

# A School of Engineering Seminar



College of  
**Science & Engineering**



## ***Speaker:***

*Ronal George*

*Application Engineer at  
MathWorks*



## ***Date:***

*Wednesday, April 5, 2023  
11 am -12 pm PST*

## ***Online:***

[Zoom Link](#)

Meeting ID: 848 0245 7883  
Passcode: 2023

## **Design of Autonomous Manipulator using MATLAB and Simulink**

### ***Synopsis:***

Developing manipulators, humanoids, and other autonomous robotics applications involves a range of subsystems such as perception, motion planning, and controls.

MATLAB and Simulink provide algorithms and tools for robotics and autonomous systems to design, simulate, test, and deploy autonomous algorithms in a single development environment.

In this seminar, you will learn how to design and develop an end-to-end workflow for an autonomous Manipulator (Robot Arm) Applications. Through several examples, we will cover:

- Using a rigid body tree model to represent a robot structure
- Low-fidelity joint-space and task-space motion models
- Modelling the kinematics and dynamics of manipulators
- Trajectory Generation for shape tracing and pick-and-place workflows.

### ***Speaker's Bio:***

Ronal George, application engineer for robotics and autonomous systems. Ronal has a master's degree in electrical engineering from North Carolina State University.

As a part of his Master's, Ronal worked with the Advanced Diagnosis, Automation and Control (ADAC) Laboratory to develop planning and localization algorithms for multi agent systems.

Prior to joining MathWorks in April 2019, Ronal worked as an Inside Sales Engineer at SPX Transformer Solutions and as an Electrical Design Engineer at WindLabs.

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