Dr. Nelson Shaulis and others developed principles of vine physiology that form the basis of modern viticulture. Yet growers have lacked the tools to apply these principles on a vine-by-vine basis to manage variable vineyards.

**New technologies** such as inexpensive sensors, digital imaging, geographical information systems, and precision machinery are converging to make precision viticulture possible. This field tour and symposium will focus on tools, concepts, and platforms for putting it all together for managing vineyards.

**July 17 Field Day and Tour:** Demonstrations of sensors, mapping technology, and variable-rate GIS-ready equipment for vineyard management.

- **Morning:** Clearview Vineyards, Branchport, NY. *Focus on spatial crop load measurement, yield monitors, tractor-mounted NDVI sensors, mechanical yield estimation, brix mapping, GPS-enabled tractors*
- **Afternoon:** Anthony Road Vineyards, Seneca Lake, NY. *Focus on vinifera: Drones, Imaging systems including drones and cluster imaging systems, novel sensors, tools for canopy management.*

**July 18 Nelson J. Shaulis Symposium:** The symposium will focus on applying viticultural principles to address within-vineyard variability using the three-step process: MEASURE, MODEL, and MANAGE.

- **Session 1:** Physiology of vine balance and precision viticulture
- **Session 2:** Metrics for management: Sensors, drones, satellites, and analytical equipment
- **Session 3:** Models for management: Distilling a flood of data to practical tools for deciding ‘what I need to do and where’.
- **Session 4:** Examples from around the world.

**Conference, Tour, and Symposium information at:**

[www.asev-es.org](http://www.asev-es.org)