



**Guest:** Rachel Cohen, Jake Gruber and Martina Shannon

**Host:** Helen Schuckers, M.P.H

**Helen Schuckers:** Carolina, can you tell us about your circadian research?

**Carolina P:** Yes. What we're looking at, is if there is a physiological response to postural stress and if there is a difference between healthy controls and people with LSA across the 24 hour circadian cycle.

**Helen Schuckers:** On this episode of what's work got to do with it, we'll be highlighting the summer intern program offered here at the Institute. Each summer undergraduate interns work with faculty mentors in basic and applied research over a three month paid summer internship designed to introduce them to biomedical and occupational health research. We spoke to some of our 2019 summer interns, to share their experience working alongside institute researchers and how this experience will inform their future careers in research, public health and healthcare.

**Helen Schuckers:** Thank you so much Rachel for joining us today on our special intern podcast episode. Can you just tell our podcast listeners a little bit about yourself and what school you go to and what are you currently majoring in?

**Rachel Cohen:** Yes, of course. I'm going to be a senior at Oregon State University in the fall. I plan on graduating in March, so a little early. And then I'm currently majoring in kinesiology with a focus in pre-professional occupational therapy. So I'm hoping, after I graduate in March to be attending a graduate school for occupational therapy, probably pursuing a doctorate. I'm in the process of applying right now. So exciting, scary.

**Helen Schuckers:** Oh, that's wonderful. It sounds like you have a really great path of where you're leading and kinesiology is a great foundation for that. And what drew you into working with Brad Wipfli's lab.

**Rachel Cohen:** Yes, of course. So, Helen said, I'm an intern for Brad's lab, the Active Workplace Study for the summer. And that lab, its main focus is looking at sedentary behavior and office workers, particularly in call centers.

**Rachel Cohen:** So we have a bunch of different contacts and different utility companies in the Pacific Northwest area. And what I'm particularly doing as a dissemination project off of their larger study, I'm looking at kind of a more supervisor model, looking at if we do more like a trickle down approach to our normal study, if it still has some effect and with that center behavior we're looking at if we implement pedal stands, if that will change the behaviors and make workers any more active every day and if it can change their habits in any way possible. Like I said earlier, I'm a kinesiology major set, kind of led to why this was interesting to me. A lot of my classes that I've taken, talk about sudden hair behavior and talk about why maybe it's not the best and all of that. I've done a bunch of stuff with like energy expenditure, so finding a research project that was looking at stuff that I had already heard of.

**Rachel Cohen:** It was really interesting and I think it's really needed and it's definitely very applicable and it kind of goes towards more, even when I'm looking at doing in the future I want to be an occupational therapist. And I think that preventive approach that Brad and Sarah are looking at in office workers is really great.

**Helen Schuckers:** Yes, definitely a lot of translatable skill sets. Even though you're working with a different type of population, having the focus on movement science behind it and how that can improve our health, whether it be workers or through the general population is very important.

**Rachel Cohen:** Definitely Yes.

**Helen Schuckers:** Thank you so much for sharing that. What have you enjoyed the most about your summer internship and also what kind of advice can you give to future interns?

**Rachel Cohen:** There's two things that I thought of. I've been here for about a month and a half, so I'm about halfway through my internship so I've still got a whole bunch to do until learn.

**Rachel Cohen:** But I think one of the things I liked the most is being able to go out in the field and work one on one with these participants and with these companies. And I've done some research in the past and it's definitely a lot more hands off. So being able to see face to face with all the participants is really nice and I really like that. Another thing that I really like and that I've gained over the course of this internship this is just a lot of knowledge and I'm sure there's a whole lot for me to know, but I've learned a lot about how research works, how grants and how funding is gotten, because that's not something I really had a grasp on before. So I'm definitely getting more acquainted with that.

**Rachel Cohen:** As for future advice for other interns that are going to come along, don't be afraid to apply. I definitely was nudged into being, "Oh you should look at this like this. Maybe it would be a good thing for you". And I didn't think I had the experience or any background in research so I was like, "Oh maybe not". But I went for it and it definitely worked out in my favor. So don't be afraid to apply even if you don't have direct research experience. When you do get here, don't be afraid to ask questions because everyone around has a lot of knowledge and they definitely want to share it. You just have to ask them about it and that goes within the lab that you're working in and then anyone just within the field or within the Institute, everyone's very welcoming and they want to answer your questions.

**Helen Schuckers:** Well that's wonderful. Thank you so much for sharing your experience and just kind of enlightening us with some more information about the work that you're doing with Brad Wipfli's team as well as what you've enjoyed so far about your internship. [crosstalk 00:04:52]. Thank you so much Jake, for joining us on our podcast today. We really appreciate it. So I just wanted you to begin by telling our audience a little bit about yourself and what school you currently go to and what your major is.

**Jake Gruber:** So, I attend the university of Portland. I'll be a senior this coming year. So we're finally in the home stretch and I am a pre-med biology major with a neuroscience and chemistry minor right now.

**Helen Schuckers:** Great. In terms of your internship here, what drew you to coming to the Oregon Institute of Occupational Health Sciences and also the type of research that you're currently doing?

**Jake Gruber:** So, initially I actually read a book called Why We Sleep by a guy named Matthew Walker. It was super interesting. I encourage anyone to check it out that wants to learn more about sleep. But, I got really fascinated in sleep science and sleep medicine for reading that. And I figured, well, if I want to combine my interests in the medical and healthcare field along with that burgeoning interest, I figured that I could combine both of... Somewhat I found that, through the occupational sciences, they do a lot of sleep research and circadian research. That was a good opportunity to mesh both of those interests. So, I applied, I just put in the application, sleep research, and then Dr. [inaudible] is the one that got back to me and everything kind of proceeded from there. So, then I got an introduction into all the different research activities and the specific like cardiovascular focused sleep medicine stuff that he does, which has been pretty interesting.

**Helen Schuckers:** Is there a current project that you're currently working on?

**Jake Gruber:** Yes, so generally we are looking at the differences between most individuals and individuals with sleep apnea in terms of when they have adverse cardiovascular events. So, for most people it's around 9:00 AM in the morning is when you're most likely to have a heart attack or a stroke. But for people with obstructive sleep apnea, it's around 3:00 AM in the morning. So we're not exactly sure why that shift is occurring. Our hypothesis right now is that we think maybe their circadian rhythms are shifted in a way that things that happen in most people around 9:00 AM actually are happening around 3:00 AM in people with sleep apnea. So, currently what I do is I look at brachial ultrasounds, we take ultrasound of the brachial artery and then we see how much it'll actually dilate, after you occlude the artery and that's a marker of cardiovascular health. So I look at that and we're trying to piece it all together and get all the data sorted to hopefully figure that out.

**Helen Schuckers:** Great. Thanks for... That definitely has been important research, figure out the timing of cardiovascular events and how that can affect our health. What have you enjoyed most about your summer internship and if there's any advice that you can give our future interns in 2020 and beyond?

**Jake Gruber:** I would say in general going into this, I definitely had an idea of what research was and I thought that the idea of science was cool. But I really wanted to actually know what went into it. I think it's

one thing to be interested in the idea of research and the idea of science as opposed to the actual day to day nitty gritty of science and the way research is conducted. So, for me and this is pretty broad, I think being able to get in the trenches and experience that data analysis on a day to day basis. I know my eyes are really bloodshot right now because I have been staring at a screen for a while doing a lot of data analysis and getting able to see exactly how much goes into the production of scientific paper and all the different working parts.

**Jake Gruber:** That has been probably the most important for me because I finally get to see if I were to choose this as a career, this is what it's going to be like up to an extent. So, in terms of illuminating that for me, that's been really cool. But for future people, I would say probably just to be a sponge and like absorb as much as you can. There's a lot going on and sometimes it can be hard to get the bigger picture of what everyone's working on. because there's 12,13 people in a lab that all doing separate things and eventually you want it all to come together. But, I think it's important to step back and be able to see this is what I'm doing and this is how it contributes to the bigger picture, so you don't lose yourself in the day to day... Like if you're doing Excel spreadsheets [inaudible] isn't the most exciting thing all the time, but it's important and being able to see how that translates I think is pretty cool.

**Helen Schuckers:** Yes, I think that's important with any internship is focusing on how this will translate into the bigger picture of research. Thank you so much for sharing that because I think it's important for not only us as people, who already work with them, but just to see the perception of what an intern goes through I think is really important and how we can improve and make that better for the future. So-

**Jake Gruber:** It's all right. Okay

**Helen Schuckers:** Well, thank you so much Jake, for chatting with us today and sharing your experience and time and I hope the second half of your internship goes really well.

**Jake Gruber:** Thank you.

**Helen Schuckers:** Thank you so much Martina, for joining us today. So, we just wanted to begin by having you tell us a little about yourself and what school you currently go to and what your major is.

**Martina Shannon:** Hi, I'm a rising junior at Western Oregon university and it's actually located in this little town called Monmouth. It's very, very small, but it's about 20 minutes outside of Salem and I'm majoring in biology with a pre-professional emphasis and I'm minoring in chemistry.

**Helen Schuckers:** Great. What drew you into wanting to intern here at the Institute and also the research that you're currently working on?

**Martina Shannon:** I wanted to explore research just because I wanted to see if it was something I might be interested in going into in the future and I'm interning with the Institute of Occupational Health Sciences and their circadian lab and my mentor is Dr. Nicole Bowles and her research associate Shelby they've just both been really helpful as to guiding me just to get as much out of this internship as possible and I really appreciate that. And the research project I'm currently helping out on, is about the effect of shift work on firefighters and it's a qualitative research study, so we've been conducting focus group interviews with firefighters and their families to study the current strategies and coping mechanisms of what they use to kind of manage occupational burdens and family obligations with the co-occurrence of sleep deprivation caused by their shifts that they currently have, which is a 24 hours on 48 hours off shift schedule.

**Martina Shannon:** And so they practically work a full day and they get two full days off in between. I just think it's really important that I shed light on this subject because, it's barely difficult to find literature right now on firefighters. There's been a lot of research on the effects for different health professions and transportation professionals, but not so much on firefighters. They need to be represented as well, obviously in research and I think it's important that they know the risks that come with sleep deprivation caused by that. Besides the everyday risks such as, loss of concentration or feeling tired all the time or mood changes because they're so tired, but also chronic diseases like cardiovascular disease and cancer and obesity that people who are experiencing sleep deprivation are at higher risk [inaudible 00:00:11:54].

**Martina Shannon:** From this kind of study that we're doing, we're going to be able to better understand what these guys are going through and see if

they're enjoying their current schedule or if they'd like to change it to the possible 48 96 schedule that they've been talking about. So two full days on, which seems like a really, really long time, but then they get more time to recover in between as well, so they get four full days off or there's also a one three, two three schedule that they were looking into. We just want to know how we can better support the people who are supporting us in this whole city every day.

**Helen Schuckers:** Yes [crosstalk] a lot of important work and figuring out that is... Especially those frontline workers putting themselves in those more dangerous environments for the good of the people and it's good to better understand physiological aspects of that as well, because it really translates to our overall health that trickles from the workplace to home. So, important work that you're doing. Thank you so much for sharing. And so I just wanted to end with what you've enjoyed most about your summer internship and also the kind of advice that you would give to people or students interested in applying next year for our summer internship program.

**Martina Shannon:** Okay. I've just really enjoyed... It's so hard to choose one thing because there's so many things, but I'm super grateful to even have the opportunity to work here for a summer. And I think my favorite thing would just be the sense of community that you feel at the Institute of Occupational Health Sciences, but also just at OHSU as a whole. They really take care of you and they care about you as a person and there's just so much to learn here everywhere you go. And so not just in the lab, even if you're walking around the campus, you're saying and you feel like you're taking in everything. And so, there different journal clubs where you can just sit in and learn and expand and there are different opportunities for networking like all the time.

**Martina Shannon:** And the faculty has also made multiple events specifically just for interns to talk with each other, get to know each other and we have lunch and we learn something and we just interact. And there are also the grand rounds that they encourage you to attend also at the hospital where the most seasoned, smart people ever talk about the things that they're really passionate about. And then there's the farmer's market and just little fun things like that, it's not like your everyday internship where you just, I mean sitting, not all of them but maybe sitting in an office, you're really encouraged to go out and really take advantage of every opportunity that there is there for you. And so I think if I had to choose a piece of advice for future

interns, it would just be to not be afraid to just step out of the lab also from doing work and take advantage of everything that they're trying to give you as well.

**Helen Schuckers:** Yes, that's wonderful. It's a lot of great advice that you're giving and also your experience and it's definitely an immersive experience, besides all the events that are hosted specifically for the interns and the mentorship that staff and faculty in all the labs give to the summer interns and also highlighting everybody at the poster session, near the end of their internship is a really great full scope of` the type of work that you're doing and being able to apply into the real world later on. So thank you so much. I, at this time I wanted to thank Martina, Jake and Rachel for taking time to chat with us about their experience as a summer intern. We enjoyed learning about each of your research areas within the Institute and for those who are wanting to learn more about our summer internship program, we do have a summer internship page at our OccHealthSci website in applications open each year. So, I encourage you and everybody else to look into it if you're interested and have send us an email if you have any other questions.

