REGISTRATION OPEN FOR THE FOLLOWING CUAHSI WORKSHOPS:

- **Sensor Network Bootcamp in an Urban Environment**
- **Training Workshop: Using In-Situ Water Quality Sensors - Lagrangian and Eulerian Applications**

A very limited number of student travel grants are available on a first come, first served basis to help defray the cost of travel to the course. Contact Elizabeth Tran at etran@cuahsi.org for more information.

Sensor Network Bootcamp in an Urban Environment

August 23 – 25, 2017 || Ann Arbor, MI

Early Bird Registration Deadline: May 31st

Regular Registration Deadline: June 15th

CUAHSI, University of Michigan and UCAR/NCAR are offering a 3-day training workshop on the use of open-source wireless sensing technologies for hydrology. In this workshop, instructors will take the lessons learned in studies of "pristine" and remote hydrologic systems and adapt them to studying urban watersheds. The workshop lessons will present an end-to-end solution, all the way from low-level sensing, to high-level could-hosted data services.

Specifically, the workshop will cover:

1. **Sensing:** How to program open-source cellular data loggers. How to connect sensors and store readings. The sensors will include, but are not limited to, flow, soil moisture, precipitation, temperature, and water quality.
2. **Data Services:** How to stream data to the "cloud" using simple-to-deploy real-time data platforms that have been developed as part of the CHORDS EarthCube project. How to interface these data streams directly with the CUAHSI's data portal. Participants will also learn about "adaptive sampling" or how to remotely control their sensor nodes to measure only during "interesting" periods.
3. **Mechanical assembly:** How to assemble sensor nodes, select batteries, solar panels, drill enclosures and field-proof equipment. Participants will assemble an entire senor node from scratch and prepare it for deployment.
4. **Real-world deployment:** Participants will deploy their sensor node in a real-world urban watershed. Breakout groups will be formed based on the students interest, and will include:

- **Stream/River Stage:** Participants interested in flow/flood measurements will learn how to assemble and deploy a low-cost stage measurement node to collect data similar to those measured by USGS gauging stations.
- **Water Quality:** Participants interested in urban runoff and water quality, will learn how to deploy a wireless automated sampler, which will be programmed to collect water quality samples during storm events.

- **Soil Moisture and Precipitation:** Participants interested in watershed science (or green infrastructure) will learn how to deploy a rain and soil moisture sensors to estimate infiltration and runoff.
- **Flow control:** Participants interested in "smart" water systems and urban water infrastructure, will learn how to deploy a smart valve, which can be controlled remotely to change the flow of urban water in real time.

Prerequisites: No prior experience is needed, but some programing knowledge is a plus. Participants will acquire the core skills necessary to effectively deploy reliable sensor networks upon completion of the workshop. A laptop with MS Windows is preferred.

The course will be held at University of Michigan in Ann Arbor, MI. Included in the registration fee are course tuition, facilities costs, catered lunches and light refreshments.

Visit the event website for more information and to register.

Training Workshop: Using In-Situ Water Quality Sensors - Lagrangian and Eulerian Applications

November 7 – 9, 2017 || Gainesville, FL

Early Bird Registration Deadline: June 15th

Regular Registration Deadline: July 31st

CUAHSI and the University of Florida are offering a 3-day training workshop on using in-situ water quality sensors. The emergence of reliable field deployable sensors capable of water quality measurements at temporal resolutions commensurate with hydroclimatic and ecological drivers enables a new class of environmental measurements and inferences. This course is intended for students, post-doctoral researchers and junior faculty; all researchers interested in exploring these emerging opportunities are welcome.

The objective of this course is to provide guidance and support for deployment of a wide variety of off-the-shelf in-situ water quality sensors, and quality assurance and interpretation of the resulting data. While the course will explore a broad array of sensor-derived measurements and applications, our particular focus for this workshop will be on the collection and interpretation of Lagrangian measurements (i.e., following a parcel of water as it moves).

Prerequisites: Participants must bring a laptop with the Microsoft Office Suite installed – minimally Excel. Participants must be aware of the field components of this workshop. There will be lectures and data collection in the field. [Students will collect water data from kayaks.]

The course will be held at the University of Florida in Gainesville, FL. Included in the registration fee are course tuition, facilities costs, catered lunches and light refreshments.

Visit the event website for more information and to register.

Questions?

Contact Elizabeth Tran at etran@cuahsi.org.