

INTRODUCTION: Hello, this is Michael Eure and I'd like to invite you to the Michael Eure show featuring student hosts and very special guest talking about a variety of interesting topics. You can find us on the Eagle Stream YouTube channel.

MICHAEL EURE: Well, good evening, everyone, and welcome to the Michael Eure show.

We're gonna have some great guests today, and I'm gonna quickly have everybody give a quick introduction.

Of course I'm Michael Eure, and I'm just gonna call the names and just give us a brief. Jerry.

JERRY GREENE: Hi, my name is Jerry Green. I'm a cyber security major here at Wake Tech planning to finish in this summer, and I've been doing these streams with Michael Eure, here.

EURE: Alright. Johnette.

JOHNETTE SMITH: Hello everyone, I'm Johnette Smith. I'm a career coach with our Career Services program.

EURE: Mauricio.

MAURICIO: Hi, my name is Mauricio, I'm continuing education, I'd like to get into medical school someday.

EURE: Thank you.

And Jackie, Dr. Swanik.

JACKIE SWANIK: Hello everyone. I'm Jackie Swanik, associate Dean of math and science and the program director for the START program.

GREENE: Hey Michael, you're muted. We can't hear you.

EURE: Thank you, Jerry.

Alright. Sarah, can you put up the link for the care center really quickly?

And I'm we're gonna put these in the chat for the audience, If you wanna get information. And this is just so, students will know this is a link, you can always go to to get help.

And right now, it's saying COVID emergency fund, which is available for all students, but it's going to change the updated we do laptops, we have the wellness counselors, pathways volunteer and leadership, the success coaches, The Nest Food Pantry and Fostering Bright Futures. So, we could just put that in the chat.

Just wanted to make sure y'all are aware and then we can bring up the link for the START program.

And I'm just putting this here, Jackie, Dr. Swanik is gonna talk much, much more about it, but I don't know if she wants to comment on it while it's up right now or should we wait until you get into your presentation?

DR. SWANIK: No, this is perfect. Thanks, Michael.

So, that's our our landing page for the START program. You can learn about the program, you can learn about the projects and you can watch the program all at the same spot.

EURE: Thank you.

And do we have anything for Career Services that we can put up? Johnette might talk about for a minute. And if not, we can come back to that later.

We got it?

SMITH: Yeah. She just pulled it up, thank you.

So, just a little bit about Career Services.

So, first and foremost, through Career Services we enable START students to gain insight into potential careers. We assist not only prospective students, but we also assist alumni and community overall to help them with skills that are necessary for particular careers and those who are already in the provision to kind of look at those jobs as well.

We give them information so that students can kind of imagine themselves in that career, if you will. And we also encourage them to develop and work towards their career goals overall.

EURE: Thank you.

A very important office.

So, now we're going to get into some questions so we can learn a lot. And we're gonna start off with Dr. Swanik, but we want to probably bring you in Mauricio as we go along to talk about your experience as an intern.

So, Jackie, the first question, I'm going to kind of let Jerry ask you that and then we're gonna go around and we're gonna have different people ask them in order.

Go ahead, Jerry.

GREENE: Alright.

The first question for you is, can you tell us a little bit about yourself and your journey to Wake Tech?

SWANIK: Sure. And if Sarah, if you wanna go ahead and put the slides up, I've got some things that kind of help tell about my journey.

But as she's kind of bringing that up, I am from North Carolina. So, born and raised, the next slide, please. I went to Campbell University for my undergrad and so, go fighting camels in the big metropolis of Buies Creek.

And from there I, you know, I've been here in North Carolina all of my life decided I wanted to see something a little different. So, I went to UT Southwestern in Dallas, TX for my graduate career. Had a really good time in the city. Started thinking about having kids. Decided I wanted to come back to North Carolina.

And so, from there I went to UNC Chapel Hill for my post doc and so for my graduate career I studied a particular protein involved in cancer. So, I was really interested to try to figure out how cells grow.

So, we know what goes wrong when a cancer happens, and then at UNC, I decided I wanted to learn a little bit about the heart. And so I used frogs as a model system to figure out how cells know to become heart cells.

But during that post doc I not only did research, but I got to teach and I was taught how to teach, and that's where I caught the teaching bug and I was like, this, this is what I really want to do, not I love working in the lab. I loved teaching more, and so I was looking for jobs and worked in a couple of different places part time and got to a community college and really just fell in love with community college students. Fell in love with the purpose and the vision and decided that this was where I wanted to stake my career.

Wake Tech hired me 12 years ago, and I haven't looked back since. Up there, so, you see Talon there. You also see my husband and my daughter, and a lot of people think it's interesting. I don't know how much I think it's interesting, but I live in Person County. That's where I was born. That's where I was raised. And that's where I moved back to and people go, where's Person County? So, that's why the maps up there.

So, that's me in a nutshell and how I got to Wake Tech.

EURE: Alright. Thank you.

Mauricio, are you able to ask the next question or should we get Johnette to do it?

MAURICIO: Oh actually. Uh, I can do the next one, if you like.

You know what, I'll let Johnette do...

Eure: This one?

MAURICIO: Yeah, this one.

EURE: okay, go ahead, Johnette.

You're muted.

SMITH: I said, please forgive me, I do not see the questions.

MAURICIO: Yeah, same here.

SMITH: You're muted, Michael.

EURE: We're having a mute-unmute party today.

Okay. So, I'll just do that.

Well Jerry, you can you see it or no?

GREENE: The next question?

EURE: Yes.

GREENE: I can see it.

EURE: Go ahead.

Next question is can you explain the purpose of the START program and can you tell us a little bit about how Wake Tech secure funding for such a great internship?

SWANIK: Sure. And so, Sara, if you wanna put up some slides.

Basically, the purpose of START is a success and retention strategy. We talked about Reach 'N Rally in here. It is a rally approach.

So, the idea is that some students may not thrive in the classroom, right? Or so they may say, 'this isn't for me.' 'I don't think that this is what I should be doing.'

But we put him in the lab, you get them doing the work that STEM professionals are doing and they just come alive. And so, you can see two of our students here.

You can also see where they've gone. So, we have Arlena and she graduated with a bachelor's degree from UNC Chapel Hill in Neurobiology and Austin Yates was also one of our START students.

And next slide please, Sarah.

And then, again, we have two more students and, um, I'm really bad... I can't read the names and I really just can't remember at the moment.

Umm but, umm Marissa, that's right. I don't know how I could forget Marissa.

She's a senior at NC State as well as Maheen Moeen, who actually went on to get her master's degree at Duke University.

And so, what, START is kind of flexible and you can use it for whatever you need.

And so, I talked a little bit about students who use it to find that start of that spark or their start to get their career.

You could use it to further your career and your resume. You could further it as a career exploration. So, we have projects that go across the spectrum of STEM and I'm gonna talk about some of the projects here in a little bit.

Umm, but from there you could say do I want, am I interested in geology? Let me try geology project. Am I interested in math? Let me try a math project and so you can just kind of cherry pick some careers and decide what it is that that you really want.

And so, I'm actually gonna let Mauricio figure say why he chose the START program and what he learned from it.

MAURICIO: Alright, awesome. Yeah, I think it's a I think you said it well.

Umm, I think the START program is really unique in that it kind of provides you with an opportunity to to approach science from a different angle. And I certainly felt like I got to experience that.

I thought it was really cool to you kind of approach it and kind of think about things.

Uh, a little bit more logically and more, you know, use more application.

Umm.

In the lab, which I think is really, I think it's really exciting, but the one of the great things that START's provided me with experience in career development. So, it was a great opportunity, a great entry point into developing lab skills.

And so, through START I was able to learn gel electrophoresis and PCR and hopefully I'll get to further develop that in the future.

EURE: Thank you so much. Jerry.

I'm I mean Mauricio, both of them I'm the success coach. So, I can mix them up.

So, Johnette, are you able to do the next question, in the... if not we we're gonna get back to you.

SMITH: Alright, this is the next question. Are other faculty members, is that correct? Are other faculty members from Wake Tech involved in this National Science Foundation project?

SWANIK: They are and I actually realized I forgot to answer the last part of that question, and so the funding that we have secured, excuse me, is from the National Science Foundation. And so, we are super duper excited. We've been trying for a long time to get some grants and get some money and finally the National Science Foundation figured out that we had a good project. And gave us some money.

And then, Sarah, if you wanna put up the slide about the faculty, I can show you some pictures from the faculty.

And so, this past semester, which was the pilot semester for the NSF grant, we had 55 students. We had 20 mentors and all of those mentors are Wake Tech faculty members. And so pictured here we have Scott Nunez working with Kevin in the lab.

And then we have off to the right one of our former instructors and former mentors, Dr Maria Faudree and Adam Clark. And they did a, kind of an animal distribution type of project where they had a camera and they were looking how wildlife changed as we populated the North campus.

And so, for some of us that have been here for a while, the North campus used to have just a couple of buildings and we could actually see Fox and deer on the campus.

But now, as we're starting to build, we're seeing less of those. But we're still seeing the squirrels and the chipmunks and the raccoons. But we can kind of look to see how the development of that part in our campus changes the wildlife.

And in the middle you have Dr. Ajit Dixit with one of his students, Andrew and they presented at a conference there. So, yes, this is not a one woman show, by any stretch of imagination.

I tend to be the mouthpiece, but I have a whole team behind me and they also are the ones that actually do the work.

Did you wanna talk about your mentor?

Are you see him?

USHIO: Yeah. So, it looks like I also got a question.

I don't know if I should answer that when now or wait till the end?

EURE: You can ask your question and after you answer her question.

USHIO: Okay. Uh, and sorry, Jackie, can you repeat that question?

SWANIK: And so, we were just talking about the faculty mentors that you had.

And so, you wanna talk about your mentor a little bit?

MAURICIO: Ohh yes, Dr. Walsh, she was amazing. I think she really like, not only did she kind of help with the like developing that like scientific approach and that you know, the scientific methodology. I think she really also helped mentor like kind of my attitude towards like the... because science can be a little bit frustrating.

So, I think she really helped with that and I thought she was really awesome, super knowledgeable about PCR and gel electrophoresis.

EURE: Alright. And you had a question, Mauricio, and after you asked yours, somebody has one for you from the audience. So, go ahead.

MAURICIO: Right. So, how related was my START project was to my major or career?

Yeah. So, it's actually surprisingly, uh, it's actually surprisingly relevant.

So, I was really lucky because I was specifically looking for umm like microbiology techniques like that and as it so happened when I got matched with Dr. Walsh, she was actually looking towards kind of using those skills in the, uh, those specific skills in the project. So, I thought that was really great and so hugely applicable.

When you look at different like lab positions and postings and whatnot, those are some like highly highly valued skills. So, yeah.

EURE: Thank you. And that was from Dr. Chris O'Riordan-Adjah, the department head for associative engineering at Wake Tech.

But I'm gonna ask the next question and you may have answered it already, Jackie.

But could you talk a little bit about some of the projects from the different, how you paired up with faculty from like North Carolina A& T and North Carolina State etcetera?

SWANIK: Sure. So, Sarah, I have a slide about this one as well.

And so, with the grant, we were able to partner with UNC Chapel Hill, NC State and North Carolina A&T. So, this is about our... this slot is more about our mentors. There we go.

I can talk about this one, and so you'll see some of our projects had to do internally.

So, I've talked about those, some of those, and this is another one. So, you have a picture of Luke, Jennifer and Melinda Gibbs, and Aaron, in the stream. And they're they're looking at the stream that's on the Southern campus.

And the students got to choose what they wanted to look at. So, some students decided to look at the diversity in this in the stream and all the different types of little organisms that were in it.

Some of them decided to look and see how the construction that they're doing right there on 540 will actually change the stream.

And so, that was a part where we said, okay, the project is aquatic flora and fauna, so aquatic animals and plants. And what is it that you're interested in? So, the students kind of got to pick theirs.

At the bottom there you see Oswaldo Rodriguez in the, in the lab and his project was something that we did with NC Central, when we first got started. And they were looking at the genetic factors that affect alcoholism and using fruit flies as a model system.

And then you have Lauren up at the top who worked with Aaron Downey and she did a science education project.

And so, she was looking at some of the labs that the people had put together, the faculty and put together for Bio110 and trying to figure out if they were very were successful for the students or if there was a better way to do it. And she's an online platform, so it's more of a science education research.

If you'll go to the next slide, please Sarah.

And so, some of our project examples, so on the left here we have Kennedy Williams and and William Ingram and he, both of them, were working with somebody out at State or not at State, out of Duke looking at fingernail growth.

And so, you might be saying why in the world would I care to measure, like somebody's fingernails? That just sounds gross, but one thing we're looking at was kids and trying to figure out the health in kids.

And so, we know that the height of a child is directly related to their health, but you probably seen kids before, right, and they can slouch, and they won't stand up straight or they stand up too straight, right?

It's hard, believe it or not, measuring their height is really pretty problematic.

And so, the researcher at Duke. It's been shown that your fingernails are actually are an indication of your health, and so if you are healthy, your fingernails will grow. And if you're not healthy, your fingernails will not grow.

Umm, but again, you can imagine it's pretty problematic if you were trying to measure from one week to another, how much somebody's fingernails grow?

And so, these are both engineering students, Kennedy and William, and they were doing a 3D printing of a prototype that can measure it.

So, the idea is your cell phone would set at the top and so the cell phone would be at the exact same location every time. And you put your finger at the bottom and it could capture a picture and then you would use software to measure the length.

And so, it seems kind of silly when I say fingernail grows, but at the end what you're really trying to figure out is an indication of child health, and if they are getting all their nutrients that they want or not.

And so, obviously, that's Dr. Ralls in the picture as well, and this is that our student showcase as each is showing them off.

In the middle there, we have Sidney Baker and she worked with people in the computer science department at NC State and they were developing an app that does augmented reality to look at proteins.

So, that students could be able to kind of visualize proteins and figure out how they work and being able to understand them better.

And so, this was using augmented reality in a Bio168 class so that students can learn proteins better.

And then the third picture we have is, we had a project with a [inaudible] and that was mentored by Mindy Cottrell, where we were looking at the gut microbiome.

So, the bacteria of guts and lemurs, and you can actually look at their diet and look at their health, depending on their microbiome and trying to figure out in different seasons when they have different diets, if they're the bacteria in their gut changes or not.

And so, we were able, students were able to, like I said, to work on these projects from the four-year institutions to really see how they can make an impact on the scientific community, right?

And so, that's one of the other really cool things I think about START is that you are doing research that is making an impact of, either in the broad scientific community, one that I

don't have here is that we partnered with Piedmont Health and they did some data analysis and some math.

And so, they were looking to figure out whether or not they should make their own CPR training program, or whether or not they should send their employees out to get trained for CPR.

And so, they were directly related to a business decision that that business, that healthcare organization would make.

And so, these projects are not, they're not fluff projects, they're really and causing a change in businesses in, in the scientific community.

Mauricio, do you want to talk a little bit about your project cuz I don't have yours up here.

MAURICIO: Sorry, yes.

So, mine was DNA barcoding. And so, the short explanation of that is just as rapid species identification through segments of DNA. And so, I was working towards enhancing that like you said, that kind of hoping to kind of enhance that sort of technology for fungi.

And so, what I did is I went ahead and collected fungi around North Carolina, and I went ahead and processed the DNA, and I was able to find that DNA segment and register it towards, in a database that could be used by anyone else to help identify that fungi, so it's pretty cool.

EURE: Jerry, can you ask the next question?

GREENE: Right.

When are the application deadlines and how do students who would like to apply to the START program?

SWANIK: Sure. And so, Sarah, I have a slight about this as well.

So, applications are open. They close at noon on June the 30th and there are no GPA requirements. Right? And so, that is very intentional.

The requirements for the program is that you aspire to transfer to a four-year institution and that you are interested in STEM.

I have the picture of the website that Sarah and Michael brought up at the beginning, and so you go to stem.waketech.edu.

You can navigate to START there on the left hand side and then once you get to the START, the very bottom that bright blue banner has apply and you click there and you can fill out the application.

But before we move on, I kind of wanna back up a little bit, if you don't mind, Michael and kind of Sarah, there is a, there's a slot in there that talks about Oswaldo Rodriguez and gives some quotes.

And so, as she's getting to that slide, Oswaldo was a student that we had, it was in the very beginning of START. So, START began in 2016 and we were unfunded, but he joined us and he went to State and he wrote a blog.

He started a Hispanic student STEM organization, and he wrote a blog and these are some of the quotes from his blog and I just think this is so powerful and it helps students to understand maybe why they should apply and if they're like, this isn't for me.

I think Oswaldo will help you to see that this program is for anybody that is interested in STEM.

So, as Waldo says, I'm the first-generation low-income student and things were very difficult growing up. There was a lack of understanding of how college actually worked and what kind of sacrifices a student in my position would have to make.

My family and I did really didn't understand how to navigate the system.

But engaging in scientific research not only bolstered by academic confidence, but it gave me a sense of purpose and belonging that classroom work alone could not account for.

And then it took a team of people to develop the program and recognize that academic success and ingenuity take different forms and expresses itself in different ways.

They recognize that the success of the program relied on recruiting students from all walks of life in different disciplines.

He goes on to say that one of the greatest resources and sources of inspiration I had I Wake Tech was the research program. And that picture right there is of Oswaldo in Washington, DC. And so Oswaldo and I were able to go to Washington, DC with Richard Sellens, who used to be the Dean of sponsored programs and talked to Congress about the START program.

And so, again joining the program you get to do a little bit of research, a lot of our students are finding, like I said, their confidence and go on to do amazing things that they never really thought of.

Oswaldo was now in Graduate School at NC State, pursuing a PhD, and so this program is geared to everyone. Everyone. Again, there's no GPA. We really want it to be inclusive.

We want people to come try out STEM and see what it is and how it goes.

Mauricio, do you want to say anything to this one?

MAURICIO: Yeah, I totally, I totally agree. I think I touched on this a little bit earlier, but it's, you really don't get this opportunity to explore STEM in this way.

You know, doing actual research is completely different from in the classroom, so I think it really does kind of help. Uh, like help you develop a different perspective and kind of, I guess train of thought or methods to science, so I think it's really cool.

EURE: Yes. And I did have another student named Todd Hewitt, but he could not be with us today.

He's from Jamaica and he actually went back to help his family on the farm, but he certainly talked about the great experience that he had with the program.

So, Jackie, I know that you kind of alluded that the program is for students interested in STEM, but does 'interest' mean I really don't know what I wanna explore is that also 'interested'?

SWANIK: Sure. And so, you can have an AA you can be on the AA track, the AS track, the AE track, the AAS, any of our AAS tracks.

As long as you're looking to transfer to a four-year school, and so the way that our current grant is written, by the National Science Foundation. Umm, we are trying to help students to make that pipeline into transfer.

So, you do have to aspire to transfer to a institution and all of our projects are STEM focused. And so, if you're not interested in STEM, you're probably not gonna find a project that you're, really wanna commit to.

But if you're like, yeah, playing in the steam kind of sounds cool. Maybe I'll try it. Then come on.

The selection may be something that students are questioning and so the way that we are currently set up is it is a random selection and so fifty students will be selected again completely at random and so it doesn't really matter what your GPA is.

It doesn't matter what experience you are, you are just as competitive as anybody else.

EURE: Alright, we have one more question in the chat and we're down to the very end and this is from Akeem who used to be an ACA professor at Wake Tech, and I know he's a graduate of Elizabeth City State University and he got his master's at North Carolina Central.

And I know it's biology and chemistry, so his question would you like to read that Mauricio Jerry? Either one.

GREENE: I'm fine with reading it.

Akeem asks, how can other four -year institutions collaborate with START?

SWANIK: Sure.

And so, if you are graduate of NC Central, you may want NC Central. We are hoping to to expand there.

Like I said, one of our first projects were at NC Central. We actually have a project from Fayetteville State. We haven't found a student for it yet, but we have a project. And so anybody that you know that's interested in collaborating with us, we are very, very excited about collaborating. Right now, is we're getting started, how we are collaborating is we are using the projects from the four-year institutions in their labs and our students are working on them here at Wake Tech. They're mentored by a Wake Tech faculty member.

The people at the four-year institutions can be as heavily involved or as hands off as they want. But, the kind of the first foot in the door is that we work on one of their projects because that's the interesting thing, right?

Is that students here at Wake Tech and their first- or second-year can actually work on a research project from a four-year institution that a lot of the actually the freshmen and sophomores that are at the institution aren't even able to work on.

It's usually their junior, senior year before they're they're really doing research like that.

So, tell them the contact us. We are open to collaborating with anybody.

EURE: Thank you.

And we are really down to the end and I wanna take this opportunity to say thank you so much and I really appreciate your emphasizing that the AAS, the associate of applied science degrees also apply because a lot of people at Wake Tech and other places do not recognize that those are really degrees and they do transfer.

They just happen to have a certification within, so I appreciate that it's open to them as well.

So, now I would like to and I know that Mauricio, you think that we always like you to go first, but I'm gonna not let you make you go first this time. We're gonna go with Jerry, then Johnette, and then you, and then Jackie. Just to give us your closing thoughts about this session and if you have a closing question, you can ask and if we go over a little bit, we'll just go over a little bit.

Go ahead, Jerry.

GREENE: Alright, I don't have a lot to say.

I just wanna thank Jackie and Mauricio for coming on and talking about the START program, because it's still about a week ago I didn't even know SMART program existed, personally.

So, it's nice to hear that Wake Tech had these cool programs going on for students.

EURE: Alright, thank you.

And Johnette.

SMITH: So, as always, a pleasure to be a part of this platform and thank you so much again for sharing all that information. One of the greater takeaways is just knowing how we can better assess or help students to assess their career possibilities. And this is just one of many options and so thank you so much.

EURE: Mauricio.

MAURICIO: Yeah, I think I think the one of the best parts about START was just that access and opportunity, it's really hard to start building something when you can't, you don't have experience, so that's just like the ultimate thing.

And I think it really is, it can only really help further anyone in their career and path, so.

EURE: Thank you.

Thank you, and I'm gonna beg you to come back and talk to students and help recruit for START, because we need students that have participated to make sure other students are not so, intimidated by the process.

Alright, Dr. Swanik, you get the final word.

SWANIK: Again, I just want to emphasize that this program really is for everyone.

So, it doesn't really matter what your GPA is, your experience... we're, we're open. We want you. We are begging students to apply for, for the program.

And since I'm a biologist, I love STEM. I really want to just share the love of science and the love of STEM with everyone.

So, if you have any questions, you're welcome to email us at startinternship@waketech.edu or you can just email me directly. Either way works, so I'd love to hear from you and see your application in our pool.

EURE: Thank you.

And everyone, you can share this with whomever. It'll be on the internet perpetually, and we'll see you next time.