

## **Welcome Message from Conference Organizers**

Welcome to IEEE ICBK 2019, the 10<sup>th</sup> IEEE International Conference on Big Knowledge, and to Beijing, China! Beijing is China's capital, and has a history of 3 millennia. It has an amazing combination of modern and traditional architecture, including the Great Wall, the Forbidden City (largest palace in the world), Tiananmen Square (the second largest city square in the world) and the Summer Palace.

Big Knowledge seeks to systematically combine fragmented knowledge from heterogeneous, autonomous information sources for complex and evolving relationships, in addition to consolidating domain expertise. The IEEE International Conference on Big Knowledge (ICBK) is a premier international forum for the presentation of original research results in Big Knowledge opportunities and challenges, as well as for exchange and dissemination of innovative, practical development experiences. The conference covers all aspects of Big Knowledge, including algorithms, software, systems, and applications. ICBK attracts researchers and application developers from a wide range of areas related to Big Knowledge such as statistics, machine learning, pattern recognition, knowledge visualization, expert systems, high performance computing, World Wide Web, and big data analytics. By promoting novel, high quality research findings and innovative solutions to challenging Big Knowledge problems, the conference continuously advances the state-of-the-art in Big Knowledge. ICBK 2019 is the third International Edition, and the 10<sup>th</sup> Edition in its conference history. The first 8 editions (annually from 2010 through 2017) were all organized in Hefei, China, while the latest edition was held in Singapore last year.

ICBK 2019 is co-located with the 19<sup>th</sup> IEEE International Conference on Data Mining (ICDM 2019), and we share our prominent keynote speakers: Ronald Fagin (IBM Research – Almaden, Fellow of the US National Academy of Engineering) and Joseph Halpern (Cornell University, Fellow of the National Academy of Engineering). We also share the 2019 ICDM/ICBK Knowledge Graph Contest and the 2019 ICDM/ICBK Panel on Marketing Intelligence – Let Marketing Drive Efficiency and Innovation.

The organization of a successful conference would not be possible without the dedicated efforts of many individuals. We would like to express our gratitude to all functional chairs on our organizing committee listed on a separate page of this proceedings. We owe special thanks to our conference sponsors: the financial and organizational support of the National Key Research and Development Program of China under grant 2016YFB1000900 and its 15 participating institutions, Mininglamp Technology and the IEEE Computer Society. We are especially grateful to all local institutions that have supported the conference, in particular Hefei University of Technology. Last but not least, we would like to thank all authors who submitted research papers to the conference, and all participants. We are encouraged by your scientific contributions, support and participation to explore further this new emerging field of Big Knowledge.

Big Knowledge is still growing. We wish all participants a productive conference with new discoveries, new collaboration opportunities and a pleasant visit to Beijing China.

Yunjun Gao and Ralf Möller, **ICBK 2019 Program Chairs**

Xindong Wu and Ramamohanarao Kotagiri, **ICBK 2019 Conference Chairs**

10-11 November 2019 in Beijing, China