

# Quality of experience

## Interview with ILI's new Scientific Director

A broad and deep experience in industry and a heart that beats for research, that is the bio of prof. dr. Ingrid Heynderickx in one sentence. From June 1, 2015, Heynderickx will take over from Emile Aarts as scientific director of the Intelligent Lighting Institute. The enthusiastic TU/e professor is not a newcomer to ILI, having worked closely together with Aarts on the development of the institute and its research portfolio. Heynderickx: "I think we have an excellent proposition with ILI. By bringing together lighting expertise from both industry and science we can play an important and necessary role in the definition and development of visions around future lighting systems."

Heynderickx started working at Philips Research 27 years ago. She worked on different topics around display technology, supporting CRT, LCD and TV. From 1998 onwards, she specialized in visual perception, a topic that fits ILI like a glove. In 2013, Heynderickx started working as full professor at the TU/e as member of the research group Human Technology Interaction, again an excellent match with ILI. Heynderickx: "Quality of experience is the new dogma in the world of lighting. Driven by LED-technology, lighting transforms from a bulb randomly beaming light, into a flexible and programmable full colour system with nearly unlimited

possibilities. This transformation brings technical challenges, but also has a clear psychological side. How do we use, perceive and experience light? And ultimately: how do we want our lighting to be?"

### Perspectives

With a broad research portfolio and intense collaboration with Philips Lighting, the ILI forms a bridge between industry and science. Moreover, ILI takes the human perspective aboard. The team consists of professionals with both a technical background and experience in psychology. Heynderickx: "We know how to set up experiments with human test subjects and how to analyse the subsequent output. This adds to our research quality. Moreover, we have chosen for research lines that address concrete societal issues, a 'design for need' approach. For example: in the project Sound Lighting we look into the influence of light on people's health and performance. And with Bright Environments we dive into the opportunities and consequences of intelligent lighting technology; autonomous systems for instance, or systems with advanced user interaction styles. We also try innovative new research approaches. Within the Open Light program researchers work in workshop settings and without any preconceived

application ideas to explore the possibilities of a particular technology. Results of the workshops find their way into existing research programs or may lead to a market prototype, for example, or an art installation. This fresh kind of design-thinking approach to research produces unexpected outcomes and new perspectives. Food for thought!"

### Results

ILI proves to be an important bond between all people in lighting research at TU/e and beyond, combining technical, design and psychological perspectives. The solidarity helps to create mass, to attract interesting research projects and to achieve results. Heynderickx: "We deliver fundamental research to an extent that is no longer possible within large firms. The dynamics of the market requires shorter and very focussed research cycles. However, you do need a structural understanding of the underlying principles as well, that's where we come in. On the other hand, scientific research can benefit from the experience and insight of industry in market conditions, consumer trends and the way the world of lighting develops. Working together also offers the benefit of sharing research facilities." Both the Human Technology Interaction group and Philips Lighting have



complementary test labs enabling faster and better results. Heynderickx: "Talking about improving faster, from my background I find it awkward that displays and lighting are completely separate worlds in scientific circles. There are lighting conferences and display conferences and very few scientists visit them both. Yet these fields share several similarities and could learn a lot from each other. Personally, I have found my heart beats for research even more than for development, although I cannot disregard a certain level of applied thinking. I do believe industry can benefit from institutes like ILI, in developing a grounded vision on the future of lighting."

### Future

The world of light is evolving, but is it still in its infancy? Heynderickx: "There still is too much traditional thinking in the development and design of new lighting systems. Companies come from a shift stock mentality and lighting design in buildings is usually based on overhead blueprints. I believe that, in everything we do, we have to move from components thinking towards systems thinking. We also have to incorporate the needs and wants of humans much better. This applies to research questions, experiments and the challenges of the lighting industry. In the near future companies will communicate differently with customers. It is no longer a debate about wattages and luminaries, but about ambience, function and feeling. You can already see the first lighting lease contracts emerging in the market. ILI plays a significant role in this process and I find it a challenge to succeed Emile Aarts. As initiator and scientific director he established an institute with a great spirit. I want to build on these excellent foundations, to dive even deeper into the relationship between human and technology. To me this is a distinguished quality for both ILI and the TU/e. We have built up a lot of knowledge in this field of expertise and it is something we can further develop, thus enhancing our position."