Univ.-Prof.
Prof. h.c. (Moscow State Univ.)
Dr.-Ing. Dipl.-Wirt. Ing.
Thomas Gries
Director

Klas-Moritz Kossel
Head of Research Group
Medical Fibre Systems

Ref.: KMK
01.02.2017

Project title:	Investigation of textile parameters influencing bacterial adherence and growth in medical textiles to reduce hospital infections („BakTex“)
Partner:	Hohenstein Institut für Textilinnovation gGmbH
Duration:	01/2017 – 04/2019
Funding:	AiF - IGF

Mission Statement

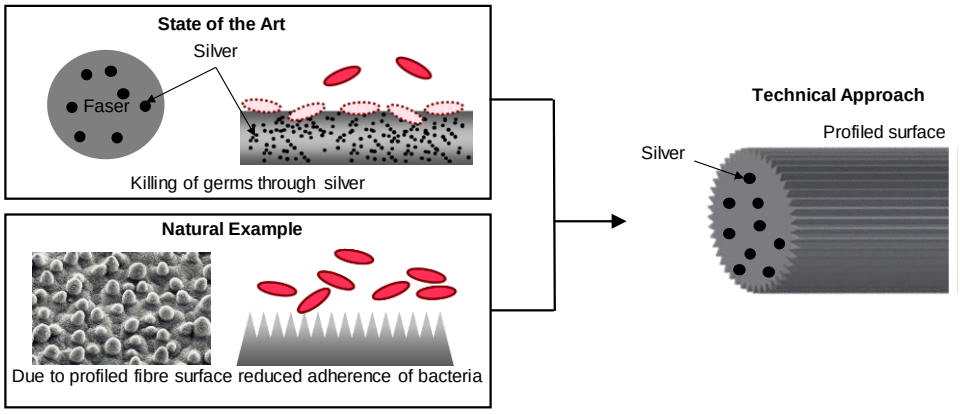
Healthcare associated infections (HAI) are a major socio-economic problem worldwide. In Germany alone, the additional costs for the treatment of HAI amount to approximately 1.3 billion euros per year. In Europe, approximately 4.1 million people suffer from hospital germs every year, and about 110,000 people die from them.

Textiles play an important role in hospital hygiene because they are in direct contact with patients and hospital staff and thus represent a potential risk of transmission and infection. Studies show that textiles contaminated with germs are one of the main sources of infection transmission for HAI. Antimicrobial textiles can therefore be used advantageously for the purpose of infection prophylaxis. The use of cost-intensive biocide additives for fibre doping or finishing is state-of-the-art technology.

The use of biocidal products, however, is still very controversial. For example, a decreasing effectiveness due to the washing out of additives, the fear of the formation of resistances and the high costs of these additives are cited. In order to increase the competitiveness of German SMEs, low-cost textile solutions must be developed that simultaneously counteract increased germ contamination and reduce the amount of biocides required.

Approach

In the BakTex project, the textile influencing parameters of fibre structure and surface texture are therefore specifically modified according to a natural model and the necessary amount of biocide is adjusted. The combination of structure and topography with the smallest possible amount of antimicrobial fiber doping should achieve a maximum antimicrobial effect. The aim is to reduce the germ load on textile surfaces by more than 99.9%.



Acknowledgement

The joint industrial research project (IGF-no. 18837 N) is funded by the Federal Ministry of Economics and Energy within the framework of the programme for the promotion of joint industrial research (IGF) on the basis of a resolution of the German Bundestag.

Gefördert durch:
Bundesministerium für Wirtschaft und Energie
aufgrund eines Beschlusses des Deutschen Bundestages

Contact

Klas-Moritz Kossel, M.Sc.
Institut fuer Textiltechnik der RWTH Aachen
Tel.: +49 (0) 241 80 24731
E-Mail: klas.kossel@ita.rwth-aachen.de

Wirt.-Ing. Frederik Cloppenburg, M.Sc.
Institut fuer Textiltechnik der RWTH Aachen
Tel.: +49 (0) 241 80-24714
E-Mail: frederik.cloppenburg@ita.rwth-aachen.de

Dr. Marina Handel
Hohenstein Institut für Textilinnovation gGmbH
Tel.: +49 (0) 7143 271 427
E-Mail: M.Handel@hohenstein.de