The Huntsville spring section meeting was held on May 18, 2017 at the Shelby Center for Science and Technology at the University of Alabama in Huntsville. Sponsors included: Pinnacle Test Solutions, JM Test Systems, Inc., Tegam and Tektronix.

The first session of the day titled “Ultrahigh Refractive Index Sensitivity and Tunable Polarization Switching via Infrared Plasmonic Lattice Modes,” was presented by University of Alabama Huntsville NCSLI grant recipient Rithvik Reddy Gutha. Rithvik is a PhD candidate of Optical Science Engineering and graduate teaching assistant in the physics department’s Nano and Micro Devices Center (NMDC).

This lecture discussed formation and polarization switching of near infrared and infrared NIR and IR plasmonic lattice modes (PLMs) using two dimensional arrays of large gold metallic nanodisks (MNDs), demonstrating that such PLMs happen when the incident light is normal to the planes of these arrays, offering a wide range of applications, from sensitive sensors to telecom devices.

Dan Allen of FLIR delivered the next presentation titled “Thermal Camera Update for Reliability and Scientific Applications,” describing the potential for large area measurement with infrared cameras.

“Pressure Uncertainty Budgets when using a Modular Pressure Controller,” was delivered by Tim Francis of Fluke Calibration. Modular Pressure Controllers are a common and useful tool for performing pressure calibrations. The modular design splits the different tasks that the controller/calibrator performs into separate modules, providing more flexibility, expandability, and simplifies support. In splitting the tasks into multiple modules, it also splits the different sources of uncertainty. This
presentation examined the different sources of uncertainty when using pressure controllers, how those sources are impacted by a modular design, and any special considerations when using modular pressure controllers.

Following a lunch provided by our generous sponsors and the group photo, our meeting continued with a presentation delivered by Kevin Kauffman, Tegam, titled “Commercial Solution for Wattmeter Calibration.” This lecture described in detail the challenges related to wattmeter calibrations and how to overcome them.

Mike Dillon of The Modal Shop presented “Dynamic Pressure Sensor Calibration,” providing a detailed look at pressure sensor characteristics and how to provide calibration support for these devices.

Our final presentation of the day, “New Developments in the Quantum Hall Resistance Standard,” was brought to us by Jack Somppi.

The next Huntsville Section meeting is scheduled for Thursday, May 3, 2018 and will be at the Shelby Center for Science and Technology at UAH. Meeting announcement to follow on the NCSLI website.