Four lines of research

• **No Switches Allowed**
  to develop new technical interfaces between humans and light

• **Road Lighting 2015**
  to develop intelligent street lighting

• **Sound Lighting**
  to develop lighting systems for reliable, sustainable living and work environments

• **Open Light**
  to explore all of the possibilities of a particular technology

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**No Switches Allowed**

*Program Manager:* Elise van den Hoven  
*Thought Leader:* Berry Eggen

1 | **TU/e participants**

- Berry Eggen
- Harm van Essen
- Jan Bergmans
- Johan Lukkien
- Oliver Amft
- Philip Ross
- Tanir Ozcelebi

2 | **Competences**

- Distributed system architectures / robustness / signal processing
- Context recognition and contextual representation
- Interaction design / user experience / end-user programming / information decoration

3 | **Projects**

- Adaptive Light Environments (ALE) – iLighting the World (TU/e) [3 PhDs]
- ENSURE WP4 ‘Buildings without Switches’, i.c.w. Philips
- Information Light Decoration – Final project postgraduate course User System Interaction, TU/e
- Smart Context-Aware Services (SmaCS) – Point One [2 PhDs]

4 | **Stakeholders**

- Aly Syed – NXP
- Cagdas Atici – Postdoc student
- Eelco van Hamersveld – Philips Lighting
- Johan van Baardwijk – Cofely Health Care
- Maarten Brugmans – Master students
- Marc Spijker – Cofely Noordwest BV
- Paola Juramillo Garcia – PhD student
- Remco Magielse – PhD student
- René Geerts – RENA Innovative Light solutions
- Rob Kürsten – Cofely
- Sachin Bhardwaj – Postdoc student
- Serge Offermans – PhD student
- Sunder Rao – PhD student
- Tim Schenk – Philips Research
- Valentina Occhialini – Postgraduate student USI
- Vasudeva Aravindh – PhD student
- Wim Claassen – Philips Lighting

5 | **Labs and Testbeds**

- Testbed Philips Lighting: open plan office (40 bureaus) with flexible lighting control, sensing and data monitoring
- Testbed Philips Research High Tech Campus: office meeting room with adaptive and interactive LED lighting system
- LightLabs at TU/e: various incubator spaces where interactive lighting scenarios are explored

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Road Lighting 2015

Program Manager: Marco Haverlag
Thought Leader: Gerrit Kroesen

1 | TU/e participants
- Antal Haans
- Bob Matthij
- Cagdas Atci
- Corien Prins
- Evert Riddershof
- Gerrit Kroesen
- Jan Borgmans
- Jan ten Thije Beoekkamp
- Jeroen Keijzers
- Johan Lukkien
- Jovita Moerel
- Myriam Aries
- Marielle Aarts
- Loes Ruijs
- Karin Smolders

2 | Competences
- Video content analysis
- Perception research
- Psychology (safety, user preferences, acceptance)
- Optical design: ray tracing calculations, optical inversion problems, optical mixing, differential dynamical systems, phase space analysis, experts systems
- Stakeholder value analysis: unarticulated needs, acceptance of innovative solutions

3 | Projects
- ENSURE WP 1: i.c.w. Philips
- Project ‘Zilverakker’ i.c.w. LuxLab
- Requirements analysis interactive Road Lighting (Nov 2009 - Jan 2010)
- Field test Perceived Safety Road Lighting - static scenarios (Feb 2010 - Jul 2010)
- Field test Perceived Safety Road Lighting - dynamic scenarios (July 2010 - Dec 2010)
- Project proposal 'Intelligent Street Lighting for Energy Saving & Safety'
- ISLES 2014, PointOne (Philips Lighting, TU/e, Vinmotion, NXP, Y'All, Metamoticas, CER International, Philips Research)
- Project proposed CityViewCAD for Outdoor Lighting in preparation (TU/e, Philips, Cytosmedia)
- Project 'Strip-S: Creating a Public Lighting Experience' as part of BLISS
- Better Lighting in Sustainable Streets in preparation (TU/e, Strip-S Beheer, Philips Design, Studio Roosegaarde)
- Social Urban Spaces ‘Light over de Dommel’, start up workshop to kick-off one year project to create contemporary lighting solution for bridge over the Dommel (TU/e, Diederendirrix, Zoo Productions)

4 | Stakeholders
- A. Noodhoek - Community of Eindhoven
- Alain Sarcke – Students TW
- Mykula – NRP
- Axel Zeijen – Students TW
- Bent Dirks – Diederendirrix Architecten
- Daan Roosegaarde – Studio Roosegaarde
- Dominique van Gennip – Students HTI
- Egbert Jaspers – Vinmotion
- Engel Krabbe – Philips
- Elke den Ouden – Philips and TU/e
- Ellen de Vries – LuxLab
- Harald Fledder – Philips
- Jensen Brok – Students ID
- John Servaes – Students HTI
- Johan van Baardwijk – Cofely
- Kris van Rens – Vinmotion
- Leonie Geerdink – Students HTI
- Lorna Goulden – Philips Design
- Luc Tille – Pleincollege St Joris
- Marco Haverlag – Philips and TU/e
- Merete Hørst – Students HTI
- Michel Klein Swornink – Philips
- Rob Kluijver – Philips
- Robert van Rietel – Zoo Products
- Roger Dolniss – Philips
- Sander Goorden – Philips
- Sebastiaan Wolzaak – Students ID
- Serge van den Berg – Strip-S Beheer
- Teus Tukker – Philips and TU/e
- Thijs van Osch – Students HTI
- Tim Schenk – Philips
- Toos Michon – Pleincollege St Joris
- Wilbert Uremann - Philips
- Wouter Leibbrandt – NRP
- Ying Wang – Philips

4 | Soundtrack

Program Manager: Yvonne de Kort
Thought Leader: Cees Midden

5 | Labs and Testbeds
- Testbed de Zaale (control room N-laag A 2.02)
- Designhuis (during exhibition ‘The Liberation of Light’, i.c.w. Het LUXLAB)
- Strip-S
- Drents Dorp
- Catharinaplein
- Efennaar

5 | Labs and Testbeds

Program Manager: Yvonne de Kort
Thought Leader: Cees Midden

1 | TU/e participants
- Aga Matsui
- Antal Haans
- Carlos Otchua
- Cees Midden
- Corien Prins
- Daniel Lakens
- Elke den Ouden
- Evert van Loenen
- Femke Beute
- Jaap Harm
- Jan Hansen
- Jovita Moerel
- Jeroen Keijzers
- Jan Bergmans
- Gerrit Kroesen
- Evert Ridderhof
- Bob Mattheij

2 | Competences
- Building and lighting simulations
- Indoor environment and daylight
- Real and artificial daylight integration
- Smart lighting for healing environments
- User behaviour, user experience
- Health and performance under natural and artificial light
- Perception and acceptance of innovative lighting solutions
- Persuasive technology and user interfaces

3 | Projects
- ENSURE - WP 2:ZEROFLUX BUILDINGS
- Literature study ‘State of the art lighting simulation’
- Simulation study ‘Energy and Windows’
- Naturalness bias in light perceptions
- ENSURE - WP 3: Dutch Lighting Design
- Literature study ‘Influence of lighting on emotions & wellbeing’
- Healing Patient Room (ENSURE project Philips Goal)
- Light for the Elderly (ENSURE project Philips Goal)

4 | Stakeholders
- Adriaan Jongepier – Sonny
- Alexander Berk – Student
- Bart van Iersel – Student
- Bruce Forwerda – Student
- Ellen de Vries – LuxLab
- Elmo Diederiks – Philips Lighting – Alliances
- Erik Kuipers – GGE
- Esther de Boer – Philips Lighting – GGOAL
- Floris van Rooijen – Student
- Ingrid Kalinawskalte – Student
- Inge Borngers – GGE
- Jens Christoffersen – Velux A/S
- Jurian Tjeenk Willink – Student
- Laurens Zonneveld – TNO Bouw en Ondergrond
- Leonie Geerdink – Philips Lighting, GGOAL
- Maria Gustafsson – Student
- Mariska Stokkermans – Student
- Peter van de Burg – Philips Lighting, GGOAL
- Pieter Suerants – Philips Research
- Teun van Roessel – Student
- Tine Schouten – Stichting Onderzoek Licht en Gezondheid/Davita
- Wip Folkevits – GGE

5 | Labs and Testbeds
- Flexible facade laboratory BPS – TU/e, Vertigo
- Indoor lighting lab BPS – TU/e, Vertigo
- Climate room – TU/e, Vertigo
- HTI LightingLab – TU/e, IPO building
- ExperienceLab – High Tech Campus – Philips Research
- GGE – common living room and comfort rooms – De Grote Beker, Eindhoven
- Healing patient room – Maastricht Hospital
- Daylight Research Facility – design in progress
Open Light

Program Manager: Rombout Frieling
Thought Leader: Kees Overbeeke

1 | TU/e participants
• Jacob Alkema
• Kees Overbeeke
• Rombout Frieling

2 | Competences
Competences in development
• Indirect Light – Design of shadow, reflection using intelligent structures
• Aesthetic Reflections – Dynamic environment rendering intervention
• Poetics of Light – in historical context
• Value of Light – exploring new value areas beyond ‘light to see’ in a wider visual and non-visual context
• Lightbrary – a collection of light-relevant materials and technologies
• Designing with Light – Light as design medium

3 | Projects
Open Light projects started in September 2010; a list will be provided as soon as output is available.
Adopted ID projects are
• Indirect Light – Developing a Lightwall for Strijp-S which is energy neutral
• Static Object that Move – Investigation how light, through reflections and shadows, can make the inanimate appear alive

4 | Stakeholders
• Coen Dekker, Market Intelligence Manager & Pascal Stolk, Sr Sponsor Manager, Heineken NL (future projects)
• Duco Heijbroek, NH Hoteles Ghent (Open Light 1.0 exhibition)
• Emma O’Leary, Proctor & Gamble Front End Innovation UK (future projects)
• Floris Provoost, Lumalive (possible collaboration)
• Jens Axelsson, Head of Customer Insight, Stena AB (STABILIGHT project, 2011)
• Jeroen de Jonge, Lighting Science Group Corporation (future projects)
• Justus Tomlow, Luxaled (future projects)
• Lorna Goulden, Philips Design & Park Strijp Beheer (Indirect Light)
• Mimi Chen, Auo OLED design, Taiwan (future projects)
• Olaf Prinsen, municipal councilor kunst, arts, culture & infrastructure, municipality Apeldoorn (future LUMIDO project)
• Prof Marcello Flores, Museo Santa Maria Della Scala, Siena, Italy (LUCE ANTICA project - 2011)
• Ralph Netzger, HOWest protolight (possible collaboration)

5 | Labs and Testbeds
• TU/e HG 4.57: prototyping lab