

Aalto Lighting Unit

The research areas of Aalto Lighting Unit include light sources and energy, indoor lighting, outdoor 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

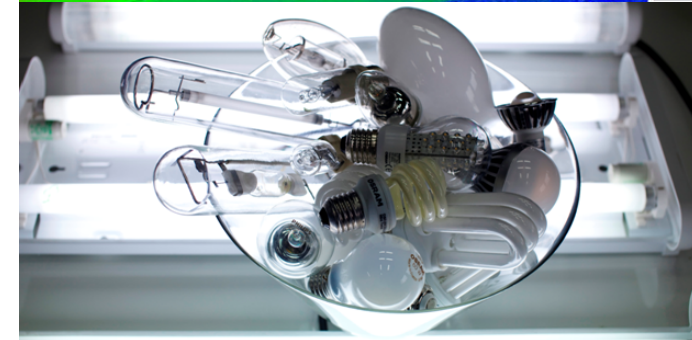
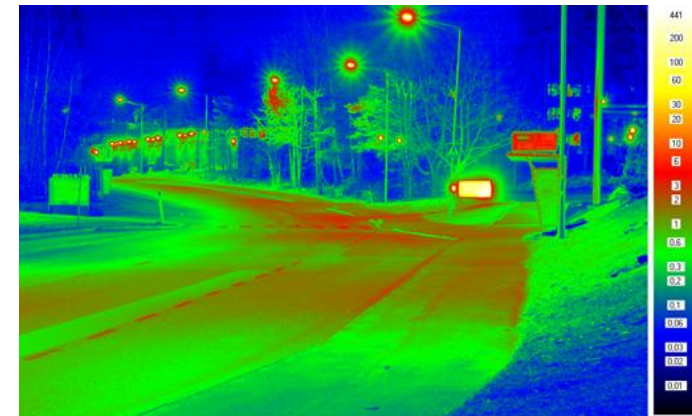
The seminar will be held at Aalto University School of Science and Technology, Faculty of Electronics, Communications and Automation, in lecture hall S1, Otakaari 5A, Espoo. Buses 102 and 102T from Helsinki bus station at Kamppi.

Registration

For registration, please contact the project planning officer **Leena Väisänen** by **August 20, 2010**. Email: leena.vaisanen@tkk.fi, tel (09) 470 24971. 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 LED Lighting

**S-118.4250 Post-graduate seminar on
Illuminating Engineering**

**Aalto University, Lighting Unit
9 - 10.9.2010**

Thursday September 9

- 9:15** Opening of the seminar
Prof Liisa Halonen
- 9:30** Introduction to research activities of Lighting Research Centre (LRC)
Prof N. Narendran, LRC
- 10:00** LED and OLED technology - current status and future development, characteristics
Prof N. Narendran and Dr Yiting Zhu, LRC
- 10:45 Break
- 11:00** Standardisation of LED for lighting
M.Sc Markku Norhio, Helvar
- 12:00** ASSIST Recommends: Recommendations for testing and evaluating LED light engines and systems for lighting applications
Prof N. Narendran and Dr Yiting Zhu
- 13:00 Lunch
- 13:45** Optical, thermal and colour issues of LEDs
Prof N. Narendran
- 14:45** LED module testing in the Lighting Unit
Dr Eino Tetri, Aalto Lighting Unit
- 15:30** Future of LED lighting
Dr Henri Juslén, Philips
- 16:00 Closure of the day

Friday September 10

- 9:15** Opening of the second day
Prof Liisa Halonen
- 9:20** Introduction to research activities of Laboratory for Lighting Technology, Darmstadt University of Technology
Prof Tran Quoc Khanh, Darmstadt University of Technology
- 9:50** LED-street lighting from the current technological and lighting points of view
Prof Tran Quoc Khanh
- 10:50 Break
- 11:00** LED-street lighting from the current technological and lighting points of view
Prof Tran Quoc Khanh
- 11:30** Use of LEDs in outdoor lighting
Dr Marjukka Puolakka, Aalto Lighting Unit
- 12:00 Lunch
- 13:00** Replacement of mercury lamps in outdoor lighting
M.Sc Marko Martikainen, Osram
- 13:30** Colour rendering of LED sources
Prof Tran Quoc Khanh
- 14:15 Break
- 14:30** Application of mesopic design in outdoor lighting
Dr Marjukka Puolakka
- 15:00** LED measurements
Prof Tran Quoc Khanh
- 15:30 Closure of the seminar

Lecturers

Prof Nadarajah Narendran received a Ph.D. degree in physics from the University of Rhode Island in 1991. He serves as the Director of Research at Rensselaer's Lighting Research Centre. Dr. Narendran is well known throughout the lighting industry for his pioneering research and educational activities in the field of solid state lighting. Dr. Narendran has authored or co-authored more than 50 articles in archival journals and proceedings and holds several patents.



Prof Tran Quoc Khanh is head of the Laboratory of Lighting Technology at Darmstadt University of Technology. Before joining to the TU Darmstadt research team in 2006, he had broad experience of research and development work in optical measurements. His research areas are light and color vision, colorimetry, traffic lighting, optoelectronics, optical spectroscopy and light measurement and technical optic simulations.



Dr Henri Juslén works at Philips Lighting Finland as Marketing Manager. His area of specialisation is industrial lighting.

M.Sc Marko Martikainen is working at Osram Finland as Sales Manager and he is responsible for Trade and OEM customers.

M.Sc Markku Norhio is working at Helvar as Director of Quality. He is also the chairman of IEC (International Electrotechnical Commission) subcommittee TC 34C which is responsible for the standardisation of IEC's ballasts and other lighting components.

Dr Marjukka Puolakka is working as a research scientist at Aalto Lighting Unit where she is the leader of the Outdoor Lighting Group. Her research areas cover mesopic lighting, visibility at low light levels and outdoor lighting.

Dr Eino Tetri works as a research scientist at Aalto 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.

Dr Yiting Zhu is a Lead Research Specialist at the Lighting Research Centre. Her research interests include lighting technologies and applications, phosphor-converted LED packaging, and optical design of LED-based luminaires.