

International Conference on Advanced Materials and Technology for Sustainable Life (ICAMTSL 2019)

IOP Conference Series: Materials Science and Engineering
Volume 587

Shanghai, China
28 – 30 June 2019

ISBN: 978-1-5108-9460-0
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence. Licence details:
<http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2019)

For permission requests, please contact the Institute of Physics at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 587

2019 International Conference on Advanced Materials and Technology for Sustainable Life

28–30 June 2019, Shanghai, China

Accepted papers received: 8 July 2019

Published online: 29 August 2019

Preface

[Preface](#)

[Committees](#)

[Peer review statement](#)

Papers

Application of Advanced Materials in Sustainable Development

[Recyclability of plastic waste extracted from electrical devices](#)

I Turku and T Kärki.....1

[The biocompatibility of titanium alloy or stainless steel internal fixation material combined with anti-tuberculosis drug sustained-release carrier](#)

Na Wang, Shaoning Guo, Kang Yang and Jinguo Wang.....7

[The sustained-release effect of triple anti-tuberculosis drugs carried by calcium sulfate/poly-amino acid compound materials in bone tuberculosis lesion](#)

Na Wang, Yongyan Zou, Kang Yang and Jinguo Wang.....12

[Development and application of an anticorrosion type water release agent](#)

Juxiang Xing, Long Xiong and Xing Li.....17

[Study on the application of embolization materials of collagen](#)

Na Wang, Xue Jiang, Jiwei Wang and Xiaomei Hao.....24

[Study on the application of embolization materials of polyvinyl alcohol particles](#)

Na Wang, Jialin Gao, Yu Wu and Wei Han.....28

[Investigation on the water resistance of the fly-ash modified magnesium phosphate cement](#)

Sihui Sun, Runqing Liu, Xingke Zhao, Yao Zhang and Yuanquan Yang.....33

[Effect of particle size distribution of slag on the strength and pore structure of low-temperature concrete](#)

Yao Li, Na Teng, Runqing Liu and Yunpeng Cui.....45

Advanced Materials and Technology

[Experimental study on material performance of separation grouting for prevention of rock burst](#)

Zhangliang Chen, Junwei Shi and Binbin Zheng.....51

[Adsorption of Cr\(VI\) from aqueous solution by crosslinked cationic konjac glucomannan with different degree of substitution](#)

Pengyuan Wang, Ruolin Wang, Jianye Liu and Chunmei Niu.....57

[Mechanical properties and crack resistance of sustainable high strength engineered cementitious composites](#)

Y D Han, Q Wang, Z B Wang and B Y Yao.....67

[Metal fault analysis and preventive measures for grounding accessories of 110kV cable outdoor terminal](#)

Y Xie, L Yang, W Li and Y L Liu.....74

[Typical defects analysis of metal parts of substation secondary components](#)

D K Li, J Wang, S X Liu, Z Hou, C Qiu and Y Xie.....78

[Research on rapid qualitative detection of lead in pyrotechnic powder used for fireworks and firecrackers](#)

Junyi Wu.....84

[Research on rapid semi-quantitative determination of aluminum in pyrotechnics used for fireworks and firecrackers](#)

Junyi Wu.....89

Fundamental Sciences of Materials

[Synthesis of Ag doped SiO₂-TiO₂ aerogels with nano-sized microcrystalline anatase structure through IL control](#)

Hongyi Dai, Zhao Jun, Yuxin Yin, Guolin Shao and Chunling Yu.....94

[Fracture failure analysis of driving crankshaft of substation circuit breaker](#)

D K Li, X Liu, M C Duan, J W Yang and Y Xie.....102