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COLLIN R. DIEDRICH

Science and Disability

Transcript of an Interview
Conducted by

Jessica L. Martucci and Gregory S. Waters

at

University of Pittsburgh
Pittsburgh, Pennsylvania

on

19 and 22 June 2017

(With Subsequent Corrections and Additions)

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Collin R. Diedrich, interview by Jessica L. Martucci and Gregory S. Waters at University of Pittsburgh, Pittsburgh, Pennsylvania, 19 and 22 June 2017 (Philadelphia: Science History Institute, Oral History Transcript # 1064).

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COLLIN R. DIEDRICH

1983	Born in St. Louis, Missouri, on 20 August

Education

2006	BS, Bradley University, Cell and Molecular Biology
2012	PhD, University of Pittsburgh, Molecular Virology and Microbiology
2017	Certificate of Advanced Study in Disability Law, University of Pittsburgh School of Law

Professional Experience

University of Cape Town

2012-2015 Postdoctoral Fellow, Institute of Infectious Disease and Molecular Medicine

University of Pittsburgh

2015-2020 Postdoctoral Associate, Children's Hospital of University of Pittsburgh Medical Center, Pediatrics, Division of Infectious Disease

2020-present Infectious Disease Research Staff Scientist

LD PhD LLC

2017-2019 Founder and CEO

Learning Disabilities Association of Pennsylvania

2018-present Founder and President

ABSTRACT

Collin R. Diedrich was born in St. Louis, Missouri, in 1983. His parents were originally from Kansas, and they settled in St. Louis to help Diedrich's grandfather with his wholesale business. Diedrich grew up in a close-knit family with an older brother and a twin sister. His family lived on the same street as his mother's extended family, and they typically ate dinner together on Sunday nights. When Diedrich was in first grade, his teacher approached his parents about tutoring him in the summer because he was not reading at grade level. He was officially diagnosed with a learning disability in third grade, and his parents hired a tutor, Kathy Clayman, who worked with Diedrich from third to twelfth grade. His mother had to fight for him to receive an individual education plan (IEP) because the school administration did not want to make accommodations for him because he was receiving good grades. In high school, Diedrich planned to become a physical therapist and decided to attend Bradley University, which had an excellent physical therapy program and a good disability resource office. At Bradley, Diedrich focused on running and studying and fell in love with biology in his first biology class, where he received a 96 percent on the first test. After taking a "weed-out" biology class during sophomore year, Diedrich decided to become a biology major and later refined his focus further, desiring to become an HIV researcher. He applied to the University of Pittsburgh for graduate school on a whim and ultimately attended there.

As part of his PhD program, Diedrich had to take a two-part examination during his second year. Although he passed the written part, which was the thesis proposal, he failed the oral part. He then went to the Disability Resource Office to learn about techniques he could use to pass the oral portion on his second try. He passed after studying for several months and was able to use his notes for material in a review article. When Diedrich finished his PhD in 2012, he had lined up a postdoc at the University of Cape Town in South Africa to research the immunology of HIV and tuberculosis. The move was a rough adjustment for Diedrich and his wife, Robin Hitchcock, but slowly, he started to see progress in his work. After three years in Cape Town, he returned to Pittsburgh, Pennsylvania, to look at HIV/TB co-infection under an R01 grant. In addition to his work in the lab, Diedrich volunteers his time with the International Dyslexia Association. He expresses appreciation for technological tools and a supportive community of family and friends that helped him succeed with a learning disability.

INTERVIEWER

Jessica L. Martucci earned her master's degree in bioethics and her PhD in the history and sociology of science at the University of Pennsylvania. She is the author of numerous scholarly and popular works, including her book *Back to the Breast: Natural Motherhood and Breastfeeding America* (University of Chicago Press, 2015). She was the lead researcher behind the Science History Institute's Science and Disability Project, which is part of her broader interest in understanding the mechanisms and effects of exclusion and inclusion in science, medicine, and public history.

Gregory S. Waters was a program assistant in the Center for Oral History. He received a BA in history and American Studies and a master's degree in American history with a

concentration in public history from Arizona State University. He now works as a curator at the National Medal of Honor Museum.

ABOUT THIS TRANSCRIPT

This interview was conducted as part of the Science and Disability project, which documents the lives and contributions of people with disabilities who work or pursue degrees in STEM fields. Participants include individuals from all stages in the STEM (science, technology, engineering, and medicine) pipeline, as well as those who have left the field. The interviews in this collection explore how physical and intellectual spaces welcome or exclude people with disabilities; how scientific cultures and identities intersect with those of the diverse disability community; and what environmental, institutional and professional barriers people with disabilities face.

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INTERVIEWERS: **Jessica Martucci**
Gregory S. Waters

LOCATION: **University of Pittsburgh**
Pittsburgh, Pennsylvania

DATE: **19 June 2017**

MARTUCCI: All right. Well, we are here interviewing Collin [R.] Diedrich at the University of Pittsburgh. It's June 19, 2017. Lead interviewer is myself, Jessica [L.] Martucci, and assisted by Greg [Gregory S.] Waters. And we're here from the Chemical Heritage Foundation as part of our Scientists with Disabilities Oral History project.[1] So, thank you, Collin, for agreeing to be interviewed by us.

DIEDRICH: My pleasure.

MARTUCCI: All right, well, I'm just going to start off at the beginning, which is where we usually start, and ask about when and where you were born and who your parents were and all that sort of background stuff.

DIEDRICH: Okay. I was born in St. Louis, [Missouri], in 1983, and my parents are Viki [Diedrich] and Tom Diedrich. And my mom's an artist, and my dad was vice president of a wholesale company that my grandfather [Frank Ginsberg] actually started. I also have a twin sister [Carrie Pace] and an older brother [Justin Diedrich]. And that's the very basic stuff.

MARTUCCI: All right, well, tell me a little bit more about your parents' backgrounds. You said your mom was an artist?

DIEDRICH: My mom's an artist. Yeah.

MARTUCCI: Did she go to school to train, or is she self-taught?

[1] On 1 February 2018, as a result of the merger with the Life Sciences Foundation, the Chemical Heritage Foundation changed our name to the Science History Institute.

DIEDRICH: Yeah, so she went to KU, so Kansas University, she got a degree in occupational therapy, but always loved painting and she used some of that artist stuff in some of her occupational therapy. She did that for years until my older brother was born, I think, and where she was able to be a full-time stay-at-home mom, but she always painted. Her and my grandfather [Frank Ginsberg], actually, my grandfather was a woodworker, and so not only did he start this business that my dad worked for and his other sons [Mark and Bruce Ginsberg] too, but my grandfather was this woodworker and he and my mom would have this Viki and dad art where my grandfather would do sculptures.

My grandfather would make wood-workings, whether it was just things to hang or just little tchotchkes, and my mom would paint them. That was pretty cool, and my grandmother owned an art gallery for a while and they all sold stuff there, and so that was basically all the things that my mom was doing when all of us were growing up. Now, she's playing [grandmother] really hard, which is pretty sweet. My dad, I think he got a general studies degree—I'm laughing because it's funny—my dad, general studies, and he . . . my mom and dad met in college, so they met at KU. Then he started working for my grandfather and so then they were able to just have a pretty decent business for years, and my dad just retired last year. He is grandpa'ing really hard, and not my kids; I don't have kids. But my siblings all have kids, so they like that a lot. Yeah, and so that's just the basics, I think, basics of my mom and dad.

MARTUCCI: When were your parents born? And were they born in St. Louis?

DIEDRICH: My dad was born in 1953. I think I have these dates right, '53, and either . . . some city in Kansas. Maybe, I don't know if it was . . . was it Lawrenceville, [Kansas]? Is that where KU is?

MARTUCCI: Sounds about right.

DIEDRICH: Something—some place in Kansas—and he grew up . . . maybe it was Kansas City. I'm not sure. And my mom was born in St. Louis. So, I have a lot of family in St. Louis where I grew up.

MARTUCCI: And when was your mom's birthday?

DIEDRICH: 1955.

MARTUCCI: Okay, and what was your mother's maiden name?

DIEDRICH: Ginsberg.

MARTUCCI: Ginsberg, and so her whole family is from the St. Louis area? Is that what you—

DIEDRICH: Yeah, yeah, or lived there for decades and decades, and pretty much everyone is still there.

MARTUCCI: Do you mind telling me a little bit more about . . . is it your paternal grandparents that had the business?

DIEDRICH: Oh, maternal.

MARTUCCI: Maternal?

DIEDRICH: Yes, my mom's parents.

MARTUCCI: Your mom's parents, and so had they been native Missourians, or did they come there from somewhere else?

DIEDRICH: Yes, their **<T: 05 min>** parents, so my great-grandparents, they immigrated from, I think, Russia. I'm not totally sure. My grandparents have been . . . they were both in St. Louis for . . . I mean, they've been in St. Louis for their whole lives. Even my grandfather has interesting stories and stuff, and did you ask about the company?

He went through . . . his father [Julius Ginsberg] owned a few local shops in St. Louis, that were pretty successful on a local level, and so he got his bearings from my great-grandfather, which I never met or I don't remember. Then through, I don't know, a handful of different circumstances over the next few decades, after my grandfather was working for his dad and after he served time—he was in the Korean War for a bit—when he came back, he started a few different wholesale companies. It was literally buying—when companies make too much stuff and they can't sell it—my grandfather would say, "I'll buy it for super cheap and let me sell it for cheap." That type of stuff.

Yeah, he did that and that company went through a handful of . . . he had to start a few companies at a few different times because he sold it at one point but sold it for unregistered stock at one point, and so then there was an issue with that, and then everything fell through and he didn't have the company. It was one of those things where you have to start over again, and he ended up with a company called Closeouts With Class, and that was the one that has been around for maybe . . . I don't know if it's like thirty years but maybe a long time. And we had to say that, we, as in my siblings and cousins, have been so fortunate. We understand our privilege of our parents were able to pay for our college, and so that's something that most people don't have. It was all really because of my grandpa starting this company. It recently closed last year and so that was really hard, but he was able to give a pretty good life to his kids and grandkids.

MARTUCCI: Cool, and so what about your dad's family? Are they part of your life at all?

DIEDRICH: Yeah, not as much now. It was hard because they lived in Kansas City, [Kansas] or Lawrenceville [Lawrence, Kansas]. Wait, where is Lawrenceville? [laughter] Wherever KU is.

MARTUCCI: You're asking the wrong person, yeah. We'll fact-check that.

DIEDRICH: Something, whatever, yeah fact-check my inability to know where family members or where KU is located. It was really nice; we were able to go see them like Christmas time. I grew up Jewish, but they are some Christian sect. I don't know. It's funny, people ask me, and I'm like, "Well, they're Christian. It's all the same, right?" Apparently, it's not. But we would always go and celebrate Christmas with them, which I thought that was nice. That was pretty cool, but, again, it was harder because we see my mom's side of the family . . . we would see them once a week. We did family dinners once a week all growing up, and even when we all go back in town. Then my dad's side of the family we saw just a lot less. That's definitely a big difference of just geography really.

MARTUCCI: So, what year were you born? Your parents met in college and then moved. Did they get married when they were still in college, and then decide—

DIEDRICH: They got married after college. I'm sure they did. They were at KU but moved back to St. Louis, or my mom moved to St. Louis and my dad moved with her, and so I was born in '83.

MARTUCCI: And you were a twin?

DIEDRICH: A twin, yeah.

MARTUCCI: And you have an older brother?

DIEDRICH: Yes.

MARTUCCI: Okay, so when was your oldest brother born?

DIEDRICH: He was born in ’81 and—

MARTUCCI: Okay, and what’s his name?

DIEDRICH: His name is Justin [Diedrich] and, yeah, so he’s my older brother. Just a little background I guess about my brother and sister, my brother’s super smart and is the super smart one in the family. He was always really interested in, and I guess is **<T: 10 min>** really interested in how things work. He ended up going to medical school and so he’s a clinician now, and he lives in California. It was pretty cool being able to grow up with Justin, seeing all of the, kind of, cool stuff that he did. Then also all of the teachers really liked Justin, so then when the twins were coming up, we always had an extra advantage part of that when you have a good older brother.

My twin sister, she’s also super smart, and my brother and sister, we both were all really close. Something that’s a little different with Carrie—my twin’s name is Carrie—is that we were always in classes together or in the same grade. We’d hang out and we always got along really well and still do. I think the first time that we were ever really apart was in college and so that was one thing where it was, “Carrie’s not going to be around; that’s weird.” She ended up going to Maryland Institute College of Art [MICA]. I guess I didn’t say this, but my brother went to Case Western [Reserve University] for med school. My sister went to MICA, and she majored in sculpting and printmaking, I think.

She ended up—after she graduated—she ended up moving to Xian, China, for a year to volunteer there with our brother-in-law [Matt Pace], or they were just dating at the time. Then he applied to law schools while he was in Xian and applied in, actually got in at Pitt [University of Pittsburgh]. I was currently here in 2006, and so I really wanted him to get in here and decide to go here. For the four years that he was here—because he got a dual degree so it took four years—I was also in graduate school. There was this nice overlap where it was, I didn’t think this was ever going to happen again. That was pretty cool.

Yeah, so we're all pretty close, really close with my siblings. It's also pretty cool too that they—my sister and brother—they both have two kids so that's nice because—I don't know—my wife and I, we don't . . . we're not thinking about kids very much. It's nice that there are these little ones running around. When they're too wild and stuff, we can go, "Go to your parents." Then go and watch TV or drink or something irresponsible.

MARTUCCI: Right. You mentioned having a pretty extended family and lots of cousins and family dinner once a week. Were there any . . . I mean, do you want to talk a little bit about some of the influence of your extended family on your childhood?

DIEDRICH: Oh yeah. Yeah, we were all really close, and my grandparents and my one set of cousins and aunt and uncle and us; we all lived on the same street. We were always really physically close to each other, and we also got along really well, which was fortunate. It was always nice, though, that we always . . . we did a lot more together as family than I realized was normal. It wasn't until my senior year of high school that . . . I was taking one of those senior transition classes that's just a joke, and I remember the teacher at the time was like, "Who here has dinner with their family at least once a week?"

I [. . .] raised my hand, of course. We do it five days a week or six days maybe. Then it kept going up and up, and my hand was the only one up, and I'm like, "What is going on? This is weird? I'm the weird one?" I'm like, "Everybody else is weird."

My nuclear family, we always had dinner together, and we were always pretty close, and the extended family would do dinner, but it ended up being on Sunday nights. That was really awesome. I've always been impressed with my grandfather's work ethic and he how he created a business, and it was successful enough to essentially employ . . . I don't actually know numbers but—I don't know—fifty, one hundred people maybe? We never wanted anything, and that was all really because of him.

I think, just always being able to confide **<T: 15 min>** in just a bunch of different people for different things, I just think that's always been really nice, even with my cousins that are younger. I have some twenty-one-year-old cousins, I have some maybe thirty-six-year-old cousins. I'm thirty-three, so there's a wide range.

MARTUCCI: And you mentioned that you were raised Jewish, so was your mother . . . was it your mother's family that was Jewish?

DIEDRICH: Yeah, yeah, and so that side's Jewish. Yeah.

MARTUCCI: And so how much a part of your life was that?

DIEDRICH: We got B'niah Mitzvahed, my sister and I, we did that, and so that was when we were thirteen. And like high holy day Jews, that was how my family was. I am not religious anymore, but I take pride in my Judaism more ethnically where I feel it's your responsibility as a Jew, whether you believe it or not, to make sure people aren't persecuted. It's just really hard, especially in today's world. That's one thing where it's . . . . I think, that I never really felt, or I haven't felt, very Jewish in a really long time more than just ethnically, until really lately where I'm like, "This is . . . there's a lot of things that are happening."

Nobody deserves to be persecuted. I get extra offended, especially when Jews are really horrible to Muslims. I'm just like, "Your job is to make sure that persecution never happens. Don't project or don't do that." Anyway, I think that's one thing I think that I just really have taken with me. But I have to say, honestly, religion's just not a big part of my life.

MARTUCCI: Was it important to your mother's generation? Do you think it's decreased over time?

DIEDRICH: I do think it's decreased over time but probably within the average decrease in Americans, right? My mom is very spiritual; we joke a lot that she's, "Everything God's miracle." And she has teal hair stripes. My mom's awesome. She's this spiritual hippie weirdo lady; this is my mom, so it's super cool. She's very much like . . . she'll be, "Collin, look at this stick bug. This stick bug is . . ." This is how she would talk. "This stick bug is a miracle. How could God not make this? This is a miracle. It looks like a stick."

I'm like, "Wow, well, that's evolution. Yeah, it hides well; it looks like a stick." Then another thing we do, this is just because my mom's awesome, she also will regularly tell me that snowflakes are miracles, just because they're cool, all the shapes, and she's like, "No two snowflakes are alike" and just very fun about that. That's one thing that's real funny. I've had to adjust because I was like, "Mom, I need to raise your threshold on miracle."

But it's like if someone can get this much joy out of life, which is something that I really have taken from my mom; we would tell her that she sucks the marrow out of life because one of those . . . she's vegetarian now, but you break the chicken and suck the marrow out—super gross but it's, kind of, delicious. But so yeah, she sucks the marrow out of life. Then my dad wasn't very religious, he never converted to Judaism, but for all intents and purposes, when we were raised Jewish, and he probably considers himself Jewish as much as . . . . I don't know. I just tell people I'm not a very good Jew so . . .

MARTUCCI: Was there any substantial Jewish community in St. Louis, or was it sometimes something that was, sort of, marginal in that culture?

DIEDRICH: It wasn't until college that I realized that there weren't a lot of Jews around and so it probably was substantial in the suburbs and the upper-middle-class suburbs that where I grew up. We always had a lot of Jewish friends, not because they were Jewish but because we must have met because [Shaare Emeth] was our synagogue. We met there or the parents met or something, but I had a really good core group of friends, all from elementary school all through high school. I didn't realize **<T: 20 min>** how odd it was that a lot of them were Jewish too, are Jewish, were Jewish. That's definitely one thing that's . . . I don't know, it was a little different, I guess.

MARTUCCI: Did you do any extracurricular sort of activities as a child, like Boy Scouts or camping or sports?

DIEDRICH: Yeah, so I was always very active. I was the kid who had too much energy and was really wild and rambunctious and did everything I could for attention. That, kind of, pushed me more towards sports, and I was never great at any sports, but I was always . . . . I always had a lot of endurance. It wasn't until I think in middle school I started to run, and I wasn't good at running, but I ran in middle school and high school, and I ran in college. It was all cross-country. I also wrestled for a little bit in high school, and I was on the swim team, and even after that, I was on the pom-pom squad at my . . . you know, pom-poms?

MARTUCCI: No.

DIEDRICH: Yeah, well, they have those little fluffy things—

MARTUCCI: Oh, the fluffy things?

DIEDRICH: Yeah, I learned that it's called a pom-pom. So, I was on the dance team for I think it was for a season or two. I did that for attention and in high school—I'm kind of jumping around. Is that okay? In high school, I was joking with a friend of mine that I was going to try out for the team because there weren't any guys on it. The principal of the school found out I was doing it, and she found out I was doing it as a joke and told me not to. Then I was like, "Well, now I have to." So I did it with a friend of mine, Aaron [O'Brian], and we did it, and it was a lot of fun. We got the attention that we wanted. I guess I'm not . . . . I feel like . . . . I'm now thirty-three. I can admit: sometimes you do things for attention. That was fun, you know. I enjoyed it, but my biggest passion or extracurricular was always running. That's the thing that, kind of, really leads me to . . . it gives me my focus, it helps me just get through the day.

I really like the idea of . . . in running, I really like the ability to you can like literally push yourself until you can't anymore. Those are things that I really thrive on. It's something

that is tangible and physical, and it's, "Can I push myself until I throw up? Can I push myself until I literally can't go any further?" Those things, which I think in the running community, those things are, "Yeah, this is kind of cool; do that." On the outside, it's, "Why would you run to hurt yourself?" It was because I wanted to see if I could, and I did. Yes, so that it's mostly running, yeah, running, then and now. Yeah.

MARTUCCI: Okay, I'm going to start asking questions about school.

DIEDRICH: Okay.

MARTUCCI: Did you go to a preschool program, or were you at home until kindergarten? When did you first enter school?

DIEDRICH: I think I was in preschool; I think it was Lucky Lane. I think that's what it was called, and I'm pretty sure I was in class with Ozzie Smith's . . . he was a Cardinal [baseball player] . . . with his kid or grandkid, or maybe kid because that was a big deal. I never watched sports; I didn't really care. But I think parents liked that, but, yes, so I did that preschool and then just public school throughout.

MARTUCCI: And so how were your early schooling experiences?

DIEDRICH: I was more conflicted. Let's see here, I have to double-check all the dates, but it was very clear that I wasn't reading at the level I should be. In first grade, one of my teachers, Mrs. Tucker, she went and talked to me parents about this. Or she talked to my mom and was, "Look, I think Collin is behind in reading, and I want to tutor him in the summer." That was my first taste of getting tutored. Because I always tried really, really hard, and my sister, things come naturally to her, our brother as well, and they were always super smart, and I wanted to be smart like them.

I always just wanted to learn more but there was this . . . words are just hard for me, still, and **<T: 25 min>** they were really hard back then when I didn't understand why I was adding in sentences or adding in words or adding in letters or taking them out or truncating them or pushing them together. There was all these things I was doing with letters I didn't really understand, and my parents didn't understand. That was in first grade that I went with Mrs. Tucker, and Mrs. Tucker was wonderful. She tutored me in reading and writing all summer long. Then it was my . . . in second grade, I had a new . . . it was a newer teacher, and I was in class with all my friends, and, as I said before, I was really rambunctious and wild. That doesn't just go away, and so that continued and me being wild and not paying attention, and I really lost a lot of the progress I made reading-wise.

Then when my parents found out about that, then that's when they were pretty pissed off. They ended up getting me private tutoring at school, so for our home period or whatever the period was, I was taken out of class, and I would literally just work on reading and that helped me get back to where I was, at least in the summer. Reading and writing's always been really difficult, spelling. I remember times where I was in a music class, and I remember breaking down and having a panic attack when I was in first, second, or third grade—I don't know—where one of my friends [Stewart Kuhlo] was, "Collin, what's going on?"

I was just so worried about the timed test. You remember those little multiplication tables and you just have to . . . or not tables but the multiplication test where there was a hundred, you just answer as many as you can. It went horrible. It was a nightmare. I specifically remember that because that's just something. I just don't process information that fast, and I knew it, but I didn't really know, understand why. Then it wasn't until . . . it must have been in third grade that my mom was given advice that I get privately tested because she didn't want to initially. She got me tested for learning disabilities but was able to cover the thousand or two thousand [dollar] cost that it was. And then I was officially diagnosed, which was helpful, but the school—this was in elementary school—at the time, they didn't accept it. And so then I had to get privately tutored or tutored through the school, using the diagnosis that my mom was able to get me.

I got tested, and I was given my diagnosis and I don't know what the actual diagnosis was then but written expression issues, reading disorder, I'm sure it was within that realm. Then I was trying to get—or my parents were trying to get me—through an IEP [individual education plan]. They were trying to get me the individual plan, and by that time, I was already seeing a tutor weekly that was helping me study, and I was always studying a lot. I was getting, I was passing all my classes and I was a B and A student, and so the school said that I didn't deserve accommodations because I wasn't failing.

That was really difficult and so then my mom had to do . . . and she did a lot of this in the background where I wasn't privy to it at the time I don't think. She was the one who . . . she fought with administration over this. Eventually I was still able to get accommodations and it's difficult because when you're a kid, I had this really positive environment growing up. But when a school says, "No, you can only get accommodations if you're doing poorly," then essentially, that means that you're dumb. That stuff you internalize. Yeah, that was really difficult, but I, kind of, leaned into a lot of these—my learning disabilities. I was always able to get with the tutor that I was seeing, and she was a special ed[ucation] tutor, and the techniques that I learned over twelve years from first to twelfth grade. I saw this specific tutor from third grade to twelfth. I feel that was the best thing that prepared me for everyday life really and work.

But academically, things were always harder. I just had to spend more time, but I was always **<T: 30 min>** the student that did . . . I always did my homework and I always worked really hard, and I always wanted to get good grades. Similar to what I was saying about running, pushing myself. Because reading was always so hard, I would push myself and be like, "Can I

get an A on this test?" And a lot of times, it wasn't for the learning the material, it was just, oh, well, I just want to prove it to myself because I really wasn't that passionate about any coursework I don't think. I just liked learning generally. That academic stuff, so it was hard and stressful, but I feel like through the help that I received and my family, that was good. There were times too when my parents . . . you know, my parents and I would fight a lot. Or even with my siblings, well, I guess my parents about homework and doing work, and they didn't understand why things were taking me so long. It wasn't until they met with one of the psychologists that diagnosed me . . . it wasn't until then that the psychologist was, "All right. You guys no longer are allowed to do homework with Collin." It wasn't until then. Then it was one of those moments where it was, "Oh, we don't understand." Because they didn't understand what was going on.

That's when they were able to hire—I guess this was third grade—because that's when they hired Kathy [Clayman], who was my tutor for nine years, I guess. Yeah, so that was really helpful, and also, I think, helped our relationship because I remember times reading and my parents not understanding what, like "Why are you adding words? Why aren't you paying attention?" I remember fighting with my dad about that or getting really frustrated with my mom. It's hard when the people that are helping you the most, and then you turn on them, you know? And so at that time I didn't realize it, but the tutor was really helpful with that.

MARTUCCI: Yeah. And so you stayed with the same tutor throughout your elementary and into high school years?

DIEDRICH: Yeah, yeah.

MARTUCCI: What were the things that she, you know, tools-wise, what did she give you that was helpful? Or was it just about the extra time?

DIEDRICH: Well, it was more than that. It was learning different study skills. Actually, let me start over. I think the primary thing was, hey, it's okay you have learning disabilities, which I feel that's the foundation of, hey, if you want to—I don't really like the term "overcoming" your learning disability because it doesn't go away. But if you're going to work with your disability or to overcome it or to work with it despite your learning disabilities, you're getting this stuff, but it's not even despite. It's you have these learning disabilities, and you can also be successful, but the first step of that is saying it's okay. It's okay that you have this.

Also, at that time she wasn't saying, "Hey, you're not good at reading." It's, "You can be better at reading." That type of mentality was really helpful. That was really important. Another thing, though, that was important with that is the study skills that I learned, and they were very obsessive, or I became very obsessive over them, which I had to do. It was highlighting with certain colors, and it was blue is a definition—or is a vocab word—and orange

is a definition, yellow is just a normal fact, and orange, right after yellow, describes the fact more in-depth, or orange after a definition describes that word. Then I would have my . . . I was always very good at highlighting. When the kids first learn, everything's highlighted, and it's just completely . . .

I was always very good at it, and I can just look at the page and I would say, "Okay, these are the vocab words I need to know," and I would make flashcards. Or these are the general facts. I was making flashcards and highlighting in elementary school. I took that all the way through high school. Those were some of the major things, and just understanding that I need to be in a distraction-reduced environment; that's really important as well. And it's a lot of that and always, I was also always held accountable for my work, and that was always really important I think too because I didn't want to upset Kathy. Then it was I need to make sure I have all my homework done. **<T: 35 min>** There was a rule, and I can't totally remember this, but there was a rule with Kathy saying that we weren't . . . the whole point wasn't to do homework with her. It was have the homework done and have the few questions that you need. It was very stringent on stuff, but yeah, that was very helpful.

MARTUCCI: When you were getting tutoring, it sounds in the beginning, it was really focused exclusively on reading. Did it change over time as your subjects grew, or was it always reading-focused?

DIEDRICH: Reading and writing both, those were the primary focuses. Then with just more memorization stuff, because a lot of high school is "When did this war happen? Who fought it?" It's all just . . . you just repeat things verbatim. Then that stuff was really difficult, and so then it was you've got to make flashcards, or you have to write down these notes, or if I'm not learning by just looking at the flashcards, I learn better when I write it out. Then I would just rewrite stuff again and again just to get the names right. I think it probably progressed, but the majority of it was reading. But I can't remember when I was in high school going to Kathy if we would sit down and just read passages. I don't think that was the case. I think that it was, "I don't understand this. Can you explain this to me?" in the homework that we were doing.

WATERS: Was Kathy specifically trained to work with students with disabilities?

DIEDRICH: She was a special ed teacher, so I'm not totally sure. But other parents from these other organizations I'm working with asked me that question too because I guess now things are so specific.

MARTUCCI: Were there any favorite subjects of yours in elementary school before you went into high school? Did you enjoy any particular subject over any other?

DIEDRICH: I always really liked history. I think those were my favorite, or that was my favorite for a really long time, and it was just what happened. I still have some drawings of the Boston Tea Party. They're very poor drawings, but they're also kind of amazing. Yeah, so I always really liked history and then even high school, I liked it a lot more. I always wanted to understand how things worked, and so then that's . . . the sciences were interesting to me, but it was nothing special honestly. I didn't . . . I don't know. I was always so active; I liked gym a lot. I wish I had a gym class now, right? Yeah, so it was really pretty broad, but history was really that was the subject I really liked.

MARTUCCI: And what did you do during the summers when you were a kid before you were working age?

DIEDRICH: So I still got tutored all summer; that was very important. My tutor, Kathy, she would give us homework. For a while I was going to tutoring; it was one of my friends and I, a friend who has similar learning disabilities. That was interesting. For a bunch of summers there was a sleepaway camp called Camp Sabra, and that was a Jewish camp. I've always been surrounded by a lot of Jews, and so that was really cool and that was probably from elementary school through early high school. That was always a lot of fun. All of us, the Jewish kids would all go to that camp, and it was a month-long, two weeks to a month-long sleepaway camp, which was always pretty cool, so a lot of activities and stuff to do. I think really just mostly for summers I always just was trying to be really active.

MARTUCCI: When you went to middle school, often times middle school is a rough time for everyone. Was middle school rough for you at all?

DIEDRICH: This is sad because I joke a lot about it with my wife about this is that I was always very well liked and, I always had a bunch of acquaintances and a handful of good friends, and a few people I was really real close with. And so it wasn't. And like I can't . . . like I understand that, but school—socially for me—school wasn't . . . was never that bad honestly. **<T: 40 min>** And I think beyond the normal awkward . . . I don't know how old you are—twelve, thirteen, fourteen, whatever—however old you are, in middle school, like that stuff. And when you're a really wild kid, getting in trouble, but I always . . . I would get in trouble, but I would never did anything—I don't know—that bad, I don't think. But it was just being really obnoxious or having issues with authority, but issues with authority up until I'm actually going to get in trouble, and that was in middle school really. Yeah, so honestly, I feel I was just really fortunate in that respect really.

MARTUCCI: All through the sort of early part of your childhood before high school, as you were, sort of, going through all of this with confronting and learning to deal with your learning disability, you'd mentioned that your brother and sister were both really, really smart and that

things came pretty easily to them. Did that create tensions or disagreements in the household because you had to work really, really hard to get your work done and they were, sort of, "I'm finished and now I'm going to go out and play . . . ?"

DIEDRICH: Sure, okay, well, here's . . . Yeah, yeah, so here's an example. Since I was always so wild, and this is, I guess, when I was in middle school. Or I don't know, I'm still wild, but I can contain it. I can fake it. In elementary school, I was always really wild and rambunctious, and so my parents started a sticker program where there was a big poster, and it was "Did you do this thing?" Sticker. "Did you do this?" I had the sticker thing, and I would get a prize. They had to essentially bribe me. You know, as an upper middle class white Jewish family does. They did that and I remember—or my parents remember—and they would tell me that, Carrie and Justin would be like, "Why does Collin get prizes?" My parents would be, "This is good for Collin. Collin needs this, so just back off, normal kids." And so that was one thing.

My dad tells the story about us—I don't know—he was doing yard work and I was trying to help or something, and we were outside. This is elementary school, so I'm maybe fourth or fifth grade maybe. He tells the story about we were talking about Justin and Carrie, and how Justin was always so smart and my sister is really smart but she's also this incredible artist. She's always been able to . . . when she was really little, she was drawing way better than she should have been able to. It was that thing or sketching or whatever it's called. We were talking about that, and I remember—or my dad tells me because I don't remember this actual story—but he was like, "You looked up at me and you were like, 'So, if Justin's really smart and Carrie's so good at art, what am I good at?'" When my dad tells the story, he gets choked up, which is funny because he's very waspy [White Anglo-Saxon Protestant]. I like when he tells this story; it's funny.

I don't totally remember what he told me that day, but one thing, though, is he was always saying that I was always really good with people. Understanding people and could get along with people and stuff like that that, which I didn't understand that was a skill set until I started actually working. That is a skillset, and I'm glad I have that. But it was nice, and I joke with my dad that it was good that he was able to think on his feet. So there clearly were times that I had issues or like I wanted to be them, and I think even there were times too when my sister, I think she made the hundred absences club, and she got a 4.0 her senior year. If you miss a hundred . . . we had block courses, so it was three courses one day and four courses the next day. If you miss a hundred of those, then you become on the hundred absentee whatever—whatever idiot thing she wanted to get.

She got it, so she's super smart, and she was able to skip a lot of classes, but that was stuff that I never did, and so that there was probably some envy that I had to that, to be like, "Wait a minute. Why could you do that?" And she would skip stuff to go to the art room to do art things or hang out with her boyfriend, who is now her husband and [my] brother-in-law. But yeah, so that there definitely were times, but we were always **<T: 45 min>** involved in such different things. My brother, it was clear he wanted to be a clinician early on and wanted to do doctor things. My sister always was into art, and I just really liked sports and running and

whatever. We never really . . . our interests never really collided. I think that like we're all pretty close, and I don't think I had . . . I don't think there was much animosity there, but from some of the stuff that my dad said, there clearly was, but it didn't leave that big of a mark on me I don't think.

MARTUCCI: Because you sent me several things that you've written about your life because you had mentioned that you're working on a memoir . . .

DIEDRICH: Yeah, yeah.

MARTUCCI: At one point I think you mentioned, when you transitioned into middle school or high school, there were problems with getting the school to provide the services that you needed?

DIEDRICH: Yeah, yeah.

MARTUCCI: Could you talk a little bit more about that?

DIEDRICH: I'm not totally sure on all the dates of it, but I had my diagnosis, so I had my . . . at that time I had my . . . the school diagnosis from elementary school but you needed to get retested. They didn't want to retest me because I was getting As and Bs. That was stuff where my mom had to fight for that. Eventually, I ended up . . . there was a meeting with my mom and dad and the administration and some head people, and my tutor came in because this was all supposed to be IEP stuff, where I was going to get the individual plan that was specific to my needs and the reasonable accommodations.

They still didn't want to give me accommodations, and so then my mom went to the Head of Special Services of Parkway School District and was like, "Look, my son's diagnosed, and he deserves these accommodations, and you're not giving him accommodations."

Then he told my mom that she was just the standard . . . it was a very jerk thing to say. It was something, "You're just a typical West County mother." Which is the area that I grew up in—upper middle-class area. "You're the typical West County mother that can't accept the fact that her son has a low IQ [intelligence quotient]."

My mom screams at him "What if my son has a high IQ but has learning disabilities?" and stormed out and went directly to whoever his boss was because [it] went to the head district and refused to leave until this person—I don't remember who he was—saw my mom.

Then my mom was, “Look, whatever this guy’s name was—I can’t remember—said that I couldn’t do this, we have these accommodations that he’s supposed to get, the school doesn’t want to do this, I need this meeting now.”

Then it was like the following week or something and so everything was set up and, we were able—or I was able—to get those accommodations. What was so important with those accommodations in high school, I needed to have documented accommodations if I wanted to get them in college. Then after that meeting, I think I had to get diagnosed again in order to for that diagnosis to carry over for college. I was diagnosed three times I think—maybe four times. Yeah.

MARTUCCI: By separate people?

DIEDRICH: By separate people, yeah. One thing that’s hard with invisible disabilities just in general is that it’s hard to prove. There can be a lot of subjectiveness to it but one issue that in the learning disability space is that why do you have to keep re-getting tested? Just fast-forwarding a few decades, I started taking classes here for a certificate in disability law studies, and it’s through the law school. When I met with the Disability Office, they told me, they were like, “We don’t still have your old disability stuff on file because we throw that away after five years or seven years.” When I first came here in 2006. They said, “Okay, so, yeah, you can still get accommodations but if you want to turn the certificate into a master’s, so it’s fifteen credits versus thirty credits, then you’ll probably have to get diagnosed again.”

I was like that doesn’t . . . you guys accepted my diagnosis. Learning disabilities **<T: 50 min>** don’t go away, and it would be fifteen hundred dollars out of my pocket if I got testing again. Maybe a little more or less. I don’t know. It’s just one of those things where it’s like there are these . . . the way the law has it . . . and a lot of policies in universities, is that you’re only allowed to . . . or the diagnosis exists for a certain number of years, but at what point when you’re an adult does it not? I think that’s one thing that I’ve always had to deal with, but I’ve been fortunate with my college—my undergrad and graduate school—and coming back here, Pitt’s pretty good about it.

MARTUCCI: Wow, I didn’t realize that it was an out-of-pocket cost to get the test for a learning disability diagnosed.

DIEDRICH: Well, it depends. This is another thing that happened in elementary school is my mom when she first started discussing this about or when a teacher told my mom, “You should get Collin tested for learning disabilities.”

My mom went back and forth, and my dad, they were like, “I don’t want Collin labeled.” This might have been first grade. A few years passed, I get the tutor and it’s, “Well, we can deal

with this ourselves." Then, what happened? I ended up getting—oh, wait, no. Then in elementary school, so this was a few years after, "We can handle this ourselves." School's starting to get a lot harder and I'm having these issues. My parents are coming around to, "Maybe a diagnosis would be okay.'

One thing that we started—or my parents started—asking about that or my mom did. She was told . . . she was like, "Okay, well, why don't you . . . ." Or a counselor in the school had a son who was dealing with somewhat similar things but was a little older, so she was more experienced with it.

She pulled my mom aside privately and was like, "You need to get Collin diagnosed on your own. It's a medical condition. The school will have to file the ADA [American with Disabilities Act]." I ended up, my parents ended up getting me privately tutored, but one thing, though, that this counselor told my mom and we're so thankful she said this, but she [said], "If you tell anyone I told you this, I'll deny it." She's like, "The reason is is because if a public school . . ." At least this was in Missouri twenty years ago. In Missouri at this time, if a school identifies a student with learning disabilities, then they're on the hook for providing him or her accommodations, which is the right thing to do. But the problem with that is when schools aren't very wealthy, they don't have a lot of money, their teachers might be told not to do that. Then it comes in and it's . . . there becomes this larger disparity where it's parents that can get their kids tested that have that extra fifteen hundred dollars, a thousand dollars, whatever. Then the kids who can't. My parents were able to. I got that personal diagnosis and then she used that to get me tested again through the school because the school had to do their own, so it's just a waste of time and resources.

MARTUCCI: Wow.

DIEDRICH: Yeah, it's way more complicated than it should be.

MARTUCCI: When you were going into high school, at what point did you start to think about what you wanted to do after that . . . where you, sort of, saw yourself going?

DIEDRICH: I wanted to be a physical therapist for years, and that was because my freshman year of high school, I had this growth spurt and some part of my quadriceps weren't developing fast enough and so then my knee would rub on the joint as I would run. My knees hurt when I ran which, when you're thirteen, fourteen, fifteen—however old you are as a freshman—that's not supposed to happen. I went to physical therapy, and they fixed it, and most things I do in my life, I do obsessively, and so it worked really, really well and quickly. I was like, "There's a problem, and they fixed it, I want to do this." It was one of those things. I chose Bradley University as where I went to college because they had a good physical therapy program. In

addition to that, it was a small school, and they also had a really . . . they had a good disability resource office, and Kathy recommended Bradley to me **<T: 55 min>** or told my parents.

MARTUCCI: And where is Bradley?

DIEDRICH: It's in Peoria, Illinois. It's halfway between St. Louis and Chicago, [Illinois].

MARTUCCI: So, you go to . . . well, we'll get to college, more about high school first. What did you do in high school? You said you were running. You were running competitively in track competitions?

DIEDRICH: Yeah, track and cross-country.

MARTUCCI: And so was that a major part of your identity when you were in high school?

DIEDRICH: Because I always had . . . the people I had been closest with over the years generally have been runners, especially when I was in school. I remember I had friends from all over from different aspects of my life, but it was always cross-country attracted a certain group of people. They usually have a lot of energy and can be wild. That was always something that was really attractive to that. Those were the people that I think I was close with in high school. Other things I did. I did student government for a while, but I always just had a problem with authority and didn't . . . so that didn't . . . I didn't want to do that after a while.

Yeah, so there was a lot of . . . yeah, I don't know, I worked a lot in high school. I worked at a smoothie shop, and it was the best job I've ever had—Planet Smoothie. I was able to . . . yeah, so then that was really close to school, and so it was fun, and it was nice to have some extra spending money. That was super cool. But yeah, I was always involved in something. I always needed something to do after school, on the weekends. I always wanted to do stuff. I played roller hockey for a long time too. It was always just whatever. My parents early on were like, "Okay, this kid needs to burn off some of his energy."

MARTUCCI: Were they the ones who suggested getting a job, or was that your idea?

DIEDRICH: I think I wanted to. I don't know if they suggested it or not. They might have, but I always wanted to work, and it was my sophomore year. My sophomore year or junior year I waited tables for a while at this fancy Greek restaurant. That was just okay. I was a busboy, not

a waiter. Sorry. That was just okay, but then it wasn't until this Planet Smoothie job that I was like work can be fun and awesome. Yeah, so anyway, so I did that for a while too.

MARTUCCI: Any really important teachers or classes that you remember from high school?

DIEDRICH: There were definitely really important teachers, but I have to say I cannot honestly think of specific classes or teachers that were pivotal in guiding me to do what I'm doing. I definitely had the teachers that just made me want to learn. I had a lot of those, whether it was history teachers . . . I even had a chemistry teacher who was actually—now I think about this—he was a PhD, and he would always say, he was always like, "I'm a real scientist, not like these other guys." That's a weird thing to say. I didn't realize that, but, yeah, he had a PhD in chemistry or some specific application of chemistry and he . . . yeah, so his class was always really interesting. I don't even remember his name.

But it was always really interesting. He definitely was negative about they're not real scientists. I guess being a scientist, I'm, "Okay, sure, I get it, but you don't have to say that as a teacher." Yeah, high school, I remember being in college and thinking how high school didn't really prepare me for college, but it was Kathy that prepared me. I remember specifically thinking that. Learning how to study, that was the most important thing. Also learning how to socialize with a lot of **<T: 60 min>** different people. It was a big high school, and that was one thing.

It was also very diverse too, and that was something that was incredibly fortunate where it wasn't weird that the high school was—and I don't know if it was—50 or 60 percent white guys and girls, and then people of color, and whether it was Indian, Black, or Middle-Eastern. It was really, really nice that we didn't realize how fortunate we had it that we went to a really diverse school. It wasn't until college when I went to Bradley University where I was like, "Oh, it's all white guys and girls." I was like, "It's really white here. What's going on?" I guess I added to that issue going there. Yeah, so that's it.

MARTUCCI: All right. Well, let's take a break.

[END OF AUDIO, FILE 1.1]

[. . .]

MARTUCCI: All right, so we were talking about high school, and your, sort of, thinking about where you were going to go to college. You said that you had this experience with needing physical therapy for your knee and so that, kind of, got it into your head that you wanted to

pursue that as a career and then talking with your tutor Kathy, you said she was the one who recommended that you look at Bradley College.

DIEDRICH: Yeah, I think it was her. My mom might have been doing Internet research at the time, but regardless, yeah.

MARTUCCI: Did you look at any other colleges, or was it just Bradley?

DIEDRICH: I also applied to Mizzou [University of Missouri] but I didn't . . . I only applied to Mizzou and Bradley, and I just assumed I was going to get into Bradley, and so I just applied to Mizzou just because. But, yeah, my biggest concern was the GRE [Graduate Records Exam], and then that was—

MARTUCCI: You mean the SAT?

DIEDRICH: The ACT, that's right. We don't do the GRE now. Yeah, the GRE's for college—or for graduate school. Yes, the ACT. I took that and I got accommodations for that, and my score was very poor, which I how I score on those type of test. But something that was pretty awesome about that test was in the reading portion of it, I did really bad, but I did good for me, though. The reason I did well for me is because, you know, how they give passages about random things. Then you have to understand what is meant in those passages, right? And so that's how those reading comprehension things work, right? That's something that's really difficult for me. One out of the four passages or the handful of passages that we had to write about or answer questions about, one of them was about the artist Hieronymus Bosch, and I had done a project on him. And I think it was the *Garden of Heavenly Delight*; it was that triptych one where it's all super weird—right?—Hieronymus Bosch, just really bizarre. I always was just like "this guy's super cool," but it was about him—this obscure artist. So as soon as I started reading it, I felt really good, and so then that I don't think I did well in the reading section, but I am pretty sure that I probably increased my percentage. I probably bumped up a grade level. I might have increased four or five or six or seven percentage points because I knew some of the answers to some of those questions because of what I read. At least I think I did. I don't know. Yeah, so getting that extended time was helpful, but also randomly knowing what they're talking about also was really helpful too.

MARTUCCI: Were you very concerned about going into the ACT? Was this a—

DIEDRICH: Yeah.

MARTUCCI: Did you study for it?

DIEDRICH: Oh, I knew I was going to do bad. Yeah.

MARTUCCI: And take any of those sorts of prep classes?

DIEDRICH: I didn't take a prep class, but I studied with my tutor, Kathy. That was definitely something where I was like, "I know I'm going to do poor on this." But yeah, I was always really nervous about standardized tests and even still today. I don't have to take them anymore, but they sound horrible.

MARTUCCI: Yeah, and in terms of getting into college, was there . . . were you concerned about your scores for that reason?

DIEDRICH: Yeah, I think I probably got on the low end of what Bradley said was acceptable. Because I remember getting my score and being, "This is above what they said is the minimum." And usually the minimum is . . . I don't remember what the score was or even what it was out of. Maybe thirty-six or something, and I needed a twenty, or I didn't need a very high score. It was one of those things where it was I was just above it, and so had that Hieronymus Bosch question not been on there, that could have affected it. I don't know.

MARTUCCI: All right, so you decided to go to Bradley, you think you're going for physical therapy. Was there a culture shock at all? Peoria, Illinois, is pretty far from St. Louis?

DIEDRICH: Yeah, so it's three hours away. It was hard. **<T: 05 min>** One, when I first went there, I got there early, and I walked onto the cross-country team, and so I was never particularly fast in high school. I always worked really hard. I went to the first cross-country meeting, so I had an immediate in with a group of students that I liked. It was always because I was the worst person on that team. On the next person's worst day, on my best day I couldn't touch them. This was also Division I cross-country, so I can still say for three years . . . so I ran for three years, I ran Division I cross-country. But I was terrible; I was the worst one on the team. I regularly got last place or second or third or fourth to last, but all the people running back there are like, "Hey, I'm doing this for fun." It didn't really matter.

I had an immediate in and because I wasn't taking anyone's spot, and once people got over, "Collin's likable, and he's also slow." That, kind of, helped out a little bit. Yeah, anyway, that was good. That helped. I also when I first got there, I was staying in a single room too, and I

was staying in a single room because I wet the bed. That's a really good way to destroy someone's self-esteem—enuresis. It's a really wonderful way of making yourself feel horrible about yourself. My mom might have called the college—or Bradley—and was, "Collin has this." It wasn't all the time, but it was enough to be horrible. You only have to pee yourself a few times to feel horrible.

Then I got my single room so then I was like, "Now I'll need to really go out of my way to meet people." Which is something that I never really had to do. Then that was difficult—also lying to people about how I got a single room as a freshman. I was, "Yeah." I had an elaborate lie, but it's because I peed my bed. That was something that was a little difficult, but in cross-country, the group of guys that I ran with were really close right away. Then that was really helpful. As I got more into biology, then I had a core group of biology friends, and then even the friends in my first dorm. Then I had a handful of friends in different areas and would float around, and so that helped with the culture shock. [. . .]

MARTUCCI: And what about the academic . . . was there an academic shock?

DIEDRICH: Yeah.

MARTUCCI: You said you felt pretty prepared because of your tutor, Kathy?

DIEDRICH: I felt prepared because of my tutor, and this is when I was going through my angsty, I'm eighteen, I know everything. I was like, "High school is pointless." It was one of those things. And I was that for more years than I like to admit. I felt prepared. Another thing that I did, though, was in college I was like, this is the first time I can prove to myself that the reason that I'm getting a good grade isn't because my parents . . . or isn't because of teachers liking my older brother or people liking my sister or people liking the Diedrichs. A lot of it was every time I did something well, there's always an asterisk by it that I always felt. Then that was, "I can finally do it myself." I was very obsessive over it.

I started taking Ritalin or Adderall or . . . the summer before college and that was, I mean, prescribed. That was something that was really interesting because I never read a book on my own prior to that, and I was actually able to read a book. I was like, "I get it. It's a movie for my head." I remember thinking that, right? That's a dumb thing to think, but that's what books are, right? The book, the first book I read—that I chose to read—I think was Kurt Vonnegut. It was *Ice-Nine*, I think? Or *Catch 22*?[2] It was one of those books. It was just one of those weird, silly books. I was like, "This will be perfect." **<T: 10 min>** And that medication, which I never was on, that helped out a lot. It got to the point, though, where because as obsessive as I can get

[2] Kurt Vonnegut, *Cat's Cradle* (New York: Holt, Rinehart, Winston, 1963) and Joseph Heller, *Catch-22* (New York: Simon & Schuster, 1961).

about things—and I still do—my primary goal was like, "Okay, I need to get good grades, and I also need to run."

Those two things dictated my life, and I studied probably maybe my freshman year when I was . . . those medications, you titrate. You don't know exactly what level is going to work effectively. I started off on a dose that was too high, or it was too low and then because I was running cross-country, I talked to my doctor and I was, "Look, we're running sixty, seventy miles a week. I don't have enough in me to study later." And so we jumped up to the highest dose [30mg Adderall XR]. I loved it. It made me feel really good, but I was also feeling, kind of, high when I was in it and, I could study twelve, thirteen, fourteen, fifteen hours a day super easy. People aren't supposed to do that.

MARTUCCI: No.

DIEDRICH: Yeah, no. That was that first semester I started getting worried about it because I was like, "My heart rate's going really fast, but I can read things." I was debating what's worse: is my heart more important or grades? Towards the end of that semester, I went to my doctor, and I was like, "My biggest issue is that I like this too much." We titrated it down, and then I was studying not twelve hours a day but probably close to eight, nine, ten hours a day. This is every day, and I was the student that would . . . I'd wake up early, I'd study for a few hours in the cafeteria, go to class, study in between classes, go to cross-country practice for two, three hours, and then study. I was just studying. I just was able to study, and I just really wanted to learn.

It was the first time in my life I ever felt smart. Because people would tell me I was smart with things, and other people would tell me I was stupid with certain things, and so it was this time I was like, "I'm doing well in my classes, and this is because of the hard work I'm putting in." I was studying forty, fifty hours for a specific test, you know, and I used to have a rule where I was like, "If I don't know it the day before, then I'm not going to learn it." Which is . . . young Collin was so stupid. It was like you need to study, but you study right before things, but it was just very . . . because I was always studying and always, I was just always very obsessive with that.

It wasn't until my first biology class that, I fell in love with biology, and I actually got the highest grade in my biology class, the first test I ever took in college. I never got the highest grade on tests, and I think I got a 96 percent. I remember this just because the professor wrote the highest grade in the class, said this is what the average is, this is what the standard deviation is. I was like, "Oh my God." I remember hiding it, being really embarrassed and not telling people. I was, "Oh my God. That 96 was me." Or whatever it was. Just because I loved the subject, but in order to get that 96 percent, I sat up close, I sat in the front row or the front two rows. I had a tape recorder; we'd get our PowerPoints. This was in 2002—yeah, 2002—so it was all PowerPoint-based. Print out the PowerPoints. I would write the time on the recorder for every slide. It was the first one starts at zero, the second one starts at two minutes, and I would

write my notes down. Then I would go to the library or go to my dorm, and I would write. I would re-listen to the lecture, which would take about twice as long, write out detailed notes. I would highlight those notes and type those notes out. Then I would go through the book, and I would highlight the books, highlight the chapters that we were supposed to read, type those notes out, highlight those. Then I have two sets of typed notes. Then I would combine them. Then I would make flash cards from the typed notes. It was ridiculous, but it was just because I really enjoyed learning.

MARTUCCI: That's amazing.

DIEDRICH: But it was also one of those things where it was just because I had to. I had to. I learned early on that I had to study more than the average person. So then I think that like, then that 96 percent, I remember thinking, I studied forty or fifty hours for this **<T: 15 min>** test over the course of a few weeks or a month, I don't know. I remember two things specifically. One was I remember that an acquaintance of mine was complaining to me that I didn't study the day before. Remember my stupid rule, don't study the day before? He's like, "I studied all night for this test, and you got an A on it, and I got a C or a D or something."

I was like, "Yeah, well, I studied for forty or fifty hours. I studied for this class at least four days a week for the last five weeks or four weeks or whatever it was." I was studying almost every day. Realizing I don't like this jealousy thing; this is weird. Then I didn't want to talk about grades with people.

But another thing, though, is I remember getting that 96 and being like, "Oh, I wonder how many hours the next person studied?" And so then I had to come to the realization that how much other people study doesn't matter. It doesn't matter to me. That's something that a lot of people with learning disabilities, you're constantly comparing yourself to other people. I was incredibly happy. My parents were worried—or my mom mostly was worried—that I was studying too much, and I would run and study. But when I would run, I was hanging out with my friends and also working out. But then I'd also study a lot because I liked it.

My balance definitely was off. I studied most Friday nights. When I went out with my cross-country buddies, who were . . . they got decent grades, but when I went out it was a big deal. It was, "Collin's going out. This is great." Because I just studied and studied, and I just felt I got to the point where I was doing well but I was never really satisfied with my grades. I have a problem with being complacent and so it's, "Well, I got this good grade, okay? That was in the past. When's the next test?" It doesn't matter anymore. It's something that I still struggle with now where it's you get this paper out. That's great but that's in the past. What's the next step?

It's hard because it's I'm constantly moving the goal back, and it's something I even talk to my wife about a lot. She's like "Why aren't you just happy with the things that you're doing?" I am happy, but it's not enough. I need the next thing. I'm fortunate enough where I'm going through having the horrible self-esteem of someone who wets the bed at summer camp to

now where it's I know the things I'm bad at and I know the things that I'm good at to now where it's, "Yeah, I said that I wanted this thing and this thing came but I don't want to settle for that. I want this next thing."

Everything keeps getting pushed back. It works for me, but I think I learned that in college. Because it was like, I got this 96, but oh my God, now I need to get the next highest grade in the class again, and I don't think I ever got the highest grade again.

But I did well, and I think I got an A in that class, but it was then that class made me feel . . . really like biology, and I was thinking, maybe I want to be a clinician. So then there was a class sophomore year that was a weed-out class for the premed students and the cell[ular] molecular biology students, so the students with . . . getting biology degrees. They were, "Oh my God. This class is so hard." People kept complaining about it, and I was, "All right. I'll take it."

I literally took it because people were saying it was hard, and I just like, "I'll take that challenge." It wasn't necessarily, "I want to get into research." It was a research-based course, but it was literally, "Oh, people think this is a really hard class." I was like, "All right. Sign me up. I'll do it."

I'm really glad I did. That was my sophomore year when I changed or I added a major or something. I was premed for a little bit—maybe not—and then changed it strictly to a research-based, getting a degree in cellular molecular biology and wanting to go to grad school.

WATERS: Can I ask a question? Previously, you mentioned starting medication in college. Is there a reason that you weren't on medication during high school or previously?

DIEDRICH: Yeah. It was a lack of knowledge, honestly, about what the treatments are. Also, I probably didn't want to take anything, and I was able to get decent grades without it. Then I didn't think that it was necessary. It wasn't until I took two classes at a community college in St. Louis **<T: 20 min>** before my freshman year of college. I took them so I could lessen the load, so if I took six credits, then it was three hours less each semester. That was some advice that one of our good friends, family friends told us.

I took those classes and I also started taking the Ritalin—it was Ritalin at that time—and I would take it in the morning and in the afternoon. Then that was college is going to be so much harder; this is why I need to take the medication. I think I was really fortunate because the work ethic that I developed over the years with the help of Kathy, with the help of my parents and family and friends and everybody, because I can't take credit for any of the things that I do. But with all that, that was developed without medication, so when I had the medication too, then that's when I was able to just really study and just really non-stop studying.

But it never bothered me. I always enjoyed studying, and I always enjoyed learning, and I had a hard time understanding when people wouldn't, or when people would study just a few days before a test. And I was like, "Why would you wait? Why wouldn't you read that chapter a week ago when you were supposed to?" It didn't even occur to me. Yeah, so anyway, so that was it.

MARTUCCI: Was there anything in particular about that biology class that you took that made you fall in love with it, or do you think it was because you were able to devote so much attention and time to it that you fell in love with it through the work? I'm just interested in what it was that drew you into this career path because going into research science is not something that most people do.

DIEDRICH: It's a few things. One is I forget the degree that I was . . . I think the degree I went for was pre-physical therapy degree. When I first went there, the one pre-physical therapy class that I was taking for your first semester because mostly it's electives was this health course that I hated. And I hated it because I worked really hard on it, and I could tell that when I worked for hours on an essay or something. I'm like, "This is about health and health policy, or whatever it was." I can't totally remember. I remember the professor just giving, oh, check, turned it in, turned it in, didn't read it. I could tell that she didn't read it. It was just the random dot, dot, dot on it.

Then it put a really bad taste in my mouth, and I was like, "If you're a teacher and you are administering a test or if you have an assignment, you should read it, especially if I've been working hard on it." Then that sullied my experience a little bit. But then, so while that was happening, I was taking the biology class, and I was doing well. It was just general biology, but maybe it was . . . it wasn't organismal biology. But it's just, I don't know, what I find so fascinating about biology, and this is what initially started this career path is that biology basically explains what is going on inside a person and what is going on, why things are the way that they are just generally.

It's not like physics because there's a lot of things you can't see and we don't totally understand, and all these weird theories, and there's still all those theories. But also our body is made up of a lot of cells and we don't understand a lot of things. As we dove more into this is what cells do, and it's, "How do cells know to do this?" It's like, "This is what a phenotype is, this is what a genotype is." Right? Just the random nucleotides in DNA [deoxyribonucleic acid] and RNA [ribonucleic acid] and the phenotype is what it expresses. Then there's this connection here but there's also a disconnect because there's environment that helps people, or changes how people are, what those phenotypes are. There's genetics that are based on this, and so it was just fascinating.

Then there were a lot of questions that were asked that weren't totally understood, that we didn't know. And this is one of the first times that I realized that it's okay to not know something. The more that I've learned over the years and even in my area of research in . . .

<T: 25 min> the more you know, the more you don't know. It's in biology I feel I started to get the first taste of that, and the professor—he was a geneticist—and so he spent a lot of time talking about genes.

It was just really cool, and I remember even learning about how DNA . . . or how replication happens and how DNA unwinds and how there's proteins that do all these very specific things. It was just such a cool representation of how the body works and how everything needs to work appropriately in order for the whole organism to develop appropriately and be normal or just grow up. When something bad happens, you can develop cancer. You develop cancer because of a mistake in a gene, and one mistake can override these protections that these enzymes have. Then a lot of that just general stuff. It was more on the organism side that I was just fascinated with.

I also was taking a psychology class, and I loved that because it was just about people and how people think, and so that was why . . . those two classes, when I was, "Maybe I want to go be a clinician." So yeah, I think that I was studying so much, but I had these two classes that I really liked—the biology one mostly—and just how things, how people work was just really cool. It was easy studying that much for it.

MARTUCCI: At what point did you decide, "Okay, I'm going to set my sights on a research career?"

DIEDRICH: That would have been after . . . so I took organismal biology, which was my sophomore year, and that was that weed-out college course. That was . . . something—what was it? That was you would design experiments, we'd have a project that was what percentage of alcohol makes beets—cut-up beets—change color the most? It has a higher alcohol content; it's one of those studies. We had to write out a report to do that. Or how does water diffuse when you put it in a bag and there's a bunch of pores in the bag that are really small, but it's saltwater versus fresh water? Okay, so water adds [os]molarity works, water travels to the most concentrated place.

There was a lot of these really simple—I want to say really simple—but delicate, just interesting, not even interesting questions, but you could answer those questions. And say like, "Wait, why did this group over here get this percentage of alcohol in changing the beets' color, and why did we not?" It's like, well, we cut our beets in different . . . with different sizes or something, and we would learn about the cross-sectional area. We'd learn about pores and how water transfers within an organism. There was a clear application for all the experiments that we were doing. That class I studied a lot for, and I was using the same study techniques but it was more. I was studying more for that class than anything else because I just liked it so much.

I did real well in that class and one of the professors that was running that class, his name was Eric Stabenau. Eric Stabenau, he had an animal physiology lab, and I asked if I could join it. It was the second semester of my sophomore year. He had a few projects that were

ongoing at that time, and the project that I joined was looking at . . . I think at least my senior year project, I looked at changes in [neuronal] mitochondrial oxygen consumption within the brains of fisher rat that were given cocaine, hydrochloric acid in a hypoxic environment. Let me break this down for you about how stupid this project was, but—not stupid—how there were just so many variables about this project. But it was a great research experience. It was a research experiment where we were working with animals and we were giving them . . . we bought—well, not we—my boss bought cocaine, HCL [hydrogen chloride] from Fisher [Scientific International Inc.].

It was always locked in locked key, but we would measure it out, give it to these animals, measure **<T: 30 min>** their mitochondrial oxygen consumption after we homogenized their brains. The rats were not very happy with us. That was one thing that was always really hard is the animal research aspect of it. But I always thought, though, that this is helping answer a question, but what question did we answer? Nothing really, but essentially, what it did was it allowed us to—or allowed me—to really fall in love with science and really wanted to go into research. Then it was that year where I was like, "I want to research HIV [human immunodeficiency virus]." Then I had this goal of doing HIV research in sub-Saharan Africa because I'd like to do HIV research—whatever that is—but in sub-Saharan Africa. That was 2004, I think, or 2003, when I came . . . when I started thinking this.

I was writing all my goals down at that time, too, and so yeah, it really just solidified everything that I wanted to do, and so then I started spending more and more time in this research lab over the next few years. We were working on these projects. I became good friends with a handful of students that were in the lab and in a lot of these biology classes. There was a lot of overlap between cross-country runners and biology too. It's mostly the women cross-country runners though. There were a lot of people that I really liked in it, and I just loved biology. I started reading more about HIV. I even picked up the book what was it? I think it was called *Invisible People*.[3]

I don't buy books very much, and it was just about how the US Government had had a really good chance to dampen the HIV epidemic. This is right when it was becoming known in the early-eighties and how because the majority of transmission cases—especially early on—were through sex. It was hard to even talk about that with a more conservative government, and so how it was just kind of, "Let's not deal with this."

Then it was one thing where it was . . . they could have made policies that might have been able to help give aid to certain areas. Yeah, that was one thing where it was my first taste of—or first inkling of—what policy the government does, that can affect people, not even just . . . it can affect people that aren't even Americans. What can you do to help? Then that's when I started just really obsessing over it and being, "All right. Well, I want to be this HIV researcher. I want to do something great." Which that has changed, but it was nice, it was definitely really motivating at least going through college.

[3] Greg Behrman, *The Invisible People: How the US Has Slept through the Global AIDS Pandemic, the Greatest Humanitarian Catastrophe of Our Time* (New York: Free Press, 2004).

MARTUCCI: Was there a professor working on HIV stuff at Bradley?

DIEDRICH: Not at Bradley, no. I just really wanted to. And when I started applying to graduate schools, which was a horrible experience, I started looking at what they were doing or which colleges have good HIV programs. That was . . . I applied to Pitt. I wasn't planning on applying to Pitt, but I applied to seven schools and then it was . . . then one day I just was randomly looking up HIV researchers and there were a lot at Pitt. I was, "I guess I could apply." I sent in fifty-dollar application fee or whatever it was and applied. But it was one of those, "I'm definitely getting into these other schools." I got rejected from every other school. It was horrible; it was horrible. And I was just thankful that I did apply to Pitt. Yeah, anyway, yeah.

MARTUCCI: When you were in college and you're, sort of, getting your footing in the biology world and thinking about going into research, was there ever a person or a moment when you thought this is . . . or someone said, maybe you should think twice about going down this path with meeting your . . . ?

DIEDRICH: Yeah, totally.

MARTUCCI: Learning disabilities or whatever.

DIEDRICH: Yeah.

MARTUCCI: That you felt like, you know . . .

DIEDRICH: Oh, yeah, totally. I was really fortunate that I was surrounded by a lot of really positive people and people that didn't care that I had learning disabilities. That's how I approach it. **<T: 35 min>** I want to be, "Well, the reason I do this poorly is because of a learning disability." And I want someone's response to be, "Okay I don't care. Fine. Literally has nothing to do with me." That's the reaction I prefer. For years I was trying to overcompensate. And so the reason that I was studying so much and trying to get the best grade in the class, which I did a handful of times, was to prove to everybody else that I could do it. Mostly to prove to myself.

It wasn't good enough, even in that organismal biology class, that the class made me fall in love with research. It wasn't good enough just to get an A in the class, which it was really hard to get an A in, but it was one of those I want to get the best grade in this class. Studying it,

I might have—I don't remember—but I remember getting a high A in it, but it was because that class I studied probably two times as much as I would study for my biology class. I was doing . . . it was non-stop, but it was just because I was . . . I feel imposter complex. A lot of it was just internal, where it was like, "Oh, well, they're going to figure out that you don't deserve to be here, or that you're really stupid." And so if I get a bad grade, then they're going to say I'm stupid, and so that was a really big driving force. And so I think that the biggest critic was myself.

Beyond . . . so in college, I was pretty fortunate. Nothing rings a bell with "Why would you do this?" beyond random conversations with people whether it was people in my family or people like friends. They'd be, "Wait, science has a lot of reading. Why would you want to do that?" It was mostly that. I'm like, "That is a logical question. You're bad at reading then why would you want to do a career or follow a career that requires you to read a lot?"

I'm going to jump ahead a little bit just with . . . it wasn't until graduate school, and we'll talk a lot more about this in detail. But that I failed an oral comprehensive exam. That is, you write a thesis proposal your second year of grad school, so this would have been 2007, and it's the research you want to do over your next four years of school or five years of school. Then that gets passed or failed. You orally defend that a few weeks or a month after.

What happened, I took my oral defense, and I failed it, and we can talk more about why I failed it later, but I failed it, and it was horrible because if you fail it twice, you get kicked out of school. You get a terminal master's, which is just the most arrogant . . . that's the most arrogant thing a PhD program could do. We'll just give you a master's, which is not a very good . . . that's not very cool. A master's still is important. I failed that and I deserved to fail; it wasn't I was treated poorly. I went to the head of disability resources here, and she's not here anymore so I feel more comfortable saying this—at Pitt. One thing she said to me was . . . she was, "Well, you failed this." She [said], "Would you think about going into business or something?"

And it was something like that. I was, "Errrr, what?" I was like, what? I was like, no. I was taken aback by it, but you get used to it when you have learning disabilities, people saying stuff that. I was like, "No, I don't want to. If I wanted to go into business, I would have gone into the business school."

She was like, okay. I was like, "Look, I want to do this." To her credit, she literally suggested it even though I wasn't pleased with her suggesting it. Immediately when I was, "No, no, no. I didn't go to the business school. I want to do this," she [said], okay. Then we worked on a plan to help me pass my comps.

But so that's something that happened to me and then happened to one of my other friends who had learning disabilities. This is a few years later when she was diagnosed here. The same thing happened but she didn't fail her comps, but she got diagnosed and went to this head person, and this head person said, "Are you sure you want to do this?" Which, I guess, if you're too sensitive to answer, "Yes, I'm sure I want to do this, then maybe I am a liberal

snowflake." But look, it was one of those things where it was, God, we deal with this stuff so much. Just support. To be fair, Pitt's been great about supporting and doing that. But so there were those handful of times that that happened.

There were times too in interviews because I did really bad on my GRE, and I was in the in the thirteenth percentile in reading and fourteenth percentile or sixteenth percentile in math. But it was really, it was way . . . I am sure I got the lowest matriculating student GRE at Pitt. Something that was happening here was, or when I was interviewing at schools, I interviewed here, and I interviewed at University of Chicago. With my learning disability I was like, "I'm just going to be upfront about it." Then I realized that that probably wasn't the right thing to do, just because of the stigmas associated with it. I ended up getting rejected from the University of Chicago, and a part of me was, so you go back, and you check all the . . . you're like, "Wait, why did I get rejected?" The interview went so well, and I did all this, and I was, "Yeah, I kept talking about my learning disabilities." Then you start questioning things whether that had anything to do with it or not. Then I, kind of, regressed and was, "I'm not going to talk to people about my learning disabilities when I go to grad school."

Yeah, so just beyond those few people and beyond the director of special services or whatever at . . . in my high school, middle school, there hadn't been a ton of people that have been very negative to me. Or I feel I've been able to surround myself with people that have been pretty positive with it, and in the scientific community it helps out because it doesn't matter as much where it's, "Oh, you have this? Okay. Yeah, that's fine." But I realize that's, kind of, a unique experience.

MARTUCCI: Were there any professors in your undergraduate experience who were particularly supportive or who encouraged you to pursue research?

DIEDRICH: Yeah, Eric Stabenau. He was the professor that I did my research with, and he was really supportive, and he was one of those professors that we would just joke around with . . . and "we" is in there's a few of us that joined his lab. It was—I don't know—the first time that I felt friendly with a professor. He was great and very knowledgeable. We were doing these projects, and he was able to have us ask a specific question, and he was able to encourage us and expect a lot of from us. He was a pretty tough teacher, but that was really helpful. There was another professor, Al [Albert James] Mackrell. He was the cellular molecular biology teacher.

And one thing that he did in his classes, which was great was he would put in up-to-date literature for the topics that we would discuss. It was the amount of detail that was put into each of these lectures was way more than necessary, but it was really interesting, though, because I remember other professors being like, "I don't know why Al does this." But to us, it was, yeah, it doesn't matter that the subunit of its enzyme that snips DNA, that he found research to show that this enzyme is different than we thought. But it was he was showing us how science changes non-stop and how we keep adding to it. Textbooks are wonderful. People give textbooks a bad rap, but they're great. They give you a great foundation, but textbooks teach

things as they should as this is how this is, this is how this is. But as you get more, as you dive more, in more depth of a specific topic, you learn that nothing is one or zero; there's so much stuff in between. That was really cool with him.

I also had one of my favorite classes I ever took—this is to date—was, God, it was Central American History. It was the first time . . . this was my moment of being a student and being like, "Did my teachers in high school lie to me?" It was one of those moments where I just had no idea. This professor was this older lady, she was super tough, like really just . . . she was just one of those standard like, "Who had a mean teacher?" A mean teacher is like an older lady, just like . . . just very skinny, like I'm sure she wanted to walk around with a ruler or something. She . . . I don't think she was mean, but that was just the no BS [bullshit]. I remember taking that class and thinking and being like, "Wait a minute, why would the government—the US government—support this dictator in this country? That doesn't make sense because we want to spread democracy, lady." And she was just like, nope. It was really interesting, and it was just about **<T: 45 min>** some . . . I remember some train in Honduras that the US government was, "We need to fund this certain thing" and how this other person trying to control this other . . . the person that controls the one railroad, whether it was Honduras or some other Central American country. It was how they need to back this other dictator to actually get this thing, and how it was . . . there was a lot of stuff that was happening behind the scenes that we just never learned. That was really, really cool.

I studied really hard for that class, and I got a B, and I am incredibly proud of that B, and it was all essay tests. I was like, "I don't know if I can get an A in this class," which was—I don't know—I definitely didn't get As in my all my classes, but I definitely was like "This is Central American history class; this is going to be super easy." It wasn't. But I loved it because I definitely learned a lot. I think with her being, "You can't really believe everything that you hear, you need to dive in to say, to learn more about . . . don't take facts at their face value."

Then with Eric Stabenau, with doing actual research with Al Mackrell, who was able to give us up-to-date information that was completely unnecessary, but it was like, "This subunit of this protein is not what people say in the book." That was, kind of, cool, and I feel with a lot of these professors, there's a handful of other ones that I just thought were really . . . that were just really great. They shaped my career—definitely.

WATERS: Were all of your professors aware that you have a learning disability?

DIEDRICH: Yeah, yeah. One thing that was really cool about Bradley is that Bradley forced—and I used "forced" as a good term, not as a [negative one], which it normally is—but it forced the students with learning disabilities to give . . . you meet with a representative from the disability office, you get a letter that says, "I have learning disabilities and these are my accommodations." They forced you to give that letter to the professor of your classes. This was important because the thing that . . . the most important thing that people with learning disabilities and disabilities in general is that you need to learn how to self-advocate. You need to

say, “Look, this is something that I’m good at, this is something that I can do, this is something I can’t do.” What that does is that opens, that starts a dialogue.

I remember this employee there, and I can’t remember who it was, but she specifically said, “We require our students to talk to the professors and so this opens that dialogue, so it won’t be hard when you do it the next time.” All of the professors, they all had—and to date, they still do—they all have a sentence saying like, “Following ADA requirements, if anyone has any disabilities, please talk to me.” I felt like people were really open, the professors were always very open about learning disabilities, and I was always very open to talk to them.

But that was another thing where I’m like, “Oh, I’m giving you this, and I have learning disabilities. And I was like, “Oh, I bet you think I’m stupid, so now I need to get a good grade in this class.” And so there was a lot of stuff that that really forced me to study more. I liked learning but also I didn’t want people to think I was stupid, and that was very important to me.

MARTUCCI: You mentioned that Bradley was, sort of, known for having good disability resources?

DIEDRICH: Yeah.

MARTUCCI: Were there other students around that also had disabilities that you—

DIEDRICH: There were . . . I prefer to study by myself and so I don’t know. I don’t think I got close to anyone with learning disabilities there. Something that was interesting with Bradley is that Bradley gave—and this is at the time—so Bradley University they gave two hours of free tutoring to all their students. It was for tutoring in the learning center or whatever it was. If you were an athlete there, you got free unlimited tutoring, okay? My freshman year there, so this is going from me, I’ve been going to tutors from first to third grade, then the same tutor from third grade to twelfth grade, right? I’m a professional tutored student.

I remember I was taking calculus, which I was horrible at. I studied, or I went to a tutor four hours a week for that. Then there was one **<T: 50 min>** other class—God, what was it? I don’t think it was biology; maybe it was literature. There were two classes; it was calculus. I don’t know if I got tutored for biology. I can’t remember the other class [general chemistry], but these two classes, I was studying for six hours a week with a specific tutor, because math just does not . . . I will not figure out what the slope of this line is or anything beyond the slope, or it just does not come naturally. I literally need someone to walk me through every step.

I was seeing this tutor—or these tutors—privately or whatever. The school was paying for it, and they’re paying seven dollars an hour or eight dollars an hour, whatever it was. The athletic director sent a nasty e-mail to me and cc’d my coach and said, “Collin, why are you

going to six hours of tutoring a week? There is a group math tutor at one of the times that you went; you should be going to group tutor." They were like, "You're taking advantage of the system."

Then I was like, "What? [. . .] This is ridiculous." And also because . . . I called my . . . I wish I called or e-mailed my coach, and I was like, "Dave, this is ridiculous. We get free tutoring, and they're telling me that I can't take free tutoring?" And I was like, "This is not—"

He was, "You just deal with it. It's fine; it's whatever you want to do."

Then I told the athletic director, and this is self-advocacy, I don't want to go. I was like look, "I'm an athlete. I'm a bad athlete, but I still am an athlete. And you offer, Bradley offers this free tutoring. I'm going to continue taking it."

Then he couldn't stop me. Like what? They don't want to spend . . . they're literally spending four hours' worth, because two hours is covered by Bradley, so four hours' worth so twenty some odd . . . twenty-eight odd bucks . . . a week for me. In that calculus class, I went from a C to an A in the class, like an A-, I think, and it was only because of these tutors.

It was really . . . it was hard. I went to office hours with the professor, and I was doing everything right, but there's always situations that where, especially where people think, "Oh well, if you're not failing, if you're not doing something poorly, then you don't need help." That shouldn't be the standard; maybe the help is why I'm not doing poorly. That there's a lot of that stuff that goes on with people with disabilities.

MARTUCCI: Did the athletic director know that you had learning disabilities?

DIEDRICH: I don't . . . probably not, because it's not . . . it's definitely not public. I might have said it. I've gotten way more comfortable talking about my learning disabilities now than I was then. I was open about it to the point where I would screw something up and I'd be like, "I have learning disabilities." My friends would be, "Collin, shut up. That is not it." I'd be, "All right, but that was just as a joke." But, yes, I don't know if I mentioned it. I might have when I was . . . because this is when I was in my angsty phase, I might have been, "I have learning disabilities, and I get this and I deserve this. I pay your salary." No, I don't think I ever said that. It was nice that my coach was fine with me taking more time. Also, I felt because I was getting good grades, that helped me out with being on the team because I raised the overall GPA of the team some.

MARTUCCI: Do you have any follow-up questions? Okay. I'm going to call it a day, Collin.

DIEDRICH: Okay.

[END OF AUDIO, FILE 1.2]

[END OF INTERVIEW]

INTERVIEWEE: **Collin R. Diedrich**

INTERVIEWERS: **Jessica Martucci**
Gregory S. Waters

LOCATION: **University of Pittsburgh**
Pittsburgh, Pennsylvania

DATE: **22 June 2017**

MARTUCCI: I'm Jessica Martucci. I'm here for part two of our interview with Collin Diedrich, and it's June 22, 2017. Collin, when we were talking the other day, we were talking about some of your experiences preparing to go into graduate school. In fact, you had talked about your experience not passing your first oral exam actually now that I'm thinking about it.

DIEDRICH: Yeah, yeah.

MARTUCCI: I think that's where we left off. You told a story about going to the student learning services at that point?

DIEDRICH: Yeah.

MARTUCCI: Okay, so we'll pick up there.

DIEDRICH: Okay.

MARTUCCI: What happened after you didn't pass your comps the first time? You went to learning services?

DIEDRICH: Yeah, well, it's important to say that . . . I don't know if last time I described exactly what the comprehensive exam is and how it works.

MARTUCCI: I don't think you did. Yeah, do you want to go into it?

DIEDRICH: Yeah, just to, kind of, paint the scene. The way the comprehensive exams work at the University of Pittsburgh in the specific program that I was in—and it's very similar in a lot of PhD programs in the states—but there is a two-part exam. And at Pitt, it takes place at the end of your second year—or during your second year—and essentially, it is in the two parts. The first part is a thesis proposal, and so you write a thesis proposal that describes the experiments that you think you're going to do over your career as a PhD student. You write that in the form of . . . essentially, it's the form of an NIH [National Institutes of Health] grant but it's a truncated version and obviously not held to the same standard.

But still very difficult and there's a ton of writing that happens. You're not allowed to talk to your PI, so that's your primary investigator, or the boss of the lab. And you're not allowed talk to any faculty members about it. But you are allowed to talk to other graduate students and postdocs, and so they're the ones that really help you out with writing it. Then you start looking at old grants and their old theses, and so then you try to put together a proposal that works. I wrote it, and it was really, really difficult for me, and there was one graduate student that was really, really helpful. It surprised me because we weren't close in the lab; we were friendly—it was fine—but she was just incredibly helpful and always was a really good writer and always gave me really, really helpful comments in my proposal.

That's really important, especially when you have learning disabilities, to find someone—hopefully you can—that can be really help . . . that can go out of their way and doesn't mind, and they don't mind helping you. Anyway, so through the help with this graduate student and these other people in the lab, I wrote the proposal and submitted that, and you submit it to a committee of three people. There are PIs of different labs. They have some knowledge of the area that you're writing in. That written proposal passed, and so that was really exciting. After it passes, you basically have between a week and a month to prepare for your oral exam. The oral exam, essentially, is a defense of the thesis.

It is—I don't remember how long it is—but it might be three hours of time or two hours of time where you stand in a room like this, and there's a blackboard or a whiteboard and you answer questions that they have about the thesis. They can range from anything about just general knowledge of the topic, so my topic was HIV-TB [tuberculosis] co-infection. It could be like, "How does HIV affect the cell?" to "What drugs are used in TB?" to "How many people are infected?" to "What experiment are you doing, and why are you doing this?" And so, it's incredibly broad. In that first defense, I just completely bombed it. I failed it, and I deserved to fail it.

I was obsessed with learning the names of the authors in papers because I think that **<T: 05 min>** I was always impressed with the people in my lab that could say, "Oh, the Reynolds paper," "Oh, the Schmidt paper." They could list off all of these papers, and they knew the exact experiments. I really tried hard to learn all those minute details of the literature, which is something that's very difficult for me. I also studied parts of HIV literature and TB literature that had nothing to do with my research because I was like, "They might ask me mechanistic questions on how a protein enters TB, which has nothing to do with my research." I remember

taking notes and notes on this, and, anyway, I studied completely wrong, and it showed, and it was a horrible, horrible experience.

After I failed, I ended up talking to the head of the committee, and he was really nice about it. One thing that he told me that still sticks with me today is he was like, "Collin, when you're describing a paper, and you know all these details of the paper, you're describing the experiments that they did," which those things are easy for me to remember, or they're easier for me to remember. "You're then saying oh, and you're stumbling and stuttering trying to figure out who the author was."

He was like, "The author doesn't matter. As soon as you do that, it makes us think that you don't know what's in the paper."

And I was like, "Oh, but I do know," and I could draw the figures.

He was like, "This is just how it looks." I think that was really eye-opening. I met with him and other things that came up in that meeting where I tried to answer questions really quickly because I thought dead space was bad. That specifically is something that's really hard for me to do. I need some more time to process this. After meeting with this professor, I decided, "Okay, well, I need to go to the Disability Resource Center, and talk to them about it and see if there's other techniques that I could use or implement and see if other people have had similar experiences."

I made an appointment with the Disability Resource Office. I met with the director at the time, and she gave me a bunch of good advice. One thing, though, that took me back . . . I was taken back by a little bit was at some point in our dialogue about what happened during this test, she told me . . . she said something like, "Oh, well, there is a lot of reading being a scientist. Would you rather go into business?"

And I was taken aback. I was like, "One, rude." But to her credit, as soon as I was like, "Well, no, if I wanted to go into business, I would have gone into the business school. I want to be a scientist." To her credit, she said . . . she immediately was like, "Okay, fine, then let's figure out what to do."

But I think it's important to note that, that even people who are really helpful to you, sometimes they can say things that you can take either way. You can take it, "You don't think I can do it." Or you can take it—which I think was the way that she meant it—was, "This is going to be a lot of work. Are you prepared to do it?"

I was like, "Of course I am." But it's easy when you're on the cusp of . . . when you have learning disabilities and you're on the cusp of feeling good or feeling horrible about yourself, it's real easy to get knocked in either direction. That's something that I think happens a lot.

And anyway, so she helped me, she just talked this over and she told me . . . she said, "Why don't you meet with all the professors and get their advice on what you can do better?" Which I think is really, of course . . . that's always a really good idea. And then she's like, "You don't have to answer questions immediately" because of my processing issues. She also said, "In order to give yourself extra time when you're answering questions, take a breath, or stand up there with a piece of paper. Then when they ask a question, write it down, and say something. Write down just a few key points and then cover it to help you answer questions; that'll give you time to collect your thoughts."

I ended up taking all of that to heart, **<T: 10 min>** and there was about a month's period of time after I failed my comps where I just was really sad and miserable. It was pretty horrible. I didn't think that I was going . . . I definitely questioned whether I should actually be in graduate school. I questioned whether I was going to pass it, and I even thought, had those fleeting feelings of, "If I don't try, then at least I'll get kicked out." And I'll be like, "I didn't try so maybe I could have." You know? You try to justify your bad feelings. Then I started to get really pissed off at myself or feeling so bad about myself.

After a month . . . it was about a month, I was like, "If they're going to kick me out, then they're going to kick me out of school with me kicking and screaming. I would rather fail out trying as hard as I can." Because I was imagining myself five years from then being like, "I got kicked out of school, and I didn't try." I [thought], "I don't think I could deal with that." I started studying a lot, and I was like, "I'm just going to study my own way and study the things that I find interesting." I had a bunch of notes, and I organized everything really well and just studied pretty much nonstop for . . . it was either another month or two—I can't really remember.

I ended up passing, so I did well in my second oral exam, which was great, and I used the same techniques that the director suggested, which was really wonderful. But the best part about that was that I was able to write . . . I wrote a review about my research topic based on all the notes that I made for . . . during that two-month period of time.[4] It was basically, "There's some dogma in the HIV-TB immunology world literature, and people are saying one thing is happening, they're right but where's the data that actually shows that those things are happening?" It is literally that review article that my boss and I wrote. I feel that's the thing that I'm most proud of with my research. Even today. It's a well-cited review article, and it's basically, this is the stuff that I really, really like, and these are the things that I question in the literature. Also, when I think about that review article, I also think. "Wow. This came from me feeling horrible about myself and just being like, 'All right, Collin, you need to study the way that's best for you, and don't try to overdo it. Just try to focus on the things that you're interested in.'" So then that's why I just feel the best about that article, or that review article.

[4] Collin R. Diedrich and JoAnne L. Flynn, "HIV-1/Mycobacterium tuberculosiscoinfection immunology: how does HIV-1 exacerbate tuberculosis?," *Infection and Immunity* 79, no. 4 (2011): 1407–1417.

Yeah, that was around that time of . . . in graduate school when I was questioning things and feeling pretty bad about myself. But it definitely helped out after I passed. I still questioned myself, but at least it was more sparingly.

MARTUCCI: Great. Can we take a break, please?

[END OF AUDIO, FILE 2.1]

MARTUCCI: One follow-up question about that story. Did your committee know that you had a learning disability? Was that something that they knew about?

DIEDRICH: Yeah, that's a really good question. My first committee, I didn't want to tell them because even though I was in a disability . . . I got accommodations in my classes, I didn't want to tell the . . . my first committee. What I did after I failed it, a new committee formed, and the one person on the committee stays on. That was the person that I was talking to before about it, and his name is Dr. Nau. One thing that the director the Disability Resources Office suggested was she was like, "If you need to take more time to answer questions, just tell your committee, let them know." And she was like, "It'll be fine, they won't care, and they'll understand why you're taking a breath or jotting a few things down."

I am 90 percent sure that I met with each of the professors before it, and I was like, "I am going to take a little more time, and I'm going to have a pen and paper and I'm going to write down, jot down, a few notes probably before I answer it. It's because I have a processing issue, and this is just going to help me." They were of course totally fine with it. I guess not of course, but they were fine with it, or they appeared to be fine with it.

MARTUCCI: You got through this particularly challenging time in your graduate career, and after that, were there any, sort of, notable bumps in finishing your thesis? Or did it pretty much—

DIEDRICH: I don't think any PhD thesis is smooth sailing. Some people might be. Yeah, there were a lot of bumps. When you're in a PhD program, your productivity cycles and your attitude towards research can cycle. There's an exhaustion period after your comprehensive exam where I immediately wanted to get back into lab and start doing work, but then I had a few months of just not being productive. But I didn't want to take a week break or something. That was not good. There were other times that just since my writing is fairly slow and at that time it was way slower, especially when I was first learning. That definitely caused not problems, but there were definitely issues there. I always was in lab a lot and I didn't . . . at first, I was under the impression that we needed to spend all our time in lab, just because, literally just

because. There were a lot of times where I would just go into lab even on a winter break, and just go in there and I would be like, "Okay, I have to be here." And I would be watching Hulu or Netflix or something. Maybe this was before Hulu, maybe Netflix. "All right, I need to be here." That's something that it took me a long time to learn that when I'm done with my work I'm going to leave now. But when I was a graduate student, I was like, "I always have to be here."

But if you decide that, you're going to be at work and only do work, then you're way more productive than extending an hour for ten, twelve hours when you could get the same amount of work done in eight or ten hours or whatever. All of that stuff was just learning how to manage my time.

Another thing, though, that was really hard was I think as I was saying earlier, I've always been pretty rambunctious. I'm easily excitable, and I just really like things a lot. I had to figure out even how to deal with working in a lab with other people. When I first joined my lab, it was a very intense place. This is even before my comprehensive exam, and there were some people that I didn't get along with, and it was hard figuring out the right balance because this new kid comes in and is like, "Science **<T: 05 min>** is cool, blah, blah, blah," and is really wild and is like, "This is awesome." That type of stuff, which can definitely rub people the wrong way. I definitely don't . . . I can't take all the—or it was definitely not just other people's issue. It was definitely me. I had to be like, "I can't just lay down on the middle of the floor. I'm not a small child anymore." That type of stuff.

But there was definitely . . . that was really hard. There was one graduate student, and I just did not get along at that time. We would yell at each other. It was not good. But I have to say one thing that's really awesome, though, is that, over the years, and even towards the end of my career as a scientist and stuff, we're friends now. And it's really funny that in 2007, 2008, I would have been like, "I will never be friends with her."

But it was just . . . sometimes people just rub each other the wrong way, and then whatever someone does, whether it's innocent or not, then you get annoyed by it. It was just a huge learning experience. I was like, "All right, well, I can't . . . I'm not doing research in a vacuum. I need to make sure that I'm respectful to other people. I have to make sure that people are respectful to me."

There was definitely a balance that had to happen. It's just really funny now, and we joke about it, and being like, "I remember that time when we really didn't like each other." A lot of that probably happens in just normal everyday work, but as a graduate student, you're a little more stressed, you work a lot of hours. You're working way more than forty hours a week. It can be a really intense environment. That experience also showed me that I want to be a lot more laidback in my research as well.

MARTUCCI: When did you finish up your PhD?

DIEDRICH: In 2012.

MARTUCCI: Then what did you plan to do after that? Did you already have plans—

DIEDRICH: Yeah, yeah.

MARTUCCI: In place for when you finished?

DIEDRICH: Before I finished, I did some interviews. Because my research project in graduate school was helping develop an HIV-TB co-infection model and looking at the immunology of tuberculosis and HIV. We were working with a monkey model at the time and the next logical step for me was moving onto human samples or just to humans, and by samples, I mean tissue samples that are excised from people. Before I graduated, I lined up a postdoc at the University of Cape Town with Robert Wilkinson. I agreed initially to a two-year contract, and then I ended up being there for about three years.

MARTUCCI: This, kind of, brings to mind too . . . I mean, you had talked about when you were going through comps and the resulting review article that you wrote. What were the sort of main questions that you had about this literature on HIV and tuberculosis? Can you tell me more about the scientific inquiry that you were involved in?

DIEDRICH: Yeah, so just some basics about tuberculosis is that . . . so tuberculosis is a bacteria, and most people inhale it, and so it's aerosolized when people cough and stuff. Something really interesting about tuberculosis is that the bacteria can sit in your lungs and go to your lymph nodes, and it sits in your lungs, and your body essentially forms something called a granuloma where these white blood cells—there's a bunch of different types of them—essentially surrounds this bacteria in the sphere of immune cells. What that does is it . . . the granuloma's main function essentially is to kill the bacteria and prevent it from disseminating elsewhere in your body, okay?

Most people that get infected with tuberculosis, the bacteria, their immune responses, it works really well. Their bodies essentially form these nice granulomas, and they never get sick. It's literally about ten percent of the people that get infected end up getting really sick. **<T: 10 min>** The bug or the bacteria itself can start, disseminates a lot, you form a lot of granulomas, the granulomas . . . just because the granuloma forms doesn't necessarily mean your body is killing the bacteria or killing it enough to prevent you from getting sick. When people are infected with HIV, HIV kills certain white blood cells, and a lot of those white blood cells are in that granuloma.

One hypothesis that was made—and it's a very good hypothesis—was that HIV kills these white blood cells, these CD4 T-cells, and CD4 T-cells are really important to granuloma function. We know if we wipe them out—you can remove CD4 T-cells in monkeys and mice and all the animals through different methods—animals get really, really sick. What people were saying was, "The reason people are getting sick is because there's killing of these white blood cells in the granuloma, and it's causing the bacteria to grow."

That was the first inkling, and I was like, "Yeah, that sounds really smart, and that's probably correct as people progress to AIDS and their white blood cells decrease in HIV, they become more susceptible to tuberculosis."

I started to dig and say, "Who showed this in the literature? Who showed that there is this reduction of white blood cells within granulomas?" And there were just a few papers, and I was like, "Oh, well, we're making this assumption based on evidence about what's happening in your blood, what's happening in . . ." There are experiments where you can put saline in people or in people's lungs and pull them out; there's a bunch of white blood cells in them. There's this reduction of these white blood cells in those areas as well. Basically, a lot of researchers were extrapolating from that peripheral evidence—the blood and the saline in your lungs—to what's happening in the granulomas.

From my research and a lot of the research that was happening in the JoAnne Flynn lab where I got my PhD basically showed that there's very little correlation to what happens in your blood to what happens to the saline in your lungs to what happens in the granulomas. Then I was like, "This is all based on peripheral evidence, and so, the review essentially is broken down into a few different subtopics, and it was, 'Okay, so we say this is happening in the granulomas, but we're not . . . honestly, we don't know. I think this is correct, but it's based on this evidence.'" There were also hypotheses about immunologically what the cells are producing. And I had the same comments, "This is what's happening peripherally. Only a few studies have shown contradictory things in the literature that's happening within the granuloma, and that the literature is we as scientists are extrapolating what's happening."

It went through a lot of those things and something that is what is I think really cool—because this is really my passion area—is what's happening in these granulomas. I did, as a postdoc, I wrote with a clinician that I was working with . . . we wrote a systematic review and meta-analysis of the human literature that focused on the human studies that looked at granulomas in co-infected people—co-infected and singularly-infected people.[5] Essentially, what we showed through this systematic review and meta-analysis was that the literature is very contradictory, and it's really easy to bias your interpretations by just citing a few papers that support your point, and you can support it either way.

That was something that I really, really liked doing, but it was a really hard paper to write because it was a systematic review on meta-analysis. We had these specific search terms

[5] Collin R. Diedrich, J. O'Hern, and R.J. Wilkinson, "HIV-1 and the Mycobacterium tuberculosis granuloma: A systematic review and meta-analysis," *Tuberculosis* 98 (2016): 62–76.

that we had to go through, and everything had to be documented—what we were doing. It took a really long time to write, but I really liked it, I felt like it was a nice addition to the first article that I wrote four years before that.

MARTUCCI: In your laboratory research, are you pursuing any one of those questions, or are you pursuing several of them?

DIEDRICH: Yeah, yeah, so—

MARTUCCI: What are you, sort of, seeking to add to that layer of human knowledge about this? **<T: 15 min>**

DIEDRICH: In my first postdoc at University of Cape Town, I wanted to do a study looking at granulomas and saying and demonstrating or identifying some correlations of HIV disease and the phenotypic appearance of granulomas. Because a lot of the samples I was using, they're from lymph nodes, and they were removed from people from diagnostic purposes. Everything was saved in a hospital, and so then I just went to the hospital and was able to get those samples, and it took about a year to get them. That was hard.

But with that work, I essentially was able to get a paper out that looked at different granulomas from people, and I tried to automate the way that I was analyzing things, just to, kind of, reduce my bias because of this meta-analysis I was working on. I was like, "Wow, there's so much bias in this literature, and there's not enough information for people to repeat these certain studies." I was like, "I need to make sure that everything is as straightforward as possible." Then that was something that I was able to do, and I got a paper out focusing on how these granulomas appear different over different . . . as the HIV progresses in co-infected people.[6] As their white blood cells reduce, is there a correlation of a reduction in white blood cells within granulomas themselves? I was able to show that.

Is there a change in some cytokine? Cytokines are basically molecules that are produced to increase inflammation or decrease inflammation that white blood cells produce. I was able to show certain phenotypic changes, and that's just the appearance of them and how they look different. And so, yeah, that was something else that I was real proud of because it was my first paper that I wrote where it was just based on my idea. My PI in Cape Town gave me a lot of leeway in the experiments that I wanted to do. Yeah, that was really fun, and I really enjoyed that, but it was a lot of hard work.

[6] Collin R. Diedrich, Jennifer O'Hern, Maximiliano G. Gutierrez, Nafiesa Allie, Patricia Papier, Graeme Meintjes, Anna K. Coussens, Helen Wainwright, Robert J. Wilkinson, "Relationship between HIV-1 co-infection, IL-10, and M. tuberculosis in human lymph node granulomas," *Journal of Infectious Diseases* 214, no. 49 (2016): 1309–1318.

MARTUCCI: What was it like moving from Pittsburgh to Cape Town?

DIEDRICH: Yeah, it was really hard. I got married maybe six months before that and—

MARTUCCI: What's your wife's name again?

DIEDRICH: My wife's name is Robin Hitchcock, and we've been together since 2008. We moved in 2012. We were just married. In 2011 we got married, and it was . . . one, it was a big sacrifice for her to move as well with me. I was like, "I have my dream job." She was on a spousal visa so she couldn't work, and so that was hard, and—

MARTUCCI: And what does your wife do?

DIEDRICH: She's a legal secretary at a law firm. What was difficult, though, was that . . . so we both move, and it was nice we had the same experience. And so we could help each other through it. But neither of us ever lived abroad and it was . . . honestly, the first six months of being in Cape Town was horrible. I went there as like, "This is going to be the best job ever, I'm so excited, I've literally wanted to do this for . . . since probably 2002. I've wanted to do HIV-specific research in sub-Saharan Africa in a country that . . . where the effect of HIV is the worse." I get there with these really high expectations, and my wife was like, "This will be really good for your career." At the time, too, my wife, she was diagnosed with depression and anxiety. It was hard because it was [. . .] stuff like that . . . it was just **<T: 20 min>** an extra—

MARTUCCI: Before you went?

DIEDRICH: Before we went and so it's something that she still deals with. Then that was something that was hard because it was, "Okay, well, we both need to find clinicians as soon as we get there." I need my medication because I was on Concerta or Ritalin at the time, or Adderall maybe. That helps me focus, and my wife, she needed her anti-depressants or SSRIs [selective serotonin reuptake inhibitor]. Then we had a lot of things we needed to do immediately and so we were able to do that. But the thing that I noticed was that as soon as I got to work, everything was really, really slow. It was much slower than it was as a graduate student.

That's something that's typical as postdocs. When you first start, you're getting your bearings but also the extra hurdle, though, was that I was also getting my bearings living in Cape Town. Cape Town is a great city, but everything was a little different. Once that honeymoon period was over, maybe in a few weeks or in a month, it was, "We can't just keep

doing all the touristy, fun things, and we are living here." That was really hard, and so then I started to really be bumming out. I was really bummed, and I really was hating it honestly. I went through times where I felt like, "I'm not going to be able to do the research that I wanted to." Because I thought that I could be there and get all these granulomas immediately.

But no one was doing that work at that time, so I didn't realize how hard it was. The people I was contacting for it, everything was, kind of, falling through, and it was also hard because my wife had to adjust too. She was at home, and she was trying to meet people. As I'm feeling worse and worse, my wife starts getting . . . her friends have been really involved in improv comedy here in the states, and so she found this group of people in Cape Town. That really made this change that was wonderful, and she also found a wonderful counselor to talk to . . . or therapist to talk to that helped modify some medication as well.

She was starting to feel a lot better, and I am just feeling worse and worse, and I hate it. I remember, and this is one of I feel the saddest memories of being in Cape Town or just the idea of Cape Town was we lived downtown in Cape Town. We had this nice apartment or flat, and there was this window to one of the mountains there, and it was just a beautiful view. It was just really beautiful. I remembered waking up for it must have been months and looking at those mountains and literally, I don't want to curse, but literally just being like, "F these mountains" and just hating them. Being like I can't believe how much I hate this view. It was just really indicative of how I was feeling, and at work, I would go to work and just sit there, and then I would try to kill some time.

I didn't want to do experiments I was doing before because I wanted to get through and do these granulomas and they were really hard to get, and I didn't realize how hard it was. I had a really hard time, I mean, I'm very talkative, but for that first six months, I would just sit in my corner and chat with people a little bit. Then there were times where I was like, I'm going to go for a walk and just leave my stuff at my desk, and just, kind of, go and sit and just wait for an hour. People would think I'm maybe doing something. I'd go back. It was horrible, and so anyway, it was cool that my wife's feeling better and I'm feeling bad, and it's nice when you have someone supportive, and you guys can help each other.

But I remember, so that was . . . we moved in May? Yeah, May, at the end of May in 2012. We were planning a trip back to visit our families in . . . my family in St. Louis and Robin's family in Pennsylvania. We flew back and we saw Robin's family and we hung out there for a few days. It was super awesome; her family is super, is really, really great, and that was awesome. We flew to St. Louis, and I remember, so we were gone for six months maybe. I don't know—however that math works. We flew back for Thanksgiving, so what is it? June, July, August, September, October, November—yeah, six months. I saw my family at **<T: 25 min>** the airport, and I started to cry, and it was one of those things where I was just so happy to see them, and I was just so unhappy there that it was really . . . it was just a huge surprise to them. We talked a little bit about it.

I didn't realize how much it affected me just being so far away and also being there. It was a really difficult time. I have to say, the next six months to a year, things were definitely

getting better, and I was making more progress, so I was feeling a lot better. But there were also times where I would FaceTime with friends and family and just thinking, "I don't know what I'm doing here." There were times where I questioned myself, and I was doing it regularly. There were times too where I fought really hard, and I feel "fought" is the correct word to get the tissue samples that I needed to work with those granulomas.

I had to push so hard and push in such a confident way that I'm going to get this and then I'm going to do these experiments. They're going to be done immediately and all this. Everything is going to be lined up and it's going to be perfect in order to get other people on board. As I was pushing that really hard, my sole focus was to get those tissue samples. I remember my boss sat me down and was like, "All right, we figured out where to get these." My boss was really helpful with that, and I get them, and everything's all set up, and I remember that next morning waking up and having—I wouldn't . . . . I don't know if I would call it a panic attack—but waking up and just being like "What am I doing? I haven't thought about this."

I knew what I was going to do, but I thought that I fought for so long for this one thing and I finally got . . . I'm the dog that caught the car. The car was these samples. I'm like, what am I supposed to do with this? All the experiments I said I was going to do, I knew I could do, but there was definitely a lot of time where you have to work things out. I was just really scared, and that was something where I remember my wife, she was . . . Robin was saying, it was that morning, and I'm literally looking in the mirror and just being, "What? What am I doing?"

She's like, "You're doing this. This is what you said you wanted to do, and you finally got it, and it's going to be hard. It's going to be hard."

There was a slow progression, I really . . . after getting those samples and starting to work on this project, and my wife was feeling really good. She was involved, and she had a bunch of friends there. She's very social, and I'm social at work, but I really [prefer] watching Netflix. That's what I mostly prefer to do. It was really awesome, and I have to say the last year-and-a-half that we were there, it was really wonderful. But there was the horrible six months and then the, well, okay another six months. We got to the point, and this was actually a really nice conclusion to our time in Cape Town, but we got to the point where my experiments were becoming more and more involved, and there were these new projects coming up.

My wife Robin and I were talking about this, and I was like, "If we don't leave soon, I will be here for at least two more years." It was one of those I've been here three years, it'll either be three years or five or six years. My current boss [at Pitt], she got an R01 grant, which is a very good grant to get from the NIH, and she was starting a project that was looking at the co-infection, and it was also back in the monkey model that I was working with, or similar monkey model that I was working with in graduate school. I talked to her about coming back and moving back to Pittsburgh and doing that science again. Yeah, it was cool; it was a really great experience but it definitely there were a lot of times that were horrible and a lot of times that were really hard. So, yeah.

MARTUCCI: And so you never at any point were **<T: 30 min>** like, "Well, maybe we will just live here for a while"?

DIEDRICH: Yeah.

MARTUCCI: Make Cape Town a longer-term home?

DIEDRICH: Initially, I thought, "Well, we could be here for a really long time; we could live here permanently," but that quickly changed and then after things were really good, I was talking about possibly having collaborations with University of Cape Town and the University of Pittsburgh and trying to figure out a way to work at both universities. It's just really complex and difficult to get something like that done, but it definitely was hard. I don't think that for the majority of the time we were there we ever wanted to make it a permanent home or even longer than three years because three years was a really long time.

And it was one of the best experiences of my life, and I think that one of the reasons why it was one of the best was because there was this really hard time at the beginning. My wife and I, we've been together for a really long time, or since 2008. Yeah, so I guess almost ten years. But at that time, we had our first and third anniversary, or first anniversary there—wedding anniversary. One thing that was really nice, though, is that I feel it made us closer because it was either going to be horrible for us or it was going to be great. At the beginning, it was really hard and when I'm unhappy or she's unhappy. We had to figure that out. I'm incredibly thankful that we went there, but I'm really glad it was three years. I was like, "I have no interest in living abroad anymore."

MARTUCCI: Got it. You came back to the University of Pittsburgh in what year?

DIEDRICH: 2015.

MARTUCCI: Okay, and is that . . . that's a time-limited project—three years—or is it, kind of, open-ended?

DIEDRICH: For my current project?

MARTUCCI: Yeah.

DIEDRICH: This was . . . I was currently funded on an R01 that's five years long, and there's two more years on it. But there's a new project that my boss just received funding for that is another five years. I could be here much longer. Yeah, everything in science is time-limited. But yeah, everything's time-limited. If you have funding, then that's great. But I mean, it's hard because it's, "What am I going to do in five years when my grant is up?" If I can get funding or my boss can get funding, that will be wonderful, but if not, then I'm out of luck. That's something that's really difficult as a scientist.

MARTUCCI: And what's your, sort of, vision of the future in terms of what you would to see yourself doing in ten years?

DIEDRICH: My fantasy, literally . . . my fantasy job would be to become an advocate for people with learning disabilities full-time. That would be moving out of sciences—but not totally moving out of sciences—with a specific goal of increasing the disability diversity within sciences. If that means that I would be . . . work on policy—by policy, I mean NIH policy, or state policy, or even working with the universities—increasing knowledge about people with specifically learning disabilities. Because I know a lot more about it and can personally attest to it. Getting more students involved in STEM [Science, Technology, Engineering, and Mathematics] fields, that is something that I would love to do.

The hard part about that is there is not much money in that so you can have all these good intentions but if I can't feed myself then . . . what I think what's probably the most likely is I'll continue doing the disability work that I'm currently doing and writing about it and wanting to get published. Hopefully, I can get this book out and continue giving talks and working with the University of Pittsburgh and other universities. I've been meeting with a lot of people, so doing that and also being a scientist. **<T: 35 min>**

Because I really only have two passions and my first passion is this disability advocacy stuff, and my second passion really is science. I love science, I love the pursuit of knowledge, and I really love the HIV tuberculosis research because you have these two very diverse pathogens. You have a virus and a bacteria, and the bacteria doesn't change very much and the virus changes all the time, and the virus is relatively new—it's a new pathogen to infect people—and the bacteria's been around since . . . they've found mummies with the bacteria in it. You have these diverse things that have just worked together really well to cause a horrible, horrible outcome, which has just killed so many people. HIV is the reason why there was a re-emergence of tuberculosis and so without HIV, tuberculosis might be eradicated or close to it. I love the science of this and also this advocacy stuff. Right now, I'm just trying to be open to these; I'm trying to stay open in both of these areas.

WATERS: Are there other groups that are doing advocacy work you would like to do? Or do you want to start your own organization in a perfect world?

DIEDRICH: Yeah, yeah. Both. Actually—I'm going to—the short answer is both, and there is this really cool organization I'm currently working with, the International Dyslexia Association. It's an international organization, but they have a PA [Pennsylvania] branch and an office here in Pittsburgh, and I was connected to some of those people. I'm currently working with them and been taking a lot of meetings and trying to spread the word about disabilities. They focus on dyslexia. My learning disability, it's a reading disability and so some people call it dyslexia; some people don't. I, kind of, use a more broad term just because in my diagnosis, it never literally said dyslexia, but it's psychiatrist's preference on what they diagnose.

That's something that I really want to do. But if I . . . rewinding a little bit, a little longer answer is when I was at the University of Cape Town, I wrote an article about being a foreigner in . . . being an American working in South Africa on tuberculosis.[7] I wrote this article, and it was published in a blog that this real well-known journal maintains. It was on the tuberculosis day, so this must have been in 2013 or 2014. I can't really remember.

MARTUCCI: What's the blog name or journal name?

DIEDRICH: It's PLOS, so it's Public Library of Sciences, and it was their Speaking of Medicine blog. They have a bunch of journals that are pretty popular. So I write this article, and I got some pretty good feedback and I also got some negative feedback because I talked about some of the complications of working at University of Cape Town and how it's harder to do research there than it is to do it here. After I wrote that article, I decided . . . I was like, "I want to write an article about being a scientist with learning disabilities." I contacted an editor through an editor that I was currently working with.

I wrote that article, and that was definitely in 2014, and that was really well received and it literally . . . the title of it was like, "I'm a Scientist with Learning Disabilities and That's Okay!"[8] I think that's the title of it. What I noticed, though, was that I ended up getting hundreds of emails from people that were in similar experiences or just the system didn't work, and by system—the education system—or they were undiagnosed and they had these issues, or they also had PhDs and they also had learning disabilities. A lot of engineers and scientists. I was really taken aback by that, and honestly, that article was the article that whoever from your organization contacted me because I wrote that.

After I wrote that, I started, kind of, collating all the people that . . . or all of the messages and trying to figure out the biggest issues **<T: 40 min>** people had. I started interviewing a handful of them. I wanted to interview a lot more; it was just too time-

[7] Collin Diedrich, "Gaining Perspective from Performing HIV/M. tuberculosis co-Infection Research in South Africa," *PLoS Speaking of Medicine* (March 2014), http://blogs.plos.org/speakingofmedicine/2014/03/24/gaining-perspective-performing-hivm-tuberculosis-co-infection-research-south-africa/24 March 2014.
[8] Collin Diedrich, "I'm a Scientist with Learning Disabilities and That's Okay!" Huffington Post Blog, June 10, 2014, http://www huffingtonpost.com/collin-diedrich/im-a-scientist-with-learn_b_5517718 html.

consuming. That planted the seed that this is good; actually, people might want to hear my personal story and I might be able to use that to help institute change in the stigma if you have learning disabilities, you're stupid. I don't think that's true. Also helping increase our ability to increase the—what is it?—to increase the disability diversity within scientific fields.

Then when I moved back to Pittsburgh I was like, "I definitely want to pursue this." Through a bunch of different meetings and emailing different schools and contacting people, I eventually got into contact with this International Dyslexia Association. But before that, I must have sent out three or four or five dozen emails to different organizations, different people, and it was one, essentially, failure after another. I was like, "Look, I have this personal story that can be helpful to people. I just want to be able to talk to people and try to help inspire them—people with learning disabilities—and eventually help modify policy. But I need to walk because before I can run."

It wasn't until a few people at this organization contacted me and . . . or I contacted them and then they responded, and we've been talking a lot over the last few months. I want to get more involved in their organization, and I want to learn more about the process, and how to get things done. Because one thing that's really important is changing things within the system itself. I don't think saying, "The education system is terrible, and it's horrible for people with learning disabilities." It can be, but I also think that the more knowledge people have about learning disabilities, the easier it's going to be for people to excel.

MARTUCCI: I have really two last questions for you. One has to do with this theme that has emerged as you've talked about your story, which has come up in a lot of the interviews that we've been doing, which is the struggle between what is, sort of, expected, or not expected maybe, but what is put upon the individual themselves to adapt themselves to the environment that they're in versus changing the environment to better suit a wider diversity of bodies or learning styles or whatever. I mean, it sounds like most of what has allowed you to be successful has been upon your own adapting yourself and changing how you approach learning problems or obstacles.

DIEDRICH: Yeah, yeah.

MARTUCCI: Do you want to speak to that at all?

DIEDRICH: Yeah, yeah, the only way that it really works is finding . . . I can only do so much myself. There are some things that I will always be bad at like reading, even reading emails. I essentially skim them, and it's really hard for me to comprehend all the things that are in them, especially because emails are essentially out of context. They're just short messages, and they're really easy for me to mess up. I have a really hard time even maintaining my schedule where I have to have everything put in my phone. There's a technician [lab manager] that I work with

that is really, really good at all of that organization stuff. It's really nice and we're friends, and she is . . . I will be like, "Tara [Rutledge Kane], what are we supposed to do? What are we doing this week?" Or that, and then I get the run down.

Is it possible for me to do what I'm doing without Tara or without a "Tara"? It is, but it just takes a lot more mental energy, and it can be really exhausting. **<T: 45 min>** Tara was out for maternity leave for maybe a few months, and so that was one thing where I was like, "Okay, now I'm going to have to . . . I have to make sure everything is in the calendar; I have to make sure everything is correct." That was definitely something that definitely took me back, and I was like, "Okay, I need to deal with this." That's a part of me, I guess, adapting how I do things but also saying, "Look, I need help with this." Also with my current boss, she's also really great but in our meetings, she'll send me this is the action plan—these are the things that I expect or that I expect us to get done. That's something that just was really helpful to me. So that is her adapting to me. Even as a graduate student, my committee, when I took that test, they adapted to me saying, "Look, I'm going to need to take a second or two." A second or two isn't a long time, and that's a very reasonable accommodation, but it can feel a lot of time when you're just standing there and you're nervous. That's them adapting to me. When I talk to my bosses, my PIs, my graduate school PI, or even my current one, there were times where I might need a little more time than the average—whatever that means—the average graduate student to explain my research or to describe something new.

I might need to be like, "Okay, I need to go back and re-explain this." That takes patience on my current boss and even my graduate school boss when I first learned those techniques. It's definitely a constant balance. I don't expect everybody . . . I don't want to be coddled, but there are certain things that I'm just really bad at. Even things with . . . I'm looking at [a] box with ninety-six slots in it and each of the slot has a different vial in it and they're all written something. I will be like, "So-and-so, can you find this thing?" It's one of those things where it's if I look at this, it will literally take me ten minutes to find it. Someone else can find it in a minute, and they can quickly scan.

In that light, I talk about my learning disabilities a lot and the way I deal with hard things is I joke about them. But I've learned to actively talk about learning disabilities because I think it's important to increase awareness about them. If people are fortunate like I am, there are a lot of people that will help out in those situations. But I think it's also important to not rely on them, to make them a crutch, something that you actually need.

MARTUCCI: A lot of the things that you just mentioned are, sort of, these moments of maybe for lack of a better term, moments of crisis where you're not able to do enough on your own and so you require that there's someone else there who's in a position of power or something that can also be flexible. But that's still, sort of, limiting. In terms of structural change, that's not really a massive shift, right? That's why I'm saying it depends on individual people and their attitudes, which is something, but it's not a vision of restructuring the way a graduate school training might work. I just wonder if there are things that you've thought about as you're

moving more and more into this advocacy realm about how you could just . . . . I guess along the lines of thinking universal design but with learning . . . for learning disabilities, right?

DIEDRICH: Yeah.

MARTUCCI: How could you imagine maybe one thing that you could change at the structural level about the graduate school experience that would just make it more friendly to everyone and then wouldn't have to be these . . . it wouldn't, sort of, fall on the shoulders of individual mentors or students or—

DIEDRICH: Yeah, and this is probably a bad answer or too abstract of an answer. **<T: 50 min>** The biggest thing is just increasing awareness of learning disabilities and getting rid of that stigma. That just can't just happen at the graduate school level because you have so many people that either are failing out or are refusing to continue on, or are giving up, or are changing majors, or deciding to not go to college because they feel stupid because they can't read well. That is something that I think at least—I don't know—structurally that needs to change overall just in societal terms.

In graduate school, what would help out a lot is in . . . there are some scholarships to increase underrepresented individuals. That includes people with disabilities, but it also includes people of color, Pacific Islanders. There's also a different . . . so there's are some diversity scholarships. I think that a lot of people with learning disabilities don't realize that they are allowed to apply to those things, and so that at least just increasing awareness about that. I contacted NIH about . . . there's a sentence in every grant that NIH writes, and it essentially says something like, "People that are underrepresented in sciences and that includes people of certain races and people with disabilities and people from socioeconomic disadvantaged backgrounds are always encouraged to apply." I was like, "This is great. There should be because things haven't . . . even in science, things aren't leveled off. There are still incredible disparities." But I contacted and it took a long time for me to get a straight answer, but essentially, NIH uses that sentence to spur demographic information. I think that there could be more grants. There are some grants that are specific to people that are underrepresented but that there could be a better push for increasing that.

That's something that I really would like to get involved in. That diversity fellowship that I'm talking about from NIH, that's only for graduate students. That's not for postdocs. A part of me is, "That should also be for postdocs. Things don't magically get leveled off once you get a PhD." That's the mentality NIH has. "Well, now the playing field's level." The playing field is not level. That's some things that would be helpful.

In addition to that, undergraduate schools that are specific for people with learning disabilities would also help out just because it would be a better environment for those students to excel. Then they'd be more comfortable applying for graduate school. But at the graduate

school level, it's going to be really, really difficult beyond being able to put more money in this area and reducing the stigma is really important.

MARTUCCI: One last question that's, sort of, specific to some of the themes that have emerged from some of the other interviews that we've done, which has to do with the kind of technologies or tools that you've discovered or developed on your own over time to adapt to the, sort of, abilities that you have in the environment that you're in, right? So I'm thinking of things that you've mentioned throughout the interview already like recording lectures when you were a student and the interesting . . . you mentioned the Kurzweil 3000 . . .

DIEDRICH: Kurzweil, yeah.

MARTUCCI: **S**oftware, which turns things into PDFs, turns—

DIEDRICH: It's a text-to-speech software.

MARTUCCI: Text-to-speech software.

DIEDRICH: Yeah, yeah.

MARTUCCI: Okay, and then I'm also thinking about the human **<T: 55 min>** support as a kind of social technology, right? That you've had key tutors and people who have been your PIs or your supervisors or whatever who have been particularly helpful?

DIEDRICH: Yeah.

MARTUCCI: Is there anything else that you want to mention?

DIEDRICH: That the technology that helped me . . . just first, technology, the technology that helped me through all my schooling was pretty low-tech because I didn't . . . text-to-speech software wasn't good ten years ago, or at least the ones that I tried. They were terrible, and so it was literally highlighting, typing things up, flashcards, and recording and just listening to those recordings a lot and just putting in the time. That was really necessary. It wasn't until recently when I started taking classes again for the Certificate in Disability Law Studies here at the Pitt

Law School, I discovered the Kurzweil text-to-speech software. There's a lot of text-to-speech software that is really good.

It is amazing; it highlights the individual words; it can highlight the sentences while it's reading. You can put notes in the book that you're reading from. All you have to do essentially when you're at a university or university that is a part of some program—and I don't know what it's called—accessibility program, you buy a hard copy of the book or you buy a Kindle version of the book, they contact the publisher. Then the publisher essentially gives you a PDF of it. Then the PDF is easily readable from the text-to-speech software. That's really awesome.

That was really helpful when I started taking these law school classes because just law is written horribly. It's all jargon. It was really nice being able to pause and rewind, and by rewind, it's like, "Click back two sentences or go forward two sentences." Technology-wise, it's wonderful. There's so much more technology available with something as simple as speech-to-text software. You can do that in Google; you can do that on your computer just depending on how good the microphone is.

There's also a software that is embedded in pens. It was Echo pens, it was called. I've never used it, but it seems really cool technology where there's a record of how you're writing, a record of your notes. That's something that you could use or even if you're a professor is accessibility-friendly, then they could do it and there's a record of everything that they did and when they did it. It records everything audio and how they're writing. It's fairly accurate. So there's a tremendous amount of technology that's helpful. Technology is only as good as the people using it and so you can have all the technology in the world, but you need to be able use it, you need to be trained on it, and you need to be able to use it appropriately.

But the most important thing is at least for me and I'm assuming that for most other people are the people in your life that help you overcome—again, I don't really like overcome—to help you deal with your disabilities and work with them to achieve whatever goal it is that you have. I was incredibly fortunate and I'm still fortunate where my first advocates were my parents, and my brother and sister were also very, very supportive. I've always had supportive friends and could talk about disability stuff and whatever, and we joke about it, but it was never a big deal. I think I said this the last time; the way that I want people to approach people with learning disabilities is, "You have a learning disability. That's fine. That's it. That's fine. Okay, fine. Your eyes are hazel or blue or whatever. Gray, my eye color is." So that was wonderful.

Going to Bradley University having a Disability Resource Office where they essentially force the students to talk to their teachers or their professors about their learning disability—that's important because then you learn to self-advocate for yourself, look out for yourself. They were wonderful. Coming to Pitt when I was a graduate student, I was afraid to admit that I had learning disabilities. I wanted to go back and hide that, and it wasn't until a single conversation I had with **<T: 60 min>** JoAnne, who ended up being my PI, and I got my PhD from her lab, but the conversation I had was just about research and that conversation went really well and she

was so friendly. I asked her about . . . I was like, “I also have learning disabilities. Are there accommodations I could get?”

She sent me to the disability office, which was really great. Even my coworkers have been supportive, and they joke that I use learning disabilities as an excuse. I use it for everything if I drop something. But that’s just because joking about it, but I also . . . the ulterior motive of that is it’s important for people to talk about to be open about it.

I see a therapist too. It’s sometimes you can have great friends and you can have wonderful . . . even with my wife, she’s my biggest support network now. But sometimes you need someone that’s outside of your world that can help you out. The therapist I see, I’ve been seeing her about a year. [She’s] been great, and it’s something that . . . . I never really dealt with depression or anxiety, and my wife is actually bipolar too. That’s going to be something that’s really difficult especially before we learned that she had that. It was really hard to deal with, try to figure out what is going on? Why would you act that? Things just didn’t click.

Then it literally was like, “I feel I need to sometimes get help with trying to figure out what’s the best way? How is the best way? What can I do to be helpful, and how can I learn to say, ‘This thing happened, and I understand that?’ Or this thing happened, and that was sad or hard.” And this is something that a therapist is much better at talking with than a friend who’s just like, “I don’t know.” Or a parent. I feel like I’ve been so fortunate that I’ve built this network of people that are just really, really, really helpful. I just . . . I try not to hang out with people that I don’t like. There’s a lot of people with friends that they don’t like, and I’m like, “Why are they your friends? They shouldn’t be your friends. Get another friend.” [laughter]

There’s this whole network and stuff that I was able to build over the years, and so that’s why I think even when you mentioned, “What are the systematic changes that can happen?” it is those PIs in a graduate school. They’re the ones that are first line of defense if someone is not reading well or doing something, asking them about it, and if a student has learning disabilities and they are diagnosed, being comfortable with that. “Okay, that’s fine. You might not be good at a certain thing. That’s okay. Let’s try to figure out a way to work with that or try to get you better at it or something else.” Even with other graduate students, I was the kid in graduate school, I sat in the front row, I had my digital recorder—it was digital which I thought was super cool. That was before iPhones, I think.

Some of my friends—that eventually I became friends with—at graduate school because my first semester of graduate school was really rough because I just felt out of place and . . . but they would joke with me. They would be like, “Collin, we totally were just like, ‘Who is this over-achiever sitting in the front?’”

I would be like, “Dude, I’m just trying to catch up to you guys.” We joke about it now, but it’s . . . but that’s something that’s being comfortable with it and, “Okay, someone’s recording the lecture. That’s okay.” I think that the people are the most important thing and then use technology when you can that is actually helpful. So . . .

MARTUCCI: Great. Do you have any follow-up? All right. Well, thank you so much.

DIEDRICH: Awesome. Thank you so much.

[END OF AUDIO, FILE 2.2]

[END OF INTERVIEW]

PUBLICATION LIST

1. **Diedrich, CR;** Rutledge, T; Myers, AJ; Gideon, HP; PL, Lin**.** CD4CD8, CD4, and CD8 T cells have distinct responses to *M. tuberculosis* in cynomolgus macaques. In preparation. In preparation.

2. Nakiwala JK, Walker NF, **Diedrich CR**, Worodria W, Meintjes G, Wilkinson RJ, Mayanja-Kizza H, Colebunders R, Kestens L, Wilkinson KA, Lowe DM. Neutrophil activation and enhanced release of granule products in HIV-TB immune reconstitution inflammatory syndrome. *Journal of Acquired Immune Deficiency Syndromes 1;77(2):221-229. 2018.*

3. **Diedrich, CR;** O'Hern, J; Coussens, A; N. Allie, P. Papier; Gutierrez, MG; Meintjes, G.; Wainwright H; Wilkinson RJ. Relationship between HIV-1 co-infection, IL-10, and M. tuberculosis in human lymph node granulomas. Journal of Infectious Disease. DOI: 10.1093/infdis/jiw313. 2016
    a. Cover Image selected from my study.

4. **Diedrich, CR**; O'Hern, J; Wilkinson, RJ. HIV-1 and the M. tuberculosis granuloma: A systematic review and meta-analysis. Tuberculosis, 98:62–76. doi:10.1016/j.tube.2016.02.010. 2016

5. Lerner, T; Carvalho-Wodarz, C; Repnik, C; Russell, M; Borel, S; **Diedrich, CR**; Rohde, M; Wainwright, H; Collinson, L; Wilkinson, RJ; Griffiths, G; Gutierrez, MG. Lymphatic endothelial cells are a replicative niche for Mycobacterium tuberculosis. Mar 1;126(3):1093-108. The Journal of Clinical Investigation. 2016

6. **Diedrich, CR**; Mattila, JT; Flynn, JL. Monocyte-derived IL-5 reduces TNF production by M. tuberculosis-specific CD4 T cells during SIV/M. tuberculosis co-infection. Journal of Immunology. 2013 Jun 15;190(12):6320-8. doi: 10.4049/jimmunol.1202043.

7. **Diedrich, CR** & Flynn, J. HIV/Mycobacterium tuberculosis co-infection immunology: How does HIV exacerbate TB? Infectious disease and Immunity. 2011 Apr;79(4):1407-17. doi: 10.1128/IAI.01126-10.

8. Mattila, J; **Diedrich, CR**; Phuah JY; Lin L; Flynn, J. SIV-induced changes in T cell phenotypes in macaques with latent M. tuberculosis infection are associated with reactivation. Journal of Immunology. 2011 Mar 15;186(6):3527-37. doi: 10.4049/jimmunol.1003773.

9. **Diedrich CR**; Mattila JT, Klein E, Janssen C, Phuah J, Timothy JS, Montelaro RC, Lin PL, Flynn JL. Reactivation of Latent Tuberculosis in Cynomolgus Macaques Infected with SIV Is Associated with Early Peripheral T Cell Depletion and Not Virus Load. PLoS One. 2010 Mar 10;5(3):e9611. doi: 10.1371/journal.pone.0009611.

LD and broad science publications:

1. **Diedrich, CR** Time To Understand Science's Imperfection. Nature Blog. October 2017 http://blogs.nature.com/naturejobs/2017/10/02/it-is-time-to-understand-sciences-imperfections/#more-53801
2. **Diedrich, CR** Dealing with Dyslexia, lets redefine the term smart. Nature Blog. October 2017 http://blogs.nature.com/naturejobs/2017/10/18/dealing-with-dyslexia-lets-redefine-the-term-smart/

3. **Diedrich, CR** What I've learned from my learning disabilities. Science Magazine. October 2017 http://www.sciencemag.org/careers/2017/10/what-ive-learned-my-learning-disabilities
4. **Diedrich, CR** Thank you, Pittsburgh, for giving opportunities to people like me, Pittsburgh Post Gazette October 2017. http://www.post-gazette.com/opinion/Op-Ed/2017/11/05/Thank-you-Pittsburgh-for-giving-opportunities-to-people-with-learning-disabilities/stories/201711050054
5. **Diedrich, CR.** We're all in this together: My experience with scientific collaboration. American Journal Experts. 2016. http://www.aje.com/en/arc/my-experience-with-scientific-collaboration/
6. ***Diedrich, CR.** I'm a Scientist with Learning Disabilities and That's Okay! Huffington Post. Retrieved from: http://blogs.plos.org/speakingofmedicine/2014/06/10/im-scientist-learning-disabilities-thats-okay/ (10 June 2014).
7. ***Diedrich, CR.** I'm a Scientist with Learning Disabilities and That's Okay!. PLoS Speaking of Medicine. Retrieved from http://www.huffingtonpost.com/collin-diedrich/im-a-scientist-with-learn_b_5517718.html (21 June 2014)
8. **Diedrich, CR.** Gaining Perspective from Performing HIV/M. tuberculosis co-Infection Research in South Africa. PLoS Speaking of Medicine. Retrieved from: http://blogs.plos.org/speakingofmedicine/2014/03/24/gaining-perspective-performing-hivm-tuberculosis-co-infection-research-south-africa/ 24 March 2014
9. **Diedrich, CR.** Collin's Story. St. Louis Chapter Learning Disability Association News Letter. Retrieved from: http://www.ldastl.org/Whoweare/OurNewsletters/April2012Trends.aspx (URL is no longer active). April 2012.