

Preface

2020 International Conference on Materials, Computer Engineering and Education Technology (MCEET 2020) was held in Sanya, China, during Dec. 19-20, 2020. MCEET 2020 was sponsored by Modern International Green Culture Communication Association (MIGCCA), and the conference proceeding published by Trans Tech Publications Ltd. MCEET 2020 provided an excellent international forum for sharing knowledge and results in materials science, machinery design, robotics and mechatronics, computer engineering, information technologies, and education. The aim of the conference was to provide a platform to the global researchers and practitioners from both academia as well as industry to meet and share cutting-edge development in the fields.

All the accepted papers were subjected to strict peer-reviewing by 2–6 expert reviewers. We hope this book will provide the readers not only a broad overview of the latest research results, and give the readers a valuable summary and reference in these fields.

MCEET 2020 Organizing Committees would like to express our sincere appreciation to all authors, speakers, and participants of this conference for their contributions to this book. We would like to extend our thanks to all the reviewers for their constructive comments. Especially, we would like to thank the organizing committee for their hard work.

MCEET 2020 Organizing Committee

Committees

Honorary Chair:

Prof. Abdel-Badeeh Mohamed Salem, Ain Shams University, Egypt

General Chair:

Prof. Sergei Gorlatch, University of Muenster, Germany

Committee Chair Members:

Prof. Philip T. Moore, Lanzhou University, China/Shandong Normal University, China

Prof. Hong Lin, University of Houston-Downtown, USA

Prof. Fusheng Li, University of Electronic Science and Technology of China

Committee member:

Prof. Caner Ozdemir, Mersin University, Turkey

Prof. Xing-Gang Yan, University of Kent, UK

Prof. Krzysztof Gdawiec, University of Silesia, Poland

Dr. Jong-Ha Lee, Keimyung University, South Korea

Prof. Valerii S. Sytnikov, Odessa National Polytechnic University, Ukraine

Prof. Krit Salahddine, Ibn Zohr University, Morocco

Dr. Ong Lee-Yeng, Multimedia University, Malaysia

Prof. José M. Molina, Carlos III University of Madrid, Spain

Prof. Wenjie Zhang, Minnan Normal University, China

Prof. Mohammad Abu Yousuf, Jahangirnagar University, Bangladesh

Prof. Wan-Jung Chang, Southern Taiwan University of Science and Technology, Taiwan, China

Dr. Yang Song, University of North Carolina Wilmington, USA

Prof. Mwaffaq Otoom, Yarmouk University, Jordan

Prof. Subarna Shakya, Tribhuvan University, Nepal

Prof. Ambuj Kumar Agarwal, RNB Global University, India

Prof. Zoran Stevic, University of Belgrade, Serbia

Prof. Andre Luiz Przybysz, Universidade Tecnological Federal do Parana (UTFPR), Brasil

Dr. Bhupendra Gupta, PDPM Indian Institute of Information Technology, India

Prof. Nurbek P. Saparkhojayev, Akhmet Yassawi International Kazakh-Turkish University

International Reviewers:

Dr. Hossein Roshan, Shiraz University, Iran

Dr. Jatinderkumar R. Saini, Symbiosis Institute of Computer Studies and Research (SICSR), India

Dr. Reza Goldaran, Girne American University (GAU) in North Cyprus, Turkey

Dr. Ramakrishna Pramod, Amrita School of Engineering, Bengaluru Campus, India

Mr. S. Karthik, Jain (Deemed to be University) Bengaluru, India

Dr. Mahdieh Darroudi, Turkish-German University, Turkey

Dr. Ilgiz Gareev, Bashkir State Medical University, Russia

Dr. Sadegh Ghorbanhosseini, BU-Ali Sina University, Iran

Dr. Michał Kaczmarek, Lodz University of Technology, Poland
Dr. Giuseppe Ciaburro, University of Campania, Italy
Dr. Amir Mohammad Hajisadeghi, Amirkabir University of Technology, Iran
Dr. Dmitriy V. Ivanov, Samara State University of Transport, Russia
Dr. Shankar Sehgal, Panjab University, India
Dr. Mario Versaci, Mediterranea University of Reggio Calabria, Italy
Dr. Lilia Tightiz, Sejong University, South Korea
Dr. G. Thippa Reddy, Vellore Institute of Technology, India
Dr. Abhishek Choubey, Sreenidhi Institute of Technology Hyderabad, India
Dr. Alpay Tamer Erturk, Kocaeli University, Turkey
Dr. Ahmad Aminzadeh, Université du Québec à Rimouski, Canada
Dr. M. Parhizkar Yaghoobi, Shahrood University of Technology, Iran
Dr. Krzysztof Gdawiec, University of Silesia, Poland
Dr. Sara Tarashi, Amirkabir University of Technology, Iran
Dr. Mehdi Safari, Arak University of Technology, Iran
Dr. Mostafa Haghikashani, Islamic Azad University, Iran
Dr. Rajesh Agarwal, SRM Institute of Science & Technology, India
Dr. Vijay Anant Athavale, Panipat Institute of Engineering & Technology, India
Dr. Elahe Ahmadi Feijani, Bu-Ali Sina University, Iran
Dr. Soumyadeep Sinha, Madanapalle Institute of Technology & Science, India
Dr. Guttikonda Manohar, National Institute of Technology Silchar Assam, India
Dr. Ahmed Mohamed Taha Abdelhamid Alfa, Alexandria University, Egypt
Dr. Pradeep D., Christian College of Engineering & Technology, India
Dr. Cosimo Ieracitano, University Mediterranea of Reggio Calabria, Italy
Dr. Yasser Nabil Elhenawy, Port Said University, Egypt
Dr. Kulvinder Singh, Maharaja Agrasen University, India
Dr. Haowen Xu, Oak Ridge National Laboratory, USA
Dr. Ali Akbari, Urmia University of Medical Science, Iran
Dr. Sivakumar R., Vellore Institute of Technology, India
Dr. P. Murali Krishna, National Institute of Food Technology and Entrepreneurship and Management, India
Dr. Daria Becker-Pestka, WSB University in Gdansk, Poland
Dr. Shridhar Devamane, Mfiflex Technologies, India
Dr. Emine Baş, Selcuk University /Kulu Vocational School, Turkey
Dr. Avinash Sharma, Maharishi Markandeshwar University, India
Dr. Fatma Unal, Hittit University, Turkey
Dr. Deivanathan R., VIT University, India
Dr. M. Sujith, IFET College of Engineering, India
Dr. Archana Mishra, Indian Institute of Technology, India
Dr. Farkhanda Afzal, National University of Science and Technology, Pakistan