

# ISOCS Short Course Winter 2012

12-17 January 2012 – Kühtai, Austria

## Data Analysis, Robotics and Mobile Applications of Chemical Sensors

**Develop your knowledge of chemical sensors systems in mobile applications at the ISOCS Short Course in Kühtai near Innsbruck, Austria**

### **This Short Course will cover topics including:**

- Fundamentals of chemical sensors and arrays
- Data handling and signal processing
- Exploratory data analysis and pattern recognition
- Fundamentals of robotics and sensor networks
- Mobile applications of chemical sensors

### **Speakers**

- Prof. Julian Gardner, University of Warwick, UK
- Prof. Antonio Pardo, University of Barcelona, Spain
- Dr. Marco Trincavelli, University of Örebro, Sweden
- Dr. Jan Mitrovics, JLM Innovation GmbH, Germany

The School will cover fundamental concepts of chemical sensors systems and data analysis with a special focus on mobile applications. An introduction to robotics and practical examples of mobile robots with chemical sensors will deliver hands on experience.

### **Who should attend?**

The Short Course is ideal for anyone with an interest in chemical sensors, robotics and mobile applications and is new to the field; for example, PhD students, researchers, technologists and industrialists.

Short Courses organized by ISOCS are a unique combination of fundamental theory lectures and practical application exercises. They provide a head start into selected topics of current research and new developments in the area of chemical sensing and olfaction. Most lecturers will be present throughout the duration of the course. Ample opportunity is given for discussion and networking.

***Register now! Limited places available only!***

For more information please visit [www.olfactionsociety.org/wintercourse2012](http://www.olfactionsociety.org/wintercourse2012)

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The ISOCS Winter School is delivered by active researchers with international reputations.

**Julian Gardner** is Professor of Electronic Engineering in the School of Engineering at Warwick University, UK. He is a Fellow of the Royal Academy of Engineering and has worked with more than 25 companies in the past 20 years developing CMOS gas sensors and electronic noses. His current research interests include the fields of smart sensors, biomimetic MEMS devices, and artificial olfaction.

**Antonio Pardo** is associate professor in the Department of Electronics at Barcelona University. He has been involved in several scientific and technologic projects in which the chemical instrumentation has a key role. His research interests include signal processing for gas sensors and pattern recognition as well as hardware and software developments for electronic noses.

**Marco Trincavelli** is a postdoctoral researcher at the Applied Autonomous Sensors System research center, Örebro University, Sweden. In 2009 he visited the Tokyo University of Agriculture and technology as a guest researcher in the lab of Prof. Hiroshi Ishida. In 2010 he spent another period as guest researcher at the BioCircuits Institute at the University of California, San Diego. His research interests include machine learning and artificial olfaction with particular focus on mobile robotics application.

**Jan Mitrovics** co-founded a spin-off company to commercialize electronic nose technology in 1997. In 2004 he started JLM Innovation where he develops sensor systems, sensor networks and data analysis tools. Jan has been involved in the development of many different sensor array platforms that are used in a broad range of industrial, consumer, safety and research applications.

The School explores the area of chemical sensors, robotics and mobile applications. We have put together an exciting program that will provide attendees with both theoretical background and practical experience in the above areas.

Topics will be delivered by lectures, discussion and laboratory demonstration sessions. Participants will need to bring their own laptops, but will be supplied with sample data and evaluation software. The computing laboratories do not need a high performance computer and can be carried out on a basic laptop running the windows

operating system.

The School is residential and the programme allows plenty of scope for networking with lecturers and attendees. Lectures take place in the morning, with the afternoon free for participants to network, consolidate their knowledge or enjoy the outdoors. We encourage people to ski in the afternoon and we have amongst us, the organisers, some keen skiers. Discussion sessions and labs resume in the early evening.

The venue is the superb Sporthotel Kühtai, located directly at the ski slopes, and the price includes all accommodation and meals. Participants may choose either a single room (990€), or to share a double room with another participant at a **reduced fee (880€ for each participant)**. Students will receive **free ISOCS membership for 2012**. Accompanying persons are also welcome.

For full programme and conditions visit: [www.olfactionsociety.org/wintercourse2012/](http://www.olfactionsociety.org/wintercourse2012/)