Center for Forensics, Information Technology, and Security (CFITS) Newsletter

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UNIVERSITY OF SOUTH ALABAMA
SCHOOL OF COMPUTING

CENTER FOR FORENSICS, INFORMATION TECHNOLOGY, AND SECURITY



CFITS Cybersecurity Colloquium

March 22, 2023, 2:30 pm

Marx Library Auditorium

Lt Col Alex Lamkin

Commander
81st Training Support Squadron, Keesler AFB

Lt Col C. Alexander Lamkin is the commander of the 81st Training Support Squadron located at Keesler Air Force Base (AFB), Miss. In this role he is responsible for faculty development of all local technical training instructors, development and maintenance of the academic network environment and creation of numerous training products leveraging software developers, industrial craftsman and electrical engineers in support of approximately 29,000 graduates per year. Lt Col Lamkin is a graduate of Howard University, Washington, D.C. and received his commission through Air Force Reserve Officer Training Corps, Detachment 130. Lt Col Lamkin has served as a Cyberspace Operations Officer completing tours in Network Defense with the Defense Information Systems Agency (DISA), Network Exploitation with the National Security Agency, Offensive Cyberspace Operations with United States Cyber Command and deployments in support of the 101st Airborne Division at Bagram Air Base, Afghanistan and USSOCOM.

NATIONAL CENTER OF ACADEMIC EXCELLENCE IN CYBER DEFENSE (CAE-CD)

Director's Message



Man's Flight Through Life Is Sustained By The Power Of His Knowledge.

-Inscribed on the
Eagle and Fledglings Statue,
United States Air Force
Academy (USAFA)

Spring is a busy time for our students that are involved in senior projects, traditional internships, and managed internship teams as well as for faculty that are involved in various aspects of our CAE activities and educational partnership agreements. CFITS has been active this semester in visiting our partner schools to discuss cybersecurity curriculum and other needs, as well as hosting several in -person camps and meetings for our K-12 partners. We continue to look for opportunities to serve our partner schools in terms of on-campus field trip visits and industry professional talks in their classrooms. As we prepare to engage with DoD partners over the next few years in an expansive workforce development project that will grow SoC's capability for advanced state of the art inspection and evaluation of system components, we are currently planning on development of laboratory equipment and tools for space hardware assurance technology that will offer students and faculty a wide range of research and workforce opportunities. We anticipate that announcements will begin to roll out this summer for post-doc, research scientist, and research assistant positions.

CFITS Sponsors Women in CyberSecurity (WiCyS)

CFITS and the School of Computing were first time sponsors of the Women in CyberSecurity conference this year, which was held March 16-18 in Denver, CO. SoC students and faculty have attended this event since its inception in 2014, and the conference brings together industry, academic, and government partners whose mission is to help recruit, retain, and advance women in cybersecurity. WiCyS was envisioned by Dr. Ambareen Siraj as part of a National Science Foundation grant given to Tennessee Tech University in 2013. It has since become a large global community of women, allies, and advocates dedicated to bringing talented women together to foster a passion for cybersecurity. Over 1900 attendees came together this year as Dr. Todd McDonald and Ms. Angela Clark (IST Dept Chair) represented USA as part of the many sponsor exhibitors. SoC students Rebecca Clark and Shelby Caldwell attended the conference as well.







DayZero Grows in Expertise and Capabilities in Competitions

DayZero is a USA student organization dedicated to furthering cybersecurity knowledge and skills through participation in regional and international cyber competitions and capture the flag events. The group is actively sponsored by AM/NS Calvert and CFITS. Our students have been busy this semester training, preparing, and participating in several different regional and national competitions.



One of the premiere blue team / red team competitions is the Collegiate Cyber Defense Competition (CCDC). The Southeast region hosted over 30 teams in a preliminary qualifier in February, and USA's team placed in the top 8 in the region. This earned the team a spot at the regional competition held at Kennesaw State University on 7-9 March. Nine USA students competed and did an outstanding job in the competition, earning both the Best in Defense and Best in Business awards out of the other 8 teams. The competition provides an opportunity for students to role play as an IT organization responsible for protecting and defending a corporate and business network during an active cyber attack by skilled red-team hackers. Organizational sponsors such as Battelle, the National Security Agency, Amazon, and Palo Alto along with others were present to conduct on-site job interviews and recruiting, making the event a career starting opportunity for many of our students. The SECCDC team (pictured left to right, bottom to top) was Ethan Blum, Jamie Carambat, Rebecca Clark, Skylar Love, Destin Hinkel, Dr. Todd McDonald (coach), Matt Van Welzen, Sam Smith, Chad Callegari, and Zac Van Welzen.

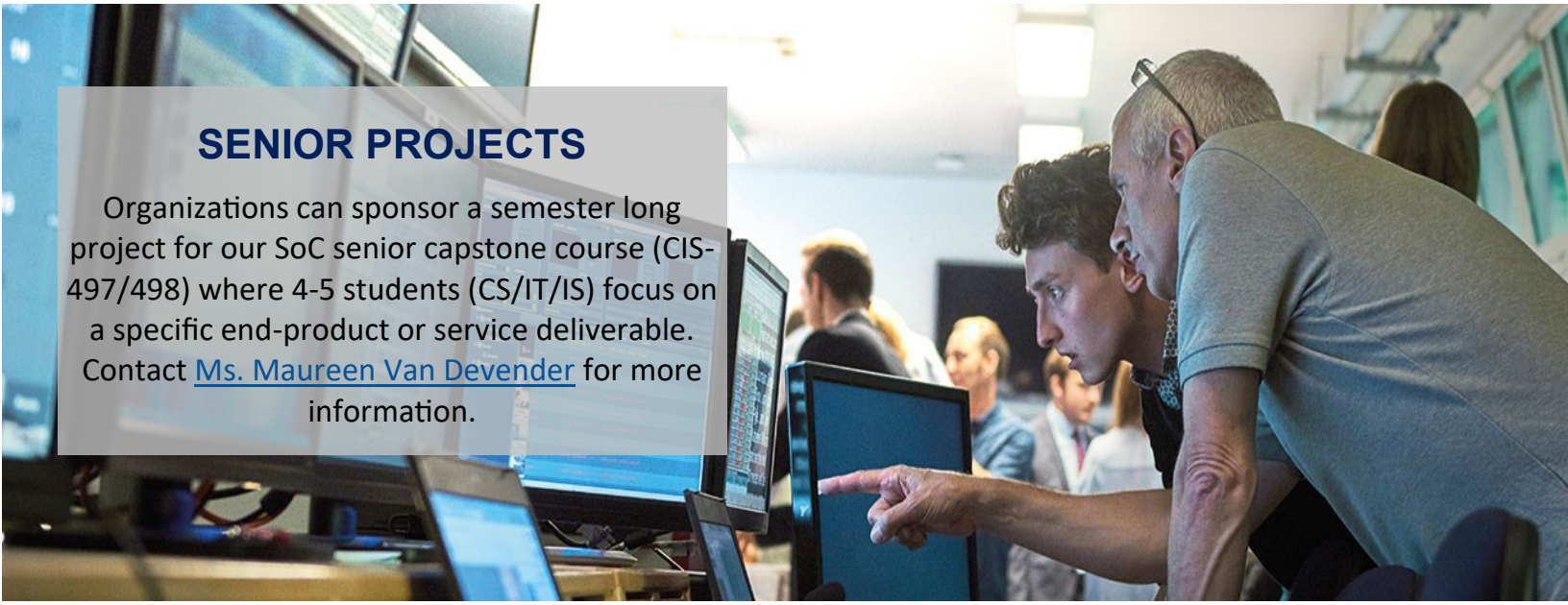
Towards a completely different aspect of cybersecurity, the Cyber 9/12 Strategy Challenge was hosted by the Atlantic Council and provides an annual cyber policy and strategy competition where students from across the globe compete in developing policy recommendations tackling a fictional cyber catastrophe. USA sent a team of 4 students (CyberJags) to the Washington, DC regional event on 17-18 March. Students from across academic disciplines gained a deeper understanding of the policy and strategy challenges associated with management of tradeoffs during a cyber crisis. The event was part interactive learning experience and part competitive scenario exercise. Our team performed well and learned a great deal about national, international, and private-sector interests as well as how to formulate courses of action for government action through the National Security Council. The CyberJags team (pictured left to right) were Kevin Hughes, Chad Callegari, Mr. Jeff Holifield (coach), Destin Hinkel, and Luke Curley.



Finally, students that were totally new to cyber competitions were able to compete in the NCAE CyberGames in a regional play-off that took place on March 4th. This was the first time a USA team has been fielded for this competition, and they performed exceptionally. The NCAE Cybergames Competition is a beginner-friendly competition oriented towards students that have never competed in a competition before. This year, we sent a team of 8 to the competition, where they placed 3rd overall in the regional. Our team managed to score the highest in service uptime among the seven other schools competing, which represents keeping a company operational during a cyberattack. Team Members (pictured left to right) include Nicholas Thompson, Sarah Pyle, Robert Anderson, Brianna Rawden, Housseuina Ba, Jalyn Thornton, Lydia Stroud, and Jose Wheeler. USA is a National Center of Academic Excellence (NCAE) in Cyber Defense, which is a renewable designation given to universities that meet criteria established by the National Security Agency and Department of Homeland Security for cybersecurity curriculum standards.



Partnership and Engagement Opportunities



SENIOR PROJECTS

Organizations can sponsor a semester long project for our SoC senior capstone course (CIS-497/498) where 4-5 students (CS/IT/IS) focus on a specific end-product or service deliverable. Contact Ms. Maureen Van Devender for more information.



INTERNSHIP PROGRAMS

For industry partners looking for traditional internships where students work on-site during the school year or summer, or for development-based teams of 4-5 students that can meet short-term project demands under the leadership of an SoC faculty member. Contact Dr. McDonald for more information.



K-12 STEM OUTREACH

Schools can arrange for Hands on Learning Activity (HOLLA) field trips to the USA campus where 30-60 students can learn topic-based, instructor-guided content. For more information see the HOLLA information page. Available topics are posted on the K-12 Resource Repository page.

WE ARE CYBER

Aviation and Missile Technology Consortium (AMTC) Collaboration

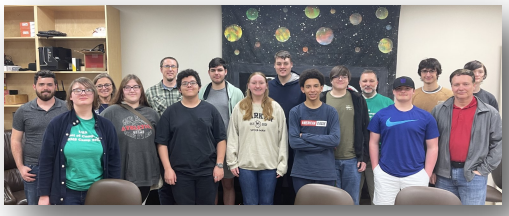
CFITS recently participated in one of the annual AMTC collaboration events held in Huntsville on 27 March. The AMTC advances Army aviation and missile capabilities through a consortium that supports research, development and prototyping and the organization helps minimize barriers to entry for small, non-traditional businesses to work with the Government funded research and prototyping opportunities. CFITS has been an active member of AMTC for several years, and the consortium has helped position USA faculty and students to participate in rapid research and innovative solutions as a non-traditional industry partner. The AMTC OTA offers federally-funded research and business opportunities for members through solicitations and CFITS has taken advantage of several partnership agreements with other AMTC members. CFITS is engaged with several partners through the consortium and various managed internship teams over the past years have focused on technology development for the aviation, space, and missile communities.



ASMS Visits SoC for Computing Camp

CFITS and the School of Computing hosted the Alabama School of Math and Science (ASMS) for a computing camp 13-17 February. This nearly annual event has drawn any where from 10-30 ASMS students and their faculty to the campus for computing related skills development. The camp this year focused on Python coding for game and music creation, project management basics, Raspberry Pi projects, introduction to artificial intelligence, and web development with HTML, CSS, and Javascript. Mr. Keith Lynn provided the majority of the instruction for the camp and Mr. Rick Green and Dr. George Clark provided lab tours of SoC's forensics, SCADA, and side channel analysis laboratories. The students toured Shelby Hall with Mr. Barnett and Dr. McDonald for an overview of SoC programs, research opportunities, and cybersecurity training. The camp also included a tour of USA Health with Mr. Steve Travers and a chance to sit in on the monthly CFITS Cybersecurity Colloquium. ASMS is one of the many Mobile area schools with computing focused curriculum that is part of the CFITS partner school program.





The Center for Forensics, Information Technology and Security is designed to promote the advancement of knowledge related to the study and application of digital forensics, information technology, security and assurance. CFITS is supported by the University of South Alabama and the School of Computing to further the educational, research, and community engagement goals of both.