

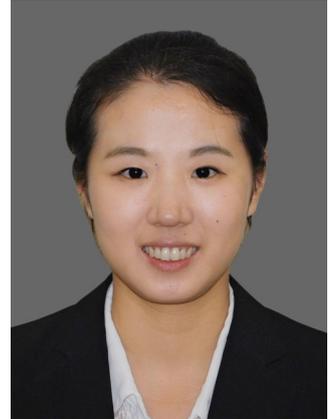


Topic of the Speech:

Photocatalytic Properties of Self-cleaning Fabrics Coated Through a Facile Method

Dr. Chunhong Zhu

Faculty of Textile Science and Technology
Shinshu University
Japan



Dr. Chunhong Zhu is an Associate Professor in the Department of Advanced Textile and Kansei Engineering, Faculty of Textile Science and Technology, Shinshu University, Japan.

She obtained her Master's degree from Soochow University majored in Textile Materials and Design in 2010. After that, she received her Ph.D. from Shinshu University in 2014. From 2014 to 2015, she worked as a R&D in a Japanese company and returned to Shinshu University as a faculty member in 2015.

Her research interests include three-dimensional fabrics, functional and smart textiles.

Photocatalytic Properties of Self-cleaning Fabrics Coated Through a Facile Method

Chunhong Zhu^{1*}, Jian Shi², Hideaki Morikawa¹

¹*Faculty of Textile Science and Technology, 3-15-1 Tokida, Ueda, Nagano, 386-8567, Japan*

²*Faculty of Systems Science and Technology, Akita Prefectural University, 84-4 Aza Ebinokuchi Tsuchiya, Yurihonjo, Akita, 015-0055, Japan*

*Presenter's email: zhu@shinshu-u.ac.jp

ABSTRACT (NO MORE THAN 500 WORDS:)

Self-cleaning technology can be considered as a potential technique that can be used to remove organic substance, such as sebum which is secreted by the human body, from fabrics or apparel. In this study, we purposed to investigate the photocatalytic properties of self-cleaning fabrics, which were coated by a facile method, in order to remove dye and sebum. Cotton fabrics were coated by photocatalyst using a traditional dip-pad-dry-cure coating process. The fabrics were characterized by scanning electron microscope, Fourier-transform infrared spectroscopy, thermogravimetric analysis, et al. The effect of weight ratio on the photocatalytic properties was discussed using methylene blue and oleic acid as test contaminants. Results showed that a higher weight ratio of photocatalyst in the coated fabric resulted in more pronounced photocatalytic properties than fabrics with lower weight ratios. As the coating method was facile which provided a potential model for the practical application of self-cleaning fabrics.