

## Preface

Dear Distinguished Delegates and Guests,

On behalf of the conference organizing committees, it is a great pleasure to welcome you to 2019 International Conference on Functional Materials (ICFM 2019), held on September 4-6, 2019 in Sendai, Japan

Advanced functional materials have been received dramatic increase in their demand in research, development and applications. The aim of the International Conference on Functional Materials (ICFM 2019) is to overview the present status with historical background and to foresee the future trends in the field of functional materials. The ICFM 2019 covers wide-variety topics among state-of-the-art advanced materials science and technology, and especially focuses on the major categories including environmental materials, electronic materials and energy materials etc. The objective of ICFM 2019 is to bring together scientists, engineers, postgraduates and other professionals in the area of functional material science and engineering technology from all over the world. The ICFM 2019 conference provides a platform for the participants to exchange and to discuss recent progress, advances, and applications in the fields of functional materials and engineering etc. All the full papers have been blind peer-reviewed by at least two experts from the International program committees to ensure high quality. Only the selected papers were accepted and orally presented at the conference.

Finally, we would also like to express our sincere appreciation to all the members of the international advisory committees, the organizing committee, program committee, organization committee and stuffs, for their hard working to the successful ICFM 2019. It is expected that the proceedings will be an original and valuable contribution to the literatures in the functional materials field.

Finally, we hope you have a unique, rewarding and enjoyable experience at ICFM 2019 in Sendai, Japan.

Sincerely yours,

Prof. Shu Yin  
Institute of Multidisciplinary Research for Advanced Materials,  
Tohoku University, Japan  
September 4-6, 2019  
Sendai, Japan

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