

## **Highlights of the 2018 Chinese National Conference on Microwave-Power Applications in Chemical Industries & Engineering**

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IMPACIE 2018, the Chinese National Conference of Institute of Microwave Power Applications in Chemical Industries & Engineering, was held from 16th-18th August in Chengdu, China. This conference was organized by Sichuan University and the University of Electronic Science and Technology of China. It brought together 208 attendees including the top scientists and engineers to discuss the latest advances in the applications of microwave and high frequency technologies in chemical industries and engineering. This conference received 93 contributions and arranged 63 oral presentations. There were 35 universities, 7 academic institutions and 40 companies participating in the conference, with 33 companies in microwave techniques and 7 in chemical engineering. 12 Chinese companies joined the exhibition of this conference.

This conference got the support from other MAJIC confederation members: AMPERE, IMPI and JEMEA. Representatives from these associations were invited by Prof. Kama Huang, the conference chair, to give plenary talks. AMPERE was represented by Cristina Leonelli and Junwu Tao, IMPI by Roger Williams, and JEMEA by Nikawa Yoshio.

After the opening of ceremony, the morning session of the first day is was devoted to plenary talks given by both Chinese and international experts: “Microwave Desolvation Effect” by Prof. Kama Huang of Sichuan University,

- “Mechanical Research and Engineering Application of Microwave Chemical Reaction and Microwave Extraction” by Prof. Cheng Zheng of Guangzhou University,
- “An Overview of the European Group Research in the Field of High Power Microwaves” by Prof. Cristina Leonelli of University of Modena and Reggio Emilia,

- “The Microwave Power Research at INP Toulouse, France” by Prof. Junwu Tao of Toulouse University
- “Design, Development and Application of Microwave Fluidized Bed Drying Equipment” by Prof. Hongbing Ji of Sun Yat-sen University,
- “Competition, coexistence and development of solid-state sources and magnetrons” by Prof. Zhaotang Zhang of University of Electronic Science and Technology of China,
- “Medical and Biological Applications of Microwave and RF on the Basis of Tissue Characteristics” by Prof. Nikawa Yoshio of Kokushikan University,
- “Using Solid-state Sources to Bring New Levels of Control to Microwave Chemistry” by Dr. Roger Williams of American Ampleon Company,
- “Key Technology of Transparent and Collapsible Microwave Chemical Reaction Chamber” by Prof. Baoqing Zeng of University of Electronic Science and Technology of China,
- “New Progress in Microwave Metallurgy Industrialization Research” by Prof. Libo Zhang of Kunming University of Science and Technology.

During the afternoons of the first day and the second day the remaining oral communications, both from the Chinese researchers and industrialists have been organized in 4 separate sessions:

- Microwave Measurement and Simulation
- Microwave Power Devices and System
- Microwave and Matter Interaction Mechanisms of Microwave and Materials
- Microwave Chemical Applications

and the poster session has been organized in the exhibition area.

The gala dinner was organized on the 17th August and it was a memorable moment event. Shows representing Sichuan's traditional culture such as "Face Change" and "Long Beak Teapot" impressed all of the guests, while the Sichuan puppet show ended with the participation of Prof. Cristina Leonelli and Prof. Guoqing Dai, the representative of the Chinese Chemistry Association; the fight of their characters sparked the enthusiasm of everyone.

Several activities were organized for representatives of MAJIC confederation participating in IMPACIE 2018:

- a visit to the mountain Qingcheng, high place of Taoism, then Dujiangyan, ancient irrigation system originally built around 256 BC by the State of Qin as an irrigation and flood control project still in use today.
- Another visit to the Institute of Applied Electromagnetism (IAEM) at Sichuan University where Prof. Kama Huang presented his research projects around the microwaves power applications.
- A meeting to discuss some issues related to the organization of the 4th GCMEA- Global Congress on Microwave Energy Applications which is planned for 2020 in Chengdu.

### Some Impressions



**Figure 1:** Plenary session at 17th august morning



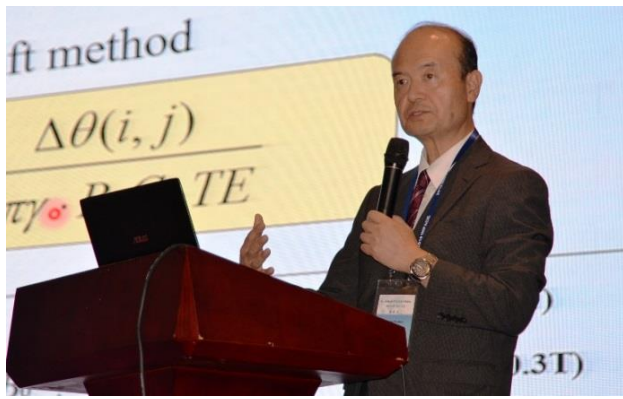
**Figure 2:** Plenary talk by Prof. Kama Huang of Sichuan University



**Figure 3:** Plenary talk by Prof. Cristina Leonelli of University of Modena and Reggio Emilia



**Figure 4:** Plenary talk by Prof. Zhaotang Zhang of University of Electronic Science and Technology of China



**Figure 5:** Plenary talk by Prof. Yoshio Nikawa of Kokushikan University



**Figure 6:** Plenary talk by Dr. Roger Williams of American Ampleon Company



**Figure 7:** Photo with all attendees of IMPACIE 2018



**Figure 8:** Photo with local organization committee members of IMPACIE 2018



**Figure 9:** Visit of MAJIC members to Institute of Applied Electromagnetism (IAEM) at Sichuan University



**Figure 10:** Show of "Long Beak Teapot" during Gala Diner



**Figure 11:** show of "Face Change" during the Gala Diner



**Figure 12:** Nine-eye bridge night view taken after our working meeting on 4th GCMEA

### About the author



**Junwu Tao** was born in Hubei, China, in 1962. He received his B.Sc. degree in electronics from the Radio Engineering Department, Huazhong (Central China) University of Science and Technology, Wuhan, China, in 1982; the Ph.D degree (with honors) from the Institut National polytechnique of Toulouse, France, in 1988, and the Habilitation degree from the University of Savoie, France, in 1999. From 1983 to 1991, Dr. Tao

was with the electronics laboratory of ENSEEIHT, Toulouse, France, where he worked on the application of various numerical methods to 2- and 3-D problems in electromagnetics, and on the design of microwave and millimeter-wave devices. From 1991 to 2001 he was with the microwave laboratory (LAHC) at the University of Savoie, Chambéry, France, where he was an associate professor in electrical engineering and involved in the full-wave characterization of discontinuity in various planar waveguides, and in nonlinear transmission line design. Since September 2001 he is a full professor at the Institut National Polytechnique of Toulouse, where he is involved in the numerical methods for electromagnetics, microwave and RF components design, microwave and millimeter-wave measurements, and microwave power applications.