

**Donna Ferriero, MD, MS**, Professor of Neurology and Pediatrics

Interviewed by **Audrey Foster-Barber, MD, PhD**, Professor of Neurology and Vice Chair for Education in the UCSF Department of Neurology

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**Audrey Foster-Barber:** Today is February 4, 2025. I'm Audrey Foster Barber, and I'm recording an interview with Donna Ferrero for the Great Women in Neurology series. I have some questions for you just to get us started. I think the first would be, just tell me about your start at UCSF. How did you get here, and how did your career begin?

**Donna Ferriero:** Well, I came out for medical school in 1975. I went back to Boston to do pediatrics, and then came back here to UCSF for child neurology. And then the third year of our program was research, so I asked Steve Sagar if he would take me on as a postdoc, and he agreed. I applied for one of those NRSA starter grants and got it, and did work with him. And then later applied for a K and fortunately got that. And I've just been here ever since.

**Audrey Foster-Barber:** And how many child neurologists were on staff at that point?

**Donna Ferriero:** Oh... jeez. When I first started it was probably Bruce [Berg], Tom Coke, me.

**Audrey Foster-Barber:** Yeah, yeah. Crazy that we have like 33 here and 44.

**Donna Ferriero:** We worked our butts off.

**Audrey Foster-Barber:** Wow, amazing. Okay. And then, did you have any jobs before, you know, before medical school, or even while you were in medical school? What other kind of things did you do?

**Donna Ferriero:** Well, I did research. I was in a graduate program, a PhD program. And I had a falling out with my thesis advisor because I wasn't liking what we were doing, and I wanted to switch to something else. That made her very angry. She said she'd make sure I wouldn't graduate, so I quit! I ended up getting a master's. I went to work at Roche Institute of Molecular Biology for Frank Margolis, and there is where I really learned research. We published our work, and he wanted me to go to Columbia to finish my PhD under his tutelage. But I was having thoughts about med school. I applied and came out to UCSF.

**Audrey Foster-Barber:** Wow! That was really lucky. But also, what an anti-Donna type of mentor! You were figuring out your direction to say "No" – if you don't do what I thought you should do, you know.

**Donna Ferriero:** Yeah, I was. It was immunology with her. And I was getting more interested in biochemistry in those days. She didn't like that idea too much.

**Audrey Foster-Barber:** Well, I'm glad you did it.

**Audrey Foster-Barber:** So, you know, we just fairly recently had this wonderful celebration for you, and...

**Donna Ferriero:** Fabulous.

**Audrey Foster-Barber:** Yeah, it was amazing to see all the people you've worked with and think about all the different layers of your work and accomplishments. On the academic side, what do you hope is the thing you're most remembered for, or that you helped move forward to the greatest degree?

**Donna Ferriero:** Yeah, I think my jewel in the crown is the NICN, the Neurologic Intensive Care Nursery, and getting that going with Dave Rowitch. And then developing a fellowship, raising money for the fellowship, and then eventually getting it to be an approved training program by the UCNS. So that's really where my heart lies.

**Audrey Foster-Barber:** Well, and I can tell you, applicants for our program talk about that as one of the reasons why they look at this program.

**Donna Ferriero:** That's wonderful!

**Audrey Foster-Barber:** Yeah, it definitely still is a huge drive. Separate from that, what other career accomplishments are you most proud of?

**Donna Ferriero:** Well, in terms of my lab work, I think we've shown a lot. I think our most important piece of evidence was that the baby brain and the adult brain are almost diametrically opposed in response to manipulation. Pak Chan had shown that superoxide dismutase overexpression in the adult protected the animal from ischemia. We took those very same animals and ended up showing that it made them worse. So that was the first evidence in the field that there was this yin-yang. And then we went on to elaborate on that paradigm.

**Audrey Foster-Barber:** And explain why, to some degree.

**Donna Ferriero:** Yes.

**Audrey Foster-Barber:** So, I want to talk a little bit about mentorship and influences. I think we always think about the way you've influenced so many people's careers, but maybe taking a step back, what mentors and teachers influenced *you* the most? Like, who stands out the most to you?

**Donna Ferriero:** You know, I was the first woman in the [UCSF] Department of Neurology. So I didn't have any women mentors. But I did have great friends and mentors in Roger Simon, who was a scientific mentor, and he also just took me under his wing. Steve Sager, another scientific mentor, and Bruce Berg. I think those three guys really made sure in the beginning that I found

my way, and then I must say, Steve Hauser was amazing. He nominated me for every single society and award that I ended up getting, and I'm forever grateful to him for that.

**Audrey Foster-Barber:** Yeah, I think about that. Like, who says your name in a room full of opportunities, and what an important role that is!

**Donna Ferriero:** Yes.

**Audrey Foster-Barber:** I think about the flip side of all of the people that you have mentored, and I have a story I will always remember. I was doing my PhD. I was in the same lab as Bill Weiss, and I was getting more and more interested in the developing brain. I had gone to clinic with him a bit, and then he said, "Oh, you really need to meet Donna. Maybe shadow her in clinic." I guess he asked you and gave me your pager and said, "Go to this building and to this spot," and I didn't know where anything was in the clinics. I didn't really know how to use a pager! I got a little lost. I think I paged you sort of accidentally three times in a row. Because I first one, I didn't know if it went through.

And so I find the little workroom, and you come out of a clinic room and you go, "Who's paging me three times in a row?" I thought, *oh, no*. There it goes – that's the end of my career! And thankfully you forgave me for that. But it kind of brought up a question for me, which was: what has a mentee ever done that has stood out? There are so many people who feel like you saw them and pushed them and advocated for them. What has a mentee done where a light goes off for you, and you say, "This is the person, this is someone I want to advocate for and push." I'm curious what you've seen.

**Donna Ferriero:** So many people fit that bill, Audrey, it's hard to single out people. But I could say that, for example, Steve Miller. He came to interview for the neonatal neurology fellowship and to work with us in our clinical research arena, and just watching him work, I knew that he was a star, and he would just go on to do great things.

**Audrey Foster-Barber:** And what do you think the characteristics are of a mentee, or that they can show a mentor to get that engagement?

**Donna Ferriero:** I think it's really for anybody, it's passion for the job, passion for the work. If you can act like you're passionate about what you're doing, everything kind of falls into place.

**Audrey Foster-Barber:** Yeah, that makes sense.

**Audrey Foster-Barber:** What's your vision for the future in child neurology?

**Donna Ferriero:** Well, that's a big question. [laughter] I think we're on a steep slope of finding cures for diseases that we thought we would never find, like SMA [spinal muscular atrophy] for example. In my own arena, neonatal neurology, I'm hoping that we'll be able to identify who needs to be treated as a term baby with symptomatic disease, and what to treat them with. And for the

preterm babies who are being born earlier and earlier, how to prevent bad hemorrhages and their sequelae.

**Audrey Foster-Barber:** That's a great, exciting vision. I want to ask a bit about kind of career advice. And maybe looking back at the beginning of your career. What advice would you have given yourself?

**Donna Ferriero:** I don't know. I think, not to be afraid to challenge where you think you ought to [go?], and just to pursue your passion.

**Audrey Foster-Barber:** And then reflecting for myself, I think you've given me mentorship, advice, and sponsorship throughout my whole career. One of the things I don't think we ever talked about, but that I just watched was, early on as a faculty member with two young kids, kind of trying to figure out that balance of maybe always being there, always thinking about work versus giving time to my family. And I just remember seeing you *leave*. And something about seeing you leave every day, and you might have even been taking a shuttle van, so you had to leave at a certain time. Getting so much done, and then shutting work off and having the rest of your life – it was this huge proof to me that that I could do that, that I could actually have all the things I wanted in my private life and have this career. That was sort of an unspoken mentorship that I think all of us in neurology need to be portraying.

But my question, if I could have asked it at the time, [would] had been: Do you have strategies for how to get so much work done when you're working, and then turn it off to be there for them?

**Donna Ferriero:** I think I've always been able to use small parcels of time well. So that always was a good strategy. And I always told people that academic life is so much better for working moms with kids than private practice, because you can go and come back. You know, I could go to their school and pick them up and bring them back home. And you know, it the flexibility was there.

**Audrey Foster-Barber:** Yeah. And I think the variety, too. You're researching, you're teaching, you're taking care of patients. They're all inspiring each other in some way. Well, if you were talking to my residents doing child neurology right now, do you have any advice for them as they go forward in their career?

Don't wait for the perfect time to have a family because there is no perfect time. You'll make the time when the time is right.

**Donna Ferriero:** Don't wait for the perfect time to have a family because there is no perfect time. You'll make the time when the time is right. I think that's a big thing. And then there are folks who don't

want to have kids. And that's fine, too. You have to be able to respect both sides of that.

**Audrey Foster-Barber:** I think it might have been Yvonne Wu who told me when I came to you to have a meeting during residency, during early career. She joked that “Donna likes data, come with data.” But the data being: this is what I'm doing, this is what I'm working on, this is what I'm thinking about. And I do feel like you responded well to that. Whether that's a show of passion, or a show of being able to put your best foot forward with your mentor. Being active, not coming in and saying, “Tell me what I should do.”

**Donna Ferriero:** It gets you organized!

**Audrey Foster-Barber:** Yeah, for sure, for sure. It was almost like my CV review, and my thought about what's gonna happen in the next year, and then, *then* I'm ready to go talk to Donna. That that helped. I'm trying to portray that for my trainees coming to me for mentorship. That active engagement.

**Donna Ferriero:** Yep.

**Audrey Foster-Barber:** Any other thoughts about career?

**Donna Ferriero:** I don't know. I keep saying it over and over. You gotta be passionate, and if you're not passionate, do something else!

**Audrey Foster-Barber:** Yeah, find where it is.

**Donna Ferriero:** Yeah, yeah, that's all. Simple.

**Audrey Foster-Barber:** Simple, when you find it. That's right.

**Donna Ferriero:** Absolutely.

**Audrey Foster-Barber:** Awesome, and my last question: What do you think of the way that shoe fashion has changed in child neurology over the decades?

**Donna Ferriero:** Shoe fashion?

**Audrey Foster-Barber:** Shoe fashion!

**Donna Ferriero:** Shoes on your *feet* fashion?!

**Audrey Foster-Barber:** Yes, shoes on your feet fashion.

**Donna Ferriero:** I think Heather [Fullerton] is really leading the way in shoe fashion. I was telling my daughter what great boots she has, and my daughter made these boots for me that I have yet to wear to work, but I know Heather would love them.

**Audrey Foster-Barber:** Yeah. Comfortable, but fashionable. It seems like we've gone from just-fashionable to comfortable-but-fashionable.

**Donna Ferriero:** Right, no more high heels.

**Audrey Foster-Barber:** No more high heels!

**Donna Ferriero:** Sneakers, if you want to. The whole thing.

**Audrey Foster-Barber:** Alright! Thank you. I think we did it.

**Donna Ferriero:** Thank you, Audrey.