

**Sensor Application Development Workshop 2014**  
**Call for Participation**  
**Rydgges Lakeland Resort, Queenstown, New Zealand**  
**February 19, 2014, 9 am - 2:30 pm**

**Co-Located with IEEE Sensors Applications Symposium 2014**



### **Background**

Today's computing is no longer a term for desktop computers — smartphones with embedded sensing capabilities can produce immensely valuable data for researchers across a wide variety of disciplines. The embedded cellular, GPS, WiFi, Bluetooth, camera, accelerometer, gyroscope, etc., can objectively record information gathered from the users' perspective for the benefit of all.

The computational power of modern smartphones is also substantial. Although services such as cloud computing provide substantial computing power, they have limited network heterogeneity, limited scalability, and lack a deployment path on end-user systems. Smartphones, laptops and tablets would provide deep insight into the user-centric Internet that were previously invisible.

Sensor applications evolve with the needs of users while networking of more “things” is possible through advanced interface technologies and protocols. Although sensor development and network technologies may advance in parallel with some cross-over, applications for sensors always rely on the networking technologies. Therefore, sensor applications will thrive with insight into the user-centric Internet.

### **Testbed and Workshop Overview**

The workshop promotes the development of applications on the Sensibility Testbed (<https://sensibilitytestbed.com/projects/project>), a platform for sharing smartphone sensor data between researchers. The goal is to providing participants with advanced and innovative tools for their research. The workshop fosters the development of new sensor applications through data collection and sharing, and obtaining novel results that are unique and useful in multiple interdisciplinary areas.

Sensibility Testbed provide a unified programmable interface to sensors on smartphones, so that a researcher with user's permission can access the sensors on the device through the Sensibility Testbed. The sandbox interacts with the physical sensors on the device through a common, simplified API, which provides access to sensors in the same way on different devices. A researcher can write their sensing code once, and get highly accurate data across a diverse set of users. A key benefit of the Sensibility Testbed is that applications built for the Sensibility Testbed platform can run on any user's device that is running the Sensibility Testbed code --- even those of other researchers.



During this workshop, we will organize a **tutorial** for using Sensibility Testbed on smartphones and tablets, and a **group competition** of sensor app development with financial awards to the winners. Participants have the options to use Seattle VMs ([seattle.nyu.edu](http://seattle.nyu.edu)) on Android phones owned by real users around the world. We also encourage participants to bring their own Android phone or tablet. Participants will then work in teams of 2 – 3 on a collaborative project using the platform we provide, to build an app through a 40 minute *brainstorming phase* and a 4 hour *app development phase*. Finally, each team will give a *5 minute pitch* for their collaborative project.

The organizing committee will decide the competition winners. The resulting applications will be tested on a local devices and remote smartphones to demonstrate the functionality of the app.

The decision criteria include:

1. Impact of technology on society
2. Effective utilization of the Sensibility Testbed
3. Completeness of implementation
4. Novelty of application

## Workshop Program

- Tutorial - 9:00...10:30
- Group Competition
  - Brainstorming Phase 10:30...11:30
  - WORKING LUNCH
  - App Development Phase 12:00...2:00
  - 5 min pitch start at 2:05 pm
  - Decision of Award Winners 7 pm (during conference banquet)

## Workshop Organizing Committees

Committee chair: Justin Cappos (creator of [Seattle](#) )

Committee members: Justin Cappos, Yanyan Zhang, Deniz Gurkan, Alessandra Flammini, Salvatore Baglio, and G. Sen Gupta

Please see Sensors Applications Symposium web site for details: <http://sensorapps.org>

