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## **LED Lighting for Museums: Latest Results of Projects at the University of Pannonia, Hungary**

Mittwoch, 9. Dezember 2015, 16:00 Uhr

Akademie der bildenden Künste, Schillerplatz 3

Vortragssaal EA1 (Erdgeschoss)

## LED lighting for museums: Latest results of projects at the University of Pannonia

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### Abstract

The two most important factors in museum lighting are the preferred appearance of artworks. Preservation of art is at least an important factor in museum lighting.

The European Commission funded a pilot flagship project (LED4ART), which has the aim to demonstrate that high quality and energy efficient museum lighting based on LEDs is possible in 2014. The place of demonstration is one of the top ten museums in the world: the **Sistine Chapel in the Vatican**. A consortium consisting of 6 partners from 5 countries is in charge of replacing the lighting system of the Sistine Chapel. Members of the consortium were OSRAM, the Vatican City State, OSRAM-Italy, the Energy Research Institute of Catalonia (IREC), Fabertechnika, and the University of Pannonia. The role of the Virtual Environment and Imaging Technologies Research Laboratory in this project was to determine the LED spectral power distribution in order to present the world-famous frescoes to the visitors in the form as the artist imagined them. Beside this aspect, art preservation and energy efficiency were still important issues. In order to control the effect of LED light on frescoes, pigment ageing tests were carried out in our laboratory. The project has been started in 2012 with the evaluation of the old lighting system and reached the final aims by the end of 2014. On-site measurements have been done in the Sistine Chapel before and after luminaire replacement; spectral optimization of LED spectra has been done according to modern colorimetric practice. During the presentation, the most important objectives and results of the project will be presented.

### CV

Ferenc Szabó works as an assistant professor at University of Pannonia, Veszprém, Hungary. He holds a PhD in Information Sciences (2012). His thesis was on a new color quality metric based on Harmony Rendering of light sources.

He attended in more national and international projects on lighting (SSL4EU, LED4ART, HI-LED). His fields of research are: color quality of light sources, mesopic vision, street lighting, human-centric lighting, museum lighting.