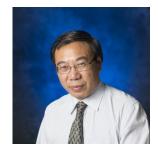# Talk information

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Title of the talk: Cyber-physical security of networked industrial control systems

Abstract of the talk:

As part of national critical infrastructure, modern networked industrial control systems (ICSs) are more vulnerable than ever to various cyberattacks. Tacking this issue requires not only a good understanding of the cyberthreats on ICSs but also effective security-related ICS technologies and methods. Securing ICSs must incorporate secure networks, secure control systems, secure physical processes, and their interactions. This talk presents our recent progress in a unified architectural approach to integrate all these aspects into a unified framework for cyberattack-resilient ICSs. The network security addresses the security of data in motion. The security of control systems is risk-based and encompasses prevention- and tolerance-centric defences. The security of physical processes implements secure processes against process-aware attacks. For further developments of ICS security technologies, emerging challenges will also be discussed to motivate future research.

Biography of the speaker:

Professor Yu-Chu Tian is a professor at the School of Computer Science, Queensland University of Technology, Australia. He received the PhD degree in computer and software engineering from the University of Sydney in 2009, and the PhD degree from Zhejiang University in 1993. He worked in a few universities in the mainland of China, Hong Kong of China, USA, and Australia. Since 2002, he has been with Queensland University of Technology, Brisbane, Australia, initially as a Lecturer and senior lecturer, later as an Associate Professor and the Head of the Discipline of Networks and Communications, and currently as a Professor. He has published two monographs and over 300 refereed papers. His current research interests include big data computing, cloud computing, computer networks, smart grid communications and control, networked control systems, optimization and machine learning, and cyber–physical security. He is the editor-in-chief for Springer's Handbook of Real-Time Computing.

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