the manufacturers...it was designed to get their preferences for what the specifications for a silicon wafer should be. And of course they were all over the map...it was just random. It was you write down your thoughts, not these are the things to choose from. We asked Chuck Smith, who at that time was with Ventron back in Pennsylvania, to chair the committee. And he chaired it I think a couple of years before George Moore took over.

Addison: So you joined SEMI in '73, Mary, but what do you recall or what did you hear about the organization in the first three years?

Law: It was started here locally in Palo Alto at the time. And they had a meeting at one of the hotels. I know Phil Gregory was there. Trevor Law was there. Bob Shriner, Roger Borovoy, and I don't remember who else. But they met and decided that they were going to form a trade association. Oh, Bill Huggle and Fred Kulicke. They were both very influential. And they decided they were going to start a trade association. And their big thing at that time was to do trade shows. They felt that they had been part of the Wescon shows before and they didn't think that they had a big enough display and a big enough

position there. So they decided to start their own. And I don't think the first show was until 1971. And it was at the San Mateo fairgrounds. And I guess they had chaos. I don't remember the name of the hotel.

Addison: The Royal Coach?

Law: Yes, that's what it was. It was the Royal Coach. Thank you. And a clerk quit just a matter of weeks before the show and took all the reservations with him. So they had absolute chaos. People would get there and they'd say go to room 527, that's your room. And they'd go up there and there would be somebody else's clothes there. So you'd go back down to the desk and you'd say that's not my room, it's occupied. And oh, just push those clothes out in the hallway. I mean, it was just an absolute disaster. But it came off...and the one I went to was the third trade show, the one in '73.

Addison: What sort of infrastructure did SEMI have? There was no office?

Law: There was no office. Bob Shriner had a secretary called Nancy Weaver. And Nancy used to come to the board meetings and she would record the minutes. And everything was basically done by the founding fathers of the board. They didn't have any system for keeping track of the members except they were numbered in the order that they came in. So if you wanted to find something alphabetically it was a nightmare at the beginning. We had to sort all those out. But they didn't have any physical structure to the office at all. They had no facility or anything there. I did that when I came to work for them. They did make a contract with Rich Banks to put on the trade show. So he did that for five or six years and then they went off and did it on their own.

Addison: When Phil Gregory and the other board member interviewed you, what did they say about SEMI or what the goal or mission was?

Law: They said that they had this trade show that had started and they needed somebody to run the office and to be the interface with the members and to help the thing grow, to take care of all the aspects of the small business, which is what it was. It was over a year before there was anybody else in the office with me.

Addison: So you were literally sitting in the office by yourself?

Law: Yes.

Addison: When you left SEMI was it still at Ellis Street [Mountain View]?

Law: Yes...we were on the second floor of that building. And when I went to work for them there was a company...Bill Hugle had an electronics company, or a supply company there. So we had just an office with a conference room. And then we expanded and we had three offices, a conference room, a supply room, and a mail room. And then after I left they took over almost the whole floor. And they expanded a lot.

Addison: When did you leave?

Law: 1977.

Addison: Can you give me your recollections or images of SEMI as it changed from when you joined in '73 to '77. Was it vastly different during that period?

Law: Oh yeah. I mean, we were much more organized. We had set up systems. We had specific mailings. We had more people working for us. At first, I had no idea what they were doing. I had a difficult time keeping track of members. But we sorted it all out. And it gradually became so that we did more of the functions associated with the show than we had in the beginning. But we also expanded the standardization program tremendously. The silicon wafer standardization really did take off. Obviously there was a need and people were delighted with it. And we got lots and lots of support from our member companies on that. I think we were holding two or three meetings a year. And then the packaging people came and said if you're going to standardize silicon wafers let's standardize packaging. And I guess there's a whole array...we had like three or four, I can't even remember what they all were anymore, that were in the embryonic stages when I left. And I'm sure that there's a lot more now.

In 1976, we did a study on the projection of what was going to happen to the semiconductor industry, I think over a five and a 10 year period. Fred Van Veen headed it up and we did it with Gnostic Concepts. And that was a really big deal.

Fred presented a paper back in New York that year, at the trade show [SEMICON East] in Long Island. That was when the standardization program really took off. And everybody wanted to be a part of it...anybody who was in the manufacturing industry.

Addison: This study by Gnostic Concepts, was that on the whole industry?

Law: No, no, it was just on standards. But it was also supposed to be...it was projecting to our members who were all suppliers, what we thought was going to happen in the semiconductor industry. There's probably a copy of it still floating around. I think there's one still in the Boston airport. [Laughs] Fred wanted to see it before the meeting and my son was leaving that night for Harvard and so I handed him a copy of it and said leave it at "will call" at TWA at Boston. And Fred forgot to pick it up. So I think it's probably still there, if not in the trash.

Addison: So the standards meeting you referred to in April '73, do you recall some of the people besides Trevor Law that attended that meeting?

Law: Well, Chuck Smith obviously, because he was the chairman. I think that Dow Chemical had someone because they provided the silicon to the [device] manufacturers. I didn't know all of these people that well. It was when I first met them. George Moore certainly was there from Monsanto. And you might still even have the minutes of that floating around. That would certainly give you the names. But we must have had 20 people. Also Bob Lorenzini, who was with Siltec at the time, and was later a board member. Anyway, it was a good group. We were very pleased with the response that we got.

Addison: Were there any device makers there or only the silicon suppliers?

Law: No, it was just the silicon manufacturers.

Addison: So how did they come up with the first standard? They said this is what our customers want or they said this is what is best for us to produce?

Law: I think it was a combination of both. Because a lot of people were doing custom wafers for manufacturers. So they knew that that's what they wanted and that's what they had to do. But you have to realize we were talking about one and a quarter inch wafers, two inch wafers, two and a half inch wafers. We even, at one point, projected standards for five inch wafers. And that was just...everybody was saying that is really out there. That is going to be a long time away. And of course it wasn't.

Addison: What was the mood of the meeting?

Law: Oh, I think that they were all very enthusiastic. Dow Corning and Monsanto both were very supporting. And that was important because Monsanto was one of the bigger manufacturers at that time. But Dow Corning was very supportive. As time went on they would always send two or three people to the programs that we had. And in general people were very enthusiastic about it. And I don't think we ever had any of the users come to that meeting. I think it was always the manufacturers. I don't know if later down the road we ever had any of the users. I don't think so. Bill Hogle, who again was right in the same building that we were, he was very helpful. They did lots of things for me.

Addison: His company was in the same building as SEMI?

Law: Yes, Hogle International was in the Ellis Street building. And when Bob Johnson came on the board in May of that year he became very active. He helped us with setting up better systems for the financial side of the business. We had already hired Arthur Andersen to start doing our audits, but Bob helped us set up systems and his financial person, whose name I can't remember anymore, helped us set up. They helped extensively. Bob Shriner was not as active. In fact he didn't stay on the board very long after...I don't remember what year he got off, but he didn't stay on the board very long. And Don Sutherland was very influential in helping get the Long Island show started, the first trade show on the east coast. And then later Jim Gallagher helped get the one going in Boston. For two years, I guess, we did the one in Boston in '73.

Addison: Can we talk about Bill Hogle for a while. He's pretty much given credit as one of the key founders of SEMI.

Law: Yeah. He and Fred Kulicke are considered the founders. [Editor's Note: John Dannelley of Thermco is credited as the third SEMI co-founder. He died in an aircraft accident in 1971]. Fred was the president of Kulicke and Soffa and Bill had...I don't know whether Hogle International was the company that Bill had when they first founded it or not. Bill had started lots of companies on the peninsula. In fact, he finally got rid of this company while I was still working for SEMI and started another company. I can't remember the name, but it was Hogle something. And he wanted us very badly to go to Europe for a trade show, so he worked hard on that. As did Shelly Weinig and Fred Van Veen later on too.

Addison: After the formation of SEMI, was Bill Hogle very active in the work of SEMI?

Law: He used to come down to my office all the time. I think he was always hiding from his wife to tell you the truth. [laughs] Because she was a really good business woman and she was always trying to get him to settle down and Bill was always flying from one thing to another. He was a real character. But he was a big supporter of SEMI. And we didn't have our own copying machine at the beginning, so I always used his. And there was never any question. We never had to pay for it or anything. He was great about that.

He was the one that instigated us starting our first newsletter. At the east coast show that year we hired a young man by the name of Joel Smith that he'd brought back to that show. And we started the [SEMI] newsletter. They hired him to be editor of the newsletter. He worked part time. And he only worked for us about probably six months or eight months or something like that. And then he left. But that's how the newsletter got started. Bill was very big on PR and making our name recognized. Because we were just a little tiny, tiny trade association at the time. Our by-laws came from Don Sutherland. And he later on helped me revise the by-laws. And they basically used the by-laws from another association. I'm trying to think what it was. I think it was ASAE, American Association of Electrical Engineers. But I'm not sure. But that's what we were modeled after.

Addison: So the newsletter, that was called SEMI News, wasn't it?

Law: Yes, I think it was.

Addison: Was Bill Huggle really very hands-on in the years after that, or he had his own companies to worry about?

Law: He wasn't, from a business standpoint. But as I said, his big thing was PR and having an image. And he did come to all the board meetings. He didn't miss the board meetings. Later of course he got busy. But he was still very influential at the time that we started the show in Europe, when we began making those plans.

Addison: While we're talking about the directors, Phil Gregory, how did he become full time with SEMI?

Law: They [the SEMI directors] hired somebody from a chamber of commerce in Canada as I remember. By then I was working for another trade association and we actually had lunch with him one day. And he was only there a very brief time. He didn't work out at all. And then Phil retired from Raytheon. And when he retired from Raytheon he became the head of SEMI. He was president and chairman of the board. Howard Moss and then Phil Gregory. And then Jim Gallagher...Phil was still president and chairman of the board in 1977 when I left. I think that a man from Monsanto who was the head of their offices out here in California took over after Phil left.

Addison: Bill Reed.

Law: Bill Reed, yes.

Addison: So you had left SEMI by the time Bill Reed came?

Law: Oh, yes.

Addison: So what about the titles of president and chairman of the board? They were all part time in the beginning.

Law: Yes, they were absolutely. They were all directors who were volunteers. And as I said, this structure we inherited from another trade association. It was not unusual at that time to call heads of associations executive secretaries.

Addison: Was Howard Moss with SEMI when you joined?

Law: He was there, but he wasn't active. He came to all the board meetings, but that was basically all Howard did. Phil, in all practical purposes, really was the one who helped with the daily things and questions and signed checks and things like that.

Addison: Howard Moss is listed as serving four terms as SEMI president and chairman. Do you know anything about why they got somebody from TI?

Law: Because TI was a big influential company in the semiconductor manufacturing portion of the business. And they were trying to get as much support and as much notoriety as they could. So they asked Howard to do it. He used to come to the board meetings. He'd read all the material that we had given them as back-up for the board meeting. Phil would pick him up at the airport and he'd look at them in the car on the way to the meeting. He just wasn't that much of a participating person and he wasn't that interested in doing it. But he liked the position, he just didn't do the work. Phil did the work. Phil and the other local directors, the executive committee basically.

Addison: Was Bill Hugle ever the president and chairman?

Law: No, Bill never took that kind of a leadership. I think he just didn't want that kind of a thing. He certainly could have had it if he wanted it, I'm sure. Nor did Fred Kulicke. Neither one of them ever did that.

Addison: So Howard Moss was the first president/chairman?

Law: Right. And his big thing was finances. Every board meeting, that was the first thing he wanted to look at. Our goal was to have \$100,000 in the bank.

Addison: Over what period?

Law: Well, they didn't set a time. But we ended up doing it within about a year and a half after I was there. That was one thing. Bill [Hugle] did help me find some investments for the money that helped to raise the money. We used to get bankers acceptances. And that was a good interest rate that we could get in those days.

Addison: Do you recall how much SEMI had in the bank then?

Law: Not very much. We maybe had probably \$15,000 or \$20,000 in reserves.

Addison: And you reached the \$100,000 goal in a year and a half?

Law: I believe it was about a year and a half, yeah.

Addison: So that was revenue from two SEMICON shows?

Law: Yeah, probably. Well, three, because we did the east coast show.

Addison: Can we talk more about the SEMICON show. The first one that you were really hands-on involved with was '73?

Law: Yes. And it was at the San Mateo county fairgrounds. In fact when I was there all of the shows were at the San Mateo county fairgrounds. They didn't go to San Francisco until the Moscone Center was built. And we had just the one building the first year...no, we had two buildings. We had expanded to the second building the year that I got there. And then later we had three buildings and then we had another building that we used for the scientific sessions. So it grew. It became a very well-attended...everybody wanted to be in the show. But when I went to work for them we had the main building and then in the second building that we had, we only had part of that building as I remember. We didn't have it filled.

Addison: Do you recall any stories leading up to the show, was it total chaos or it got into a rhythm?

Law: Oh, no, there was always chaos, there was always panic, there was always somebody's stuff didn't arrive. Rich [Banks] was always running all over the place. There were two other people associated. One was the man that ran the fairgrounds and the other one was the one who had booths and things who did work at the fairgrounds. And Rich was always out there working with them getting things going. When we went to the east coast there was a lot of caution about that because the unions were so heavy back there. And an exhibitor couldn't pick up a screwdriver back there or the show would have gotten shut down. So we were very concerned about that. But things all got put together. I can't remember any of the specific stories anymore. It's been a long time.

Addison: Do you recall the response from the exhibitors? They were pretty much very happy?

Law: Yes, yes. Well, that was what made the show successful, because of Silicon Valley. We had lots of attendees and it grew every single year.

Addison: Just talking about Phil Gregory a little bit more. So he was full time when he retired from Raytheon and you were still there then?

Law: No, no, I was gone. Pat Wesly had acted as the acting executive secretary and then they brought this man down from Canada. And what I don't remember is whether Phil came right on the heels of the guy from Canada, that he retired right then. Or whether there was a time lapse. I guess that might have been when Phil retired and he left. But I think Phil was very pleased when he left Raytheon, to go to SEMI and run it. Because SEMI had been, in many ways, his baby. He was the one that really coaxed it along. He gave a lot of time to it.

Addison: That must have been difficult, if Raytheon was on the east coast...

Law: No, but he was here. Raytheon was on Ellis Street. And then across the street was Fairchild and next to that was Bob Johnson's company Kasper Instruments. And then next to that was Raytheon and Phil was the purchasing agent for that division of Raytheon. It was called Raytheon Semiconductor.

Addison: So it was essentially walking distance to the SEMI office?

Law: Oh yeah. I mean, I was in his office probably two or three times a week. He'd call and say what are you doing for lunch and let's go have lunch. And then we'd go over stuff from the office.

Addison: So when he was in his part time role what kind of things did he do for SEMI? Did he have any specific responsibilities? I think he was running the SEMICON shows?

Law: You mean when he was working at Raytheon?

Addison: Yes.

Law: No, no. We had hired Rich Banks [to run the shows]. But Phil was the director who was most involved and the one who had the most say about what was going on in these things.

Addison: So he didn't kind of specialize in any particular thing, just a hands-on director.

Law: Yeah. But the shows were the first thing though, you have to realize that. And he was very instrumental in getting those going because he was a purchasing agent. He had a lot of influence and a lot of power over companies that ended up being our exhibitors because they sold to Raytheon. Even though Raytheon, the semiconductor portion of the business, was very small, Phil could do a lot of arm twisting in those days. Because he was a purchasing agent and he was well-known on the peninsula. So he helped get a lot of exhibitors come. And then subsequently, when the exhibitors were there, the semiconductor companies sent people. The standards really was Trevor Law's baby. He was the one that really got that going. Although Phil was very supportive of it and he wanted it to happen. Between Trevor and Phil they got the participation of Monsanto and the wafer manufacturers.

Addison: Talking about the statistics, during your time was there any attempt by SEMI to collect industry data?

Law: No, we did not in those days. We always had kind of an informal at board meetings, how's business going kind of thing. We did sell these reports that we had Gnostic Concept do. We sold those.

Addison: In the early days, was there any thought that SEMI would expand into other things, beyond the trade shows and standards?

Law: No, I would say mostly around the trade show. And then the standards really grew. And grew because the members wanted them and they really participated. But the trade shows were the big thing. They were our money maker. Well, we did some things like we did a newsletter. And when we produced

our first membership directory, I mean everybody wanted one. Everybody bought those. It was a big deal. But nothing that was a predictor of the industry at all. We didn't do anything like that. But we were a small staff. I mean, we had two full-time people. Jim [Vincler] was a PR consultant and he was there most of the time. A half-time bookkeeper and a young girl that came in and did mail and things in the afternoon. And that was it.

Addison: Back to the SEMICON shows, you had talked about the problems with the hotel. Had that all been sorted out by the time you were there?

Law: Yeah, until we went back to New York. We went to Long Island and the first night I was in my room. Or I don't know where I was. Maybe I was in the restaurant having dinner. I got a call and Howard Moss was one of the ones who had gotten to the show at the Royal Coach and he'd said there are clothes in the room and they said just push it out in the hallway, that's OK, just move in. So he was the one there. Here he was president and chairman of the board. Then we go back to the first Long Island show and the same thing happens. He was always the one who was there sort of at the last minute. He calls me and it's about 10:00 at night and says they're telling me I don't have a room. So I went down to the desk and said you've got to have a room for him. I made the reservations and I know he's got one. It was always Howard Moss that these things happened to. [laughs]

Addison: Did you sort it out?

Law: Yeah, I sorted it out. He got a room. I called the manager at home and said you've got to do something. Our chairman of the board has just arrived and they're telling me he doesn't have a room. And he talked to somebody and he had a room.

Addison: So how did the show on the east coast go generally? It didn't last very long.

Law: Oh well, no, they still had a show on the east coast, but what happened was in 1976 they decided they wanted to go to Boston and not be in Long Island. And so I went up to Boston and we looked at the Boston exhibit area, which was not as spacious as the one on Long Island. But they ended up moving the show there. And the first show in Boston was after I left. They always had the east coast show in the fall. And as I remember we had moved it to the spring of '78 instead of the fall of '77 because they were going to Japan in '77. And so they decided that they couldn't do two big shows, beginning shows, at the same time. And they were big shows.

Addison: So how long was it in New York?

Law: '73, '74, '75, and '76, four years.

Addison: That was in addition to the one on the west coast?

Law: That's right. It didn't alternate. There was one on the west coast in May. The one back there was typically October. And we moved it up the year of 1975. I think we moved it to the very beginning of October or the end of September because we went to Europe that year in the fall. And it went to Zurich for the first year, that was 1975.

Addison: You talked about Japan a little while ago, was there any discussion of that when you were there?

Law: Yeah, it had started. We were planning a Japanese show when I left. I left at the end of April or the beginning of May in 1977 and they were having a show in Japan. They had a show in Japan that fall. So we were well into the planning stages.

Addison: So obviously there was no SEMI office in Japan at the time.

Law: No, no. And it was a bit of a risk. We didn't know how much the language barrier was going to be a problem. We didn't know how difficult it was going to be to get attendees. And we were faced with producing everything in Japanese. So it was a real chore.

Addison: Maybe we can talk about the SEMI lampoons

Law: The lampoons were fun. The first lampoon that they were doing was in 1973. This was before Jim Vincler came on board. And it was silly. It had things like...everybody got a kazoo to play and it was just a lot of silliness. But the next year Jim Vincler and Don Hoefler took over the show. And they wrote all the scripts and it was really funny. It was kind of based on a mafia theme. And we ended up getting some pretty talented people to do things. And it was a good show. In fact Howard Moss went to that and we invited Jim Vincler to come the next morning to the annual meeting. And I remember Howard Moss saying to him I want a copy of that script. That was one of the funniest things I've ever seen. And I said to Jim, you're in. And that was when they made the proposal for him to come and work for the association as the PR person.

Addison: So the first lampoon was which year?

Law: I don't know if they had one in '72 or not. The first one I was aware of was in '73. And it was kind of silly. But then after that they had themes. So we did it in '74, we did it in '75, and by '76 it was a lot of work. To get volunteers like Jim and Don Hoefler who wrote all the scripts. And we had lots and lots of practices and meetings. It was really a big chore. And everything was done at night. It was all done on volunteer time, including the SEMI staff volunteer time. And it just got to be such a huge project that in 1975...actually 1976 we had a meeting with a speaker instead of the entertainment. And then in '77 is when they planned the big event in San Francisco where they gave the SEMI award to Bardeen, Shockley, and Brattain. Oh, and I know another thing that we'd started was we had SEMI dinner meetings at night and got speakers.

The one thing we did, and this was a real fiasco, and it was funny. Some people thought it was funny and some people didn't. As I said we had meetings once a month at night. And we got some pretty good speakers. They were fairly well attended. We held it up at the Palo Alto Hills country club. And it was during the gas crisis when everybody was standing in line to get gasoline. And somehow or other Jim found this guy who was a speaker who dressed up as an Arab and came and gave this long speech on oil. And it turned out the whole thing was a hoax. We thought it was pretty funny, but there were a couple of members that were a little ticked to think they'd come up there for the evening and here we'd pulled this off on them. But it was funny. We liked it. But the lampoons died, unless they started them up again. I

don't think they have. But I think after 1975, that was the last one. But the two best ones were in '74 and '75.

Addison: And the lampoons were actually put on at the SEMICON show?

Law: Yes. It was usually the second night of the show. The shows usually started on Tuesday, so it was always...Tuesday night we had an exhibitors' cocktail party and the lampoons were usually on a Wednesday night.

END OF INTERVIEW

Note from the Editor:

Following publication of the above interview, the following letter was received from Rich Banks:

Dear Editor,

Thanks for the Mary Cook (Law) interview transcript; well done. Paragraph 8 caught my attention, where she states "Rich Banks put the show on the first 5 or 6 years". Quite an understatement!

My company, Golden Gate Enterprises Inc. (GGE) produced all the SEMICON trade shows for the entire decade of the 70s. This included SEMICON West (San Mateo), SEMICON East (Long Island), SEMICON East (Boston), SEMICON Europa (Zurich), and SEMICON Japan (Tokyo).

After the first show in May, 1971 all the contracts stipulated that GGE would finance each and every show. If the show were to be aborted or took a loss, GGE would absorb the loss. The first show in Zurich came very close to such a demise, but Phil Gregory and myself kept that to ourselves.

Anyway...I just wanted to set the record straight.

Rich Banks

09-07-06