Keat Ghee Ong received his Ph.D. degrees in Electrical Engineering from the University of Kentucky in 2000. Currently, he is an associate professor in the department of Biomedical Engineering at Michigan Technological University, Houghton, MI. His research areas include wireless implantable biosensors, magnetic sensor materials and devices, and measurement techniques and instrument automation.

**Implantable Wireless Biosensors**

Force or pressure evaluation is important for a biomedical implantable device to ensure its proper function and safety. However, it is very challenging to measure local force/pressure inside a human body, even with the latest technologies. Imaging techniques such as MRI can pinpoint the location and measure the shape of the implant but cannot directly measure local pressure. Probe-based pressure sensors, while accurate, need an access route to the implant. This presentation will focus on the design and fabrication of wireless, passive implantable sensors based on magnetically-soft, magnetoelastic materials. Applications of these sensors include long-term monitoring of pressure in an abdominal aortic aneurysm sac after a stenting procedure to detect potential leakage from the stent graft, or measuring contact forces at knee implants for early detection of implant failure.