**Abstract:** In embedded and cyber-physical systems, the design of hardware and software cannot be done in isolation to one another. The talk discusses several key hardware and software design considerations in such systems, based on the authors experience with such systems. In order to make such systems programmable, we may implement on-board virtual machines. The talk also covers several techniques for implementing efficient VMs in such systems. Finally the talk covers an overview of an embedded Industrial IoT product developed by the author, namely, The Energy Computer.

**Bio:** Dr. Jayaraj Poroor has over 20 years of experience in industry and academia, including companies such as AT&T, California. He started working with connected devices more than a decade back. He is currently Professor and Chair of Computer Science Department at Amrita University, Kollam. He is also the founder of Energimate Devices, an Industrial IoT startup. His current research interests lies in the intersection of systems, programming languages, and formal methods for embedded and cyber physical systems.