

SHORT TERM SCIENTIFIC MISSION (STSM) SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

Action number: CA17136 - Indoor Air Pollution Network

STSM title: Monitoring and analysis of indoor air pollutants

STSM start and end date: 03/03/2019 to 22/03/2019

Grantee name: Lucerne School of Engineering and Architecture

PURPOSE OF THE STSM:

(max.200 words)

The purpose of this STSM was to strengthen the scientific collaboration between Department of Environmental Engineering of the Technical University of Kosice and the Institute of Building Technology and Energy at the Lucerne University of Applied Sciences and Arts – School of Engineering and Architecture. The second purpose was to discuss about indoor air quality in schools and health of pupils in two different countries with different legislation requirements as well as about indoor environmental quality in general. Meetings with experts in the field of IAQ in Switzerland were also the purpose of this STSM.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

(max.500 words)

Work during the STSM was started by introducing to the team and lab infrastructure of the Institute of Building Technology and Energy (IGE) at the Lucerne University of Applied Sciences and Arts – School of Engineering and Architecture followed by a presentation of the laboratory and research activities at the hosting institute. At the second day of the STSM was carried out the meeting with expert on IAQ Harry Tischhauser (MeineRaumluft.ch) focused on ongoing measurement campaign of IAQ in schools in Switzerland, especially with the aim and preliminary results of this campaign. The third day was started by presentation of our university and research activities at Department of Environmental Engineering (DEE) of Faculty of Civil Engineering in Košice associated with meeting and discussion with prof. Dr. Rüdiger Kùlpmann from IGE. Meeting with Erny Niederberger, CEO of SWISSENS and presentation of new technology of pollen particle counter together with laboratory visit were held during fourth day of STSM. Another presentation about Technical university of Košice and our research activities at DEE for all members of IGE as well as head of institute Urs-Peter Menti was performed 12/03/2019. During 13/03/2019 was held meeting with experts on lighting associated with laboratory visit and discussion about indoor light issues. Throughout the STSM we processed and analyzed data from measurement campaign of IAQ in schools in Switzerland. Final meeting (19/03/2019) with Harry Tischhauser was focused on the results from data analysis from measurement campaign of IAQ in schools in Switzerland and methods of data evaluation for following publications. This final meeting was followed by meeting with acoustic experts from HSLU and was focused on discussion about indoor acoustic issues and getting to know each other's research activities. 20/03/2019 was held the visit of the another Swiss COST-participant – the company SENSIRION, which develops high-quality IAQ sensors for IOT and automobile applications. We visit the factory and discuss with Daniel Rùffer (Business Development Manager). Final meeting with our host Benoit Sicre was held at our last day and was focused on discussion about future collaboration as well as joint publications.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

The main results from the STSM were transfer of the knowledge about indoor air quality, establish contacts with experts working on similar research issues as we, as well as possibility to compare the results from indoor environmental quality research in schools in Switzerland and Slovakia. The ongoing measurement campaign in schools in Switzerland showed that sensors for CO₂, temperature and relative humidity in classrooms have positive impact on pupils habits related to opening windows during the school hours, therefore we consider about application of similar approach in schools in Slovakia with professional help of the IGE. Participation on the STSM was beneficial for future joint research and possible collaboration between the IGE and DEE as well as expand our network about indoor air quality.

FUTURE COLLABORATIONS (if applicable)

Ideas and concepts, that need to be worked out in a near future.