

## TKK Lighting Unit

The research areas of TKK Lighting Unit include light sources and energy, indoor lighting, traffic lighting, visual and biological effects of light and lighting measurements and testing. The lighting research is carried out in several national and international research projects.

### Location

The seminar will be held at Helsinki University of Technology, Faculty of Electronics, Communications and Automation, in lecture hall S1, Otakaari 5A, Espoo. Buses 102 and 102T from Helsinki bus station at Kamppi.

### Registration

For registration, please contact the project planning officer **Leena Väisänen** by **August 19, 2009**. Email: leena.vaisanen@tkk.fi, tel (09) 451 4971. Please give your name, organisation, email address and telephone number.

The seminar is free of charge for degree and postgraduate students. For the other participants, the fee is **290 € + VAT**. The fee includes the seminar material, coffee and lunches.

10 ECTS credits will be granted to students who participate in the seminar, do the seminar work and pass the exam. The course can be included in basic and post-graduate studies.



## Energy Efficient Indoor and Outdoor Lighting

Post-graduate seminar on Illuminating Engineering on 3-4 September 2009



HELSINKI UNIVERSITY OF TECHNOLOGY  
Department of Electronics  
Lighting Unit



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## Thursday September 3

- 8:30** Opening of the seminar  
**Prof Liisa Halonen**, TKK Lighting Unit
- 8:35** Introduction to research activities of Bartenbach Lichtlabor  
**General Manager Wilfried Pohl**, Bartenbach Lichtlabor Austria
- 9:05** Energy efficient lighting design  
**General Manager Wilfried Pohl**, Bartenbach Lichtlabor
- 10:05** *Coffee and tea*
- 10:15** Lighting energy usage in buildings  
**Dr Pramod Bhusal**, TKK Lighting Unit
- 11:00** Daylight usage in lighting design-case studies  
**General Manager Wilfried Pohl**, Bartenbach Lichtlabor
- 11:45** *Lunch*
- 12:30** Guidebook on energy efficient lighting for buildings  
**Dr Eino Tetri**, TKK Lighting Unit
- 13:15** Energy efficient lighting control solutions  
**Director Max Björkgren**, Helvar
- 14:00** *Coffee and tea*
- 14:15** Future trends of lighting design  
**General Manager Wilfried Pohl**, Bartenbach Lichtlabor
- 15:00** Impact of EuP directives on light sources  
**Sales Manager Marko Martikainen**, Osram
- 16:00** Closure of the day  
**Prof Liisa Halonen**, TKK Lighting Unit

## Friday September 4

- 9:00** Opening of the day  
**Prof Liisa Halonen**, TKK Lighting Unit
- 9:05** Introduction to research activities of Université Paul Sabatier  
**Prof Georges Zissis**, Université Paul Sabatier France
- 9:35** Energy efficient lighting systems: issues and challenges - phasing out of outdoor mercury lamps  
**Prof Georges Zissis**, Université Paul Sabatier
- 11:00** *Coffee and tea*
- 11:15** Effects of EU-directives on future lighting practices  
**Director of Quality Leena Tähkämö**, Helvar
- 12:15** *Lunch*
- 13:00** Energy efficient LED lighting applications and future of LEDs  
**Dr Paulo Pinho**, TKK Lighting Unit
- 13:30** LEDs and OLEDs - light sources of the future: dream or reality  
**Prof Georges Zissis**, Université Paul Sabatier
- 14:15** Impact of mesopic design on outdoor lighting energy efficiency  
**Dr Marjukka Puolakka**, TKK Lighting Unit
- 14:45** *Coffee and tea*
- 15:00** Optimisation of a street lighting system under mesopic condition: the experiment of Albi  
**Prof Georges Zissis**, Université Paul Sabatier
- 15:30** Optimisation of outdoor lighting control for energy efficiency  
**Mika Saari**, Li-Con AT
- 16:00** Closure of the seminar  
**Prof Liisa Halonen**, TKK Lighting Unit

## Lecturers

**Prof Georges Zissis** got his PhD in Plasma Science in 1990 from Toulouse 3 University, France. He is deputy director of 'LAPLASE', a joint laboratory between Toulouse 3 Univ and French National Council of Research representing a task force of 3000 researchers. Prof Zissis is working in the domain of light sources technology. He was awarded in 2009 with the Energy Globe Award for France and in 2006 with the first award of the International Electronics Committee Centenary Challenge.



**Mag. Wilfried Pohl** works at Bartenbach Lichtlabor, an international renown lighting design office and R&D provider as a member of managing board and general manager for research and development. His working areas cover daylighting and artificial lighting, development of lighting devices, optical design, photometric and thermal measurements and simulations, building physics and light and health. He has been the leader of various international planning and R&D projects.



**Dr Pramod Bhusal** works as a research scientist at TKK Lighting Unit. His research areas are energy efficient lighting and lighting in developing countries.

**M.Sc Max Björkgren** works at Helvar Oy as R&D director.

**M.Sc Marko Martikainen** is working at OSRAM Finland as a sales manager and he is responsible for Trade and OEM customers.

**Dr Paulo Pinho** works as a research scientist at TKK Lighting Unit. His research areas are solid state lighting and lighting for plant growth.

**Dr Marjukka Puolakka** is working as a research scientist at TKK Lighting Unit where she is the leader of the Traffic Lighting Group. Her research areas cover mesopic lighting, visibility at low light levels and biological effects of light.

**Eng. Mika Saari** works at Li-Con AT as lighting consultant. His main know-how area is outdoor lighting.

**Dr Eino Tetri** works as a research scientist at TKK Lighting Unit where he is the leader of the Indoor Lighting and Energy - Efficient Lighting Systems Group. His main research areas are light sources and lighting and energy.

**M.Sc Leena Tähkämö** works at Helvar Oy as an Environmental Manager. Her responsibilities lie in environmental work and EU legislation.