



WASTC 2020 Faculty Development Weeks

High Speed Networks, Intrusion Detection and SDN

Dates: Fully Online, June 15-19, 2020

Times: 9am -12 pm Lecture Lab, and 1 -3 pm Office Hours [PST]

Workshop Overview:

University of South Carolina (USC) has developed high-speed network labs, Zeek Intrusion Detection (IDS) labs, and Software-defined Network (SDN) labs. These labs are available for NETLAB+ customers and as a hosted service via NDG portal services.

Pre-requisites:

The only pre-requisite is connectivity to Internet and a browser to access the online platform. Attendees will be provided with an account to access a USC's NETLAB system: <https://netlab.cec.sc.edu/>.

High-speed Labs

The labs will educate learners on how to deploy networks operating at 10 Gbps or more, the importance of resolving latency, jitter, provisioning enough buffer size at routers, testing different congestion control algorithms, mitigating bufferbloat problems, and other issues that are extremely important in production networks.

Zeek Intrusion Detection Labs

Zeek (zeek.org) is a popular open source Intrusion Detection System (IDS), based on 20 years of research and deployments. It is primarily used as a passive security monitor, which inspects traffic on a network for signs of suspicious activity. The labs will cover from basic introductory concepts to more advanced detection techniques.

SDN Labs

The labs will introduce learners to SDN concepts using production-grade network elements. These include standard protocols such as OpenFlow, SDN switches, and Open Network Operating System (ONOS) controller. ONOS is the leading open source SDN controller for building next-generation network solutions. The labs will enable learners to develop SDN expertise, using the NETLAB environment.



Instructor: Dr. Jorge Crichigno is an Associate Professor in the College of Engineering and Computing at the University of South Carolina. He received his PhD in Computer Engineering from the University of New Mexico. He has over 70 publications in peer-reviewed journals and conferences related to networks and cybersecurity. Prior to working in the academia, he worked in the telecommunications industry as a network security/software engineer. He currently leads projects involving workforce development, big science data networks, cybersecurity, and Science DMZs (secure high-speed networks operating at 100 Gbps).

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