

Intelligent Lighting Institute

CIE info dag

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The Intelligent Lighting Institute (ILI)

The Intelligent Lighting Institute is – since 2010 – a **cross-departmental** institute that focuses on **intelligent lighting solutions** based on **LED** technology

Applied
Physics

Biomedical
Engineering

Building
Environments

Chemical
Engineering

Electrical
Engineering

Industrial
Design

Industrial Engineering &
Innovation Sciences

Mathematics and
Computer Science

Mechanical
Engineering

Vision of the ILI

As long as we exist, light has guided human behavior. It entrains our biological clock and enables vision. As such, it helps us to navigate in complex spaces, to act effectively, and it sets the stage for social interaction.



Let light lead the path of innovation
toward health and wellbeing
toward smart buildings and cities

Mission of the ILI



- Create a scientific community of practice dedicated to intelligent lighting solutions with a scientific and application-based approach
- Establish partnerships with stakeholders in the public-private field
- Apply a multidisciplinary and multifunctional approach, concept driven and evidence based
- Realize human centric real-life test beds

Strategy of the ILI

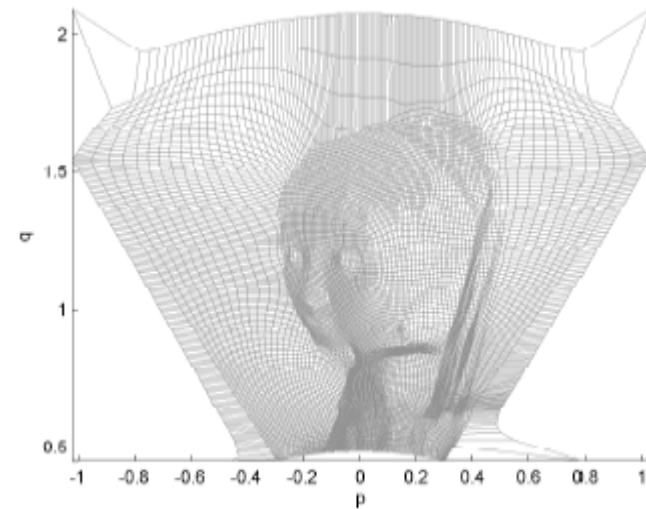
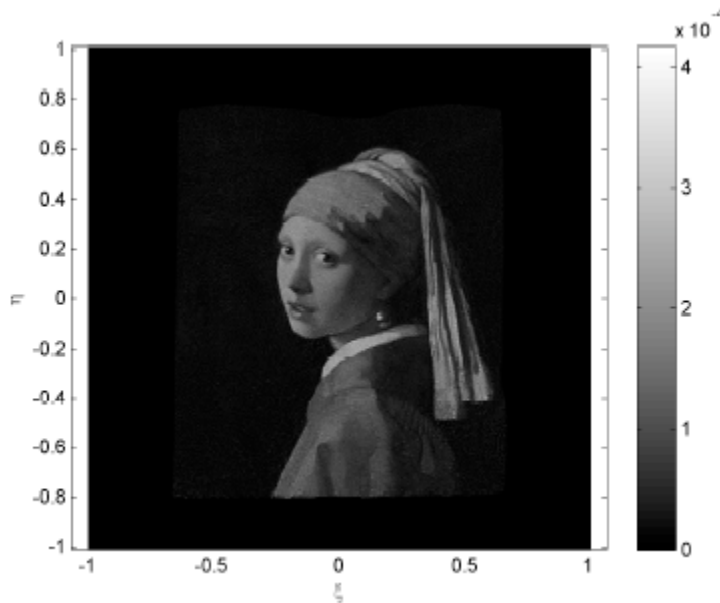


- Define clear **strategic program lines** with challenging research agendas
- Build **open partnerships** with stakeholders in the public-private field
- **Align the strategic research agendas** with stakeholders, and national and international research programs
- Use the Brainport Region as the ultimate **real-life test bed**
- Develop and implement **a lighting education program**

Program Lines

Light by Design:

Constructing effective light patterns and distributions through mathematical modeling and physical realization



Program Lines

Bright Environments:

Intelligence-based interactive lighting systems for indoor (e.g., offices) and outdoor (e.g., crowd management)



Program Lines

Sound Lighting:

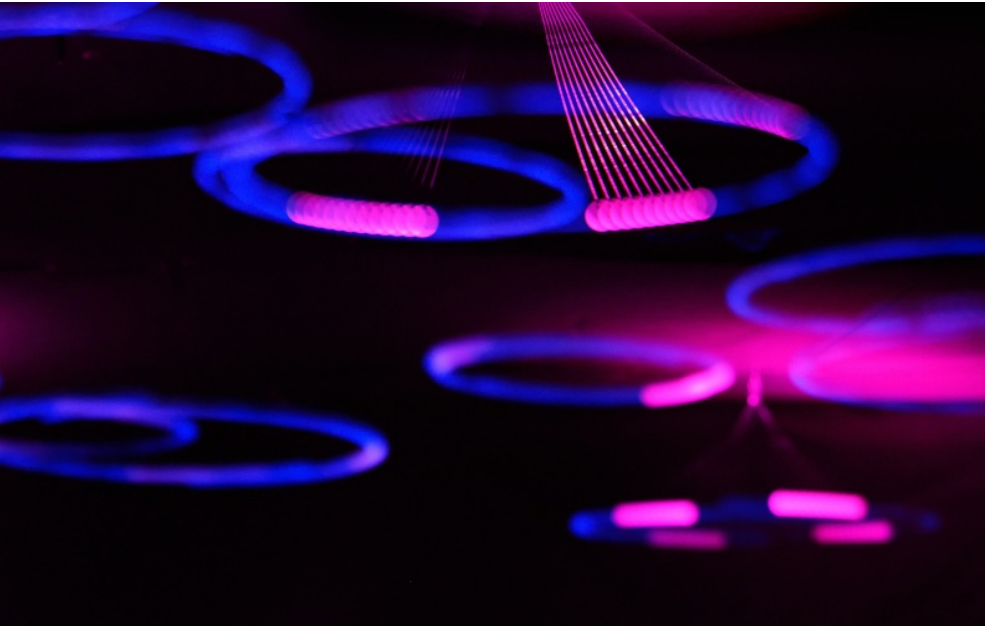
Effects of natural and artificial light on human's perception, health, well-being and feelings of safety



Program Lines

Open Light:

Creative lighting solutions



Partnerships



DE-ESCALATE

Defusing escalating behavior through the use of interactive lighting scenarios

PHILIPS
Philips Lighting

 **Brainport
Development**

NXP

 **EINDHOVEN**

OpenRemote

 **GGZ E**

 **POLYGROUND**
Oplossingen voor stedelijke vraagstukken

ViNotion

HET LUX LAB
LIGHTING DESIGN

DITSS
Dutch Institute for
Technology
Safety & Security

 **GLOW**

 **POLITIE**
Brabant Zuid-Oost

 **Gemeente
Amsterdam**

DEVLAB  **DEVELOPMENT
LABORATORIES**

 **Gemeente Rotterdam**

 **peer+**
Smart Energy Glass

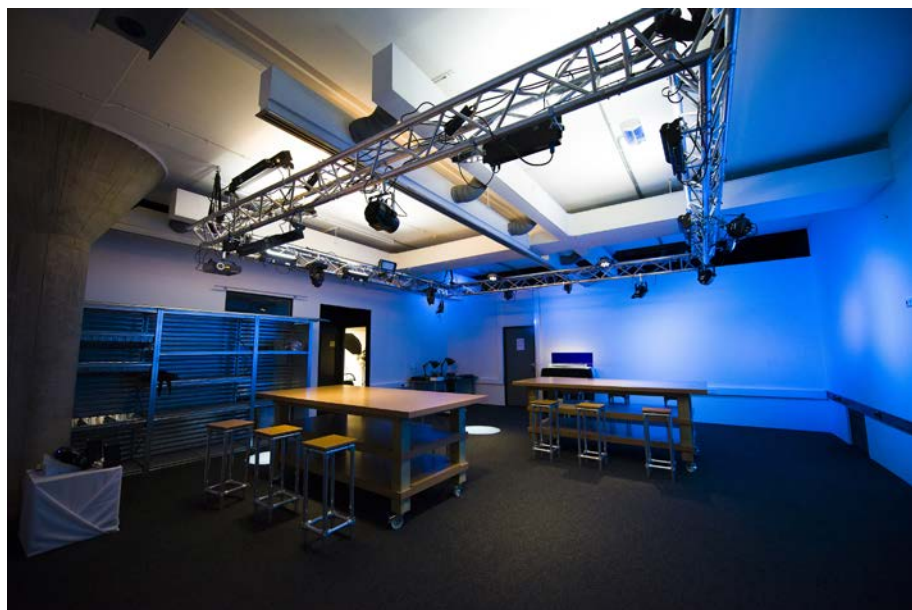
 **Sorama**

 **LIGHT
HOUSE**

Intelligent Lighting Institute

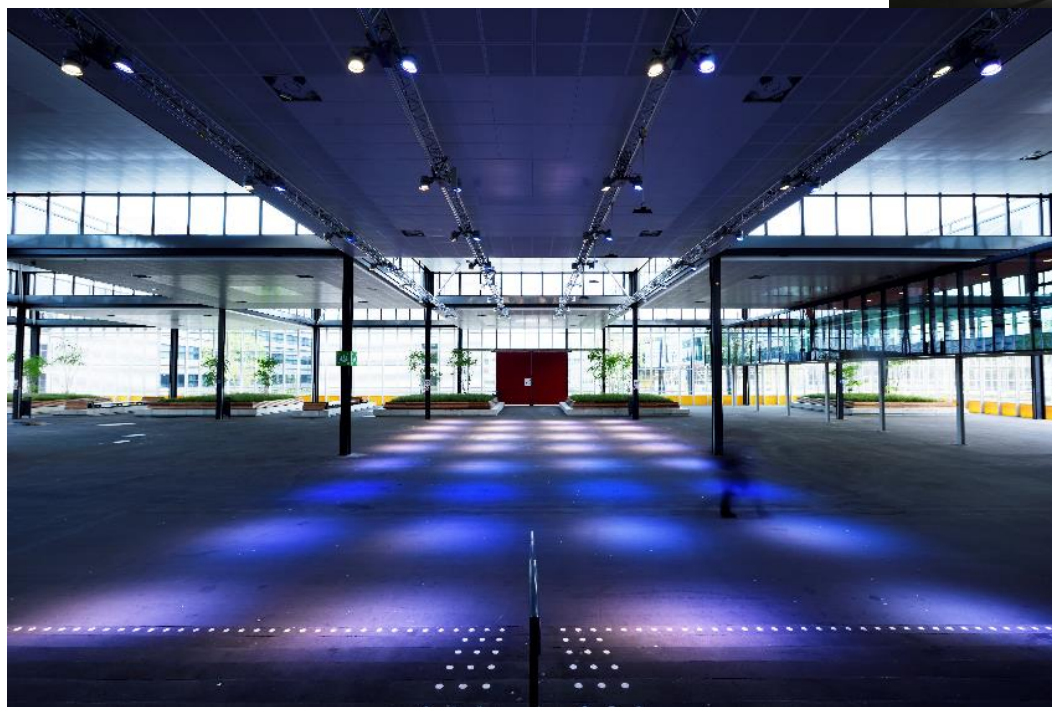
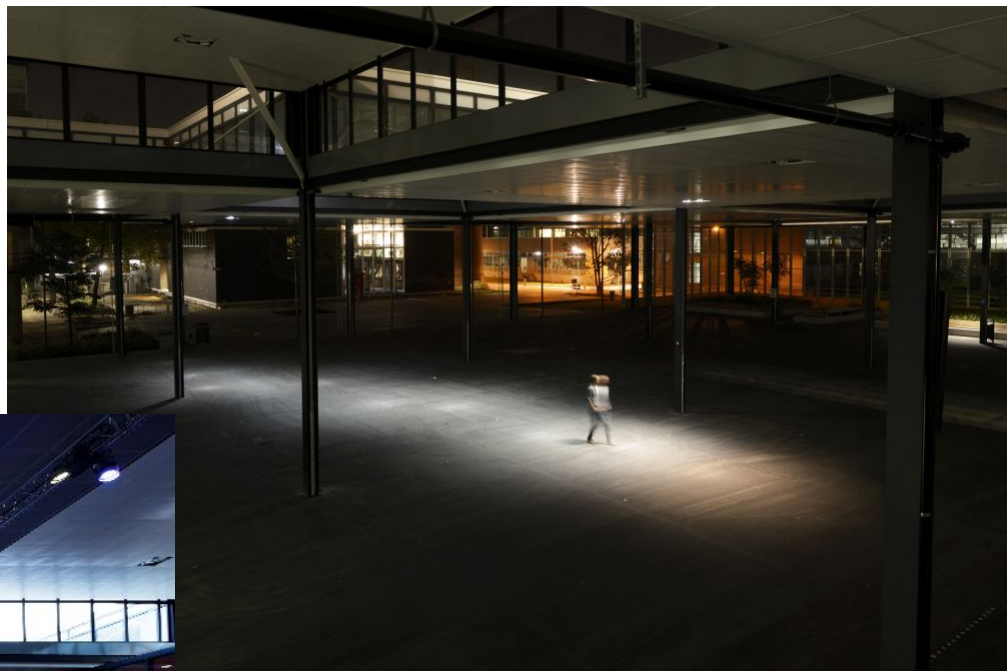
Living Labs: Lightbase

New lighting design lab in collaboration with Industrial Design, equipped to design novel concepts for meaningful artificial lighting



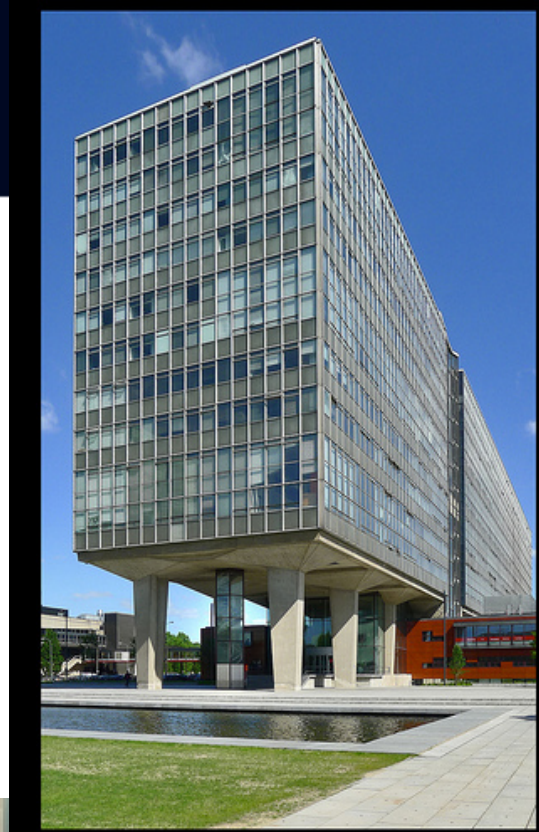
Living Labs: Markthal

In front of Metaforum building of the TU/e campus and equipped with lighting sensing and actuator infrastructure to facilitate real-life studies in crowd management and end-user programming



Living Labs: Main building

Will be refurbished into a building
low in energy use, but with
optimal lighting for functional
performance and year-through
well-being



Educational Program

USE trajectory

The Secret Life of Light:
impact of light on human functioning

Coherent technical trajectory

The Liberation of Light:
innovations in lighting technology
and in the related intelligent interaction

Honors program

Multidisciplinary training program + a BSc end project



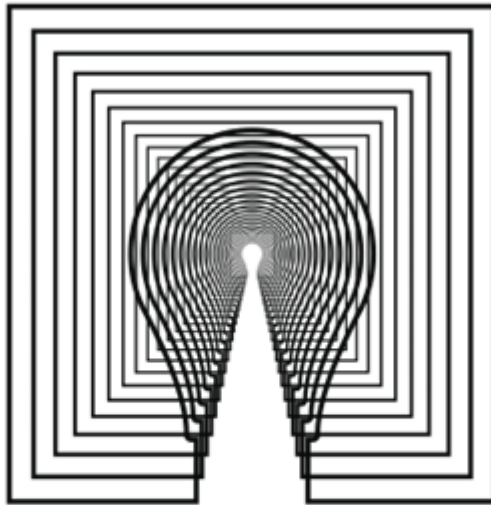
ILI Outreach event

December 8th, Zwarte Doos, TU/e



- invited lectures on different topics
- presentations of the different program lines
- poster pitches of the PhD-students
- networking

for more information: ILI@tue.nl



Thank you.