Preface

At present, COVID-19 is still having an enormous impact in global areas. International or long-distance travels are still risky. In consideration of the safety of all speakers and participants, the 2nd International Conference on Advanced materials and Intelligent Manufacturing (ICAMIM 2021) had been held online via Zoom on August 20-22, 2021.

As the material precursor for the emerging strategic emerging industries, advanced materials have become the key focus and core technology of international competition. Meanwhile, the development of advanced materials and their corresponding technologies and industries has also being regarded as “national development strategy” for the world’s leading countries and gradually developed into a new “trump card” in the game between countries. Intelligent manufacturing, with the most technological innovation value, is along with a high-level knowledge and technology in the equipment manufacturing industry, a high-degree of integration and application on core technologies, new materials and components. What’ more, intelligent manufacturing embodies the comprehensive strength of scientific and technological innovation ability, manufacturing technology level and international competitiveness.

The aim of this conference is to share the latest research progress especially on steel in the structural part of modern car and to strengthen the exchange of advanced materials and intelligent manufacturing technologies in various countries around the world. This conference provided a high-level technical exchange platforms to jointly promote continuous innovation in the field of advanced materials and intelligent manufacturing for worldwide experts, scholars, science and technology workers, entrepreneurs and other relevant personnel engaging in advanced materials and intelligent manufacturing research.

The conference brings together about 120 leading researchers, engineers and scientists in the domain of interest from different countries. The conference model was divided into two parts, including keynote presentations and online discussion. In the first part, each keynote speakers were allocated 30 minutes to present their talks via Zoom. After the keynote talks, all participants joined in a WeChat communication group to discuss more about the talks and presentations.

We were greatly honor to have invited six distinguished experts as our keynote speakers. They were Prof.Xinming Huang, from the University of Hong Kong; Researcher Botao Cheng, from Guangdong Institute of Intelligent Manufacturing; Prof.Tongguang Zhai, from Dongguan University of Technology; Prof.Dechang Zeng, from South China University of Technology; Prof.Mingjiang Dai, from Guangdong Academy of Sciences; Prof.Shilu Dai, from South China University of Technology. Their insightful speeches had triggered heated discussion in the second session of the conference. The WeChat discussion lasted for about 30 minutes. Every participant praised this conference for disseminating useful and insightful knowledge.

The proceedings present a selection of high-quality papers submitted to the conference by researchers from universities, research institutes, and industry. All papers were subjected to peer-review by conference committee members and international reviewers. The papers were selected based on their quality and their relevance to the conference. The proceedings present recent advances in the fields of Metallic Materials and their Intelligent Manufacturing Technologies and Systems on Advanced Cars, Advanced Polymer Materials and their Intelligent Manufacturing Technologies and Systems, Design, Characterization Evaluation of Materials and their Computer Simulation Technologies and others related research.

We would like to express our gratitude to everyone involved. Without this dedicated cooperation, it would be impossible to hold the conference at such a high level and prepare the ICAMIM 2021 proceedings.

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