

Aarhus University Engineering Graduates Win International Lighting Student Challenge in Rome

Two Aarhus University architectural engineering graduates are the winners of the first “Professional Lighting Design Student Speaker Challenge” with a presentation based on their Bachelor thesis on improving living conditions and independence for the elderly with age-appropriate lighting design.



Photo by Brendan Keely

Pernille Krieger and Eik Lykke Nielsen, encouraged by their thesis supervisor, Lighting Design Research Professor Werner Osterhaus, entered the Student Speaker Challenge in the summer of 2014 with a thought-provoking video setting out their Bachelor thesis research programme even before they really began their detailed investigation. The Challenge is modelled after the British TV Talent Show “The Voice” and incorporates four rounds of competition in which students from all around the world compete.

Students who had advanced to the third round were supported by lighting professionals serving as coaches to help polishing their presentation skills. In Pernille and Eik’s case, the coach was Brendan Keely, secretary of the UK’s Society of Light and Lighting. After the third-round presentation at a conference in Edinburgh, Scotland in February 2015, their work was selected as one of five finalist presentations for the Professional Lighting Design Convention (PLDC) in Rome, attended by more than 1800 lighting professionals from around the world.

The Challenge judges were impressed by the high quality level shown by all finalists and full of praise for Pernille and Eik for both research content and the cool professionalism shown in the method of presenting.

The winners chose to rebrand the 'elderly burden' to become the 'elderly resource'. According to the judges' statement, they provided a perfect example of asking the right questions in the right way and proving the validity of the chosen research methods to extract meaningful results. It states: "Your comparative methods went one stage beyond what many researchers would have done and therefore you could see the differences in results that can be obtained through different methodologies."

The study investigated lighting and activities in a variety of spaces in elderly residences and often found surprisingly low light levels, low contrasts, and other impact factors reducing task visibility for the elderly. The student researchers maintain that it is not adequate to draw general conclusions based solely on the objective assessment of the actual lighting conditions in spaces occupied by the elderly. It needs the occupants' point of view as well, explored in the study through interviews and questionnaires, as well as a series of experimental tests.

Results indicate that lighting design choices can have a significant impact on the ability of the elderly to remain independent much longer. Better lighting will allow them to do more themselves. This will indeed allow the elderly to remain a highly valuable resource, rather than a burden, dampening the impacts of demographic changes on society.

The international recognition of their work conducted as Bachelor students is a great encouragement for the continuation of their studies. Eik is now enrolled in Aarhus University's Master of Architectural Engineering programme and continues to explore various aspects of lighting design research and applications in the context of an integrated design approach. Pernille moved to Copenhagen where she is enrolled in DTU's Master of Architectural Engineering programme and working part-time as a sustainability consultant and lighting designer for the consulting engineering firm Steensen Varming.