

**NORTH CAROLINA STATE UNIVERSITY**

**OPERATIONS RESEARCH PROGRAM  
SEMINAR SERIES**

**January 29th, 2024  
4:30PM-5:45PM**

**In-Person: 4134 Fitts-Woolard Hall**

**[Zoom](#) details – bottom of page**

**Dr. Zhishan Guo**

**Associate Professor Department  
of Computer Science at  
North Carolina State University  
[zguo32@ncsu.edu](mailto:zguo32@ncsu.edu)**

**Title**

**Resilient and Efficient Real Time Systems via Mixed Criticality --- Towards  
Certifiable and Intelligent Real-Time CPS**

**Abstract**

In the era of Cyber-Physical Systems (CPS), sensing, communication, and computing are becoming more affordable and integrated. Many CPS have strict temporal constraints and often of massive scale. This talk discusses our recent and ongoing efforts to incorporate reliable, interpretable, and transferable machine learning and real-time scheduling techniques for CPS's modeling, design, and analysis. With various engineering applications, those solutions shed light on handling challenges in energy efficiency, security isolation, system coordination, reliable prediction & control, etc., of modern CPS.

## **Biography**



### **Dr. Zhishan Guo**

Dr. Zhishan Guo is an associate professor in the Department of Computer Science at North Carolina State University, where he is also the founding director of the Cyber-Physical Systems focused group/center, and the director of the Real-Time Intelligent Systems lab. He received the Bachelor's degree (with honor) in Computer Science and Technology from Tsinghua University, China, the M. Phil. degree in Mechanical Automation and Engineering from the Chinese University of Hong Kong, Hong Kong, and the Ph.D. degree in Computer Science from the University of North Carolina at Chapel Hill. His current research interests lie in real-time scheduling theory, machine learning theory, and their applications to Cyber-Physical Systems. He is a recipient of the ACM SIGBED CAREER award, NSF CRII award, and has received best paper, best student paper, and outstanding paper awards from prestigious conferences such as RTSS and EMSOFT.

### **Join via Zoom Meeting**

Join Zoom Meeting

<https://ncsu.zoom.us/j/97198402775pwd=dGN3ZDdlbm1obXNXMTEzUkJlcEILdz09>

Meeting ID: 971 9840 2775

Passcode: 557407