

## Supervisor's thesis's evaluation for the PhD Thesis of Mr. Muhammad Tayyab Noman, M.Sc.

## Title of Thesis:

Stabilization of sono synthesized photocatalyst on textiles and development of multifunctional nanocomposites

Presented dissertation thesis is about synthesis and stabilization of a novel photocatalyst to enhance the functional properties of textile. The novel cotton – TiO<sub>2</sub> multifunctional nanocomposites prepared in situ by Ultrasonic Acoustic Method was introduced. Highly photoactive anatase form of TiO<sub>2</sub> nanoparticles have been synthetized and incorporated on cotton simultaneously by this method. Functional properties of composites prepared by Ultrasonic Acoustic Method are durable against to repetitive washing, which can be supported by acoustic cavitation.

The candidate has done all work systematically on required scientific level with specific objectives. Discussion of the results is comprehensive and logical. The quality of tables and figures is good and untestable. The conclusions of the thesis are interesting and novel.

Publication activities are in very good level. During his research work on PhD theme he has published 9 papers in impact factor journals, 2 book chapter and 4 publications at international conferences.

I recommend the thesis for final defense.

Liberec 10/09/2018

Ing. Jana Šašková, Ph.D. (Supervisor)

