

# **Annotation of Doctoral Thesis Topics for Degree Programme: Material Sciences and Engineering, course in „Biomaterials and Biocomposites“ for the Academic Year 2017/2018**

**Topic:** Novel Environmental Friendly Materials and Technologies  
**Supervisor:** prof. Ing. Vladimír Sedlařík, Ph.D.  
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## **Annotation:**

The proposed PhD study topic is focused on preparation, characterization and optimization process optimization of novel materials based on renewable resources with high potential applicability (e.g. in automotive, packaging, building industry or agriculture). This multidisciplinary topic connects fields of material engineering, chemistry and physics. An involvement of the student into an implementation of projects with close connection to practice is planned.

## **Requirements:**

Knowledge of inorganic and organic chemistry and physics at the university level. Knowledge of the English language and/or potential to improvement. Basic manual and laboratory work skills. Ability to work independently.

## **Literature:**

1. RAY, Suprakas Sinha. Environmentally friendly polymer nanocomposites: types, processing and properties. Oxford: Woodhead Publishing, 2013, xvii, 488. Woodhead Publishing series in composites science and engineering. ISBN 978-0-85709-777-4.
2. BEN-YEHOSHUA, Shimshon. Environmentally friendly technologies for agricultural produce quality. Boca Raton, FL: Taylor & Francis, 2005, 534 p. ISBN 9780203500361.