

Abbott STEM Podcast: Episode 1

Shaping the Future of STEM series

How to Find STEM success? Learn to Pivot.

Neuroscientist Beth McQuiston talks with intern Jomi Babatunde-Omoya about how flexibility builds career success.

In this edition of Shaping the Future of STEM, host and high school intern Jomi Babatunde-Omoya speaks with Dr. Beth McQuiston, a neurologist, registered dietician and medical director for Abbott's diagnostics business. Jomi calls her a "STEM triple threat." Listen as Beth shares how she found her way amid the science, technology, engineering and math fields and offers advice to young women looking to do the same.

Jomi, who plans to study engineering at Northwestern University, is the latest host on Shaping the Future of STEM. Every episode features different female Abbott high school and college interns as they interview female Abbott STEM professionals from across the company. As a global health technology company committed to providing opportunities for students in science, technology, engineering and math, we offer opportunities around the world including our award-winning high school and college internship programs.

READ THE TRANSCRIPT:

Jomi: Hello, everyone. Welcome to the Shaping the Future of STEM podcast. I'm this episode's interviewer, Jomi Babatunde-Omoya. I'm just finishing up high school this spring and will be headed to Northwestern University for college to pursue a degree in mechanical engineering. This summer will be my third internship with Abbott where I will be able to work in electrophysiology at the Tech Center, which is located in Minnesota. Today we are talking to a STEM triple threat. Dr. Beth McQuiston is a board-certified neurologist, registered dietitian, and she is medical director of Abbott's diagnostic division. Welcome to the podcast, Dr. McQuiston.

Beth: Thank you, Jomi, and congratulations on your acceptance to Northwestern. We are all so proud of you.

Jomi: Thank you. So thank you so much for being here today with us, Beth, could you start by sharing a little bit more about your education and background in the STEM fields? And how did you get interested in medicine?

Beth: Sure. I've always loved science, even as a young child, loved it, was always doing experiments, and reading the science section of our local newspaper. Always have loved why and how and figuring those sorts of things out. So, it's been a passion throughout my life. When I went to college the first majors I had were food science and clinical nutrition. Absolutely loved that and went on to become a registered dietitian and went to grad school. From there, I discovered that while I also love nutrition, I really loved medicine. So, I went back to medical school and discovered my passion for neuroscience. And then while I was in med school, I also taught some graduate students, clinical biochemistry, or nutritional biochemistry, and had a real passion for that as well.

Jomi: That's super cool. I feel like some of my favorite science memories in high school were the experiments. And that's what really got me involved in science, too. So, what struggles did you see with your biochemistry students having and how did you help them?

Beth: I think it's really important to start off when working with anyone, students, or friends or young children, and why things are important and finding out what's interesting to them because science is everywhere. Right? You see this all day long. Jomi we've talked about this before I know you're an accomplished musician. There's science in that, the resonance and how we make sounds. In terms of teaching, I think it's really important to have an integrated, real life examples, or set of examples, why something matters and how it works. And something that I would say was very interesting and unique, particularly to women, in general, is that you tend to see women thinking, even though I know 99.999% of this I need to know more. Right? Which is good, but then sometimes you see women going in and saying, 'Oh, I can't do this, I'm not perfect.' So I think that's really important in terms of the approach is encouraging

young women to make sure that they understand they can do it and they will do it. And it's all part of the process. You don't have to come out of the gate knowing calculus. You don't have to come out of the gate automatically knowing clinical nutritional biochemistry. It's a journey and it's fun and it's exciting.

Jomi: Yeah, I agree. Growing up, I'm a big, big perfectionist. So sometimes in like my math and science classes, it's really easy sometimes for me to get discouraged when I don't have everything right the first time and I think giving myself grace and allowing myself to make mistakes and realizing that everything is just a learning experience, and I'm here to gain more knowledge helps me ease into things so much more.

Beth: Completely agree. You're not going to get a home run every time you go up to bat. And that's a good learning exercise.

Jomi: Yes. So, my fellow interns and I often talk about what type of engineering or science we want to pursue now that we're headed off to college. So, what advice would you give us that would help us decide what to study?

Beth: Well, some of the best advice I ever had was one of my college professors in undergrad. And what she said was, is you may think you're going in one direction, but be open to pivoting to something else. You may think you want to go into a specific area of engineering, but maybe you'll take that course in neuroscience and you'll love it. Maybe you'll take a course in biomechanical engineering and that's going to be your even greater passion. So, I think being open to changing direction. Also, something that I think is extremely important to realize is that your greatest strength and your greatest passion, you may not have been exposed to yet. So, for me, I absolutely love nutrition. I always will – strong passion for that. Once I was exposed to neuroscience, wow, it was like lightning struck. Absolutely love it. Duck to water. I can't get enough of it. It's just so fascinating. And I had no idea. I wasn't exposed to neuroscience until later in life. And so that is extremely important too. I would highly recommend, just like when you go out to a restaurant and you order, say an appetizer menu or smorgasbord, right? Have you seen that, Jomi? You go out and you can have like five different appetizers.

Jomi: Yeah. (Laughs)

Beth: Same thing with your approach to life. And the same thing with science and math and technology, engineering, medicine. Try different things because you may find that you like something even more.

Jomi: Yeah, I remember my first internship, I went in thinking I wanted to completely do like biomedical engineering. And after my first year then I was head on mechanical engineering. And now after my second year, I'm like maybe industrial engineering. And I keep changing what I want to do. But I'm like happy with that. I really want to go into college with a flexible, open mind, with just the ability to try everything. Because I don't know what I like and it's probably going to change in two years. And that's okay.

Beth: Exactly. And who knows maybe you'll decide at some point Jomi maybe you'll want to go into neurology? Come up with a new field of neuroscience engineering. How about that?

Jomi: So, changing topics a bit. There are all kinds of studies that show that there aren't as many women in STEM fields and that women in STEM fields drop out after time. Beth, why do you think that is and what do you think we can do about it?

Beth: I think the first issue or challenge is a lack of exposure. So, for me, I didn't know that I would love neuroscience because I hadn't been exposed to it until later in life. And eventually I found it and absolutely loved it. But you don't know what you love if you don't know that it exists, or you haven't spent time thinking about it. So really trying to get that broad exposure to many different areas and topics, extremely important. Another thing I would say, point two, there really can be a lack of other women in STEM areas. Sometimes, as I've been going through life, and depending on the course, or the work assignment, I may be the only woman in the room. So that can be intimidating. Understandably. Number three, I think, as we mentioned earlier, women can be very hard, we can be very, very hard on ourselves. So that's important to realize that again, you don't have to hit a homerun every time you go up to bat. You just have to, you just have to be there. You have to show up and do your best and learn what you can learn and keep going. So in terms of what can we do to overcome some of these challenges? I think it's important that we really notice how we're thinking. Do we have a lot of mental weeds as we're going through our day that we can pull out? An example of that would

be, sometimes I see young women saying to themselves, 'I can't do this. This is too hard. I don't know if I can accomplish this. This seems really difficult. What if I mess this up?' Pay attention to your self-talk and reframe that to, 'Of course I can do this. I will do this. If I have any problems, that's okay. I will keep going.' And that's how you're going to be successful. It's not about getting it right all the time. It's about perseverance, grit, reaching out for help from others. And just keep on keeping on.

Jomi: Yeah, I love your words of encouragement. And I would echo exposure. The first ever time I did my internship with Abbott, like when I first applied, I had no idea what engineering was. And all I knew was that I liked math and science. I just kind of went into it with an open mind and now I'm pursuing a career in it. So, you never know what you're going to end up liking. You never know what's out there unless you like go out and you find it and opportunities are given and resources are given. So that's why I love this internship program so much. Because I don't know what I would be doing if I never got exposed to this.

Beth: Exactly, and Jomi, you're an accomplished musician as well, right?

Jomi: Yeah.

Beth: And when you, when you play a piece you don't get it right 100% the first time that you sit down to play the piece, right? So, you would say it's a similar process. It takes practice and work and then at the end you have a beautiful piece of music.

Jomi: Yeah. And it takes patience with yourself too. And just being able to know that like, everyone is struggling just as much as you are. Even though you might not think it. Everyone's going the same path. Everyone feels the same way. And just having the confidence in yourself to keep going.

Beth: Great point.

Jomi: Moving forward, so are there any stories you could share that would illustrate why it's important to not get discouraged while pursuing a STEM career?

Beth: Sure, absolutely. So, as we're going through life, some things come a bit more naturally to us, for, compared to other things. So, for me, pathophysiology, nutrition, all

of these things that are really pathway driven – so natural, such ease for me. But one area, for example, that wasn't so easy for me was, was regular anatomy. I saw other people just sailing right through that. But for some reason, with the spatial element of it, it just did not come easy to me. So, I had sailed through everything. And then I got to anatomy. And that really was not an easy topic for me, particularly the lab. And I had to realize it was not my strength, then figure out a plan to go forward to become better. And that involved reaching out to tutors, spending more time, taking different approaches to learn it. But that will happen. So, at some point in your career, some point in your training, you will find something naturally more difficult. And that's fine. That's absolutely fine. You just have to reach out to other people, perhaps your professor, perhaps someone in your work organization, and say, 'Hey, I'm having these challenges. I'd really love some advice. What do you recommend?' And then also partnering with others. I found a study partner that was having the same issues that I was having, and we worked on it together made it fun. So just keep going. The goal is not to be perfect all the time. The goal is to, is to learn what you can learn and keep going. And Jomi, have you ever, you've used GPS before, right, when you're driving?

Jomi: Yeah. I feel like I use it all the time.

Beth: So, do you ever miss an exit and then what happens? Does your GPS say 'uh-oh, too bad, you'll never get to your destination?' It says 'recalculating,' right? And then you get back on that path. And then you get to your destination. Maybe it wasn't the exact initial route you thought you were going to take but you get there, right. Same thing with life. Same thing with your education and your career. Sometimes you're recalculating. And you get right back on there.

Jomi: Yeah. I think the nice thing about science is that it's just such a big field. And there are so many things that you can like and dislike. And so many people that are willing to help you find those things that you like and dislike and work through them with you. I feel like I've had some of the best math and science teachers and that's always kind of helped me in my path.

Beth: Right. So when you started your first math course you didn't know it. You worked through it. Right?

Jomi: So Beth, who inspires you, and why?

Beth: That's a great question, Jomi, so many people. I'll start off with first my 12-year-old daughter. I find her exceptionally inspirational. You know, seeing how happy she is to be learning and her curiosity and why does this happen and why does that happen and it's just such a joy and so motivating and inspirational. Also looking at her and her friends, you want to make the world a better place. You want to make sure that when you're doing your research, you really are going to be helping people in the world. So, first of all, my 12-year-old daughter. And then secondly, professionally many people as well. I'll give one example. There is a brilliant woman that was leading a journal, the Journal of Renal Nutrition. And when I was working as a dietician, I had submitted a research piece to that journal. She loved it. She reached out to me and said, 'Hey, you know, I see some potential in you.' She'd never met me before. 'And I'd like to work with you. I'd like you to work with me on our journal. I think you'd be excellent.' And she mentored me in that role. Also, then she reached out to me for several collaborations on various book chapters. And I would have not thought to just go out and write a chapter for a book. However, she taught me how to do that and brought me into some really neat projects and it was such a source of inspiration. I can't say enough about that. So, having someone reached out to you, and tell you can do it and open doors for you, so impactful. So, I would say, I would say her as well.

Jomi: It can be difficult for students to relate to what scientists do all day. Can you offer a few examples of science in everyday life?

Beth: I think science is part of everyday life and makes life so exciting. So, you can take normal everyday examples and really get kids excited in science. For example, toast. When you're making toast in the morning. Well, that's science. In addition to it being delicious and smelling really good, there's an opportunity to say, 'Well, why does it happen?' And for me, when I was majoring in food science, I can explain now why that happens. So, toast is going to smell so good and turn brown because of something called the Maillard reaction, which happens when certain carbohydrates and proteins react at a temperature of between 280 to 330 degrees Fahrenheit. So really neat, really

neat reaction, and understanding why, you can make a career out of that. How fun is that?

Jomi: Ok, Beth. Ending on the same question in all of our podcasts. It's engineering if you think about it: Snow forts or sandcastles?

Beth: Jomi I'm definitely picking sandcastles. I used to live in Southern California and love the beach. So definitely sandcastles.

Jomi: Ok, Beth, thank you so much for sitting down with me today. This was amazing. And it was super nice to talk to you. I hope you have an amazing day. Thank you.

Beth: Jomi, it is always so much fun in such an honor to speak with you.

For more stories and advice from Abbott's female STEM interns and experts, check out our Shaping the Future of STEM episodes wherever you get your podcasts or on Infobase.com.



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