REGISTRATION

The participation at the workshop is free of charge! Since the number of participants is limited, please sign up for the workshop at the following website until: June 10th 2013:

www.osram-os.com/ssl4eu-workshop

LOCATION

The workshop will be held at the Herzogssaal in Regensburg. Built in the early Middle Ages and located in the heart of the old town next to the Dom the location offers a well preserved historical atmosphere.

Easy to reach by bus line A, station Domplatz.

SOCIAL EVENT

You are more than welcome to join the optional historic city tour followed by a dinner in the famous and traditional “Wurstkuchl” after the workshop.

OSRAM Opto Semiconductors

OSRAM Opto Semiconductors stands out with its unique expertise in the field of opto-electronic semiconductors. For nearly four decades, the high-tech company has been investing in research and developing premium-quality new products on the technological cutting edge enabling Osram Opto Semiconductors to set international standards in the fields of illumination, visualization and sensor technology.

SSL4.eu Solid State Lighting for Europe OSRAM Opto Semiconductors

THE SSL4EU PROJECT

The concept of SSL4EU is to bundle various competencies across Europe with the aim to enable this new era of solid state lighting. The main objectives are:

- Optimize whole LED system efficiency (LED, optics, thermal, electronics)
- Preferred emission spectrum with respect to application (home – office – shop)
- Correlated colour temperature adapted white light dimming
- Colour tune ability (all colours to white; from 2000 K to 6500 K) that are integrated into a new generation of LED luminaires.

These breakthrough approaches will keep Europe at the forefront of the energy-saving SSL business and strengthen its position in the manufacturing supply chain and the SME-driven luminaire business.

SSL4.eu Solid State Lighting for Europe OSRAM Opto Semiconductors

Light and Vision

Understanding the benefits, necessities and limits of a high luminance LED with excellent light quality

20.06.2013

Herzogssaal
Domplatz 3, Regensburg

Registration necessary:
www.osram-os.com/ssl4eu-workshop

SSL4.eu Solid State Lighting for Europe OSRAM Opto Semiconductors

DESCRIPTION

This workshop focuses on the importance of high luminance for LED light sources as well as high light quality with respect to colour rendering and colour perception. Beside the state of the art LED light cluster concepts, the participants will receive a detailed training why a high luminance of LEDs is essential for an efficient and compact system design. This training also reveals the challenges in optics design and electronic control of Multi-LED arrangements and the cutting edge solutions found within the SSL4EU Project. The multi-LED arrangements also allow a unique tailoring of the light spectrum. The results and benefits of the specialized spectrum have been analyzed in extensive acceptance studies and can be experienced in a box experiment.

SSL4.eu Solid State Lighting for Europe

OSRAM Opto Semiconductors

AGENDA

09:00 **REGISTRATION**

09:30 **Welcome and Introduction of the SSL4EU Project**
Elmar Baur, OSRAM GmbH, Germany

09:45 **State of the art LED light cluster concepts**
- Conventional Chip on Board solutions (CoB)
- Conventional solutions for tuneable white light engines

Alexander Wilm, OSRAM Opto Semiconductors

10:15 **Research results for a versatile Multi-Chip-LED light engine**
- Innovative steps for high luminance LEDs
- Benefits on system level

Elmar Baur, OSRAM GmbH, Germany

10:40 **COFFE BREAK**

11:00 **Colour tuneable LED driver solutions**
- Topologies suitable for colour tuneable engines
- Digital regulation techniques for LED driving
- The SSL4EU case

Francesco Ferrazza, ST Microelectronics, Italy

11:30 **Compact high luminance light mixing optics**
- Introduction to Shell Mixer concept and design
- Prototype results and performance

Rubén Mohedano, LPI Europe, Spain

12:00 **LUNCH**

13:00 **ZHAGA - Overview on current status of the standardization activities**
- Scope of the ZHAGA standardization activities
- Overview of the different ZHAGA books

Thierry Dreyfus, REGENT, Switzerland

13:30 **Latest developments in colorimetry**
- Better description of LED colour.
- Brightness perception under LED light
- Colour rendering: fidelity versus preference

Prof. Janos Schanda, UPAN, Hungary

14:15 **COFFE BREAK and EXHIBITION**

14:30 **Results of the acceptance studies for home lighting**
- Setup of the acceptance study - full scale experimental rooms at University of Pannonia
- Impact of specialized spectra on the observers
- Conclusion for the upcoming LED Generations

Ferenc Szabó, UPAN, Hungary

14:50 **Office Lighting Acceptance Studies**
- Investigations in small booths
- Investigations in real office environment
- Results and conclusions

Pramod Bhusal, AALTO, Finland

15:10 **Shop Lighting Acceptance Studies**
- Results of the acceptance studies
- Impact of specialized spectra on observers
- Conclusion for the upcoming LED generations

Alexander Wilm, OSRAM Opto Semiconductors

15:30 **Light box experiments and coffee break**
- Visual impression of different tailored LED Spectral power distributions

16:00 **Discussion, Feedback and Summary**
Elmar Baur, OSRAM AG, Germany

16:30 **END OF THE WORKSHOP**

18:00 **Optional social event**
- optional historic city tour and dinner