

## WOOD RESEARCH

63(2): 2018

Wood Research publishes original papers aimed at recent advances in all branches of wood science (biology, chemistry, wood physics and mechanics, mechanical and chemical processing etc.) Authors are responsible for the fact that the paper has not been published before and it is not under consideration for publication elsewhere.

### EDITORS:

Štefan ŠTELLER, Slovak Forest Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic.

Marián BABIAK, Technical University in Zvolen, Masarykova 24, SK-960 53 Zvolen, Slovak Republic

### ASSOCIATE EDITOR:

Vladimír IHNÁT, Slovak Forests Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic

### EDITORIAL BOARD:

Štefan BARCÍK, Faculty of Environmental and Manufacturing Technology of Technical University in Zvolen, Študentská 26, 960 53 Zvolen, Slovak Republic

Ingo BURGERT, ETH Zürich, Institute for Building Materials, HIF E 23.2, Stefano-Franscini-Platz 3, 8093 Zürich, CH-Switzerland

Ignacio J. DIAZ-MAROTO, University of Santiago de Compostela, High School Polytechnic, University Campus s/n, 27002 Lugo, Spain

Miha HUMAR, University of Ljubljana, Jamnikarjeva 101, SI-1001 Ljubljana, Slovenia

Jan KANÓCZ, Technical University of Košice, Letná 9, 042 00 Košice

Bohuš KASAL, Fraunhofer Institute for Wood Research, Wilhelm-Klauditz-Institut WKI, Bienroder Weg 54 E, D-38108 Braunschweig, Germany

Svetozár KATUŠČÁK, Slovak Technical University, Radlinského 9, SK-812 37 Bratislava, Slovak Republic

Radomír KLVÁČ, Mendel University in Brno, Zemedelska 3, CZ-613 00 Brno, Czech Republic

Jozef KÚDELA, Faculty of Wood Sciences and Technology of Technical University in Zvolen, Masarykova 24, 960 53 Zvolen, Slovak Republic

Bartłomiej MAZELA, Poznań University of Life Sciences, ul. Wojska Polskiego 28, PL-60-637 Poznań, Poland

Holger MILITZ, University of Göttingen, Büsgenweg 4, D-37077, Göttingen, Germany

Róbert NÉMETH, University of West Hungary, Bajcsy Zs. u. 4, H-9400 Sopron, Hungary

Ján SEDLIAČIK, Faculty of Wood Sciences and Technology of Technical University in Zvolen, Masarykova 24, 960 53 Zvolen, Slovak Republic

Alfred TEISCHINGER, Boku-University of Natural Resources and Life Sciences, Institute for Wood Technology and Renewable Materials, Konrad Lorenz Strasse 24, 3430 Tulln, Austria

Miroslav GAŠPARÍK, Czech University of Life Science in Prague, Kamýčká 1176, CZ-165 21 Praha 6 Suchbátka, Czech Republic

### EDITORIAL OFFICE

Slovenský drevársky výskumný ústav/ Slovak Forest Products Research Institute

Dúbravská cesta 14, SK-841 04, Bratislava, Slovak Republic

Phone: 0911 728 624

E-mail: woodresearch@vupc.sk, WEB: www.woodresearch.sk

### SUBSCRIPTION INFORMATION:

Wood Research is published six times a year. Subscription rate 150 EUR (including mailing expenses). Subscription order should be sent to Slovak Forest Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic

© 2017 by SDVÚ Bratislava, Slovak Republic

All rights reserved. By submitting a manuscript, the authors agree that the copyright for their article is transferred to their publisher if and when the article is accepted for publication. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in retrieval system or transmitted in any form or by any means, photocopying, electronic, recording, etc. without the prior written permission of the publisher as mentioned in Slovak Copyright Law No 383/1997.

Issued: December 2017

IČO 31 380 051

Printed by Pulp and Paper Research Institute, Dúbravská cesta 14, Bratislava, e-mail: sekretariat@vupc.sk

**WOOD RESEARCH**  
**Volume 63, Number 2, 2018**

**CONTENTS**

1. ENHUA XI: Dynamic relationship between mechanical properties and chemical composition distribution of wood cell walls ..... 179
2. GANIS LUKMANDARU: Chemical characteristics of *Eucalyptus pellita* with heart rot ..... 193
3. JÁN GÁPER, SVETLANA GÁPEROVÁ, TERÉZIA GAŠPARCOVÁ, SIMONA KVASNOVÁ, PETER PRISTAŠ, KATEŘINA NÁPLAVOVÁ: Indoor fungal destroyers of wooden materials – their identification in present review ..... 203
4. MAHARSHI J DAVE, TEJAS PANDYA, DAMIAN STODDARD, JASON STREET, CODY BLAKE, PHONG LY: Dynamic and damping properties of novel bio-composites using the hammer excitation vibration technique ..... 215
5. ZHIQIANG WANG, WEIQUN DONG, ZHUANZHUAN WANG, JIANHUI ZHOU, MENG GONG: Effect of macro characteristics on rolling shear properties of fast-growing poplar wood laminations ..... 227
6. SARA ESSERT, VERA REDE, ZRINKA ŠVAGELJ: The bending modulus of elasticity of subfossil elm wood. .... 239
7. MINGBIN LIU, YOUFU SUN, CHEN SUN, XIAOLIN YANG: Study on thermal insulation and heat transfer properties of wood frame walls. .... 249
8. HORÁK JIŘÍ, KUBOŇOVÁ LENKA, TOMŠEJOVÁ ŠÁRKA, LACIOK VENDULA, KRPEC KAMIL, HOPAN FRANTIŠEK, KUBESA PETR, KYSUČAN ZDENĚK, OCHODEK TADEÁŠ: Change in the wood moisture dependency on time and drying conditions for heating by wood combustion ..... 261
9. HERVICE KOUEFOUET, G. BAWE, C.M. FOUOTSA WOUTSOP, P. K. TALLA, J.A. MUKAM FOTSING, E. FOADIENG: Probabilistic approach of the failure of *Lovoa trichilioides* and *Triplochiton scleroxylon* ..... 273
10. LISHU WANG, SHENGBO GE, DONGLI LI, WEI YANG, WANXI PENG: Characteristics of nontoxic bamboo bioboard by melamine and cellulose adhesive ..... 287
11. MARIUSZ RECZULSKI: Optimization of the clearance angle in industrial disc chipper ..... 295
12. JIAYU CONG, GUOCHAO YANG, LIJUAN ZHAO, QIUHUI ZHANG: The synergistic smoke suppression effect of ferric oxide on flame retardant wood-polyurethane composites ..... 305
13. WIESŁAW FRĄCZ, GRZEGORZ JANOWSKI: Determination of viscosity curve and PVT properties for wood-polymer composite ..... 321
14. LINGLING HUANG, HUIYUN WANG, XIAOLEI GUO, ZHIHUA JIANG, FENG XING, LINGLING HUANG, MATS EKEVAD: Study on continuous cold-pressing technology of engineered wood flooring with EPI adhesive ..... 335
15. MURAT KILIÇ, INCI PÜRLUSOY, MELIH KURNALI: Measuring the surface roughness values of european hop-horn beam (*Ostrya carpinifolia* Scop.) wood. .... 343
16. ZHI LIU, JINZHEN CAO: Fabrication of superhydrophobic wood surface with a silica/silicone oil complex emulsion ..... 353