

## BASIC INFORMATION ON SUB-PROJECT

NAME OF PROGRAMME/FUND	Scholarship Fund - Sciex NMS <sup>ch</sup>
RESEARCH FIELD AND OTHER RESEARCH FIELDS INVOLVED (if applicable)	Engineering Sciences
TITLE OF THE SUB-PROJECT	Inter-individual Lighting Preferences of Office Occupants
REGION OF THE CZECH REPUBLIC (according to the location of the home institution)	Prague
GRANT AMOUNT SPENT	93 093,10 CHF
INTERMEDIATE BODY	Swissuniversities
HOME INSTITUTION	CTU in Prague, Faculty of Civil Engineering,
HOST INSTITUTION	Swiss Federal Institute of Technology in Lausanne School of Architecture, Civil and Environmental Engineering
NAME OF THE FELLOW	Lenka Maierová

**ABSTRACT OF THE SUB-PROJECT**

Indoor light quality strongly impacts visual comfort and behavior by direct effects on vision but also by indirect influence via physiology, mood and behavior. A recently discovered class of photoreceptors in the human eye, exclusively responsible for light perception and directly projecting to the brain and the endogenous biological clock, is mainly responsible for these non-image forming light effects. Our project will unravel the question whether inter-individual variations of visual comfort in response to different daylighting conditions are also influenced by the endogenous biological clock. For the proposed project we will include human subjects with known rest-activity preferences, i.e. chronotypes (morning and evening types). We will correlate self-assessments of visual comfort, mood and alertness with objective measures such as hormonal secretion, cognitive performance and brain activity during daytime and under different daylighting conditions including electrochromic windows. The combined assessment of subjective and objective variables in those volunteers with known differences of their diurnal preference, will generate a more comprehensive approach for changes of visual comfort, which is crucial for optimizing indoor lighting conditions. This project is directly linked to recent and current research led by Prof Jean-Louis Scartezzini at LESO-PB, EPFL, e.g. "Circadian aspects of (day-) light on human physiology, behavior and visual comfort" and „Green lighting – High performance integrated daylighting and electric lighting systems“. The main goal in this research group is focused on the integrated approach to evaluate occupant comfort related to lighting conditions and the use of daylight.

**MAIN RESULTS****DATE OF REALISATION OF THE FELLOWSHIP**

15.6.2011 - 14.12.2012

**MORE INFORMATION ON THE PROGRAMME****[www.sciex.ch](http://www.sciex.ch)**