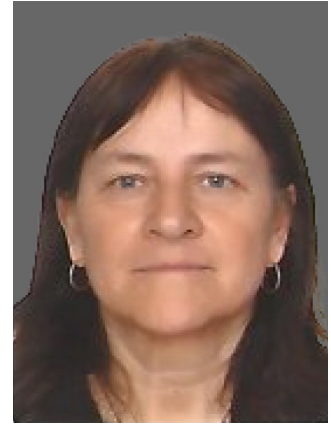




Topic of the Speech:
Face Mask and Textile

Dr. Dana Kremenakova
Dept. of Material Engineering
Faculty of Textile Engineering,
Technical University of Liberec
Czech Republic



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.

ABSTRACT SUBMISSION

-FOR INVITED SPEAKER ONLY



Face Masks and Textiles

Jiří Militký¹, Dana Křemenáková¹, Jakub Wiener¹, Mohanapriya Venkataraman¹ and Arun Aneja²

¹*Dept. of Material Engineering, Textile Faculty, Technical University of Liberec, Studentská Street No. 2, 46117 Liberec, Czech Republic*

²*Dept. of Engineering, East Carolina University, Greenville, N. C., USA*

*Presenter's email: dana.kremenakova@tul.cz

ABSTRACT (NO MORE THAN 500 WORDS:)

The world has been threatened and paralyzed by a new type of coronavirus SARS-CoV-2 for about half a year. Face masks and respirators are recommended protection against droplets containing this virus. There are often confusing recommendations from which materials should be face mask constructed, how to use them and how to maintain/sterilize them. Standard face mask should be constructed for protection a person against coronavirus infection from the environment. In addition, a face mask worn by an infected person should be created for slightly different functions. For face masks, possible re-use is planned, including simple and effective sterilization. This brings together a number of as yet poorly addressed problems which, as a result, may make the impact of the use of these masks on the health of wearers worse than being infected by viruses. It should be borne in mind that the total wearing time of protective masks associated with the possible release of unsuitable particles can become extremely long. The aim of this work is based on the function of face masks to describe the problems that arise with the materials used so far and with the methods used so far. Furthermore, to draw attention to the absence of test methods associated with the repeated use (aging) of textile materials.