

CHENGDU stages 4GCMEA amidst worldwide audience

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The 4GCMEA was due to be held in 2020 to follow the pattern of the previous Global conferences, however, due to the pandemic it was put back a couple of years and finally took place in Chengdu, China, on 17-20 August 2022. For international attendees the conference had to be held on ZOOM platform given the fear of persistent reports that Covid 19 was still prevalent in that region in China. Commendably, given that attendees would be from all over the world the organisers, headed by Prof. Kama Huang and very ably assisted by Dr Li Wu, managed to produce a first class event.

The conference started on Thursday 18 August at 18 hours CST (China Standard Time) or at 10 hours UTC (Universal Time Coordinated) set by the average of a number of atomic clocks, essentially the same as GMT (Greenwich Mean Time). Short introductions were presented by Liangyin Chu, Vice President of Sichuan University, China, followed by Kama Huang, Conference Chair, Sichuan University, China. The presidents of AMPERE, George Dimitrakis, JEMEA Satoshi Horikoshi and IMPI, John F. Gerling, then followed welcoming attendees to this global event.

Because of the time difference it was deemed to offer 4 short courses earlier that day and these included Multiphysics Modelling by Vadim Yacovlev, Heterogeneous Catalysis by Xinwey Bai, Writing a Good Paper by Raymond Boxman and Permittivity Measurements by Jose Catala-Civera.

There were 11 plenary and 12 invited talks, for example plenaries were presented by Satoshi Horikoshi on Microwaves on Biological and Food Fields using Solid State Generators, by Biao Jiang on Microwave Chemistry in Carbon Neutral Era, by Raymond Boxman on RF/Microwave Plasmas and Paolo Veronesi on Applicators for Metallurgical Applications. A special feature of this ZOOM-held

conference was the matching of the requirement of satisfying the bulk of the attendees which came from within China (over 300 strong) and the interests of the minority of colleagues from overseas. That was satisfied by holding various sessions in Chinese during the day in China and continuing with lectures in English during daytime in Europe and of course the equivalent times in Japan, the USA and Australia. Some overseas colleagues expressed the wish to have attended some of the lectures that were given to Chinese participants as they seem very interesting but without simultaneous translation that was not possible. However, overall the division of the lectures for foreign and local participants was very well received. What was also very impressive was that on the rare occasion that a difficulty arose, either by an overseas lecturer not being able to get through or problems with the sound recording, the local organisers were very quick to identify the cause and rectify the technicality within a very short time indeed.

AMPERE's Past-President Cristina Leonelli chaired Technical Session 5 entitled "Materials Synthesis & Processing". She was impressed by the quality of the scientific contribution of the 5 speakers, one of which was an invited lecturer, Hideoki Fukushima from Nagoya University, Japan. The materials processed, were GaN, graphene, metal bonded diamond and metallic powders indicating that the evolution of microwave materials processing is directed toward those advanced materials with high added value.

On the whole Chinese and Japanese researchers showed high degree of expertise in the materials processing technologies as well as in the understanding of the physical and chemical processes underling these applications.

A committee made up of members of the four major associations, chaired by IMPI President,

John Gerling, held various meetings on ZOOM prior to the start of the 4GCMEA to determine the recipient of the “Ricky Metaxas Pioneer Award” which was first offered by the organisers of the 1CGMEA held in Japan in 2008 and has been offered in every subsequent GCMEA. The recipient of this award was Professor Kama Huang, the Conference Chair of 4GCMEA (Fig. 1).



Figure 1: Image of the Ricky Metaxas Pioneer Award presented to Professor Kama Huang

Following a meeting by the Presidents of the four major associations on the penultimate day of this event it was announced that the 5GCMEA in the series will be held in Japan in 2024.

About the authors



Andrew C (Ricky) Metaxas was born in 1942 in Cairo and completed his school studies in 1960 in Alexandria, Egypt. He graduated with a BSc in Electrical Engineering in 1965 and a PhD in Plasma Physics in 1968 from the University of London and following a 3- year postdoctoral study on fusion

research at Swansea University in Wales he joined the Electricity Council Research Centre (now C-Tech Innovation) specialising on the use of RF and microwave for processing various materials and troubleshooting in the industrial sector. In 1982 he joined the Engineering Department at the University of Cambridge where he founded the Electricity Utilisation Group. He co-authored Industrial Microwave Heating (1983) and authored Foundations of Electroheat: A Unified Approach, (1996) spanning topics from ohmic heating to laser welding. He was the prime mover behind the eventual formation of AMPERE, its President from 1995 to 2005 and from 2002 Director of AC Metaxas and Associates. He has in his name two awards: the Ricky Metaxas Pioneer Award which was established at the inaugural Global Congress on Microwave Energy Applications (1GCMEA) held in Japan in 2008 and the Ricky Metaxas Young Researcher Award which was formally established at AMPERE2019 in Valencia, Spain. He was the recipient of the Lifetime Achievement Award bestowed on him at the 2GCMEA in 2012 held under the auspices of the Materials Research Society in Long Beach, USA. He is a Fellow of IET and IMPI, corresponding member of Bologna’s Academy of Sciences, member of the Scientific Committee of AMPERE and Life Fellow at John’s College, University of Cambridge, UK



Cristina Leonelli is Full Professor in Principles of Chemistry for Applied Technologies at the University of Modena and Reggio Emilia. Her field of interest is in solid state chemistry with particular interest in the reactivity of ceramic powders and transition from amorphous to crystalline state. She has a personal experience in designing new composition, preparation and characterization of different inorganic powders and bulk ceramic materials as well as application developments. She has also been active in the field of several innovative preparation techniques and microwave heating applied to materials processing and synthesis.