# **Preface**

The conference proceeding of ICSMM 2020, ICNME 2020, and ICNMS 2021 includes a selection of papers submitted to the conference from universities, research institutes, and industries. All of the papers were peer-reviewed by either conference committee members or international reviewers. They were selected based on their quality and relevancy to the subjects of the conference. This conference proceeding includes papers in the field of metallic materials and processing, materials chemistry and chemical engineering, functional materials polymers and composites, minimization of technological defects, building materials and technology.

These conferences are aimed at providing an excellent avenue for academicians, students, researchers, professionals, engineers, and scientists from academia and industry to share their research findings and build a network for further collaboration in their respective areas. Every conference program was composed of keynote and selected oral talks. Best oral presentations have been selected by the session chairperson for each session.

I would like to express my gratitude and appreciation to the Conference Technical Committee for their great contribution to organizing these conferences. I would also like to thank the conference keynote speakers and participants for sharing their knowledge with the rest of the participants. Special thanks to TTP Trans Tech Publications Inc. for providing the platform to publish the conference papers. And many thanks to the reviewers for their time and effort in maintaining the academic quality and standard for the proceedings.

I hope this volume will be useful for researchers and practitioners in developing and applying new technologies and processes in the field of metallic materials and processing, materials chemistry, and chemical engineering.

Conference Chair: Prof. Zongjin Li, University of Macau (UM), China January 26, 2021

# **Conference Committees**

# **Advisory Chair**

Prof. Norbert Schwesinger, Technical University of Munich, Germany

#### **Conference Chair**

Prof. Zongjin Li, University of Macau (UM), China

### **Conference Co-Chair**

Prof. Shen-Ming Chen, National Taipei University of Technology, Taiwan

### **Program Chairs**

Prof. Ashok Srivastava, Louisiana State University, USA

Prof. Edward Yi Chang, National Chiao Tung University, Taiwan

## **Steering Committee**

Prof. Sergei Alexandrov, Beihang University, China

#### **International Technical Committee**

Prof. Songling Huang, Tsinghua University, China

Prof. Wenzhi Fu, Jilin University, China

Prof. Geyu Lu, Jilin University, China

Prof. Tingkai Zhao, Northwestern Polytechnical University, China

Prof. Hyoung Jin Choi, Inha University, South Korea

Prof. Faruk Elaldi, University of Baskent, Turkey

Prof. Khaled Abou-El-Hossein, Nelson Mandela University, South Africa

Prof. Parames Chutima, Chulalongkorn University, Thailand

Prof. Aleksander Muc, Cracow University of Technology, Poland

Assoc. Prof. Yulong Sun, Northwestern Polytechnical University, China

Assoc. Prof. Yu-Chung Chang, National Changhua University of Education, Taiwan

Assit. Prof. Vu Ngoc Pi, Nguyen Tat Thanh University, Vietnam

Assist. Prof. Panida Charnkeitkong, Rangsit University, Thailand

Dr. Qifeng Zhang, North Dakota State University, USA

Dr. Yang Xi, Newomics Inc., USA

Dr. Xiaoliang Zhu, Hitachi America Ltd. R&D, China