

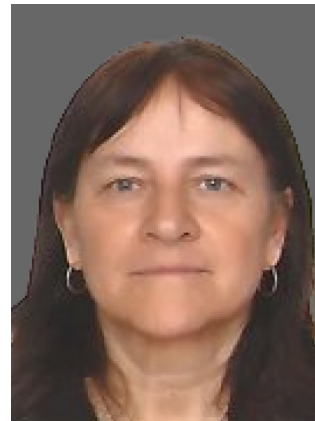


Topic of the Speech:

Hybrid Line Lighting System Containing Luminescent Layer

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Dr. Dana Kremenakova

Education and academic degrees

2005 Assoc. prof. (doc), Theme: Modeling of yarn geometry and strength, Faculty of Textile Engineering, Technical University of Liberec

1995 Ph.D. (Dr.), textile technique Theme: Structure of blended yarn, Faculty of Textile Engineering, Technical University of Liberec

1982 M.Sc. textile technology, Faculty of Textile Engineering, Technical University of Liberec

Professional profile

2013 – Department of Material Engineering, Textile Faculty, TU Liberec - member

2005 – 2012 Head of Department of Textile Technology, Textile Faculty, TU Liberec,

2004 – vice-head of Department of Textile Structures

1997 – 1999 vice-dean of Faculty of Textile Engineering, Technical University of Liberec,

1984 – Department of Spinning and Textile materials - teacher

1982 – 1984 KIO Elitex Liberec, research worker

Research activities

Research in the field of thermal transport properties and barrier properties of fibrous structures. Development of special metrology, application of image analysis. Prediction of geometrical and mechanical properties of fibrous assemblies. Modeling of textile structures in line fiber – yarn – fabrics. Prediction of thermal comfort. Optical and mechanical properties of side emitting polymeric optical fibers and their application in textile structures. Special properties of metalized lightweight nonwovens.

Teaching subjects

Experimental Data Analysis, Metrology and quality evaluation, Textile Testing, Computer Aided Textile Design, Experimental Analysis of Yarn Structure, Cotton spinning, Wool spinning.

Hybrid Line Lighting System Containing Luminescent Layer

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ABSTRACT (NO MORE THAN 500 WORDS:)

Main aim of this lecture is development and testing of new hybrid line lighting system containing luminescent layer. Motivation for construction of this hybrid system is partial utilization of side emitted light from linear composite for activation of passive luminescent lighting tape. This system is composed from textile tape coated by fluorescent pigments which emit light even after the active lighting is temporarily switched off. The selection of proper fluorescent pigments is based on measurement of time to decay of illumination intensity to the limited value of sufficient visibility in the dark. Based on the comprehensive testing it was found that for ensuring the activation of the phosphorescent active layer, which is typically placed under LK, it is necessary to select a suitable LED (typically white) and a suitable color (usually white) of SEPOF cover providing emission in the low wavelength region.