Overview

Date of the conference:
September 8th / 9th, 2016

Venue
Paderborn University, Building O, Room O1
Pohlweg 51, 33098 Paderborn
Germany

Accomodation
A limited number of rooms has been reserved at a special rate. Detailed hotel information see **www.eusas.org**

Please make your own hotel reservations.

The conference dinner will be in the evening of September 8th, 2016.

Conference fees

EUSAS members	300 EURO
Students	225 EURO
Others	500 EURO
Public services (e.g. fire brigades)	450 EURO

10 % Early bird discount
There will be a discount of 10% for registration until July 29th, 2016

Local organisation
Thorsten Wagner
Phone +49 (0) 5251 602 486
e-mail Thorsten.Wagner@upb.de

Registration

Please use the enclosed registration form and send it by mail, email or fax to EUSAS to the attention of Mrs. P. Mang (address see below) **by September 2nd, 2016 at the latest.**

Please note that the number of conference participants is limited.

You may also find the registration form on the EUSAS homepage **www.eusas.org/events**

Cancellation
Registrations can be cancelled in written form without charge until 2 weeks before the conference. No re-imbursement of fee is possible in case of later cancellation. In case a registered participant is indisposed, it is possible to appoint a deputy. Please be so kind to give us the person's name well in advance. In case the conference is cancelled by EUSAS, we shall reimburse the registration fee that has already been paid. EUSAS shall not accept any claims beyond that.

Conference organisation
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EUSAS e.V. Secretariat
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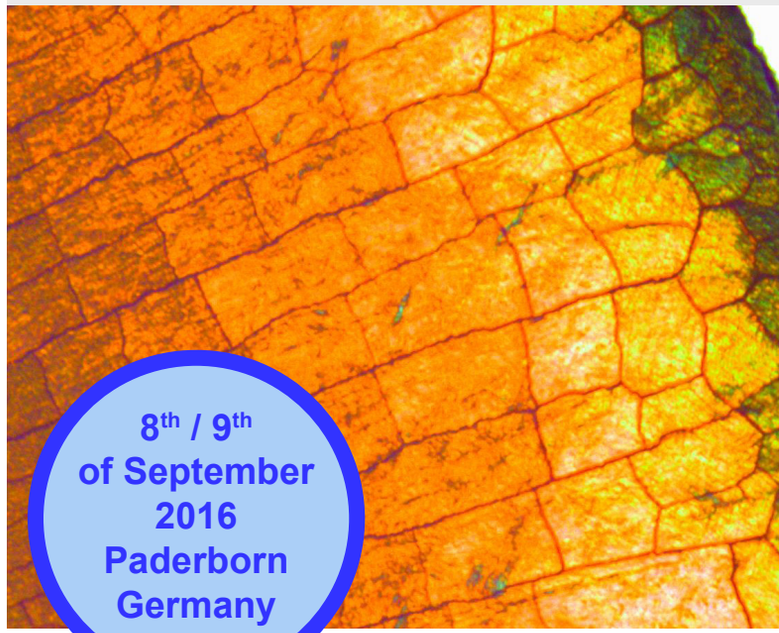
EUSAS
European Society for Automatic Alarm Systems e.V.

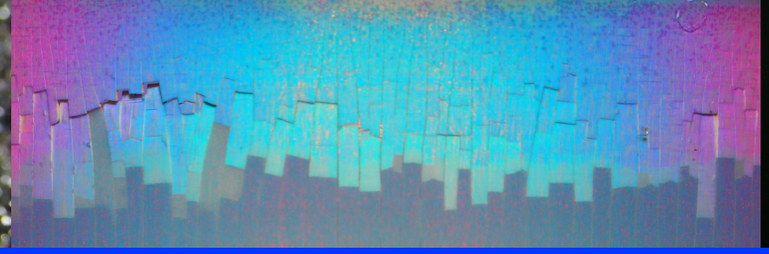
European Conference on

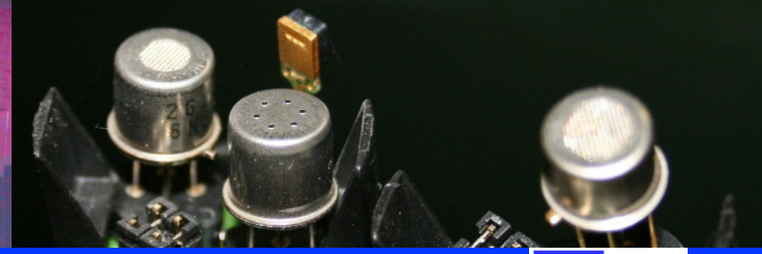
New Perspectives for Fire Detection by Novel and Innovative Gas Sensing

Conference language
English



Artificial opal photonic crystal (PMMA)





Thursday, September 8th, 2016

11:00 **Registration & Welcome snack**

12:50 **Welcome**
Andreas Czylwik, *EUSAS Chairman*

Session 1 Sensor mechanisms and techniques

13:00 **Sensor coatings for vapor classification by molecular recognition**
Franz Dickert
University of Vienna, Austria

13:30 **Gas sensors based on bandgap modification - 3D-photonic metal oxide crystals with optical readout**
Thorsten Wagner
Paderborn University, Germany

14:00 **Photonic microstructures for optical gas detection in the mid infrared (MIR)**
Alexandru Popescu
Siemens AG, Munich, Germany

14:30 **Coffee break**

Session 2 Biomimetic devices

15:00 **Gas detection based on coaxial electrospun liquid crystal**
Lukas Pschyklenk, Peter Kaul
Bonn-Rhein-Sieg University, Rheinbach, Germany

15:30 **New biomimetic sensor surfaces: Odorant binding proteins on graphene hybrides for sensing substrate-specific smoke compounds**
Stefan Schütz
University of Göttingen, Germany

16:00 **End of the first conference day**

16:15 **EUSAS Annual General Meeting (members only)**

18:15 **Guided city tour**

19:15 **Conference dinner**

Friday, September 9th, 2016

Session 3 Selective detection of explosives

09:00 **Use of optical fiber gratings for safety applications: Fire and explosive gas detection**
Christophe Caucheteur
University of Mons, Belgium

09:30 **High kinetic energy ion mobility spectrometry (HiKE-IMS) for quantitative and selective trace gas detection**
Stefan Zimmermann
Leibniz University Hannover, Germany

10:00 **Low power sensor system for the detection of inorganic and organic fire gases**
Tilman Sauerwald
Saarland University, Saarbrücken, Germany

10:30 **Coffee break**

Session 4 Questions arising in gas sensing applications

11:00 **Metal oxide nanowires gas sensors for safety applications**
A. Ponzoni, D. Zappa, M. Donarelli, V. Sberveglieri, Angelika Hackner*, Giorgio Sberveglieri (speaker)
University of Brescia & CNR-INO, Italy
**Airbus Group Innovations, Munich, Germany*

11:30 **Fire detection inside of bulk goods - Chances and limitations of gas sensing**
Ulrich Krause
Otto-von-Guericke-University Magdeburg, Germany

12:00 **Planning and incorporation of fire detectors in industry surroundings**
Jörg Kelleter, *GTE, Viersen, Germany*

12:30 **Closing of the conference**
Andreas Czylwik, *EUSAS Chairman*

12:40 **Snack**

13:15 **Laboratory tour**

14:15 **End of the second conference day**

Aim of the conference

EUSAS European Society for Automatic Alarm Systems e.V.

The future of gas sensors for fire and safety techniques is determined by new detection principles, new or enhanced sensors and sophisticated evaluation algorithms. Substantial progress attained since the first successful EUSAS conference on this topic held 2012 in Saarbrücken shall be presented and discussed.

The conference kicks off with a review of the state of the art in gas sensing by specific recognition of relevant molecules. From there new optical detection techniques are presented both from university and industry research. Some of these sensors interact directly with optical fibers avoiding any corrosion of electrical contacts.

Another contribution describes the application of fiber gratings for fire and explosive gases detection. Portable ion mobility spectrometers with an innovative ion source extend the range of detectable gas species. Integrated micro structured systems combine new synthesized enrichment materials, adaptable to specific detection needs together with sensor elements and offer low power consumption. Another lecture reports on sensors based on nanowires for even lower power consumption.

Within the biomimetic session mimicking detection systems of insect antennae like an innovative protection of organic sensor materials similar to the chitin sheath, and like using odorant binding proteins with graphene for selective sensing are presented.

Two concluding lectures are devoted to the aspect how the gas reaches the gas sensor. One of them deals with smoldering fires in bulk goods, the other one deals with the planning and incorporation of fire detectors in industry surroundings.

Target group

The conference is aimed at planners and operators of public facilities, risk managers, security and fire protection personnel, technical developers, and scientists.