



## Workshop on Lung Cancer Detection with Sensor Arrays

*June 13, 2013 – Saarbrücken/Wallerfangen, Germany*

Lung Cancer (LC) is the most lethal cancer, accounting for 28% of cancer deaths globally. Detecting LC in its early stages, while still localized, can be expected to increase the 5-year-survival rate by 3-4 times. Unfortunately, LC diagnostic tests currently available, e.g. bronchoscope biopsy, pulmonary puncture and computer tomography (CT) are unsatisfactory, since they often identify tumors at an intolerably late stage of the disease, occasionally miss tumors and sometimes provide high rates of false positives, a fact that leads to over-utilization of the medical system and to unnecessary medical procedures. Indeed, these methods are not suited for widespread screening as they are not efficient in terms of time and costs and more importantly are unpleasant for the patient and not free of complications.

**The Lung Cancer Artificial Olfactory System (LCAOS) project is an EU funded collaborative under the 7th Framework Program** whose aim is to enable the earliest possible detection of lung cancer (LC) using volatile markers present in exhaled breath and/or headspace of LC tissues/cells by applying a novel, non-invasive, easy-to-use chemical nanoarray. The chemical nanoarray is designated to screen and identify high risk groups for LC, and monitor the therapy provided to people affected by LC to establish point-of-care diagnostics and less invasive treatments.

The **LCAOS workshop** is jointly organized with the **Breath Analysis Summit 2013** (June 9-12, 2013; [www.breath2013.de](http://www.breath2013.de)) and the **ISOCS Short Course on Chemical Sensors for Breath Analysis** (June 14, 2013; [www.olfactionsociety.org/course/breath2013/](http://www.olfactionsociety.org/course/breath2013/)). All events take place at the same location. The LCAOS workshop aims to bring the latest updates on volatile markers for early diagnosis and classification of lung cancer. Additionally, the workshop aims to bring the latest updates on chemical sensors and nanoarrays for the diagnosis of lung cancer via volatile markers. The LCAOS workshop will bring together scientists, engineers, clinicians, industry executives, and entrepreneurs to discuss key trends, future directions, and technologies available for chemical sensors and nanoarrays for lung cancer diagnosis via volatile markers.

### Location:

The LCAOS Workshop will be held at the Hotel Scheidberg, St. Vallier Straße 1, 66798 Wallerfangen/Kerlingen, Germany.

### Organizing Committee:

Prof. Hossam Haick - Chairman  
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For more information and registration see:

[www.lcaos.eu/workshop2013/](http://www.lcaos.eu/workshop2013/) and [www.olfactionsociety.org/course/breath2013/](http://www.olfactionsociety.org/course/breath2013/)

**Tentative Program, Thursday, June 13, 2013:**

<b>9:00 – 9:15</b>	Welcome and introduction to the LCAos EU project	Hossam Haick
<b>9:15 – 9:45</b>	Diagnostic Methods of Lung Cancer	Nir Peled
<b>9:45 – 10:15</b>	Assessment and origin of breath volatile cancer markers	Anton Amann
<b>10:15 – 10:45</b>	Lung Cancer detection with PTR-MS	Jens Herbig
<b>10:45 – 11:00</b>	<b>Coffee break</b>	
<b>11:00 – 11:30</b>	Sensors for Breath Analysis: from Nanomaterials to Comprehensive Disease Detection	Hossam Haick
<b>11:30 – 11:50</b>	Microfluidic Cell for Detection of Volatile Organic Compounds by Nanomaterial-Based Sensors	Elwin Vrouwe
<b>11:50 – 12:10</b>	A Sensor platform for Breath Analysis with Chemical Sensors	Sergi Udina
<b>12:10 – 12:30</b>	Commercializing Nano-Material Sensors for Breath Analysis	P. Makaram
<b>12:30 – 13:30</b>	<b>Lunch</b>	
<b>13:30 – 13:50</b>	Neural Networks to Classify and Quantify Polar and Nonpolar Compounds	Jose Torrecilla
<b>13:50 – 14:10</b>	Volatile Fingerprints of Lung Cancer Cells with defined Histology and Genetic Mutation	Orna Barash
<b>14:10 – 14:30</b>	Volatile Biomarkers Discriminate between Bronchial Epithelial Cells with Distinct Mutations	Michael Davies
<b>14:30 – 14:50</b>	A Nanomaterial-based Breath Test for Short-term Follow-up of Lung Tumor Resection	Ulrike Tisch
<b>14:50 – 15:00</b>	<b>Coffee break</b>	
<b>15:00 – 16:00</b>	Discussion on chemical sensors for LC breath tests	All
<b>19:00 –</b>	<b>Workshop dinner</b>	