

Linux for Advanced eXtensible Interface (AXI) on ARM-based System-on-Chip (SoC)

- **Speaker:** John Mower
- **Room:** CC 235
- **Time:** Sat 3:00 pm – 3:30 pm
- **Format:** Lecture (30 Min + Q&A)
- **Difficulty:** Expert
- **Track:** Hardware
- **Presenter Location:** In-person
- **Experience:** first time speaking

Description:

Over the last decade, FPGA development has increasingly centered around **System-on-Chip (SoC)** devices that combine ARM processors with FPGA fabric. This hybrid architecture enables an effectively unlimited number of hardware-addressable systems and opens the door to powerful, flexible embedded designs.

This talk covers:

- Core hardware concepts behind ARM-FPGA SoCs
- Historical and modern system architectures
- Linux device-tree fundamentals for AXI-connected hardware
- User-space control strategies
- Custom platform and character modules for interacting with AXI peripherals

Attendees will gain a deeper understanding of how Linux interfaces with AXI on ARM-based SoCs and how to build robust, flexible systems that take full advantage of FPGA-accelerated hardware.

Target Audience:

- Hardware engineers
- Embedded Linux developers
- FPGA/SoC practitioners

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