Tamara Shoemaker

Hello. I'd like to introduce a few of the faculty here at the Center for Cybersecurity and Intelligence Studies at the University of Detroit Mercy. First up Dr. Greg Laidlaw. 00:00:00 00:00:08

Gregory Laidlaw

Hello I am Dr. Greg Laidlaw. I am the chair of the [Cybersecurity and Information Systems] department. I've been here for about five years. Prior to that I've got about 30 years of industry experience so small medium enterprise networking programming data the whole works. So I'm bringing some of that experience to the classroom and repackaging it and reorganizing it so that it has a cybersecurity focus and also brings some of the experience into the classroom and getting all sorts of good students ready to go to work. 00:00:10 00:00:16 00:00:18 00:00:29

Tamara Shoemaker

Absolutely. So what I want you tell me a little bit about your cybersecurity club. 00:00:44

Gregory Laidlaw

Oh yes. Once a month sometimes more sometimes less. We have just a meeting of students. Sometimes we bring in speakers Sometimes we build and destroy equipment on different topics. You know really trying to get some stuff in the club that we don't have time to cover in the classroom. You know a lot of our topics are you know all of our courses are 16 weeks however some of the stuff is too advanced to cover or we just don't have time. And you know you can tell that a lot of students don't are a little bit disappointed that they're cut off. Well you know where we do like a wireless attack in an ethical hacking but we do the simplest easiest to you know as proof of concept cyber security club is is our 00:00:48 00:00:58 00:01:06 00:01:12 00:01:21 00:01:28

Gregory Laidlaw (continued)

opportunity to remake it and try some additional things that aren't graded that aren't part of an assignment you know really not a pass or fail.

Tamara Shoemaker

You know you a little zap so you can do a little deeper right. Yeah I go a little bit further into it. You can start to say what they actually are interested in and maybe go that direction a little bit outside of the classroom setting. 00:01:48 00:01:52

Gregory Laidlaw

Right. And it's nice to see you know it's nice for me. You know I get to of course talk a little bit more than I do in the classroom but then also see how they work with the equipment and what they're interested in and and really sometimes the intensity of it. I mean you know it's it's nice to see them get that absorbed in that deep into the technology where you pretty much have to yank you know say come on it's 10 o'clock I've got to go to bed I've got to teach in the morning morning right. 00:01:59 00:02:12

Tamara Shoemaker

Right right. No but that's the important thing is that they get that opportunity to do that. One of the added on added features that we have in the cyber security part of the center is that cybersecurity club and I know that you also bring in those professional speakers and that's another thing that's really important for them is to see other people than just us. 00:02:23 00:02:27

Gregory Laidlaw

Oh absolutely yes. And that's part of what it was. We've done that in the classroom and part of the com for a while because I came from industry so when I came into academia and you know with 12 years of schooling 00:02:43

Gregory Laidlaw (continued)

you can tell when you're in the classroom as a student. Who has an idea 00:03:02
of what's going on in the real world and who has never been there and
how that impacts what they're teaching. But even you know the even 00:03:09
when I'm relaying real life stories into the cyber security into the
curriculum that's only my perspective. All small medium enterprise. I've 00:03:19
never worked for Ford GM or Chrysler. I've never done you know no 00:03:23
in-depth incident response for a large company or traveled the globe to
do incident response. You know for our you know for our big three 00:03:33
accounting firm. So it's that kind of experience. And then it's also nice for 00:03:36
me to have other people come in and tell stories that don't sound exactly
like mine.

Tamara Shoemaker

Absolutely. 00:03:46

Gregory Laidlaw

So the best part of speakers is they come in and after seat on the same 00:03:46
thing you did the exact science that I say and the students say suddenly
you weren't making that up right. Of course yeah. How could you doubt 00:03:57
me every now.

Tamara Shoemaker

It's very very real important part. 00:04:01

Gregory Laidlaw

But yes that is and sometimes they do contradict what I've told them or 00:04:03
what you know. And that's also a good learning experience. 00:04:07

Tamara Shoemaker

Well and you bring a lot of things from industry into this into your 00:04:09
teaching experiences. And then like you said then we let me have people 00:04:14

Tamara Shoemaker (continued)

from the outside coming in and doing that kind of thing. It's been a good mix of all of that kind of thing and it ends up being a very well rounded kind of program that we're running. We have some other folks here. I'd love to introduce as well. We have Charles Wilson from the criminal justice side of things. And I'd love for him to explain to us his background and what he brings to the program. 00:04:19 00:04:26 00:04:29 00:04:32

Charles Wilson

Well first of all let me say I feel very fortunate to be able to participate here as a academic member of this faculty. I've been here 10 years now. Social professor and criminal justice studies. But I've had the opportunity to utilize my professional and practical experience that being primarily almost three decades with the Detroit Police Department retiring as the chief of police had an opportunity during my career to be the executive Fire Commissioner. So I have an understanding of public safety from the police fire and the Emergency Medical Service part of it. Additionally I was able to be moderately successful in the United States Army retired as a major general. My last assignment was as the deputy commanding general the United States Army Reserve Command with 200 and 5000 very competent dedicated patriotic men and women. We prosecuted from the reserve standpoint the global war on terrorism. When President President Bush took us to war as a nation in this fight against terrorism and tyranny that it manifested itself on September the 11th in Washington DC Pennsylvania and other locations with the three airlines airliners that was used as weapons. So I have a pretty robust background in terms of public safety military experience. But the beauty of being here in this platform in the Center for Cyber Security Intelligence Studies is that I've 00:04:38 00:04:46 00:04:47 00:05:06 00:05:16 00:05:24 00:05:37 00:05:41 00:06:03 00:06:12

Charles Wilson (continued)

been able to work with my colleagues in a whole new emerging area and that is computer information systems cybersecurity and information assurance because the nature of the phenomena of contemporary crime and the landscape has expanded into this area. We have two dimensions 00:06:39
that are affecting and impacting in a negative way our nation that's in cyber. And of course in our traditional criminal justice and the emerging 00:06:47
field of terrorism global crime transnational organized crime and transnational gang and drug cartels all of those things have an impact on our country but it also manifests itself from the cyber and the terrestrial dimensions of the world. So the beauty of being here in this in this 00:07:10
institution is the fact that we have four disciplines in our center of course criminal justice studies Intelligence Studies cybersecurity and information assurance and the computer information systems. So I'm able to use my 00:07:28
background in law enforcement public safety counterterrorism they said I was the chief of police on September 11th but I was also on active duty when the plane plane struck D.C. as in fact that was a quarter of mile 00:07:46
away from the Pentagon at the army navy club taking a briefing from then the assistant secretary of Defense Rumsfeld. So I have a background in 00:07:56
this area. The part that is significant is taking that background and that 00:07:59
experience experiences and applying it theoretically and realistically to the new environment. And I've been very fortunate that when I came into 00:08:13
this institution I got to meet Professor Dan shoemaker who who served as a mentor and kind of shepherd me into this area. So those are the type of 00:08:24
things that gives us the background gives us the experience and makes us valuable faculty. We not only have practical experience professional 00:08:33
experience as Greg said we actually have walked to walk and talk to talk.

Charles Wilson (continued)

So that's the great thing about coming to this university as either faculty 00:08:42
student is that you get that broad exposure.

Tamara Shoemaker

Absolutely. And in we're working in it as is a community outreach as well 00:08:51
with this podcast. We're honored to have you Charles. And I think that 00:08:58
you've made a huge difference in the way that we look at things. We have. 00:09:04
We all have our own specialties. And I may favor you guys because I have 00:09:05
your degree and I come from the physical security side and I'm a married
into the cybersecurity side and I taught myself many of the things that I
needed to do in that space. And so we are very fortunate to have you in it. 00:09:22
It is that synergy that works in that hallway and that works and all the 00:09:24
things that we do when we're writing books together writing articles
together having guest speakers doing this community outreach and as far
as cybersecurity is concerned it takes a village and we've got a really nice
cross-section of different folks with different strengths. And that's why 00:09:43
we're here introducing everybody so that everyone has an idea of where
we're coming from. And then meanwhile we're talking about some of the 00:09:47
things they'll know that maybe we know a few things about this area and
maybe they can take our advice in and and run with it. It's now my 00:09:55
privilege to introduce Dr. Daniel Schumaker and he will explain a little bit 00:09:57
about his background and how he got into cybersecurity from the IT
background that he has.

Daniel Shoemaker

Hi hardly know where to start. I never actually had an honest job like this 00:10:06
two hear. Most of my background on his academic. I started out basically 00:10:13
my entire academic background and is in Ann Arbor but that was in the

Daniel Shoemaker (continued)

1960s. My first programming job you remember it then. Oh yeah. That 00:10:25
was that was it. Was back a ways. Somewhere around the place the same 00:10:28
thing but yeah my first programming job was in 1968 worked on a three
story high PDP eight that had a full 32 kilobytes of memory. And so things 00:10:48
have changed a bit in my kind of working lifetime. I started here and 00:10:54
actually this is our anniversary in January of 1985 with three students
grew the program. It was sort of an information systems program at the 00:11:07
time kind of classic business and I asked type program in 87 that's 1987
not 1887.

Tamara Shoemaker

So glad you said it now. 00:11:20

Daniel Shoemaker

Yeah I I was one of the very first people the software engineering institute 00:11:23
in at Carnegie Mellon University which is the top place for software in the
country maybe the world. That kind of changed the direction of what 00:11:39
we're trying to do and we were able to do that a little bit more back in
those days when she was reading I have to go through five faculty
committees in order to change a course. And so what we basically did 00:11:53
was evolve the first software engineering program in the state. It's one of 00:12:00
six in the country SCI basically published the kind of Atlas back then and
so if you want to check but you're going to have to go back to 1993 in
order to do that. And we were a very successful software engineering 00:12:12
program through the 90s with a big emphasis on suffer quality assurance.
You know basically deep bug finding software which is the main problem 00:12:22
back then. That was before we had people that actually wanted to break 00:12:27
in. But bottom line basically is that we came into the late 90s the Quality 00:12:31

Daniel Shoemaker (continued)

Assurance piece went away and security became the important part because those defects can also be exploited by bad guys. And so that 00:12:45
was when we first started fooling around with the idea of security and we kind of I don't even remember why we did or how we did it we applied to a National Security Agency to become one of their Centers of Academic Excellence back in 2003. Got accepted and basically got the certificate in 00:13:03
2004. And from that point on we weren't number 39 in the country. I 00:13:09
guess they got 300 some odd now but from that point on we've been pretty much all on cyber security. I've done nothing but graduate teaching 00:13:19
since nineteen ninety two maybe. So basically I worked with the grad 00:13:25
students. And so the program we created we create a separate degree 00:13:29
program and a separate degree program as a master's information assurance which I think as I headed cyber security after its name. But 00:13:41
you're right. That was another master's degree along with the masters 00:13:44
and computer information systems that we offered at the time which is basically technology management degree with a software engineering pedigree here right. I've taught mainly in the cyber security on basically 00:13:57
to develop that curriculum and and you know the courses that go along with it program. And that's been our NSA sanction kind of Catholic 00:14:09
program we have normally kept it early. It's at 60 some odd students right 00:14:19
now but you know compared to some of the larger universities that's a really small bunch very carefully selected. And it turns out folks that have 00:14:28
gotten well up the ladder already for our first graduate is from the program back in 2005 is the chief cybersecurity engineer for the Disney Corporation. But we also have a CISO for the National Park Service and 00:14:45
vice president for something for pretty much everything has to do with

Daniel Shoemaker (continued)

health care in the middle of the country. But our emerged. Exactly what 00:14:59
his title is. And so we have you know a history of success in terms of 00:15:02
turning people out. Main thing has been their ability and ability to work 00:15:07
with these two guys who have been forward thinking you know
groundbreaking my own interest is in you know kind of big picture
standards based architectural process based things at the top. Oh I 00:15:30
forgot to mention I also spent 10 years in D.C. as chair of workforce 00:15:33
training education for the Department of Homeland Security's supper
assurance initiative and I've done an awful lot in D.C. that way. I also 00:15:43
worked on a nice one and nice to National Initiative for Cybersecurity
Education which is the workforce framework for the country. That's a 00:15:56
subject matter expert and also is a subject matter expert for the SEC
which is the AC on my Tripoli recommendations for what a cyber security
security curriculum ought to look at. Like my belief is that I'm not the 00:16:10
smartest guy in the world. And so what I would rather to have is a whole 00:16:15
group of the smartest people in the world telling me what they think I
ought to be teaching. And that's the idea behind these frameworks or 00:16:21
standards that we implement in pretty much the program is based on
that. Both our program and Grace undergrad program are based on best 00:16:29
practice advice from the world's experts not our own high opinion of
ourselves. And that's one of the things that makes us unique in the sense 00:16:39
that you come to us you're getting pretty much what the industry and the
Federal Government feel is the correct content not something that
basically we like or that we made up.

Tamara Shoemaker

Which is also why we were able to sort of make that change right so we were able to go from software engineering into a software assurance with just the slightest bit of a change just because you are already following standards that were for software engineering and then you added the software or the security standards into that mix and it was just an easy thing. And like you said that that transition didn't take a big lift because all you had to realize were were that now you had an adversary that was going to go after those vulnerabilities. And so when we talk about this to a lot of people when you say the word cybersecurity they get a little nervous and little scared about how this is some kind of voodoo and scary stuff and they're not going to be able to know technically enough things in order to be able to do that to be able to sort of stay one head one to one jump ahead of the bad guys. But as we all kind of know that's not necessarily where it's at. I think you use an example about outrunning a bear quite a bit in your speeches across the country that I think maybe you could say that little joke again. You don't have to be the fastest in the room you just have to outrun someone else. And so basically when you're protecting yourself in this piece just don't be the slowest. It definitely has been the synergy of all the group we've all sort of taken on that kind of configuration about following some other smart people that have gotten together and have talked about what our best practices what are the best ways of going at that. And we've done that and in each of the programs that we've sort of followed that kind of mode here. So again it's not while we have a ton of folks who are really interesting have industry backgrounds have you know very very good educations a lot of experience. We are also following what what are the national protocols for

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Tamara Shoemaker (continued)

all this stuff. So it's not just because we you know are the smartest men in the universe here but. 00:18:39

Charles Wilson

I would like to reinforce again that Dan is very humble about his background. And when I joined the university when they cut the ribbon on the center upstairs I was very naive about the impact of the cyber threat and I have since with his assistance in working in partnership with Greg have learned a lot about the digital impact of crime. For example we can talk about the need to have people understand the cyber landscape but there are a lot of things happening on a daily basis such as sex texting revenge porn cyber bullying and cyber crime. That does not respect the separation or the segregation between the physical world and the digital world. And Dan has enabled me and working with Greg to broach some very innovative thought processes and proposals for for the center to try to not only help me academically and in an experimental rise but two forecasts to see that we need to kind of force the issue and that that's what he's allowed me to do. I've been to several of his conferences and he's allowed me to come in without restriction and to talk about these various issues from both the intelligent analytic standpoint and the criminal justice standpoint. So I'd like to applaud him for that. 00:18:43 00:18:50 00:19:14 00:19:30 00:19:39 00:20:09 00:20:23

Daniel Shoemaker

That's thanks a lot. Here's your 10 bucks for saying that. 00:20:25

Tamara Shoemaker

Well you didn't mention also he's quite quite the author. You have quite an established group of listing of books and in the area of cyber security and all the different pieces in. 00:20:30

Daniel Shoemaker

Most people just think I'm a well-known character. 00:20:41

Tamara Shoemaker

That we're aware of that. 00:20:44

Daniel Shoemaker

What we have been able to do with the synergy here is the story basically 00:20:46
is the story of the eight blind men and the elephant and that's the field
right now the entire cyber security universe is in stovepipes. So what 00:20:59
you've got basically is you know the whatever you're touching is cyber
security. But that isn't really the case the entire elephant is you know ours 00:21:06
is all the things you're touching and that's called a holistic view of the
world. But that's basically what we're able to kind of create here and what 00:21:14
what Charles has done is sort of allowed us to push a frontier out into
cyber. You know the whole cyber crime auto sort of stuff. Just a couple of 00:21:26
statistics you might find interesting are actually one. 2015 cybercrime 00:21:34
costs the world 500 billion dollars. That's with a B by 2018 it had gone up 00:21:40
to 3 trillion with a T dollars and it's forecast to be at 6 trillion by 2021 by
Microsoft. Or to put it in perspective the current losses to cybercrime are 00:21:57
equal to the gross domestic product of England France and Germany put
together.

Tamara Shoemaker

Yeah. 00:22:07

Charles Wilson

Yes and that but that's the beauty of working with you and you've allowed 00:22:08
me to explore those areas and for example me and Greg have tended
inaugural conference for the intelligence. What was that the intelligence 00:22:21
community for ICF. Did a bunch of technocrats. But we went in and 00:22:26

Charles Wilson (continued)

presented a paper on the triad threat of cybercrime cyber terrorism and cyber warfare. And we went in kind of I don't want to say blind but oh yeah yeah we did yeah sort of the eight men with the elephant but we went in not really knowing how was going to be received. But it was well received. We had a lot of dialogue a lot of interest and we actually connected with several colleagues that are trying to push this envelope. So Dan even directly you have an impact that even indirectly through the the faculty that's coming in behind you we are starting to indoctrinate or at least plant the idea of some of the things that you've allowed me to acquire knowledge of him. 00:22:34 00:22:48 00:22:49 00:22:57

Daniel Shoemaker

I'm enjoying my time in the pasture watching you young studs out there carrying the the. 00:23:16

Tamara Shoemaker

Well let's not get carried away you're not exactly in the past you you're teaching a full load you're just not doing any of the administrative work that you used to do and we'd have to thank Greg for that. So he's taken that burden. He's doing an amazing job and we really appreciate that so that you can do that. 00:23:23 00:23:31 00:23:34

Gregory Laidlaw

Well you make it sound bad some of it is know is directed at the students and helping them through what can be a minefield for them to dig to get through this process and where they need to go and what they need to do. But you're right some of it's. 00:23:39 00:23:51

Daniel Shoemaker

Well no one of the things the best part about the other two guys in this room is they really care about their students. 00:23:53

Gregory Laidlaw

Oh yeah. And that's that's true of everybody at the University realistically. 00:23:59

Absolutely. You know we're small we're focused. We work well together we know each other we can we deal one on one with the students all the time. 00:24:02

Daniel Shoemaker

Yeah but when you've got a problem I know I can get it with you or you and we can work it out rather than saying don't bother me kid I've got something else. 00:24:11

Tamara Shoemaker

You know we're also very fortunate because we are small program and we have some major players here that we get to work with but we also can then bring in adjuncts that are from the profession. And so we get to have that right there in the classroom so not just as a guest speaker but to actually teach the class as an adjunct and they are a leading edge in the middle of the actual fight with themselves at their work. And then they come in and they can take that knowledge and then portray it into our students and they can get that firsthand knowledge. And so we are very fortunate with the way I'm so working in the center. And you know and because of what we do we are a center back home. Excellent. We have been for 15 years. We'll continue on that road covering the things that we need to for the three letter agencies and making sure that you know all the folks that want to get those jobs are equipped and are ready to do that. But then we also are working on working with our industry partners 00:24:19 00:24:29 00:24:42 00:24:48 00:24:51 00:24:56 00:24:58 00:25:08

Tamara Shoemaker (continued)

last week we had a board of directors meeting our advisors are amazing people from industry here in the Michigan area and they're telling us what we need to do specifically for autonomous vehicles what we need specifically for our keep our heat light water running and our medical people and all the things that they now have to deal with life and death but everything is connected now.

Charles Wilson

The cyber threat in the area of what you're talking about is critical infrastructure health management the privacy issue of HIPPA which is now under attack in many locations due to hacking and a few others. So we really can't separate out these disciplines and say that one does not impact or overlap with the other but that's the beauty of having Dan and Greg and some of the adjuncts and the advisory board the advisory board. And don't forget yourself the outreach yes to the impact that you're having in making a significant constituency aware of what's here at the University what the capabilities are and what the products that we can deliver is also important. So you do you do a fantastic job of that. Again it's a great team and I tell you I was excited 10 years ago to come here. I retired three times but I'm here and I'm excited to come to work each day because I'm able to work with people like yourselves.

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Daniel Shoemaker

You do need an evangelist because I know I mean I'm not here because it should keeps dragging me out of the pasture for things like this. And same thing with the rescue you know organizing opportunities and venues and that sort of thing is critical. Most of us would do whatever we do without a real thought about the kind of the community aspect or even

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Daniel Shoemaker (continued)

the societal aspect simply because it's just not in our wheelhouse. You 00:27:04
know she on the other hand creates all of this sort of kind of the medium
the rest of us kind of swarm around. And in terms of what she does and 00:27:11
that's really just as important as anything that has to do with I got one
last thing about that in terms of what you were talking about Charles the
actual proportion of losses to Sarah type attacks in terms of where
they've come from. Only about 29 percent are actually electronic. The 00:27:35
other 71 percent are either human based or physical literally physical
attacks. And that's not has nothing to do with bits bytes or anything has 00:27:47
to do with the computer. And so you know we in unless we want to 00:27:51
become a large province of China we're gonna have to basically view this
as is in its totality as a complete package. And that's basically what you 00:28:02
bring to the table.

Charles Wilson

Well again it's a great opportunity and I have a lot lot more to learn but 00:28:04
working with you all I'm able to expand that knowledge envelope. But and 00:28:14
I want to say this we have had a remarkable body of students who have
went out and taken these very difficult jobs on and they come back to the
university. I mean almost on a daily or weekly basis to get things and tell 00:28:28
us how they're doing. So we need to continue to understand the impact. 00:28:33
They understand the force multiplier is what I call it. 00:28:36

Tamara Shoemaker

That said we were that's a good one. It's been a very good conversation 00:28:39
about that. I'd like to go a little tiny bit into sort of some of the community 00:28:43
outreach stuff that we work on. So the main thing I think that I get excited 00:28:47
about the most right now is the Cyber Patriot piece. And so I started out 00:28:54

Tamara Shoemaker (continued)

not as altruistic as it seems. We needed to make sure that the message 00:28:59
got pushed down further right. So it's not when we got them when they 00:29:03
were in and you know coming into the university was the first time they were ever thinking about cyber and security and careers in that it was too late. We were getting the kids that were self selected already. You know 00:29:13
they've already been taking their computers apart and you know hanging out in the basement and gaming and doing all that kind of stuff and they just naturally came over here and took our programs what we wanted to do and our holistic approach is to reach many more of those folks with a different kind of skill set. We're much more diverse population and a 00:29:33
much more broader look at this problem because if we keep throwing the same kind of person at this problem all the time we're going to get the same results. And so we really need a diverse population we really 00:29:43
needed it to be across the board different kind of holistic views on this not just the guy who was taking it apart and and that kind of thing but maybe the guy who you know learned how to work around some things maybe and maybe the person who's who can work poor people really really well and can social engineer them and that kind of thing. So this 00:30:03
Cyber Patriot thing was presented to me several times and I kept saying I'm too busy. There's a lot of other things I got to work on until I sort of 00:30:09
slow down and paid attention to how easy it was to implement. And so as 00:30:15
a commodity community outreach piece and to get more diversity into the workforce and more people just in that in the pipeline in general I started to work on growing the cyber pager program across Michigan. We've 00:30:28
done a really really good job. And people here in this building have been 00:30:30
very very supportive of that outreach and of that program that reaches

Tamara Shoemaker (continued)

way beyond just the Dems sort of area. And I've told folks quite a few times I won't stop until every school has it because it really needs to be a culture change. You touched on that a bit Charles about how it needs to be a culture change. Right now we're all about the innovation as much as we can get as fast as we can get it without any thoughts about what that's going to bring and what it has brought is tons of vulnerabilities and many many more opportunities for folks the bad bad actors to get into our stuff. We have these kids who are bright shiny pennies and they are learning at birth how to swipe an iPhone or an iPad and how to get into things and tell a story about my grandson at three years old being a shoulder surfing grandpa for his password because I play angry birds together. Right. Well at three years old he doesn't know that shoulder surfing is something he shouldn't be doing. He just knows that he's been playing this game with grandpa for quite a while. 00:30:39 00:30:47 00:30:50 00:31:07 00:31:25 00:31:30

Daniel Shoemaker

Genius. He knows what he's doing. 00:31:33

Tamara Shoemaker

And he just wanted to have more. I don't know golden eggs or feathers or whatever it is that you do in that game. So I want to take that natural ability in these kids and make sure that we fertilize it and we grow it and we show them some really cool things that they can do with it and the Cyber Patriot thing was an easy thing to do. So yeah. 00:31:34 00:31:40 00:31:50

Gregory Laidlaw

I'm sorry. 00:31:51

Tamara Shoemaker

No go right ahead. 00:31:52

Gregory Laidlaw

I get involved as well. Just because I think it's important to expose students to that whether they're interested in the industry or not their first exposure should not be university level it should be an exposure to the breadth of the cyber security or the criminal justice side of it to see what is it that they're interested in how can they participate or not participate even if they if they participate in cyber is a patriot and do something entirely different. At least now they're thinking about security when they're when they're in the boardroom and approving things they still that have it in their brain that it may we should think about the security of this rather than just how technically awesome it is. And that's where we you know like you said that's where we see a lot of our problems as we see proposals. They're technically awesome. They're bright and shiny. We approve them and then only after the fact that we think about well hey what might be the downside. 00:31:53 00:32:19 00:32:35 00:32:40 00:32:42

Tamara Shoemaker

If I open myself up here. Yes absolutely. 00:32:48

Charles Wilson

I remember we were over at engineering and you had a competition I believe with one certainty you open up to the regional area and we had kids come in from all over but I was struck by one class of young Afro-American female students that came to observe the competition and at the end of the day they left understanding what STEM science technology engineering math they left understanding that they have an opportunity and should avail themselves to develop in those skill sets. And I remember two or three I think there was two teachers that was escorting these young ladies and one assistant principal that had no idea 00:32:51 00:33:28

Charles Wilson (continued)

about stem the impact and the things you were doing so we know that minority women are underrepresented in this particular field in this profession. So just that in and of itself was anecdotal and one time. 00:33:51

Tamara Shoemaker

Oh not at all. That happens to me over and over and over again. I mean I 00:33:57
think is beautiful about that is that that that happens all the time because this program is not cost prohibitive. So it's important done virtual and it's 00:34:05
very inexpensive. So there aren't some of the barriers that are in the way 00:34:09
of some other programs that may be wonderful but there they have some barriers. Right. This one doesn't have that. It's very very inclusive. In fact 00:34:16
if you have an all girl team it's perfect. It's totally free. If you're in a title 1 00:34:22
school it's all free. You know so I'm not joking when I say I want every 00:34:26
school because it really is a cultural thing that I'm looking for here. Just 00:34:34
like I might one of my examples is you get in the car and you put your seat belt on well my grandchildren. I get in the car and I don't have the 00:34:43
neck that I used to have and the vision that I used to have and so I don't put my seatbelt on immediately I back out of the driveway and then I put my seatbelt on because I'm trying to make sure I don't run over anybody. They scream and yell at me and say we can't leave the driveway now and 00:34:55
you don't have your seat belt on. You know he's told to them is totally 00:35:00
foreign to go anywhere in a vehicle without a seatbelt. I want it to be 00:35:06
totally foreign for them to not go anywhere on the Internet anywhere they're connected without being safe and without knowing how to protect themselves. We sometimes get kids in in these camps and in this in this 00:35:15
program who can't see why they need it or why. And in a lot of them 00:35:22
maybe they don't have PC's at home a computer at home or a laptop or

Tamara Shoemaker (continued)

an iPad but all they have is phones. So the first thing I say to them is give me your phone and they say why. And I said because I want I want to look at it. Do you want me to look at it. No. Is it password protected. No. Well that means if you drop it someone else owns everything that you have. Right. But it never occurred to them that that's a PC. It's a it's a thing where all their information is right. I mean we talked last week. Greg you talked about how people think you put something on the Internet and you take it back off the Internet and it's gone. 00:35:30 00:35:34 00:35:36 00:35:46 00:35:52

Gregory Laidlaw

All right. 00:35:59

Tamara Shoemaker

Well no no it's not right. But these are things that kids don't know. Right. And it's real easy for us to. 00:35:59 00:36:04

Daniel Shoemaker

Some adults to say. 00:36:05

Charles Wilson

There is a lot of adults. 00:36:07

Gregory Laidlaw

Absolutely. 00:36:08

Tamara Shoemaker

It's easy for us though during a competition or at a summer camp or whatever to have those kind of conversations with them. And like I said if the unintended consequence or maybe the intended consequence is that more people stay in STEM and and realize that there are many more available things for them to do. It's not just about ones and zeros it's not just about coding it's not just about networks. You know that's why we 00:36:09 00:36:17 00:36:28 00:36:32

Tamara Shoemaker (continued)

bring up so one of the standards one of the frameworks that we use and they alluded to this earlier when they said that their programs were aligned to the nice workforce framework. That's another thing that I talked to these young people about. Right. So there are 32 different kinds of cybersecurity people. Is that correct. Different categories. 00:36:43 00:36:45 00:36:50

Daniel Shoemaker

32 specialty areas. We were very happy when we created one more special area because it got us away from the Baskin-Robbins compare 31 flavors. 00:36:52

Tamara Shoemaker

Yeah. Very good very good. So but then in those 32 different kinds of than they have hundreds of job titles in the beginning everyone called something somebody is different. You know we didn't have the same lexicon at all. So if they didn't have that framework we didn't know what we were doing. Well today in the Midwest when I'm talking across the state to these kids and these teachers and all that they don't know about the 32 different kinds of things. Yes. All they think when they think about computers is you know coding and networks maybe you know they don't go beyond that. And again that's what our problem is. No one's going beyond that. Right. So we need to inspire these kids that are very creative and very innovative in their own way and they shock me all the time. If you don't put parameters on them it is amazing what they can do. And so I see these kids and the things that they're coming up with and the things that they're doing in these situations and I'm excited about the future. I know that there's a lot of bad guys out there working full time on this. But I think if we can inspire the youth to get involved in this we're going to be 00:37:01 00:37:13 00:37:16 00:37:18 00:37:27 00:37:35 00:37:38 00:37:46 00:37:50 00:37:57 00:38:00

Tamara Shoemaker (continued)

OK. They are the ones who are going to come up with the innovation if they're thinking about security while they're coming up with it. Hopefully we'll have a bit of a head start on things. 00:38:05 00:38:10

Charles Wilson

Really it's important to bring the kids into the fold but it's also important to expose and make adults and elderly individuals aware also. We did a paper on cyber criminology and you know Criminology has to deal with why a crime occurs. And we highlighted the routine activity theory which says that the activity of people on a routine basis when they start their computer and put their password in their activities and how they manifest their activities on the internet leads them to a high probability of being a victim victim. 00:38:13 00:38:26 00:38:33

Tamara Shoemaker

Absolutely. 00:38:56

Charles Wilson

We'd say that people leave their home. They will cut off their lights they will cut on their alarm but they'll leave their computer running open and running and they won't shut it down and they won't. Or do you they'll use some very weak password for credentials. All those are routine activities so we need to actually touch the kids since you are doing but we also need to know how we're used. Some awareness and education to the adults to make them more knowledgeable and to give them some strength to not be victimized by these criminal. 00:38:57 00:39:10 00:39:15 00:39:24

Tamara Shoemaker

Will and that leads right into why we're doing this podcast. We want to reach out to the community not people who are already cybersecurity 00:39:34

Tamara Shoemaker (continued)

people but people who need to know this knowledge and we can help you get through some of those things. What you said is completely true the 00:39:46
senior citizens are the highest target richest environment for cyber
romance scams and health fraud. So folks are stealing their health 00:39:55
information so they can do. Fraudulent claims. They are definitely hit real 00:39:57
real hard and they're sort of the ATA most vulnerable population as well
because they didn't grow up with this stuff at all but they are trying to
stay social and they are starting to stay connected and they are isolated
and alone and this is a way for them to actually do that. But then we have 00:40:14
all of the vulnerabilities and things that they have no idea about. So we're 00:40:18
hoping as weeks progressed and we continue to put down some podcasts
we'll start to give you guys some really good tips and tricks and things
that you can do. And I love the way that you said Charles about how it just 00:40:27
becomes part of your routine.

Charles Wilson

Yes. 00:40:31

Tamara Shoemaker

I mean you're vigilant with your you know you make sure that you park 00:40:32
your car in a lighted lot and you do all these other kinds of things with
physical illness but we aren't doing that in cyberspace. And we really 00:40:41
need to do that. And with this group of experts I think we can maybe get 00:40:43
there and make some difference and help out.