120. Selwyn Ellis: Tech-Savvy Problem Solvers

LeAnn Waldroup

Hi, I am LeAnn Waldroup. I'm the Director of Communications for the College of Business at Louisiana Tech. And you are listening to the Beyond 1894 podcast produced by university communications. And I have with me today. Dr Selwyn Ellis, a dear friend and colleague. Selwyn, I know that you have been around Louisiana Tech for a really long time. Well, I shouldn't say really long time, but a long time. One of my favorite things is having the students come in for orientation, and without a doubt, you are going to know at least five of the parents in the room. So tell us what brought you to Louisiana Tech how long you've been here.

Selwyn Ellis

So I came to Louisiana Tech to get my Doctor of Business Administration Degree in 1989 came from Mississippi and got here and thought I would be here for a few years and go back home. But I've been here a long time. That was 36 years ago. I left for seven years after I got my degree, and they asked me to come back and been here for 26 years since then

LeAnn Waldroup

That's amazing and kind of in a variety of different roles. So you're first and foremost a professor, but you also have the department head role. So tell us a little bit about that

Selwyn Ellis

Right, well, I was a professor for a long time, it seemed. And then Dean Martin came in and he said, I really want you to chair a department. So I did that, and we have the center of information assurance. I direct that center. So that takes up a little my responsibility, also

LeAnn Waldroup

wonderful. So you know, you came to Louisiana Tech to get your doctorate. What did you study in undergrad?

Selwyn Ellis

So I studied mathematics and computer science. And here's a here's a good story. I'd never seen a computer in my small Mississippi High School. I love it. Got to college, and my professor in a calculus class, he said, You need to study computer science. Said, why not? So he introduced me. Studied computer science. Then I got my MBA while I was working at an insurance company there in Jackson, Mississippi. And then some professors talked to me, said, you really ought to think about getting your PhD or some graduate degree and teach. So I looked around, chose a few schools to apply to, and actually chose, chose to leave Mississippi and come to Louisiana Tech.

LeAnn Waldroup
Well, we're so glad that you did.

Selwyn Ellis
Oh, it's been good,

LeAnn Waldroup
Yes. So what made you decide to go into the field of CIS for your doctorate?

Selwyn Ellis
Well, back then, we truly didn't have CIS, and

LeAnn Waldroup
I guess we should say CIS is computer information systems.

Selwyn Ellis
So back then, we had a department called QA, or quantitative analysis, and you could do two different tracks. One was operations management and one was management information systems. Okay, so I chose, obviously, I chose the management information systems because I was computer, had a computer background, and then some schools still have mis department, or an is department. We have chosen to call ours a CIS department, because it is computers and Information Systems and Business. So

LeAnn Waldroup
You've really seen the evolution of that degree program over time.

Selwyn Ellis
Oh yeah. And it has evolved like I say, a lot of a lot of schools have actually dropped management or computer from the title, but we are still sitting with a cis degree.

LeAnn Waldroup
So one of the questions we get a lot from prospective students, especially, is, what's the difference between computer science and computer information systems?

Selwyn Ellis
So in my view, computer science is very technical, a lot more mathematical programming, software engineering, even hardware engineering, very technical in nature. And the Computer Information Systems degree is all about using technology to solve business problems. Now we're we do teach programming classes. We teach network administration classes. We teach no hardware design, very little, no operating systems programming. We're about data management, database structures and data management and network security, network management. But I think the biggest difference is, is that they are extremely technical, and I admire those kids and professors who do that, but we're much more practical practice in business and solving business problems with technology.

LeAnn Waldroup
So these students are graduating and kind of being the managers for

Selwyn Ellis
a lot of them are, yeah, and I may get questioned on this, but I think most of the jobs in North Louisiana, I would say most are looking for one or the other, not a specific there are very few who need a computer scientist to come work in North Louisiana, maybe GD. It needs a few. The best example I can give you is NASA came several years ago and they were looking for one cis student, one CS student. So. Because they're even the technical places, the very scientific places, they need people to just solve their business problems and make their processes more efficient.

LeAnn Waldroup
It's so important. So you mentioned that you're the director of the Center for Information Assurance. Can you tell us a little bit about that and the special designation that you guys have.

Selwyn Ellis
So in 2009 Tom Roberts was here, and he had this dream of, let's get the NSA to designate our program. And we did. And so he and I were involved there, and then he left a few years later, and I've taken on the role of being the director of that center. And all, all that we do is we have to, I guess, go by guidelines that the NSA sets up and do the check check marks, go to meetings and say we're playing this in the same ball game that you're playing in and your other institutions are playing in. But it's just a validation tool, basically like an accreditation tool. But the NSA carries a lot of value,

LeAnn Waldroup
absolutely, so the center has that accreditation, and then also our graduate certificate in Information Assurance. And correct me if I'm wrong. But I think Louisiana Tech may be the only school in Louisiana with two of the NSA designations. Is that right?

Selwyn Ellis
Right. So there are three designations you can have. You can have a research designation, a Cyber Defense Education designation and a cyber operations designation. And Louisiana Tech has the research and Cyber Defense Education and yes, we're the only school that has two and phenomenal. And there are very few schools around 40 that have two designations in the whole United States

LeAnn Waldroup
will be, we be going for that third? TBD

Selwyn Ellis
The president has told me we are. And buddy of mine with some guys in computer science, Brad listen, and Mike O'Neill, some of the cyber engineering people also, they're, they're supposedly working on the cyber operations designations in the next few months. That's wonderful, if we get that and and I've been told we will. We would be one of 11 or 12 universities in the whole nation. Have three. So they were pretty, pretty exciting, pretty impressive

LeAnn Waldroup

So what part of the this designation is the research side, and you have some faculty members in your department who are doing just amazing, groundbreaking research. You know, Jake Lee on the network security side, Craig van slack, Tom Stafford, do you want to talk a little bit about, maybe your research interest, and then some of the stuff that you're seeing your faculty do?

Selwyn Ellis

So my research is limited now, but I do help those guys sometime. And the computer science people

Selwyn Ellis

You've gotten some pretty big publications lately.

Selwyn Ellis

Thank you. We have, we have our share of I think this one thing about Louisiana Tech, our center is housed in the College of Business, so a lot of our research is behavioral oriented. And if you think about it, most of the security problems we have in the technology arena are because of people and policies and management of people so the restriction

LeAnn Waldroup

clicking on the wrong email

Selwyn Ellis

yes, yes, but there are all kind of privacy issues that privacy is a big, a big concern of our research, or topic of our research that our department carries out various social engineering, but various fishing techniques and the way that people like the click baits we get. But we have some good projects. If you want to go to our website, we have in our center, we have recent publications that are there. And I want to mention one more thing about the center. We have a podcast.

LeAnn Waldroup

Yes, the cyber ways.

Selwyn Ellis

Cyber ways, Dr Stafford and Van Slyke co host this cyber ways podcast. To me, it's amazing, because

LeAnn Waldroup

it really is

Selwyn Ellis

what they do is they take this research that these intellects are doing all over the world, and they have a talk and say, well, here's what they here's what they did, as far as the academic world, to get it published, but here's what it really means to you in the business world.

LeAnn Waldroup

Yeah, I honestly have learned so much by listening to those podcast episodes.

Selwyn Ellis
Very impressive.

LeAnn Waldroup
So you can search for the cyber ways on any of your streaming platforms, and they just really work to connect academia with the real world. Love that. So one of the things that you guys are heavy into right now is AI, and that's kind of why we're doing this interview, is to relate it back to a story that's in the 1894 magazine that just came out the alumni magazine for Louisiana Tech. So what are some of the trends you're seeing in AI?

Selwyn Ellis
Well, I'm gonna give you a history lesson. Yeah, I talked about way over here, but so 35 years ago, I took a AI class in graduate school, and we were worried about playing checkers and Othello and writing code that would. It would be the human being. And so fast forward 35 years, and what what AI is doing, and I try to imagine what's going to happen in the next 30 plus years. It's crazy, but Dr Van Slyke leads a lot of that effort, as far as AI research, and he's well known, speaks all over the nation, even the world, to groups about AI but we're all about using the tools. You know, we we don't generate or create AI tools. We use those tools. We try to train students to be prompt engineers. And what that means is, when you are to prompt of some generative AI tool that they know the right questions to ask And when they get those results, can you at least validate, make sense, that it is actually saying or bringing an answer like You're like you're looking for. And there's a big demand, you can read, there's a big demand. Are going to be a big demand for prompt engineers. They actually have prompt engineering certificates online.

LeAnn Waldroup
Wow. Well, one of the things I know we've talked about in the past is yes, AI is here, but there's always going to be a need for critical thinking. So teaching our students to, I guess, bring together those two entities

Selwyn Ellis
well and even yes and even to problem solve. But think of ways that certain AI agents can interact with other AI agents, and what it'll do. You know, you take this particular set of skills that somebody has, but how they can interact with another tool instantaneously, almost, and come back and give you results. That's pretty impressive.

LeAnn Waldroup
Yeah, it is.

Selwyn Ellis
And of course, we talked all the way over about the ethical component. You just making sure you're, you're doing it the right way. I'll say that. Dr Van Slyke led the efforts for the university. We're one of the first universities that has an AI, an AI use policy. Because, you know, you can't deny it's here. Everybody uses it. Yeah, someone in our office had to generate a letter the other day, and they said

they read the letter and it was, it was nice, great. And they laughed and said, Oh yeah, I got it from chat. G, P, T, yep. And, of course, they changed up a few things, but it can do

LeAnn Waldroup
It's a nice starting point

Selwyn Ellis
to use it. Yep. They know how to use it more than we do. So might as well be ready for it. Make rules about it, how you can use it. We use it in both, basically all of our classes,

LeAnn Waldroup
so the students are getting an introduction to it in CIS 125

Selwyn Ellis
and basically Yes, CS 125 for certain, but 310, and all along, through our curriculum and a lot of other business classes, I think

LeAnn Waldroup
Yeah, what I like about the policy is it's kind of open ended. So if a faculty member does not want AI to be used in their classroom. They can say, Absolutely not. This is off the table. But if you do want to use it and incorporate it into your your projects, then you can, and you have a framework for that.

Selwyn Ellis
So that's one thing. We can we can be we can be creative with it also. So one thing I've learned to do is, in that 125 class, when I do teach it, I get students to generate their own data sets with chat, Gpt so that way, when they solve a problem, at least they have the same answers that their that their buddy has if they do something's up.

LeAnn Waldroup
Yeah, love it. So, you know, we talked a little bit about it being teaching our students to use AI ethically. But like, Why do you think it's important that we train students to use it?

Selwyn Ellis
Well, the what you read about AI, they say that AI will change the world basically the same way that the web changed the world in the late 90s. And so, why? Why do you know how to use it? If you're going to operate in the world, you better know how to use it. Competitions. There competitions using it. Universities are using it. Businesses are using it to generate, say, marketing policies and even strategic plans. So so our kids better be able to use it.

LeAnn Waldroup
What other tech, tech skills, I guess you would say, Are the students learning in the classroom.

Selwyn Ellis

I think the biggest one we strive to teach is just critical thinking, problem solving. That's that's the one I think that's so lost in today's world, because, and there's a big discussion too, is a, I got to make us less likely to use their minds to solve problems. You know, we can just get an agent to solve it for us, but we really strive to help students. Sorry, they need to enhance their critical thinking skills, problem solving skills,

LeAnn Waldroup
so when students come in, they should be proficient in Excel. Is that kind of a mainstay of the basics that our students walk away with?

Selwyn Ellis
Well you know, we know we, you know we the students we get. We get very few that come to school thinking I want to study computer information systems because of. In all the testing services, it's not listed as a major. It never is. And so they come in studying something else, typically an engineering, computer science degree, and the math kind of hurts a lot of them, but we just want them to be technology savvy, a critical thinker, and then we can excel. Is a great skill to have. And yes, you should be. You should be an Excel close to an expert anyway when you leave, but, but more than that, you should be able to learn, because Excel is just a starting point for for our graduates, a lot of them do it. Every business student does it, yeah, just better solve problem and think critically. When I came to teach here, you asked about that. I came to teach, and I was a computer science student, had programming languages, and they put me in a classroom to teach. At that time, Quattro Pro, which is a pre runner of lotus, 123, in Excel, and I had never seen this spreadsheet in my life.

LeAnn Waldroup
Wow.

Selwyn Ellis
They asked me if I could teach a freshman class. I said, Sure, and I could, but and so that just shows you, spreadsheets have stood the test of time. They're gonna be around for a while. They're here.

LeAnn Waldroup
Whats the coolest, I guess, technology advancement that you've seen over your years,

Selwyn Ellis
in the classroom, in the or, I mean, that's just a tough one

LeAnn Waldroup
it is tough

Selwyn Ellis
you know, I just think self driving cars are amazing. You know, I remember also in that AI class in graduate school, we were discussing in class one day about how we could have communication part. It was nothing to send voice out, but to interpret voice. And think of how AI is interpreting your voice, you need to talk into the phone,

LeAnn Waldroup

yeah, talk to text, yeah.

Selwyn Ellis

Understands even with an accent like I've got, or you've got her, you know, whomever you think how it can interpret that and make sense of it. That's That's pretty impressive,

LeAnn Waldroup

and we kinda just take it for granted, too.

Selwyn Ellis

But the the self driving cars, the there's tons of stuff I can't even so much technology has changed our lives there.

LeAnn Waldroup

Yeah, agreed.

Selwyn Ellis

Take it for granted.

LeAnn Waldroup

Yes, we do.

Selwyn Ellis

How about the cell phone? I mean, that's pretty impressive.

LeAnn Waldroup

It is. It's like a little computer in your hand. I know when my mom came to tech, she told me stories about a big room with just like massive computers in it was it in Wiley tower?

Selwyn Ellis

 basement of Wiley tower, yeah

LeAnn Waldroup

 okay, cool. And that she would have to go, and there was some sort of sheet of paper that she would have to put in there, and it would punch little holes,

Selwyn Ellis

punch cards, yeah

LeAnn Waldroup

yeah, and just how far we've come since then,

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Selwyn Ellis

thats true, well, and even stories just gets you know, when I was first started teaching, like this little floppy disk, that they were truly floppy they were

LeAnn Waldroup

we still use the floppy disk when I was in college. I'll say that.

Selwyn Ellis

So storage capacity is is big, but memory and cost of memory, and if you, if you want to think about Moore's law, if you know what Moore's law is all about, it's true. It's true, it's real. And that's what so needs. We're all connected because of that. Now, everybody has a cell phone or a computer, and the internet is everywhere, so we're all connected with each other.

LeAnn Waldroup

You've been at Tech for a while. You've seen the transformation that it's gone through, and that it continues to go through. What makes tech so special to you? Why have you stayed all these years?

Selwyn Ellis

I truly feel like Louisiana Tech is the best public education. It's a small it's a small public school, but it has a private school feel. I taught it to private schools. Seven years I went to private school, but but Louisiana Tech like this morning, I've been so busy with students, you know, and you try that at a large school, it doesn't happen. It just doesn't happen. And the personal touch you get is neat.

LeAnn Waldroup

I've heard so many stories of students that you've never even taught or advised coming to you and asking for advice, or can you help me with my resume? And I think that speaks to, you know, the impact that you have, but also Louisiana Tech as a whole, and just how caring the faculty are.

Selwyn Ellis

I mean at church, Sunday, just Sunday, I saw a guy that he was visiting our church with a friend, and I taught him here. Then I saw at our church another young lady that she was visiting her grandmother because of spring break, and she saw me and spoke so you do, you get to know students in a smaller class or in a small business school for our size university, you know, you get to see people know and know who they are and those relationships, that's what really makes it good, special, I think

LeAnn Waldroup

Agreed Okay, well, thank you so much selwyn for joining us today. I hope you enjoyed it, and that all of our listeners did as well. And I just want to give a little promo for our graduate certificate in. Information assurance that we mentioned, this is the NSA certified certificate. It's 12 graduate hours, I believe, yeah, and it will be going fully online starting this summer. So if any of our listeners are interested in that, you can contact Selwyn. You can contact me, and we'll get you in touch with the right people.

Selwyn Ellis

And to encourage you, we're starting in the summer, because if there's a class every quarter, but that first class serves as a prerequisite for the other three,

LeAnn Waldroup
it's just four classes. And what? What do students walk away with that like the knowledge base?

Selwyn Ellis
Well, it's a basically an overview of security and information technology world. There's a course on a lot of stuff on just basic security and networks, but we have a class on disaster recovery, business continuity. We do a lot of risk analysis, you know, risk analysis, network penetration and and as I said earlier, it is a behavioral degree. But there's a lot of technical components to those four classes. A lot of them

LeAnn Waldroup
Very nice So you can take that as a standalone certificate or as part of the MBA program, and have a concentration in Information Assurance. So if you have any interest in this field, this is the perfect opportunity to kind of dip your feet in and see if it's for you. With that certificate

Selwyn Ellis
a great career enhancer. I mean, really, if you're an IT world and you want to enhance your degree, it's a great career enhancer.

LeAnn Waldroup
Oh, and I completely forgot, but we also have our undergraduate certificate in Information Assurance and cybersecurity management, and we're trying to get the word out to our current students about that, but people in the community can even take those classes and earn that undergraduate certificate. So lots of opportunities to expand your knowledge base in CIS and Information Assurance. And I mean, that's the world that we're living in.

Selwyn Ellis
Look at the Bureau of Labor Statistics, and the growth in that area is probably the if it's not the top, it's one of the top 10 growth areas as far as the jobs they're going to be creating the world the next few years.

LeAnn Waldroup
Well, thank you so much, Selwyn,

Selwyn Ellis
Yes ma'am

LeAnn Waldroup
and thank you to University Communications for having us, and we'll see you next time. Music.

Gavin Kelly

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