

UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

Hardware-based Solutions to Secure the Closed-loop Implantable Medical Devices

by

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For the Ph.D. degree in Computer Science and Engineering

Implantable medical devices (IMDs) are used for diagnosis, personal health monitoring, and personalized medicine. In the United States, an estimated 3.2 million total units of cardiac pacemakers, cardioverter-defibrillators, continuous glucose monitors, and neurostimulators are implanted each year. With the increase in availability and deployment of biomedical implants, the security and safety of these devices used for personalized treatment in a closed-loop system are extremely important, considering these devices' accidental/intentional fault behaviors. This research presents the potential security threats existing in closed-loop IMD components. Furthermore, it proposes hardware-based solutions and aims to introduce a framework for characterizing different faults to ensure a more significant level of security and reliability of closed-loop IMDs.

Tuesday, November 30th, 2021

4:00 – 5:00 PM

Online (Microsoft Teams)

Please email for more information

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THE PUBLIC IS INVITED

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