2021 16th International Microsystems, Packaging, Assembly and Circuits Technology Conference (IMPACT) | 978-1-6654-3191-0/21/$31.00 ©2021 IEEE | DOI: 10.1109/IMPACT53160.2021.9696934

Welcome Message from Shen-Li Fu, Conference General Chair

Shen-Li Fu, Ph.D.
General Chair of IMPACT 2021
Chair, IEEE EPS – Taipei
Honorary President & Distinguished Chair Professor, I-Shou University

Dear Colleagues and Friends,

On behalf of the Organizing Committee, I'd like ot welcome all of you to the 16th International Microsystems Packaging Assembly and Circuits Technology Conference "IMPACT 2021 Conference". All the participants will be benefited from various sessions organized by the Technical Program Committee and the organizers including ITRI, IEEE EPS-Taipei, IMAPS-Taiwan , and TPCA. For grasping the latest trend, the symposium this year highlights the theme "IMPACT on 5G+". With the rapid growth of 5G coverage over the world, the 5G commercial network enables an array of revolutionary technologies such as IoT, artificial intelligence (AI), edge computing and wearable devices.

The organizers dedicated to develop the international conference to bring access to cutting-edge technology trends and international collaboration opportunities. Out of the COVID-19 pandemic, the conference will be carried out in real presentation, but supplement by virtual presentation.

"IMPACT 2021 Conference: brings together the world's leading researchers, engineers, and the industrial experts. It's for sure we will be organizing a successful conference, and the experience with IMPACT 2021 will be fruitful and long lasting.

Best regards,

Shen-Li Fu, Ph.D.
General Chair of IMPACT 2021
Chair, IEEE EPS – Taipei
Honorary President & Distinguished Chair Professor, I-Shou University

Welcome Message from Kuo-Ning Chiang, Conference Honorary Chair

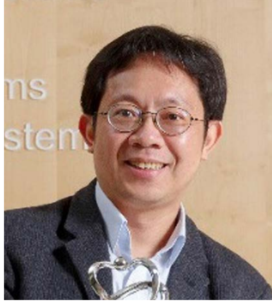
K. N. Chiang, Ph.D.
NTHU Chair Professor
Academician, International Academy of Engineering (IAE) - Russia
Fellow, IEEE / STAM / ASME / iMAPS
Editor-in-Chief, Journal of Mechanics
Senior Area Editor, IEEE Transactions on CPMT
Topical Editor, IEEE Access
Academic Editor, Materials

In the capacity of Honorary Chairman of IMPACT 2021, I would like to extend my sincere appreciation for your attendance in person or virtually at this annual conference. As you know, IMPACT has a long history and a good reputation in the electronic packaging industry, research, and application communities. This year, IMPACT 2021 continues to offer you a comprehensive program covering the most recent trends and emerging technologies in the electronic packaging and PCB fields. IMPACT 2021 will focus on 3D packaging, chiplet packaging, heterogeneous packaging, SiP, fan-out packaging, automotive, 5G, high-performance computing, and AI-related technologies. All of these topics are covered in the plenary speech, panel, industrial, and regular sessions. I am sure that this conference will provide you with an opportunity to learn about electronic packaging/PCB trends, exchange research/development ideas, and share knowledge.

I hope you enjoy the program and the networking opportunities we provide. Thanks for participating.

K. N. Chiang
NTHU Chair Professor
Academician, International Academy of Engineering (IAE) - Russia
Fellow, IEEE / STAM / ASME / iMAPS
Editor-in-Chief, Journal of Mechanics
Senior Area Editor, IEEE Transactions on CPMT
Topical Editor, IEEE Access
Academic Editor, Materials

Welcome Message from Chih-I Wu , Conference Co-Chair



Chih-I Wu, Ph.D.
Co-Chair of IMPACT 2021
Vice President & General Director, EOSL, ITRI

On behalf of the IMPACT committee, it is my great honor and delighted to formally welcome you to the 2021 International Microsystems, Packaging, Assembly and Circuits Technology (IMPACT) to be held on December 21-23 in Taipei, Taiwan.

Since the first IMPACT in 2006, this conference has continuously brought worldwide leading experts and engineers together in sharing state-of-the-art advanced microelectronic packaging and PCB technology each year.

Owing to the rapid growth of 5G, the theme of this year will aim for discussion on "IMPACT On 5G+" exploring the intelligent innovative categories including Emerging Technology, B5G SiP, HPC, Heterogeneous Integration, Embedded, Market Trend, etc. The three-day conference will feature a number of plenary speeches, special sessions, invited talks, sponsored industrial sessions, posters and outstanding paper presentations which are organized tirelessly by our Technical Program Committee and the dedicated team of IEEE EPS-Taipei, iMAPS-Taiwan, TPCA and ITRI.

It is again our great pleasure to welcome you for participating in this conference. We cordially hope that you will enjoy an excellent meeting and the fruitful programs in IMPACT 2021.

Sincerely,

Chih-I Wu, Ph.D.
Co-Chair of IMPACT 2021
Vice President & General Director, ITRI

Welcome Message from Wei-Chung Lo, Conference Co-Chair

Wei-Chung Lo, Ph.D.
Co-Chair of IMPACT 2021
President, IMAPS-Taiwan
Deputy Director, EORL, ITRI

Dear Colleagues and Friends,

Warmly welcome all of you to join this great annual event and meeting. On behalf of the IMPACT committee, I would like to express our gratitude to all of you for taking your time to attend this world-leading IC packaging and PCB conference and exhibition from Dec. 21-23, 2021 in Taipei, Taiwan.

The main theme of the conference this year features highlights the theme "IMPACT on 5G+", highlighting the research, With the rapid growth of 5G coverage over the world, the 5G commercial network enables an array of revolutionary technologies such as IoT, artificial intelligence (AI), edge computing and wearable devices.. To arrange this 3-day conference, our dedicated Program Committee teaming up with TPCA, IEEE EPS-Taipei, and ITRI have been working very closely to organize these rich and various programs, including plenary speeches, invited talks, special and sponsored industrial sessions, outstanding paper and poster presentations.

The purpose of this conference is to gather more and more packaging/PCB professionals from industries, research institutes, and academia to discuss about new trends, technologies, opportunities and challenges. It also provides a great platform for all of you to build the friendships, exchange information, create new ideas, and make new contact for further collaboration. Therefore, it is expected that there will be a lot of interactions, learning and sharing activities going between you and other attendees during the conference.

Amid the outbreak of COVID-19 pandemic, unfortunately, a special prevention measure based on the government regulation will be taken and processed during the conference this year for creating a safe environment for attendees. Under such a safe environment we wish all of you enjoy the wonderful meeting, learn about new knowledge for future innovation and make new friendships during the conference. Finally, we sincerely wish everyone a safe, fruitful and enjoyable stay in Taipei and a successful year ahead.

Best Wishes,

Wei-Chung Lo

Wei-Chung Lo, Ph.D.
Co-Chair of IMPACT 2021
President, IMAPS-Taiwan
Deputy Director, EORL, ITRI

Welcome Message from Maurice Lee, Conference Co-Chair

Maurice Lee
Co-Chair of IMPACT 2021
Chairman, TPCA
Senior Consultant ,Unimicron Technology Corporation

On behalf of IMPACT organizer, it is my great pleasure to welcome you to join the 16th International Microsystems, Packaging, Assembly, and Circuits Technology Conference. IMPACT aims to bringing the leading experts and scholars over the world together in discussion of inspiring study and latest insight of PCB and Packaging technology. IMPACT 2021 is in conjunction with total 4 exhibitions, includes TPCA show、TAITRONICS、AIoT Taiwan and OPTO TAIWAN to build up a platform which combines the leading edge technology in electronic industry to inspire participants and hope to facilitate collaborations from various themes.

Under the challenge of COVID-19, the Program Committee are committed to organize diverse forums with facilitating hybrid conference which involves Heterogeneous integration 、B5G SiP、HPC、Embedding and innovative technology with marquee plenary speakers from TSMC、Unimicron、NIST and IBM Japan. This year, for the first time, IEEE EPS panel is organized which have invited global packaging experts to bring accesses to the cutting-edge trends and international collaboration opportunities. I believe IMPACT 2021 will bring a positive prospect towards state-of-the-art technology.

As TPCA Chairman, I sincerely invite all of our TPCA members to come to Taipei Nangang Exhibition Center and to make the IMPACT 2021 another vigorous, inventive event. We particularly welcome the participation of professionals, leaders and pioneers to join us on the largest annual gathering of PCB & Packaging field.

Best Regards,

Maurice Lee
Co-Chair of IMPACT 2021
Chairman, TPCA
Senior Consultant, Unimicron Technology Corporation