



University of Zagreb  
Faculty of Textile Technology (TTF), AMCA TTF  
and Textile Science and Research Center (TSRC)

invite you to a

# LECTURE

entitled

## **Derivation of Evaporative Resistance of Clothing from its Thermal Resistance Measured on Dry Thermal Manikin and Rct/Ret Correlations Determined on a Vertical Skin Model**

by

**Frederick Fung and Prof. Lubos Hes**

from Technical University of Liberec, Czech Republic, Faculty of Textiles

on **Wednesday, 25<sup>th</sup> August 2021 at 12:00 at A-301**

Prilaz baruna Filipovića 28a, Zagreb

### **Abstract:**

A novel method is proposed, analyzed and experimentally verified, in which thermal resistance data measured on dry manikins are transformed into evaporation resistance of clothing. The transformation procedure is based in comparative measurements of thermal and evaporation resistances in special so-called Skin model, which evaluates heat and mass transfer in simulated vertical air gaps corresponding to real air gaps in the worn clothing. Results of this original research then were statistically treated, theoretically analyzed and then presented in the form of transformation equations, specific to all tested woven fabrics.

### **Biography:**



Prof. Lubos Hes, PhD, DSc, D.h.c., Ctext FTI, hon. FTI has MSc in Mechanical engineering in TU Liberec as a designer of textile machines, and PhD degree on Clothing comfort. He worked for 16 years in the Textile machinery institute in Liberec, Czech Republic as a Chief designer of yarn texturizing and finishing machines. Later, after gaining PhD in Yarn Texturizing Technology he entered the Czech University of Liberec, Faculty of Textile Engineering where he still teaches Heat and mass transfer in textiles and conducts 2 PhD students. He was appointed full prof. in 1999. His research interests also include technical textiles and design of textile testing instruments. At the Faculty of Textiles of the TUL he became Head of Dept. of Nonwovens and later Head Dept. of Textile Marketing and in the meantime also served 8 years at the Minho Univ. in Portugal as the Invited Professor. In 1990 he was on the UNIDO mission in India, to upgrade Design of textile machines in India. He has authored more than 130 peer-reviewed papers and delivered more than 300 communications at conferences. He is currently member of editorial boards of 7 impacted international textile journals. He was awarded by 65 patents and his original non-destructive fast working instruments for testing of clothing comfort (150 pieces) are used in 22 countries. In 2010 he received the highest Manchester Textile Institute award – Honorary fellowship and later also the Innovation award from this international institute. In 2011 he was awarded by the Honorary Doctorate from the University of Iasi in Romania. In 2016 he received the Innovation price from the Czech government. For his lifelong contribution to textile science and technology and for his extensive UNIDO activities in the area of textile machinery in India he was in November 2019 (year of his 75 years anniversary) awarded by the second honorary doctorate by the National Institute of Technology in Northern India.