

MARCH 7-8  
Braga - PORTUGAL



ION<sup>T</sup>

Internet of NanoThings

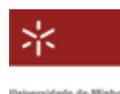
**Braga ~ Lund**  
**7-8 March**  
**Braga, Portugal**

*Highway of collaboration in Internet of Nano Things  
between Braga and Lund*

Organization:



Partners:





# IoNT Braga - Lund

## 7-8 March

### Braga, Portugal

## *Highway of collaboration in Internet of Nano Things between Braga and Lund*

The interconnectivity of nano-scale devices with accessible Internet and communication networks is described as the Internet of Nano Things (IoNT). The Internet will get bigger as nanosensors and nanotechnology are connected to physical things such as consumer devices that are connected to the Internet for collecting, processing and sharing of data with the end-users. This allows different combinations of several nanotechnologies and objects.

The International Iberian Nanotechnology Laboratory in Braga, Portugal, in co-operation with Mobile Heights and Materials Business Center in Lund, Sweden and jointly with the University of Minho, the Centre for Nanotechnology and Smart Materials (CeNTI) and InvestBraga (in Braga, Portugal), are co-organizing a workshop on the Internet of Nano Things (IoNT).

The aim of this workshop is to join industry (Start-ups, SMEs and large corporations) and academic representatives from both regions (Lund and North of Portugal) to discuss potential collaboration opportunities based on the existing complementariness in terms of S&T expertise.

Lund region is known for outstanding expertise in developing software and wireless related knowledge for sensors as well as biosensor structures while the international Iberian Nanotechnology Laboratory (INL) has sound knowledge on sensor related hardware fabrication; University of Minho on nanostructured materials and micro and nano systems; CeNTI on nano structured materials, organic and printed smart devices; and IoT enabling smart materials. InvestBraga is the economic agency of the municipality of Braga whose mission is to foster the economic development of the region and attract foreign investment.

### **The international Iberian Nanotechnology Laboratory (INL) also offers:**

- *High tech infrastructure built from scratch to be fully dedicated to nanotechnology RTD activities.*
- *Capability to test new types of nanoscience concepts and their application in the market.*
- *Capability of developing rapid prototyping activities and for introducing products in the market in short time-frames.*
- *Multidisciplinary team of researchers including biologists, chemists, physicists, engineers etc.*
- *International environment, just about 150 researchers from 30 nationalities.*

### **The workshop will cover the following main topics:**

- *"Nano-enabled sensors of the future".*
- *"System on Silicon nanotechnologies".*

[Make your registration by clicking here.](#)



# PROGRAM

## *Workshop on nano-enabled technologies for the Internet of Things*

**March, 7<sup>th</sup>**

14:00 - Registration

14:30 - **Welcome**

Lars Montelius, Director-General of INL (Braga)

14:50 - **The S+T+ARTS=STARTS initiative - new forms of innovation for Europe**

Peter Friess from the European Commission

15:10 - **Presentation of Mobile Heights**

Ola Svedin (CEO) from Mobile Heights (Lund)

15:20 - **Presentation of Materials Business Center**

Lars Tilly (Director) from Materials Business Center (Lund)

### ***Nano-enabled sensors of the future***

15:30 - **Smart sensor to assure packaged meat quality**

Vivek Chaturvedi, Research Engineer Malmö from Innoscentia AB

15:50 - **Sensors in incontinence products**

Tautgirdas Ruszgas, Professor in biomedical technology from Malmö University

16:10 - **Remotely sensing and collecting grape vine growth parameters in real time**

Olle Hydbom (CEO) from AutoIDExpert Scandinavia (Lund)

16:30 - **IoT nanostructured sensor-actuators for hazardous environments integrated onto Personal Protective Equipment**

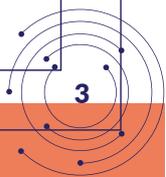
João Gomes (R&D Manager, Smart Materials and Systems) from CeNTI

16:50 - COFFEE-BREAK

17:15 - Breakout Sessions for collaboration opportunities

18:30 - End of Day 1

20:00 - Dinner





# PROGRAM

## *Workshop on nano-enabled technologies for the Internet of Things*

**March, 8<sup>th</sup>**

### ***Nano-enabled sensors of the future (cont.)***

09:00 - ***Graphene nano-ribbons for molecular sensing***

Nuno Peres (Prof.) from the University of Minho

09:20 - ***City mobility in the Age of IoT***

André Ferreira, Bosch Car Multimedia Portugal, S.A.

09:40 - João Pedro Oliveira from Faculdade de Ciências e Tecnologia, UNL

10:00 - ***Examples of challenges and applications for nanotechnology startups***

Tord Wingren, VP & Site Manager, Huawei, Board Member Mobile Heights and Serial Entrepreneur, Founder & Angel Investor in startups in Lund/Malmö

10:20 - COFFEE-BREAK

### ***System on Silicon nanotechnologies***

10:40 - ***Silicon implementations - The backbone of IoT sensing***

Joachim Rodrigues (Associate Professor) from Lund University (Lund)

11:00 - Ricardo Ferreira from INL (Braga)

11:20 - Presentation 9

11:40 - Susana Cardoso (Prof.) from INESC Microsistemas e Nanotecnologias

12:00 - Presentation 10

12:20 - Presentation 11

12:40 - Presentation 12

13:00 - LUNCH

14:30 - ***PARALLEL SESSIONS: Breakout Sessions for collaboration opportunities***

***PARALLEL SESSION 1 - Nano-enabled sensors of the future***

***PARALLEL SESSION 2 - System on Silicon nanotechnologies***

16:30 - Conclusions and Next steps from each parallel Session

18:00 - End of event



# Useful Information

*This may be your first visit to Braga and we hope one of many. To help you prepare for your visit, we have gathered together some general information.*

## The Venue

The INL – International Iberian Nanotechnology Laboratory where the Electron Microscopy Course will be held was established to foster interdisciplinary research in Nanotechnology and Nanoscience. INL is an Intergovernmental institution (IGO) aiming to attract some of the world's best scientists and engineers. It is the only nanotechnology research organisation worldwide with an international legal status. And offers advanced comprehensive research facilities, where biologists, physicists, materials engineers, chemists, electronic engineers, and pharmacists gather from around the world to work together on interdisciplinary projects.

**INL - International Iberian Nanotechnology Laboratory**  
*Avenida Mestre José Veiga s/n*  
*4715-330 Braga*  
*Portugal*

### by Plane

The principal airport is Sá Carneiro International Airport located 50 kilometres (31 miles) away from Braga, in Porto and about 11 km from the centre of Porto, in one of the country's most important industrial and trading areas. 14 airlines currently operate out of this airport with flights to 64 destinations. With an annual traffic of more than 6 million passengers, Porto Airport was judged the 3rd Best European Airport in 2011 by the ACI (Airport Council International), its 7th award in 6 consecutive years.

Visit the website at [www.ana.pt/porto](http://www.ana.pt/porto)

from the Airport to Braga:

>> Bus - you have several options on a daily basis. It's a non-stop transport and leaves directly from the airport. Cost: €8,00 (one-way) | € 14,00 (return ticket). Duration: approx. 45-50 min.

>> Train: To catch a train to Braga you need to go to the City Centre – Estação de São Bento and Estação da Campanhã. The urban railway leaves every 40/45 min. | Cost: around €4,00(one-way). Duration: approx. 50min to 1h15min.

## Travel to Braga



>> By road: A3 and A11

>> By coach: Rede Expressos [www.rede-expressos.pt](http://www.rede-expressos.pt).

### by Train

Main Railway Station | BRAGA

Braga Main Station offers all those services that make your stay in Braga as comfort as possible. From Braga Main Railway Station you reach the City Center in 3 minutes.

You can find more information at [www.cp.pt](http://www.cp.pt).

### Accommodation

:: [Hotel Mélia - Hotel & Spa](#)

The brand new Meliã Braga offers superior accommodation with excellent transport connections to the city centre. The hotel features a spa with hot tub and sauna, indoor and outdoor pools. It is located just a few meters away from INL - International Iberian Nanotechnology Laboratory.

*Pricing >> Single: €75,00 | Double: €80,00. Please, insert the following code to make your reservation: IONT.*

### Visit Braga

Situated in northern Portugal, Braga is the country's oldest city and a beautiful destination with rich culinary tradition and stunning architecture. This modern city is home to the iconic Bom Jesus Sanctuary, impressive churches and monuments.

Standing 400 metres above the seal level, Bom Jesus do Monte is an imposing sanctuary with a remarkable stairway decorated with statues. This UNESCO World Heritage Site is one of the most photographed churches in Portugal.

The Archbishop's Palace consists of three buildings with different styles: Gothic, Mannerist and Baroque. Rich in history, the 12th-century Cathedral of Braga is a building with a Romanesque facade and the tombs of important personalities.

Braga features a variety of interesting museums like Biscainhos Museum and Treasure Museum of the Sé de Braga. Visitors can wander around the vibrant Praça da Republica or relax in one of the traditional cafes.

Porto Airport is about 40 km away and has flights to major destinations like Madrid, Frankfurt, Barcelona and Brussels. Booking.com has a great variety of hotels, pensions and hostels in the city of Braga.

## Travel to Braga

## Visit Braga