

TOPICS IN CHEMICAL & MATERIAL ENGINEERING (TCME)

December 27-29, 2024 Kunming, China

2nd International Conference on Smart
Manufacturing and Material Processing (SMMP2023)



Preface

3rd International Conference on Smart Manufacturing and Material Processing (SMMP2024) will be held in Kunming, China during December 27-29, 2024.

As an annual academic conference, SMMP2024 is dedicated to bringing together researchers and scientists from smart manufacturing, material sciences, and various application areas to discuss problems and solutions in the area, to identify new issues, and to shape future directions for research.

This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration. We look forward to seeing you in Kunming, China!

Table Of Contents

No	Content	Pages
1	STUDY ON RETRACTABLE VORTEX-TYPE OIL SPILL RECOVERY DEVICE <i>Jiamao Li, Shuaijun Wang, Dongyi Yang, Yuxin Cui</i>	01-05
2	MICROSTRUCTURE EVOLUTION OF TIN COATINGS PREPARED BY DUAL-PULSE POWER MAGNETRON SPUTTERING <i>Zhi Dong Liu, Xue Zhong Ai, Ye Li Yang</i>	06-10
3	PREPARATION AND PORE STRUCTURE OF NI-CR-MO-CU FIRST ORDER GRADIENT POROUS MATERIALS <i>Wenkang Liu, Jie Li, Yijian Kuang, Junsheng Yang, Muhammad Rehan Hasan Shah</i>	11-14
4	PREPARATION AND PORE STRUCTURE OF NI-CR-MO-CU POROUS MATERIALS WITH SECOND ORDER GRADIENT PORE SIZE <i>Gan Xiao, Siwei Tan, Baogang Wang, Junsheng Yang, Wenkai Jiang, A. Ngatin</i>	15-18
5	MIX RATIO OF GRAPHITE TAILINGS FOAM CONCRETE BASED ON ORTHOGONAL THEORY <i>Lida Qin, Yu Wang, Yipu Guo, Peng Zhang, Enzo Lorenzini</i>	19-23
6	EXPERIMENTAL STUDY ON THE APPLICATION OF MACHINE LEARNING METHOD IN CATALYTIC MATERIALS <i>Aihua Zhang</i>	24-27
7	EXPERIMENTAL STUDY ON THERMODYNAMIC CHARACTERISTICS OF STIRLING ENGINE <i>Shikun Lu, Guizhi Lyu, Xu Meng, Shouchong Fu</i>	28-32
8	STUDY ON INFLUENCE FACTORS OF COMPOSITE OIL PHASE MATERIAL AND ITS INFLUENCE ON STORAGE STABILITY OF EMULSION EXPLOSIVE <i>Shixin Zhang, Zhanfeng Xie, Xin Xu, Haiyan Wang, Fan Zhang, Ruyi Yao, Guilo Lorenzini</i>	33-36
9	EFFECT OF W CONTENT ON WEAR RESISTANCE OF COCRFENIMNWX HIGH ENTROPY ALLOY <i>Wenjie Zhu, Yuzuo Liu, Charan Kumar Gatenda</i>	37-40
10	NUMERICAL STUDY ON IMPACT PERFORMANCE OF PHOSPHOGYPSUM FOAM CONCRETE <i>Baochun Yang, Longfan Peng, Hepeng Zhang, Tianshu Chu, Xuejun Jia, Xiaoyang Xu, Naveed Ullah Kaka Khel</i>	41-47

11	STRUCTURAL EVOLUTION AND PROPERTIES OF CR COATINGS ON RINGS DEPOSITED BY HIGH POWER PULSED MAGNETRON SPUTTERING <i>Chao Yang, Juan Hao, Baichuan Wang, Yuhang Ding, Jing Zhang, Dan Dong, Xiaoyan Wang, BaiLing Jiang, Shaikh Mohammed Ibrahim</i>	48-53
12	EFFECT OF LOW TEMPERATURE AND LOW SPEED DIFFERENTIAL TEMPERATURE EXTRUSION ON THE PERFORMANCE OF MG-6AL-1ZN-0.15MN ALLOY <i>Zibo Meng, He Ma, Fanzhi Meng, Qiang Yang, Xin Qiu, R.P. Sihombing</i>	54-58
13	CONSTRUCTION AND PERFORMANCE RESEARCH OF VARIABLE CROSS-SECTION SCROLL PROFILE USING THE BASE CIRCLE INVOLUTE <i>Caisheng Hou, Yu Liu, Jinhui Li, Haroon Rasheed</i>	59-65
14	DESIGN AND OPTIMIZATION OF MECHANICAL STRUCTURES FOR WALL-CLIMBING ROBOTS <i>Ling Chen, Rongjuan Sui, Yuzhu Zheng, Xinjian Chen, Xuanben Xie, Muhammad Zeeshan Zahir</i>	66-71
15	OPTIMIZATION DESIGN OF AUTOMATIC REVERSING CONTROL METHOD FOR AUXILIARY MATERIALS OF TOBACCO STORAGE CABINET EQUIPMENT <i>Lei Liu, Jianlin Zhang, Zhihui Wang, Feng Yan, Shaolong Han, Rajesh Kocheril</i>	72-76
16	RESEARCH ON CURVED SURFACE RECONSTRUCTION BASED ON GEOMAGIC DESIGN X <i>Linlang Zhang, Longhui Zhang, Chenchen Xiong, Jian Tang</i>	77-82
17	STRUCTURAL DESIGN AND ANALYSIS OF MINE FLAMEPROOF ELECTRIC ACTUATOR <i>Chuanzhi Song, Xueming Wang, YU Qiu</i>	83-88
18	DESIGN OF THE DISTILLATION TOWER TEMPERATURE CONTROL SYSTEM BASED ON JX- 300XP DCS <i>Wenjun Qian, Haijin Wang, Haoran Du, Xunan Zhang, Chaoqin Liu, Jixin Wang, Adeshara Jatinkumar V</i>	89-95
19	DESIGN AND EVALUATION OF AUXETIC STRUCTURES AS DISPLACEMENT SENSOR <i>Hao Tian, Pengju Li, Qingguo Wen, Zhengkai Zhang</i>	96-101
20	VIBRATION CHARACTERISTICS AND FAULT ANALYSIS OF HELICOPTER PEDALS <i>Zhang Xiamei, Yu Zelian, R.T. Lotoa</i>	102-107