

[Episode 2 - A Conversation between Alison Day & Katie Griffith Transcript]

(Griffith) So this lady, I looked up her name actually. Oh, I did look up her name and wrote it down. Yes! Her name is May-Britt Moser, and she invented some neuron thing. She found it; she discovered it, the way it works in the brain and went and accepted her Nobel Prize. And it was embroidered with the chemical structure of that neuron, the whole system.

(Day) Wow.

(Griffith) And I was like, "I wanna do that."

(Day) That's pretty... wow.

(Griffith) As far as, "What did you wear to accept your award?" "Oh, just my invention."

(Day) That's like when the actual "What are you wearing?" question is appropriate to ask.

(Griffith) Who wore it better? The brain or me?

(Day) Yeah.

(Griffith) Yes. So that is the only one that I had, because I had to look up her name. Like, that one lady that I saw one time doing stuff.

(Day) Yeah.

(Griffith) Cool thing also, *Science News* just put out a thing about top ten scientists to know now, and I was just like...

(Day) I saw that on your Facebook. [laughs]

(Griffith) This is going to be great. It just made me really excited that there's an awesome shift in our culture towards younger people being cool and nerdy. [laughs]

(Day) Yeah! Definitely.

(Griffith) So Allison.

(Day) What? Should we introduce ourselves?

(Griffith) I guess.

(Day) Hello, everyone. My name is Allison Day.

(Griffith) And I'm Katie Griffith.

(Day) And we're just here talking about our experiences in mathematics and sciences as women.

(Griffith) Yeah, good times. [both chuckle]

(Day) Katie, a little bit about yourself?

(Griffith) Well, I've been going to Cabrillo for two years now, one fulltime and doing whatever I want. And the tides have turned me towards science and math pretty heavily, and so I'm just kind of riding that wave until I get bored of it, which may be never. [both laugh]

What about you?

(Day) This is the beginning of my second year here at Cabrillo, and it's been a good experience so far, definitely also turned towards the STEM field in terms of classes of interest, and pretty much have turned my back on everything else except music and currently yoga, which is a great stress relieving activity.

(Griffith) You need those.

(Day) Yep. Right now, focusing on chemistry as I am currently aspiring to be a chemical engineer, though I'm not sure if that is my end destination. We shall see.

(Griffith) What was your first moment of knowing that you liked science and math?

(Day) So many... So many early moments. My dad is an engineer, so he definitely instilled a lot of math in me. As a kid, we would play horses in the barn. Yeah. My dad made up a lot of games; he also had daddy prompts; that was for English. But horses in the barn was for math. Before we would go to bed, he'd be like, "Oh, if there's seven horses in the barn and three horses leave, how many horses are in the barn?" So that was his way of making math fun, and I learned addition, subtraction, and then eventually multiplication, division, and it just went on from there, so definitely had a lot of those. My dad, for sure, pushed a lot of that influence.

(Griffith) But making it fun.

(Day) Yeah exactly, and that's what drew the interest out of me. And yourself? What do you think?

(Griffith) I have sort of an opposite situation. My mom was very pro-reading, so I learned how to read when I was three. So it was very much like, highest reading group, learn words, learning is good, but it mostly was, "You have to get good grades" situation, not like "This will be fun for you." It was "You must. This is what you do. In our family, we get A's." So it's what I did. And getting out of high school, and just doing... I mean I went to two other colleges and dropped out, because I didn't know what I wanted. It was just, "Okay, I can get good grades. That's not a question for me, but what do I really want to do?" So that's kind of... Four years later, I started reading books about neuroscience and just free reading more academic-type books, and realized, "You know what? I think it's time for me to go back to school." And here goes nothing.

So yeah, I've taken a math class over the last semester because it's my happy place to be honest, because in a math class you know what to expect. I'm going to go to the class; it's going to be lecture, and then I do all this homework. That's a math class. It doesn't matter... Yes, there's different topics kind of, but that's what you do, and so I felt like having a really strong structure would help me. And now I'm in the third level of calculus.

(Day) Right. Past the place where you probably need that structure and just enjoy the...

(Griffith) Exactly, and it's just a great experience to have, you know, like you and everybody around just being positive about math and sharing my enthusiasm about it. But for you, did you ever experience anything growing up where it was more "Girls don't do math," or that kind of stuff ever?

(Day) Umm... somewhat, but it felt like a lot of influences in my life were pushing towards negating that stereotype: my dad for sure, my mom also. My mom has a master's degree, and so she's for sure one of my role models. I had a really great science teacher in 7th and 8th grade who I actually met when I was in the 5th grade. I walked into a classroom because my brother had her, and they were dissecting fetal pigs that day. And I was like "Wooaah." I was all over that, you know? So I walked in. She was real excited, and was like "Yeah, you can do this, you know. You can do this if you come in next year and want to do bio lab," this after-school activity that sponsored our science fairs, which eventually, when I did get into, put me

into the county science fair which I won first place in my category.

(Griffith) Whaaaat?! What did you do?

(Day) I was looking at antibiotics in organic meats and the resistance, which at the time, I was a little hazy on like "What am I actually doing here?" You know? But it definitely gave me a lot of confidence and encouraged me to keep moving in that direction. It was something that I felt like I was good at, and something that I liked, and so that was enough to keep me going on it.

(Griffith) That's incredible.

(Day) And it has continued since.

(Griffith) Do you understand more now?

(Day) Oh definitely, yeah.

(Griffith) Like that hindsight moment where it's like, "Oh wow, everything I said I knew."

(Day) Right.

(Griffith) And has become more full and bigger.

(Day) Exactly, and the fact that there's just so much more research and everything behind that, that it's like "Oh, okay. What I was doing was valid even if it was just kind of a 6th grader's scratch on the surface of antibiotic resistance."

(Griffith) Gotta start somewhere.

(Day) Really fun. Yeah. And really great female role models, both from my teacher and also the people that they brought in for the bio lab were all women through a small science program in San Jose.

(Griffith) Oh cool.

(Day) Yeah, it was a really good experience.

(Griffith) It's helpful to see all that positive outlook on it, for sure.

(Day) Yeah, definitely

(Griffith) That's great.

(Day) Do you have a favorite scientific story?

(Griffith) Oh man. [both laugh] Well, I did not do well in the science fair actually. I got like... They graded us. I got an F. It wasn't like written or anything, but like... Oh well. It wasn't exactly research based, because I just wanted to know more about meteor showers, so I watched one and did a research paper on it without really knowing anything about it. I guess that wasn't enough. It wasn't exactly an experiment.

(Day) But the point of those things aren't supposed to be... It should be encouraging that wonderment and that curiosity, right?

(Griffith) I mean you are from here, right? I'm from Montana, and I went to a private school that was very religious. So some of those stereotypes and gender roles are very strong where you just don't... It's just not done in some ways, and, again, it's one of those things where you come out of it and look back, and are like "Ooooh... Oh that's what was happening at my school. Cool." So it took me a little longer to get to this point now where I feel really confident in whatever I'm doing, but, yeah, there were just a few times where, again, looking back on it now I'm a little sad that people are like that potentially still. But I mean that was ten years ago. So hopefully times have changed.

(Day) In the making. In the changing. As we speak.

(Griffith) I mean I know I have, so that's good. What current math are you excited about? If anything. Not overwhelmed, but...

(Day) Currently? Well the math classes can be overwhelming due to the pressures of grades, I think, and a lot of time people don't feel like they can enjoy math under all that stress. So right now I'm taking the second part of the calculus series here at Cabrillo, and I was told going into it that it was the hardest math and the worst math and awful and not fun, and I love it actually. Yeah, 5B has been a treat, and definitely... I just got my first test back, and there's no better feeling than that confidence of getting a good grade, you know? On a math test for me, you're in the right place; you're doing the right thing. Keep working. So right now I'm just excited to be working at math, working at chemistry, putting everything, all my efforts into it and enjoying that. Yeah, it's been really great. How's your math experience this semester?

(Griffith) Ugh. It's been interesting. [both laugh] It's funny. I was actually talking to Damien about this. When you get to 5C it's very... We're back to the ground floor almost, but now there's three dimensions. So it's like "Hey, here's everything you already knew in a new type of space. And now do all the things you used to do, but in a new space and understand what's going on in there." And I think, the higher I go in math, the more I get excited about the why's of things, and I think in 5B, you get a lot of "Hey, remember when we just told you to accept everything? Here's all the reasons. Here they are." And now we're back to "Yeah, just accept this, because you have to do these operations to get somewhere later." So I'm a little sad, but I am really enjoying the fact that I can apply all of the stuff that I've done in two dimensions to three. And start really thinking about the effects of time on space and having some little thought experiments. So it's going to be a good one, I think.

(Day) Yeah, definitely. Where do you see yourself going longer term? So I have basically just started telling people I'm caught between wanting to do neurochemistry and quantum physics. [laughs] Because why not? My major's general science. That applies, right? But the more classes I take, the more I'm realizing how... important... I guess not important; it's not vital. I'm taking physics 4A, which is the first college level of physics technically, and I'm in the third level of calculus, and it's going together perfectly. And just those things where if I have a really strong background in math and then just keep going with the physics stuff, it just starts making more sense. I don't need it, because technically you're not supposed to need it, but then you just have to accept that spoon-feeding thing from your teacher. It's like "Hey, we could do some vector multiplication and I could show you this, or you could just accept this is the equation. And while some part of me enjoys just plug and chug... I must complete all of these problems because I can... I'm coming into a new era of enjoying the why's of things, enjoying the "Actually, let's do that entire annoying proof or equation where it makes sense that this is true." So here goes nothing. We'll flip a coin eventually when I run out of time at Cabrillo, and just be like neurochemistry or quantum physics. Heads or tails [both laugh]

(Day) And will it land?

(Griffith) It may not even land at this point. We don't know. Yeah, so here you go. Life.

(Day) Well, this has been a great talk, Katie. It's been good talking to you.

(Griffith) You too. I wish you all the best all the time.

(Day) Indeed.