ICCT is a famous international series conference started from 1986, which focused both on theory and application of communication technologies.

2012 14th International Conference on Communication Technology (ICCT 2012) will be held on November 9-11, 2012 in Chengdu, China. ICCT 2012 will keep promoting the information exchange communication technology, which aims to promote international academic exchange and international cooperation.

Original papers are invited and submitted papers should not be previously published or currently under review for any other Publication. All papers accepted will be submitted in the IEEE Xplore Digital Library and for indexing by EI Compendex.

CONFERENCE HIGHLIGHTS
- The conference’s theme will be addressed in the keynote speeches, special sessions and workshops, including communication and networking, information security, computer technology and applications, industry panel and so on.
- All papers accepted will be submitted in the IEEE Xplore Digital Library and for indexing by EI Compendex.

TOPICS OF INTEREST INCLUDE, BUT ARE NOT LIMITED TO:

**Communication and Networking**
1. Wireless Communications
2. Ad-hoc, Sensor and Mesh Networking
3. Optical Communication and Networking
4. Infrastructure for Next Generation Networks
5. Communication Hardware Design
6. Communication Software
7. Network Applications & Services

**Network and Information Security**
1. Network Security
2. Formal Method and Models for Computer Security
3. Mobile and Wireless Security
4. Computer Forensics and Incident Response
5. Software and Systems Security
6. XML, Web Services and Cloud Security
7. Information Hiding and Watermarking

**Information Engineering and Computational Intelligence**
1. Artificial Intelligence and Its Application
2. Intelligent Data Management
3. Green Computing
4. Information Retrieval

**Network Coding and Signal Processing**
1. Network Coding for Wired, Wireless and Optical Networks
2. Application of Network Coding
3. Signal Processing

**Internet of Things and Application**
1. Sensor & Detecting Technology for IOT
2. Emerging Networks for IOT
3. IOT Application

**IMPORTANT DATES**
- Final Submission Deadline: Jul. 10, 2012
- Conference Date: Nov. 9-11, 2012

**CONTACT INFORMATION**
- Email: ieeeicct2012@gmail.com
- Tel: 86-15712895816
Proceedings of 2012 IEEE 14th International Conference on Communication Technology

November 9-11, 2012
Chengdu, China

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Proceedings
2012 IEEE 14th International Conference on Communication Technology

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Compliant PDF Files
IEEE Catalog Number: CFP 12411 -ART

Conference CD-ROM Version
IEEE Catalog Number: CFP 12411-CDR
ISBN: 978-1-4673-2099-3

Publisher: Institute of Electrical and Electronics Engineers, Inc.

Printed in Beijing, China
Welcome from the General Chair

I would like to welcome all authors, sponsors and participants on behalf of 2012 14-th International Conference on Communication Technology (ICCT 2021) to be held in Chengdu, China, November 9-11, 2012.

ICCT is a famous international series conference started from 1986, which focused both on theory and application of communication technologies. ICCT 2012 focuses on the state-of-the-art methodologies, high-level technologies, innovative applications and the latest research results on communication technology and will continue the tradition established by the international workshop on information theory and information security, which aims at providing an international forum for researchers to present and discuss recent advances and novel techniques. In addition to the technical sessions, there will be invited sessions, tutorials, keynote addresses and exhibitions. ICCT 2012 has attracted a broad array of participants from all over the world. It serves as a forum for researchers, industry professionals, and academics interested in the latest developments. The agenda includes discussion in latest applications and latest developments, communication and network, network and information security, information engineering and computational intelligence, network coding and signal processing, computer science and technology and so on.

ICCT is sponsored by IEEE Beijing Section, The Chinese Institute of Electronics, China Institute of Communications, Chinese Association Artificial Intelligence, Beijing University of Posts and Telecommunications, National Key Laboratory of Science and Technology on Information System Security, Shandong University, University of electronic Science and Technology of China, Tsinghua University, Kunming University of Science and Technology and Shanghai Jiao Tong University. We also get strong support from Chengdu University of Information Technology.

We extend our great appreciation to our sponsors and supporters. Many thanks to our committee members and the reviewers. We would also like to thank the Conference Publishing Service for their professional service in publishing the proceedings.

Thanks again for your enthusiastic support to ICCT 2012. We are looking forward to seeing you in Chengdu.

Prof. Yixian Yang
Beijing University of Posts and Telecommunications, P.R. China
ICCT 2012 General Chair
Welcome from the Technical Program Committee Chair

On behalf of the Technical Program Committee, it’s my great pleasure to welcome all of you to this exciting and elegant event, the 2012 14-th International Conference on Communication Technology (ICCT 2021).

ICCT brings together the world’s excellent researchers from academia and industry working in all areas of telecommunications and networking. With the theme of "Enjoy Innovation, Enjoy Life." the conference is expected to provide opportunities to rethink traditions and conventions, which will lead to epoch-making innovations.

Nowadays, communication technology is playing more and more crucial role in economic development and technical improvement. Thanks to the hard work of the sponsors and supporters of ICCT 2012, we received 852 submissions from over 40 different regions and countries in all, including China, Canada, France, Iran, Korea, Germany, Japan, India, Poland, Tunis, Mexico, Thailand, Australia, Pakistan, Norway and so on. All papers were independently peer-reviewed, and 256 papers had been included in the conference proceedings, which indicate the paper acceptance rate is approximately 30.05%.

This remarkable program would not have been possible without the dedicated efforts of the volunteers from the entire ICCT 2012 Technical Program Committee. We are most grateful to the TPC members and the reviewers who worked so hard to complete the peer-review process on schedule, diligently organized their parts of the program. In addition, our sincere gratitude should be given to all authors who submitted their works to ICCT 2012. We hope that the whole program will be interesting and stimulating to you all.

Prof. Dongfeng Yuan
Shandong University, P.R. China
ICCT 2012 Technical Program Committee Chair
Welcome from the Organizing Committee Chair

On behalf of the Organizing Committee, it’s my great pressure and honor to welcome you to this exciting and elegant event, the 2012 14-th International Conference on Communication Technology (ICCT 2021).

ICCT 2012 would be impossible without the dedication and hard work of many volunteers. ICCT 2012 obtains the great help from Chengdu University of Information Technology. We would like to thank all teachers and students for their hard working for this conference. We have reasons to believe that this conference will grow to be the premier platform for exchange of ideas and sharing of best practices among the practitioners and researchers in this part of the world.

Chengdu, the capital of Sichuan Province, located in the west plain in the Sichuan Basin, is a famous historical and cultural city with a history over 3,000 years. It serves as the provincial center for politics, economy, culture, and transportation. Its jurisdiction is over nine districts, four county-leveled cities and six counties. Known as the land of abundance, Chengdu boasts plentiful local products, a pleasant climate, a large number of scenic spots and historical sites, and fine traditional handicrafts well known both at home and abroad.

It is our sincere hope that all our friends and colleagues have an unforgettable and significant experience at the conference, as well as enjoy the time in Chengdu, China.

Enjoy your trip to Chengdu. Enjoy your trip to ICCT 2012.

Prof. Mengqi Zhou
IEEE China Council, P.R. China
ICCT 2012 Organizing Committee Chair
Organizing Structure

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