



Louisville & Lexington Sections Joint Holiday Party

- Date: Tuesday, December 6, 2022
- Time: 6:00 PM – Reception with Cash Bar
6:30 PM – Dinner
7:00 PM – Presentation
- Location: University of Louisville Golf Club
401 Champions Way
Simpsonville, KY 40067
- Website: <https://www.ulgc.net>
- Menu: Dinner Buffet, Cash Bar
- Price: \$20 members, guests, and students
- RSVP: Jim Graham, Life Member Coordinator
Please RSVP jg223@hotmail.com no later than Nov. 28
Please note that we must pay for all dinners that we reserve.

Topic: Robotics Research at the University of Louisville

Speaker: Dr. Tommy Roussel

Abstract:

As NASA moves closer to sending humans to Mars and beyond, technology to enable surgery during long-range space travel is of great interest. We are developing technology to provide such capability in the unique environment of zero gravity, and have successfully deployed an automated suborbital experiment on Virgin Galactic's SpaceShip Two in 2021. UofL's Louisville Automation and Robotics Research institute (LARRI) is exploring these and other cutting-edge technologies, such as neuro-adaptive control algorithms, robotic nursing assistants, soft sensors to realize robotic skin, artificial intelligence (AI) and machine learning to assist children with autism spectrum disorder (ASD), digital twins, and drone technology.

Speaker Background:

Dr. Tommy Roussel is the Associate Director of LARRI and an Assistant Professor of Bioengineering at the University of Louisville. He has a BA in Chemistry from the University of New Orleans, an MS in Biomedical Engineering from Louisiana Tech, and the PhD in Mechanical Engineering from the University of Louisville. Since 2015, Dr. Roussel has been developing an Aqueous Immersion Surgical System (AISS) to study the ability to perform surgical procedures in zero gravity during long-range space missions, such as when NASA sends humans to Mars. He is currently developing a sensorized rocking chair “Rockin’Rehab” for pediatric spinal cord injury patients that includes a variety of sensors (force, tactile, rotation, acceleration, center of mass) to assess a patient’s level of *trunk control*, a fundamental metric that provides insight into improvements gained through a unique therapy called “Locomotor Training”.

This Event is Co-sponsored by:

The Louisville Section of the IEEE, ieeelouisville.org

The Lexington Section of the IEEE, https://webinabox.vtools.ieee.org/wibp_home/index/R30029

The Life Member Affinity Group (LMAG) of the Louisville Section

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Power and Energy Society (PES) Chapter of the Louisville Section