<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/Sun</td>
<td>IWS2018 Registration (Longjioung Hotels Chendu)</td>
<td></td>
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<tr>
<td>09:00</td>
<td>2018 China Microwave Week Opening Ceremony</td>
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<tr>
<td>09:00-09:20</td>
<td>2018 China Microwave Week Opening Ceremony</td>
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<tr>
<td>09:45</td>
<td>ICMMT2018 Keynote Presentation</td>
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<tr>
<td>10:00</td>
<td>Room O</td>
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<tr>
<td>10:30</td>
<td>ICMMT2018 Keynote Presentation</td>
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<tr>
<td>11:15</td>
<td>2018 China Microwave Week Opening Ceremony</td>
<td>O</td>
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<tr>
<td>11:15-12:00</td>
<td>Energy Efficient Future Wireless Communication</td>
<td>O</td>
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<tr>
<td>12:00</td>
<td>Making Stg NR a Reality</td>
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<tr>
<td>12:00</td>
<td>Dr. Hao Xu, Qualcomm Research China</td>
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<tr>
<td>13:30</td>
<td>Lunch</td>
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<tr>
<td>14:00</td>
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<td>07/Mon</td>
<td>Room O</td>
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<tr>
<td>13:30</td>
<td>Workshop 1</td>
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<tr>
<td>13:30-15:30</td>
<td>Wireless Power Transmission: an Enabler</td>
<td>O</td>
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<tr>
<td></td>
<td>of IoT</td>
<td>O</td>
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<tr>
<td>15:30</td>
<td>Tea Break</td>
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<tr>
<td>16:00</td>
<td>Workshop 2 (Continued)</td>
<td>O</td>
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<tr>
<td>16:00-18:00</td>
<td>MP2H, Couplers and Absorbers - Part I</td>
<td>O</td>
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<tr>
<td>18:00</td>
<td>Dinner</td>
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<tr>
<td>08/Tue</td>
<td>Room F</td>
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<td>09:00</td>
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<tr>
<td>09:00</td>
<td>TA1I</td>
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<tr>
<td>09:00-10:00</td>
<td>Microwe and Millimeter Wave Photonics</td>
<td>F</td>
<td>(08:30-10:00) TAC</td>
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<tr>
<td>10:00</td>
<td>Tea Break</td>
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<tr>
<td>10:30</td>
<td>TA2I</td>
<td>F</td>
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</tr>
<tr>
<td>10:30-12:00</td>
<td>The Theory and Techniques</td>
<td>F</td>
<td>(10:30-11:00) TAZP</td>
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<tr>
<td>12:00</td>
<td>Lunch</td>
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<tr>
<td>13:30</td>
<td>TP1I</td>
<td>F</td>
<td></td>
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<tr>
<td>13:30-15:30</td>
<td>Oscillators &amp; Phase-Locked Devices</td>
<td>F</td>
<td>(13:30-14:30) TP1P</td>
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<tr>
<td>15:30</td>
<td>Lunch</td>
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<tr>
<td>16:00</td>
<td>TP2I</td>
<td>F</td>
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<tr>
<td>16:00-18:00</td>
<td>Wireless Power Transfer</td>
<td>F</td>
<td>(16:00-17:40) TP5P</td>
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<tr>
<td>18:30</td>
<td>2018 China Microwave Week Banquet</td>
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<td>Room P</td>
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<tr>
<td>09:00</td>
<td>WA1I</td>
<td>P</td>
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<tr>
<td>09:00-10:30</td>
<td>Substrate Integrated Circuits and Systems</td>
<td>P</td>
<td>(08:30-09:20) WA1P</td>
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<tr>
<td>10:00</td>
<td>Tea Break</td>
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<tr>
<td>10:30</td>
<td>WA2I</td>
<td>P</td>
<td></td>
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<tr>
<td>10:30-12:00</td>
<td>IoT and RF Devices and Systems</td>
<td>P</td>
<td>(10:30-11:00) WA3P</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch</td>
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<tr>
<td>13:30</td>
<td>WP1I</td>
<td>P</td>
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<tr>
<td>15:30</td>
<td>Tea Break</td>
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<tr>
<td>16:00</td>
<td>WP2I</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>16:00-18:00</td>
<td>Devices &amp; Systems for Wireless Communications</td>
<td>P</td>
<td></td>
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<tr>
<td>18:00</td>
<td>Dinner</td>
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2018 China Microwave Week-2018 IEEE MTT-S International Wireless Symposium Program at a Glance
2018 IEEE MTT-S
International Wireless Symposium
(IWS2018)

Technical Program

May 06 - 09, 2018
The Longemont Hotels
Chengdu, China
IWS2018 Sponsorships

Co-Sponsored by:

Microwave Society of the Chinese Institute of Electronics
IEEE Microwave Theory and Technique Society

Co-Organized by:

University of Electronic Science and Technology of China
Southeast University

Technical Co-sponsored by:

IEEE AP-MTT-EMC Joint Nanjing Chapter
IEEE Chengdu Section
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Greetings from the General Chairs

It is our great pleasure to invite you and welcome you to the 2018 IEEE MTT-S International Wireless Symposium (IWS2018), part of 2018 China Microwave Week which is the 5th of the consecutive series. It has become one of the most important international forums for presentation and exchange of the latest technical achievements and developments in components, circuits and systems related to existing and emerging wireless technologies. IWS2018 is truly international: more than 323 papers from 19 countries/regions have been submitted, not only from Asia-Pacific countries but also from America, Europe and Africa.

Wireless technology, as one of the most brilliant achievements of mankind in last century, has become more and more important and prevalent in human life. IWS2018 will provide a wide forum for worldwide scientists and engineers of various backgrounds to exchange ideas, share research results, and discuss collaborations in the fields of MHz to THz technologies for 5G and beyond. The conference is also a platform for new faces to become known and for the previous attendees to refresh their friendships. It is expected that the attendees, including well-known scientists and engineers, will present many innovative scientific ideas, showcase novel technological developments, and establish new international cooperation and strengthen established collaborations among all countries.

We would like to take this opportunity to express our sincere appreciation to many leading scientists and engineering professionals including session organizers and all the contributors for their great helps and valuable supports to this conference. Many thanks also go to the Technical Program Committee and the Organizing Committee as well as the sponsors for their efforts to offer all the participants an excellent technical program and an opportunity to spend a pleasant time at the conference.

Chengdu is an ancient city and the capital of Sichuan Province in the west of China. It is also one of the most popular tourist cities in China with many beautiful sceneries. We hope all of attendees an enjoyable and memorable stay in Chengdu, China.

Best Regards,

Wei Hong, General Chair
Tom Brazil and Bing-Zhong Wang, General Co-Chairs

April 25, 2018

Wei Hong
IWS2018 General Chair

Tom Brazil
IWS2018 General Co-Chair

Bing-Zhong Wang
IWS2018 General Co-Chair
Message from the Technical Program Chairs

On behalf of the Technical Program Committee (TPC), we warmly welcome all of you to the 2018 IEEE MTT-S International Wireless Symposium (IWS 2018) in Chengdu, one of the most ancient cities in China.

With its 57 members, IWS 2018 TPC has worked hard and put together a diverse and well-organized technical program, covering the interesting topics important to wireless technologies. A record high number of 323 papers were submitted to IWS2018 from 19 countries and regions. The 57 TPC members reviewed all the papers and evaluated their technical merits and interests to the community. Finally, a total number of 227 papers were accepted for presentations and 217 for possible publications in IEEE Xplore, including 11 invited talks. They will be presented in 26 oral sessions and 12 poster sessions from Monday to Wednesday, forming the largest IWS so far.

The TPC has also invited two keynote Speakers, Dr. Hao Xu from industry and Dr. Nuno Carvalho from academia, to make interesting presentations on current research topics in wireless technologies. The TPC also received 126 student papers for the student-paper competition. After the strict peer review by the TPC members, 11 papers were nominated for the final run of the Best Student Paper Competition during the conference.

This year, the TPC adopted and implemented the double-blind paper review process for the first time in IWS. Such a process has rarely been seen in conferences in China, and we believe that it improves the quality of the papers accepted and fairness of the reviews. In addition, all the paper submissions, reviews, and acceptances were done electronically.

On behalf of the TPC, we would like to thank all the authors for their contributions; without them, IWS2018 is impossible. We would also like to thank all the TPC members, session organizers, session chairs, reviewers, and other participants for their effort and dedication in making this technical program successful.

Last but not least, we would like to express our sincere appreciation to the students, faculty and staff from the University of Electronic Science and Technology of China for their time and efforts in arranging and helping this conference.

We wish you all an enjoyable and fulfilling stay in Chengdu, China.

Sincerely,

Zhizhang (David) Chen, Technical Program Chair
Zhangcheng Hao, Xun Luo, Jen-Tsai Kuo, and Wenhua Chen, Technical Program Co-Chairs

April 25, 2018
IWS2018 Committee Officers

General Chair
Wei Hong (SEU, CIE Microwave Society)

General Co-Chairs
Tom Brazil (IEEE MTT-Society)
Bing-Zhong Wang (UESTC, CIE Microwave Society)

Technical Program Chair
Zhizhang (David) Chen (IEEE MTT-Society)

Technical Program Co-Chairs
Zhangcheng Hao (SEU)
Xun Luo (UESTC)
Jen-Tsai Kuo (IEEE MTT-Society)
Wenhua Chen (THU)

Publicity Co-Chairs
Zhihao Jiang (SEU)
Huapeng Zhao (UESTC)
Ching-Kuang C. Tzuang (IEEE MTT-Society)
Wenquan Che (NUST, IEEE MTT-Society)

Publication Co-Chair
Kaixue Ma (UESTC)
Chao Yu (SEU)
Nuno B. Carvalho (University of Aveiro)
Ming Yu (CHUK)

Finance Chair
Xiaowei Zhu (SEU)

Exhibition
Zilun Wei (CIE Microwave Society)

Secretary
Zhe Song (SEU)
IWS2018 Technical Program Committee Members

Bing Liu (Nanjing University of Aeronautics and Astronautics)
Bum-Man Kim (POSTECH)
Changjiang You (University of Electronic Science and Technology of China)
Changzhi Li (Texas Tech University)
Chao Yu (Southeast University)
Cheng Wen (Peking University)
Deshuang Zhao (University of Electronic Science and Technology of China)
Feng Xu (Nanjing University of Posts and Telecommunications)
Guoan Wang (University of South Carolina)
Haijiang Ma (Google Inc.)
Haiwen Liu (East China Jiaotong University)
Hao Gao (Eindhoven University of Technology)
Hongsheng Chen (Zhejiang University)
Hongtao Xu (Fudan University)
Hualiang Zhang (University of Massachusetts Lowell)
Huizhen Jenny Qian (University of Electronic Science and Technology of China)
Jen-Tsai Kuo (Chang Gung University)
Jiafeng Zhou (University of Liverpool)
Jianjun Gao (East China Normal University)
Jing Xia (Jiangsu University)
Jun Kelvin Yin (University of Macau)
Kefeng Han (Huawei Technologies Co., Ltd)
Ken Mays (KMays Technical Services)
Kenjiro Nishikawa (Kagoshima University)
Kuang-Wei Cheng (National Cheng Kung University)
Lei Zhu (University of Macau)
Long Kong (University of California)
Long Li (Xidian University)
Maokun Li (Tsinghua University)
Michael Renzler (University of Innsbruck)
Morgan Chen (L3 Narda Microwave-West)
Qi Wu (Beihang University)
Qing-feng Zhang (Southern University of Science and Technology)
Qing-Xin Chu (South China University of Technology)
Quan Xue (South China University of Technology)
Roberto Gómez-García (University of Alcalá)
Sanming Hu (Southeast University)
Shao Yong Zheng (Sun Yat-sen University)
Shaoqiu Xiao (University of Electronic Science and Technology of China)
Shawn Hsu (National Tsing Hua University)
Shilong Pan (Nanjing University of Aeronautics and Astronautics)
Tao Yang (University of Electronic Science and Technology of China)
Tian-Wei Huang (National Taiwan University)
Wenhua Chen (Tsinghua University)
Xianqi Lin (University of Electronic Science and Technology of China)
Xingchang Wei (Zhejiang University)
Xiaoguang Leo Liu (University of California, Davis)
Xiu Yin Zhang (South China University of Technology)
Xun Luo (University of Electronic Science and Technology of China)
Yan Lu (University of Macau)
Yongmei Pan (South China University of Technology)
Yuanxin Li (Sun Yat-sen University)
Yue Li (Tsinghua University)
Yuehe Ge (Huaqiao University)
Zhe Song (Southeast University)
Zhimeng Xu (Fuzhou University)
Zhangcheng Hao (Southeast University)
Zhizhang David Chen (Dalhousie University & University of Electronic Science and Technology of China)
Conference Site and Office Location

2018 IEEE MTT-S International Wireless Symposium (IWS2018) will be held on May 06 – May 09 at the Longemont Hotels, Chengdu. The office and session locations are shown in the back cover of this program.

Registration

The IWS2018 Registration begins at 13:00 on 6\textsuperscript{th} of May, 2018. The registration will be open at the lobby of the Longemont Hotel. The on-site registration fee is shown in the table below.

<table>
<thead>
<tr>
<th>On-site Registration Fee</th>
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<tbody>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Regular</td>
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</tbody>
</table>

The on-site student registration requires a valid student ID. For all the participants, if you have pre-registered, your name badge and Technical Program will be ready for you to pick up at the registration desk during the conference. Please wear your name badge throughout the conference. Access will be prohibited to the exhibition, nutritional breaks, interactive areas, and technical sessions if your name badge is not visible/present.

Audio/Video Equipment

Microphone and standard LCD projector (connected to a local PC) will be provided in each conference room.

Guidelines for Presentations

INFORMATION FOR CANDIDATES OF THE BEST STUDENT PAPER COMPETITION

The final run of the Student Paper competition is a poster session; it will be held in the morning of May 8. All the 11 students who have been selected as the finalists must be physically present in the poster competition. Failing to do so will result in disqualification from the competition. A panel of judges will come to each poster, talk to the student finalist and then score the poster. The scoring is based on the following four criteria: (1) originality, (2) technical contents, (3) presentation clarity and (4) interest or potential impact to community. Winners will be chosen based on the scores by the judges and their names will be announced during the conference banquet with the presentation of the awards.

INFORMATION FOR ORAL PRESENTERS

Presenters are required to meet their session chairs in their session rooms at least 15 minutes prior to the beginning of their sessions. Each session room will be equipped with a computer and an LCD projector which is the only permissible projection system. Each presenter MUST use the session’s computer for his/her presentation, and the presentation file must be loaded into the computer in each session room in advance. Any delay due to the presenter’s disregard of this instruction will result in reduced time for his/her presentation.

Each presenter is suggested to run a trial of his/her presentation in advance in his/her session room to see if there is any issue with format, special symbols, presentation length and animations etc. All oral presentations except the invited talks are limited to 15 minutes including questions and discussions (most invited presentations will have 30 minutes). The Session Chairs will remind the presenters when there are only 5 minutes left for each presentation. The computer in each session room is equipped with both a CD-ROM drive and a USB port. The operating system
is Microsoft Windows 7 (or newer version). The software packages running on each computer are Adobe Acrobat Reader (for PDF), MathType, and Microsoft Office (2013 version) with Word, Excel and PowerPoint. All presentation files must be made compatible with these packages. Assistance and helps are available at the registration desk. Please remember that due to the very large number of presentations and a tight schedule, having your presentation files ready for presentation by loading it into the computer in your session room ahead of your session time is very important.

INFORMATION FOR POSTER SESSION PRESENTATIONS

Presenters are required to put up their posters 10 minutes prior to the beginning of their sessions. Each poster presentation will last about 50 minutes. During this time, the presenter must stand by the display board to answer questions and discuss about the contents of the poster. The poster display should include a statement of the topic, objectives of the research or project, the methodology used to solve the problem or to develop the computer program, the major findings or outcomes and their significance and conclusions. There should be a logical flow of ideas and concepts in your poster - introduction, development and conclusion.

The heading of your poster should be large enough, at least 3cm high. The heading should include the title of the poster, all author names and institutional affiliations. The recommended poster size is 1.5 meters in height by 0.8 meter in width. Pins or tapes are provided on site by the conference for mounting your poster on the board. All materials to be displayed should be prepared before your arrival. Supplies will not be available at the conference site.
General Information

CONFERENCE VENUE

IWS2018 will be held at the Longemont Hotel, Chengdu.
Address: No. 8 Jialingjiang Rd., Chenghua District., Chengdu, Sichuan, P.R. China, 610051.

ACCOMMODATION

The Longemont Hotel, Chengdu (Conference Venue)
Address: No. 8 Jialingjiang Rd., Chenghua District., Chengdu, Sichuan, P.R. China, 610051.
Tel: +86 (28) 83218181 (Reservation Department)
Website:  http://www.longemonthotels-chengdu.com/en
TRANSPORTATION

If you arrive at Chengdu Shuangliu International Airport by flight, you can take one of the following two metro (subway) routes to reach the Longemont Hotel in Chengdu:

1) Chengdu Shuangliu International Airport → **Line 10** → Taiping Park station → **Line 7** → Chengdu East Railway Station; or
2) Chengdu Shuangliu International Airport → **Cheng-Mian-Le High Speed Train** → Chengdu East Railway Station.

If you arrive in Chengdu Railway Station by train, you can take the flowing metro (subway) route to reach the Longemont Hotel in Chengdu:

   Chengdu Railway Station → **Line 7** → Chengdu East Railway Station.


ABOUT CHENGDU

Chengdu is the capital city of Sichuan province, the largest city in the Southwest China. It is also one of the centers of China in science, technology, business, finance, transportation and communications. In the first half of 2016, the GDP of Chengdu exceeded 559.02 billion Yuan with annual growth rate of more than 7.5 percent, which is 0.8 percent higher than the national average. 271 companies of the Fortune 500 have branches in Chengdu. 12 countries set up their consulates in Chengdu, including the United States, German and Australia. Also, there are more than 80 direct international flights between Chengdu and international cities such as San Francisco, London, Melbourne, Moscow and Abu Dhabi.

Chengdu has its unique culture background and nature beauties. The fertile Chengdu plain, on which Chengdu is located, is also known as the "Country of Heaven", a phrase also often translated as "The Land of Abundance". There are many historical sites that tell its past. San-xing-dui museum presents a complex mix of the ancient city, kingdom, and Shu; it is one of the ten most valuable archeological discoveries in China. Jin-sha Ruin is another important remain that was discovered in recent years. Du-jiang-yan is the irrigation system that was built about
2000 years ago and still contributes to economics and life of Chengdu. Wang-jian tomb, Wuhou temple, Dufu’s Cottage, Kuan-zhai Alley, as well as the Chengdu Research Base of Panda Breeding are the most popular tourist sites. In the south of Chengdu lies a modern high-tech zone that include the Asian’s largest single-building shopping mall, the Global Center.

In a few hours of drive from Chengdu city, there are many beautiful and impressive natural scenery sights, such as Er-mei mountain, Qing-cheng mountain, Xi-ling-xue-shan mountain, Jiuzhai Valley. They are nationally well-known and attract a large number of tourists every year.

TOUR OPTIONS
You may visit the web site below to arrange your tours in Chengdu.

http://www.cometochengdu.com/

LANGUAGE
The official language for the Conference is English. However, in the city public places, Chinese Mandarin and Sichuan dialect are commonly spoken.

VISA
Every non-Chinese citizen must have a visa issued by Chinese Embassy or Consulate abroad to enter China. Application for the visa should be submitted to the Chinese Embassy in your country. You can apply for the visa as a tourist; the application process may be simple and easy, and the visa may be valid for 30 days for each stay within China.

CURRENCY AND CREDIT CARDS
China’s currency is RMB with its monetary unit of Chinese Yuan. The exchange rate is about 1 USD for 6-7 Chinese Yuan. ONLY RMB in cash is acceptable at the conference registration desk. This is also the case in most shopping centers and hotels. Credit cards, VISA, Master and American Express, are acceptable in most large hotels and malls.

TAX AND TIPS
All the shopping prices or receipts are tax included. Tipping is not a Chinese custom; so do not tip a waiter/waitress or a taxi driver and any other person who provides regular services. Do bargain hard when you buy merchandise on the streets or in the free markets.

OPENING HOURS
Government Office Opening hours: 8:00 a.m. to 5:00 p.m., from Monday to Friday.
Bank and Post Office Opening hours: 9:00 a.m. to 5:00 p.m., everyday including weekends.
Normal Store Opening hours: 9:00 a.m. to 8:00 p.m., everyday including weekends.
Large shopping centers: 9:00 a.m. to 10:00 p.m., everyday including weekends.
ELECTRICITY

In China, the standard power outlets provide AC of 220 V/50 Hz. The standard for Chinese plugs and sockets is set out in GB 2099.1–2008 and GB 1002–2008. A standard socket on a wall in China has two pins on the upper part and earthed three pins on the lower part as shown the figure below.

![Electricity socket](image)

TAXI

Usually, a taxi is available along the roadsides and you can wave for it. However, on main streets, it is only available at taxi stops or in front of a hotel. Tipping is not a Chinese custom; so do not tip a taxi driver.

INTERNET ACCESS

There is WLAN with internet access in the conference venue.

WLAN Name: Microwave week
Password: microwaveweek
Keynote Presentation 1

May 07 (MONDAY), Room O

10:30 A.M – 11:15 A.M

Making 5G NR a Reality

Dr. Hao Xu
Head, Qualcomm Research China

Abstract

We are now at the dawn of the next technological revolutions fueled by the rapid development of 5G New Radio (NR). 5G will have profound impact on the global industry and is estimated to generate over $12T of economic value by 2035.

In this talk, we first provide a 5G overview in terms of deployment scenarios, use cases, standard status, and deployment timeline. Then we dive into technical details of the most salient 5G features, from novel physical layer techniques to flexible network architecture, from traditional sub-6GHz to new frontier of mm Wave deployment. For mm Wave communications, we share our research findings from extensive simulation analysis, prototype development and field tests.

Throughout the talk, we also address 5G challenges from both standardization and implementation aspects and discuss our concrete steps to make 5G NR a commercial reality. For years, Qualcomm has been the hub of 5G wireless technology innovations, driving 5G NR from standardization to commercialization. Qualcomm is designing a unified, more capable 5G platform, pioneering many new technologies to meet 5G’s expanded and radically diverse connectivity requirements. Qualcomm has developed the best-in-class prototypes/testbeds in both mm Wave and sub-6GHz to demonstrate and verify innovative 5G designs. We also developed the first 5G modem solution in industry, and are collaborating with industry leaders to support early 5G deployment and field trials.

About the speaker

Dr. Hao Xu is currently the head of Qualcomm research China. Since 2003, Dr. Hao Xu has been working at Qualcomm R&D, where his main research focus is on wireless communications system design. He has led various research, prototyping, and 3GPP standardization topics from 3G to 5G wireless technologies. He has also led research in robotics and artificial intelligence.

From 2000 to 2003, he worked at Bell Lab’s Wireless Communication Research Lab, where the first MIMO system (BLAST) was invented. His research led to one of the first outdoor MIMO channel capacity evaluations, and the joint 3GPP/3GPP2 spatial channel model (SCM). In 2003, he received the Bell-Labs President Gold Metal Award.

Dr. Hao Xu received his B.S and M.S. from Moscow Power Engineering Institute and Technical University, Russia, in 1994 and 1996, respectively. He received his Ph.D. from Virginia Tech in 2000. During his Ph.D. research, he pioneered the millimeter-wave propagation research at 38 GHz and 60 GHz with Dr. T. Rappaport. In 1999, he received the IEEE Communications Society Steve Rice Award with Dr. G. Durgin and Dr. T. Rappaport. He has numerous journal publications and patents, and served a few years as an Associate Editor for IEEE Transactions on Wireless Communications.
Keynote Presentation 2

May 07 (MONDAY), Room O

11:15 A.M – 12:00 A.M

Energy Efficient Future Wireless Communications

Dr. Nuno B. Carvalho
Professor, University of Aveiro

Abstract

The energy needs for wireless systems is limiting the evolution of most of the IoT and 5G future solutions. In this talk an overview of the energy problem in wireless communication systems will be presented, either from a mobile network point of view, but also from a IoT point of view. The main objective is to discuss future wireless paradigms that will be changing soon with 5G and beyond, those include the spread of a distributed mobile network by using Cloud Radio Access Networks, with its associated Software Defined Radio approaches, but also the issue of battery-less wireless devices, combining wireless power transmission and backscatter communications. The talk starts first with a general overview of the energy needs for a future XG networks, and then presents in an integrated way both approaches of C-RAN and IoT wireless design. The presentation will cover topics like the hardware part of the SDR and design of battery-less wireless sensors networks. Issues like characterization of mixed-signal devices, designing of C-RAN SDR approaches, design of passive backscatter sensors will be discussed, according to the audience.

About the Speaker

Nuno Borges Carvalho (S’97–M’00–SM’05–F’15) was born in Luanda, Angola, in 1972. He received the Diploma and Doctoral degrees in electronics and telecommunications engineering from the University of Aveiro, Aveiro, Portugal, in 1995 and 2000, respectively.

He is currently a Full Professor and a Senior Research Scientist with the Institute of Telecommunications, University of Aveiro and an IEEE Fellow. He coauthored Intermodulation in Microwave and Wireless Circuits (Artech House, 2003), Microwave and Wireless Measurement Techniques (Cambridge University Press, 2013) and White Space Communication Technologies (Cambridge University Press, 2014). He has been a reviewer and author of over 200 papers in magazines and conferences. He is associate editor of the IEEE Microwave Magazine and Cambridge Wireless Power Transfer Journal and former associate editor of the IEEE Transactions on Microwave Theory and Techniques. He is the co-inventor of six patents. His main research interests include software-defined radio front- ends, wireless power transmission, nonlinear distortion analysis in microwave/wireless circuits and systems, and measurement of nonlinear phenomena. He has recently been involved in the design of dedicated radios and systems for newly emerging wireless technologies.

Dr. Borges Carvalho is the chair of the IEEE MTT-20 Technical Committee and the past-chair of the IEEE Portuguese Section and MTT-11 and also belong to the technical committees, MTT-24 and MTT-26. He is also the vice-chair of the URSI Commission A (Metrology Group). He was the recipient of the 1995University of Aveiro and the Portuguese Engineering Association Prize for the best 1995 student at the University of Aveiro, the 1998 Student Paper Competition (Third Place) of the IEEE Microwave Theory and Techniques Society (IEEE MTT-S) International Microwave Symposium (IMS), and the 2000 IEE Measurement Prize.
Organizer: Nuno B. Carvalho, University of Aveiro

Chairs: Nuno B. Carvalho, University of Aveiro
       Alessandra Costanzo, University of Bologna

Abstract: Internet of Things are becoming a very important topic on society and will be one of the main changes in 4th industrial revolution, from domestic appliances until the use in industry plants, cars, health and several other areas, IoT will be the main source of data for the automatic intelligent systems out there. In this workshop the role of Wireless Power Transmission (WPT) in this area, will be explored and discusses with a panel of worldwide experts.

Workshop 1
Speaker: Naoki Shinohara and Ce Wang, Kyoto University
Title: Novel Rectifier for Low Power Far Field WPT and Energy Harvesting

Workshop 2
Speaker: Nuno B. Carvalho, University of Aveiro
Title: Backscatter and WPT a New Enabler of IoT

Workshop 3
Speaker: Satoshi Yoshida, Kagoshima University
Title: System Evaluation of a Completely Wireless Sensor Network and HySIC Rectifier

Workshop 4
Speaker: Alessandra Costanzo and Maurizio Mongiardo, University of Bologna
Title: Design Rules for a Coupling-independent Resonant WPT System
Organizers and Chairs: Hua Wang, Georgia Institute of Technology  
Hongtao Xu, Fudan University

Abstract: Power amplifiers are critical components in all high frequency transmitters. To achieve high efficiency non-linear operation of the active device is necessary. As a consequence, accurate experimental data and/or non-linear models are key tools to achieve high performance power amplifier and transmitter design. This workshop presents state of the art modelling and measurement techniques from internationally recognized research groups.

Workshop 1  
**Speaker:** Hua Wang, Georgia Institute of Technology

Workshop 2  
**Speaker:** Hongtao Xu, Fudan University

Workshop 3  
**Speaker:** Huizhen Jenny Qian, University of Electronic Science and Technology of China

Workshop 4  
**Speaker:** Dixian Zhao, Southeast University

Workshop 5  
**Speaker:** Tian-Wei Huang, National Taiwan University

Workshop 6  
**Speaker:** Chaojiang Li, Globalfoundries
Organizer: Roberto Quaglia, Cardiff University
Chairs: Roberto Quaglia, Cardiff University
       Jen-Tsai Kuo, Chang Gung University

Abstract: Power amplifiers are critical components in all high frequency transmitters. To achieve high efficiency non-linear operation of the active device is necessary. As a consequence, accurate experimental data and/or non-linear models are key tools to achieve high performance power amplifier and transmitter design. This workshop presents state of the art modelling and measurement techniques from internationally recognized research groups.

Workshop 1
Speaker: Jialin Cai, Hangzhou Dianzi University
Title: Modeling for RF Power Transistors

Workshop 2
Speaker: Yuehang Xu, University of Electronic Science and Technology of China
Title: Characterization and Modeling of Millimeter wave GaN HEMTs

Workshop 3
Speaker: Johannes Benedikt, Cardiff University
Title: On the Development of High-Speed Nonlinear Characterization Systems

Workshop 4
Speaker: Nuno B. Carvalho, University of Aveiro
Title: Characterization of Non-linear Active Antenna Arrays

Workshop 5
Speaker: Fei You, University of Electronic Science and Technology of China
Title: Discussions on Characterization Method and Modeling Accuracy of Nonlinear Charges in a GaN Transistor: Using Self-driving RF-DC Converter as an Example

Workshop 6
Speaker: Roberto Quaglia, Cardiff University
Title: Saturated Power Contours and Clipping Contours: Simple Methods in PA Design
**Special Session: Women in Microwaves and Wireless**

—Multi-dimensional, Multi-scale and Multi-functional Life

**May 9, 2018, 09:00-10:30, Room W**

**Organizer:** Wenquan Che, Nanjing University of Science and Technology, MTT-S AdCom member  
**Chairs:** Wenquan Che, Nanjing University of Science and Technology, MTT-S AdCom member  
Xiuping Li, Beijing University of Posts and Telecommunications

**Abstract:** This is a focused keynote/panel session intended to inspire the female professionals to get involved into RF and microwave careers. It is also expected to stir up discussions about life for professional women and men. With the fast working pace of the world, our professional life is becoming busier and busier, while each of us is taking up multiple responsibilities. How to keep balance between life and career is always a big challenge. This session is to present some perspectives to address the challenge. It will include one or two keynote speeches followed by a panel session with invited female and male panelists.

**Invited Talk (09:00-09:30)**  
**Speaker:** Lin Dai, City University of Hong Kong  
**Title:** Massive Random Access: Fundamental Limits, Optimal Design, and Applications to M2M Communications

**Warm-up Speech (09:30-09:50)**  
**Speaker:** Wenquan Che, Nanjing University of Science and Technology  
**Title:** The Gender Gap

**Panel Session (09:50-10:30)**  
Lin Dai, City University of Hong Kong  
Xiuping Li, Beijing University of Posts and Telecommunications  
Ying Liu, Xidian University

The focus of the session will be to

- inspire and nurture dynamic female professionals to continue their careers and research in the area of microwaves and wireless,
- cultivate an environment for growth of female professionals in both academic and professional fields, and
- discuss the challenges in life for male and female professionals.
Special Session for Young Professionals
The Road to Success in Microwaves
May 7, 2018, 16:00-18:00, Room I

Organizers: Xiuyin Zhang, South China University of Technology, China
Chairs: Xiuyin Zhang, South China University of Technology, China
Wenhua Chen, Tsinghua University

Abstract: Nowadays, more and more young professionals have engaged themselves in research on microwaves. They are facing varieties of problems in career. This session is organized, with two keynote speakers and a panel of young faculty members, to give suggestions about how to be successful in microwaves. Two outstanding professors with will present their own experience of struggling and working when they were young and summary of the ways to success in their career paths. Three young and excellent professors will share their own plans and activities in microwave research as well as excellent results. This session is a good platform for young professionals to find hints and to be inspired for pursuits and success in microwave careers.

Speakers:
Ke Wu, Past President of MTT-S, École Polytechnique de Montréal
Roberto Gómez-García, University of Alcalá
Kai Kang, University of Electronic Science and Technology of China
Zhangcheng Hao, Southeast University
Xun Luo, University of Electronic Science and Technology of China

Panel Session:
The focus of the session will be to
- provide the suggestions of dealing with problems and challenges in research careers,
- exchange ideas and thoughts between senior outstanding researchers and young professionals, and
- share the experience of success in microwaves.
ORAL Session: MP1H

Reflectarrays, Transmitarrays, Lenses and Metasurfaces
Organizers Fan Yang and Shiwei Qu; Session Chairs: Shiwei Qu and Fan Yang

13:30 - 14:00 Design and Applications of Wideband Planar Reflectarray and Metasurfaces (Invited)
   Long Li, Hao Yi, Jiaqi Han, Yuxiao Lu, Weiming Xue, Yao Fang (China, Mainland)

14:00 - 14:15 Study of a Low-Profile Transmitarray Element using 3 Non-Identical Layers
   Jun Luo, Fan Yang, Sean Victor Hum, Shenheng Xu, Maokun Li (China, Mainland)

14:15 - 14:30 Preliminary Results on the Use of Transmitarrays in 5G Antenna Systems
   Michele Beccaria, Andrea Massaccesi, Paola Pirinoli (Italy)

14:30 - 14:45 A Reflectarray Using Log-Periodic Dipole Array Element
   Keisuke Konno, Qiang Chen (Japan)

14:45 - 15:00 Anisotropic Impedance Surface Based Transmitarrays at Millimeter-Waves
   Zhi Hao Jiang (China, Mainland)

15:00 - 15:15 Highly Integrated Folded Reflectarray with High-Resolution Beam Scanning Ability
   Sanming Hu (China, Mainland)

15:15 - 15:30 Large Aperture Size Terahertz Transmitarray for Near-Field Applications
   Chunxu Bai, Yujian Cheng (China, Mainland)

ORAL Session: MP2H

New Filters, Couplers and Absorbers - Part I
Session Chairs: Wenjie Feng and Richard Snyder

16:00 - 16:15 Multi-Band Reflectionless Filtering Impedance Transformers
   Roberto Gomez-Garcia, Jose-Maria Munoz-Ferreras, Dimitra Psychogiou (Spain)

16:15 - 16:30 Triple-Mode Wideband Bandpass Filter Using Triangular Waveguide Cavity
   Musab Hameed, Gaobiao Xiao, Can Xiong (China, Mainland)

16:30 - 16:45 Wideband Power Divider Using Double-Layer Periodic Spoof Surface Plasmon Polaritons
   Yanhao Feng, Wenjie Feng, Wenquan Che, Xueke Ma, Wanchen Yang, Quan Xue (China, Mainland)

16:45 - 17:00 Mode Composite Waveguide Directional Coupler
   Jiapin Guo, Ke Wu (Canada)

17:00 - 17:15 Bandpass-to-all-pass reconfigurable filter with wide frequency tuning range
   Tae-Hak Lee, Ke Wu (Canada)

17:15 - 17:30 Design and Optimization of High Shape Factor High-Order Substrate Integrated Waveguide Filter with Cross Coupling
   Ruoqiao Zhang, Jianyi Zhou, Zhiqiang Yu, Binqi Yang (China, Mainland)

17:30 - 17:45 Design of Broadband Multi-Layer Metamaterial Absorber
   Mengqi Cao, Qingfeng Zhang (China, Mainland)

17:45 - 18:00 Tunable Terahertz Absorber Using Double-layer Decussate Graphene Ribbon Arrays
   Fang Zeng, Longfang Ye, Xiong Xu, Xiaofan Yang (China, Mainland)
13:30 - 14:00 Nonlinearity Correction for Range Estimation in FMCW Millimeter-Wave Automotive Radar (Invited)
Pu Wang, David Millar, Kieran Parsons, Philip V. Orlik (United States)

14:00 - 14:15 Efficient Algorithms for Moving objects localization and tracking Based on Continuous Wave Doppler Radar
Yi Zhang, Jun Wang, Changzhi Li, Lixin Ran (China, Mainland)

14:15 - 14:30 Accuracy Improvement in Range Measurements of Short-Range FSK Radars
Jose-Maria Munoz-Ferreras, Jing Wang, Tianyi Zhou, Roberto Gomez-Garcia, Changzhi Li, Lixin Ran (Spain)

14:30 - 14:45 A Millimeter-wave Doppler Sensor for Bio-signals Detection
Shuqin Dong, Jun Wang, Changzhi Li, Lixin Ran (China, Mainland)

14:45 - 15:00 Kurtosis CFAR Detection for Indoor Positioning Applications with FMCW Systems
Jia-Cheng Guo, Zhizhang David Chen (Canada)

15:00 - 15:15 Range-Gating Technology for Millimeter-wave Radar Remote Gesture Control in IoT Applications
Minh Quang Nguyen, Anthony Flores-Nigaglioni, Changzhi Li (United States)

15:15 - 15:30 Placement Selection of Millimeter Wave FMCW Radar for Indoor Fall Detection
Tao Yang, Jun Cao, Yongxin Guo (Singapore)
ORAL Session: MP1J
Multi-Technology, Multi-Functional, and Multi-Configurable Filtering Components
Session Organizer: Roberto Gomez-Garcia; Session Chairs: Roberto Gomez-Garcia and Xiaowei Zhu

13:30 - 14:00 Multi-Channel Filtering Circuits Based on Dielectric Resonators (Invited)
   Xiu Yin Zhang, Jin-Xu Xu, Wan-Li Zhan, Quan Xue (China, Mainland)

14:00 - 14:15 Dual Bandpass Filter based on Hybrid Spoof Surface Plasmon Polariton and Substrate Integrated Waveguide Structure
   Zhang-Biao Yang, Peng You, Dong-Fang Guan, Chao-Fan Guo, Ke Xiao, Shao-Wei Yong (China, Mainland)

14:15 - 14:30 Reconfigurable Diplexer Using λ/2 Resonator with Hybrid Varactor-Embedded Stepped-Impedance Open-Stub and Slot
   Xiaohui Liu, Zhen Tian, Huizhen Jenny Qian, Xun Luo (China, Mainland)

14:30 - 14:45 A Novel CPW-SIW Filter With Wide Stopband Performance
   Yao Yang, Xiaoyang Ji, Guohua Zhai, Jun Ding (China, Mainland)

14:45 - 15:00 Four-Pole Frequency Agile Bandpass Filter with Fully Canonical Response and Constant ABW
   Di Lu, Xiaohong Tang, Mei Li, Scott Nicolas Barker (China, Mainland)

15:00 - 15:15 A Compact Bandpass Filter with Wide Stopband and Two Finite Transmission Zeros
   Tingting Yu, Feng Xu, Ke Wu (China, Mainland)

15:15 - 15:30 Wideband Balun Filter on Multi-Mode Resonator with Good Performance in Magnitude and Phase
   Lin-Ping Feng, Lei Zhu (China, Mainland)

ORAL Session: MP2J
IC Components and Devices
Session Organizers & Chairs: Kaixue Ma and Zheng Wang

16:00 - 16:30 A Wide Locking Range Harmonic Enhanced Injection Locked Frequency Divide-by-4 With Low Injected Power Level (Invited)
   Nagarajan Mahalingam, Kiat Seng Yeo, Bharatha Kumar Thangarasu (Singapore)

16:30 - 16:45 A Broadband CMOS Amplifier in D band using Pole-tuning Technique with T-type Network
   Jiang Luo, Jin He, Guangyin Feng, Alit Apriyana, Qijun Huang, Hao Yu (China, Mainland)

16:45 - 17:00 Design of a 5.9GHz Ultra-low Power Sub-harmonic Mixer For Internet of Vehicles Applications
   Xin Liu, Showxian Mou, Kaixue Ma, Fanyi Meng (China, Mainland)

17:00 - 17:15 High Resolution TDC and High Linearity DTC for All-Digital Spur Calibration
   Pengli Hong, Hongliang Xu, Jing Jin (China, Mainland)

17:15 - 17:30 A 10-bit 120-MS/s SAR ADC in 90nm CMOS with Redundancy Compensation
   Hao Zhang, Xinghua Wang, Lei Zhang, Zhijing Zhang (China, Mainland)

17:30 - 17:45 Progressive LO Phase Shifting Technique With Linear Coupled Oscillators in 90nm BiCMOS
   Qian Xie, Hao Wang, Jun Li, Zheng Wang (China, Mainland)

17:45 - 18:00 CMOS Circuit Techniques for Mm-Wave Communications
   Baoyong Chi, Zheng Song, Haikun Jia, Lixue Kuang, Jianfu Lin, Zhihua Wang (China, Mainland)
ORAL Session: TA1I
Microwave and Millimeter Wave Photonics
Session Organizer: Shilong Pan; Session Chairs: Shilong Pan and Zhihao Jiang

08:30 - 09:00 Coherent Radio-Over-Fiber Links for High-Data Rate Wireless Communications (Invited)
   Jianping Yao (Canada)

09:00 - 09:15 Dual-chirp microwave waveform generation for radar application based on an optically injected semiconductor laser
   Bowen Zhang, Dan Zhu, Shilong Pan (China, Mainland)

09:15 - 09:30 Wideband Microwave Photonic I/Q mixer based on Parallel Installed Phase Modulator and Mach-Zehnder Modulator
   Jingzhan Shi, Fangzheng Zhang, De Ben, Shilong Pan (China, Mainland)

09:30 - 09:45 Frequency-Doubled Phase-Coded Microwave Signal Generation Based on Cascaded Modulators
   Mengxu Chang, Yang Chen (China, Mainland)

ORAL Session: TA2I
THz Theory and Techniques
Session Organizers: Yuan Yao and Xiaodong Chen; Session Chairs: Yuan Yao and Wei Hong

10:30 - 11:00 Pushing the Limit of Integrated Millimeter-wave/THz Signal Generation (Invited)
   Xiaoguang Liu (United States)

11:00 - 11:15 Study of Terahertz MIMO Imaging with Fast Reconstruction Algorithm
   Hang Gao, Chao Li, Shiyou Wu, Guangyou Fang (China, Mainland)

11:15 - 11:30 Analysis of Coplanar-to-Rectangular Waveguide Transition at D-band for UTC-PD THz Source
   Caixia Wang, Yuan Yao, Limei Qi, Zhijiao Chen, Junsheng Yu, Xiaodong Chen (China, Mainland)

11:30 - 11:45 Active Control of Terahertz Wave with vanadium dioxide (VO2)-embedded Metamaterials
   Gao-Chao ZHOU, Cai-Hong ZHANG, Penghui Dai, Qi-Ye WEN, Shaoxian Li, Jia-Guang HAN, Biao-Bing JIN (China, Mainland)

11:45 - 12:00 Accurate Metrology of Freestanding Wire Polarizer Characterization for Terahertz Sounding
   Xue Lv, Ling Chen, Xiaoning Sun, Chunyue Cheng (China, Mainland)
ORAL Session: TA1J
Special Waves, Models and Applications
Session Chairs: Costas Sarris and Zhenghe Feng

08:30 - 08:45 A Simple Method to Generate Orbital Angular Momentum Beams with Microstrip Ring Antenna
Changjiang Deng, Xin Lv, Zhenghe Feng (China, Mainland)

08:45 - 09:00 Full Integration of Physics-Based Propagation Models into Network Protocol Design for Communication-Based Train Control Systems
Xingqi Zhang, Neeraj Sood, Sami Baroudi, Jorg Liebeherr, Costas D. Sarris (Canada)

09:00 - 09:15 Reflective Phase-Shifting Surface for Generating Orbital Angular Momentum Waves
Li Yu, Zihang Qi, Hua Zhu, Xiuping Li, Xiaoming Li, Xing Jiang (China, Mainland)

09:15 - 09:30 Capacity Evaluation on the Long-Distance Orbital Angular Momentum Non-Orthogonal Transmission
Xuefeng JIANG, Yufei ZHAO, Chao ZHANG (China, Mainland)

09:30 - 09:45 A Dimension-Reduced Artificial Neural Network for the Compact Modeling of Semiconductor Devices
Andong Huang, Zheng Zhong, Yong-Xin Guo, Wen Wu (China, Mainland)

ORAL Session: TA2J
Power Amplifiers with High Output Power and Efficiency
Session Organizer: Wenhua Chen; Session Chairs: Wenhua Chen and Yuehe Ge

10:30 - 11:00 Chireix Amplifier with Enhanced Bandwidth Using Active Load (Invited)
Patrick Roblin, Hsiu Chen Chang (United States)

11:00 - 11:15 A Ka-Band 65-nm CMOS Neutralized Medium Power Amplifier for 5G Phased-Array Applications
Chongyu Yu, Jun Feng, Dixian Zhao (China, Mainland)

11:15 - 11:30 High Efficiency Triple-Stacked Class-E Power Amplifier with Novel Dynamic Biasing Network
Peng Li, Qin Xia, Zeqiang Chen, Li Geng (China, Mainland)

11:30 - 11:45 A Novel Stacked Class-E-like Power Amplifier with Dual Drain Output Power Technique in 0.18 um RF SOI CMOS Technology
Jiangchuan Ren, Ruofan Dai, Jun He, Jun Xiao, Weiran Kong, Shichang Zou (China, Mainland)

11:45 - 12:00 Dual-Input Driving Strategies for Performance Enhancement of a Doherty Power Amplifier
Anna Piacibello, Roberto Quaglia, Vittorio Camarchia, Chiara Ramella, Marco Pirolo (Italy)
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Tao Cao, Fei Huang, Qian Zhang, Youjiang Liu (China, Mainland)

P.3 Coupling Matrix Sign Reversal Transformation

Ranjan Das, Qingfeng Zhang, Abhishek Kandwal (India)

P.4 Dual-Channel Filter Based on Dielectric Resonator for 5G Massive MIMO System

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Qingyun Hu, Fushun Zhang, Dan Wu (China, Mainland)

P.6 A Low-Cost Broadband Circularly Polarized Antenna with Integrated Feeding Network

Chaoqiang Feng, Fushun Zhang (China, Mainland)

P.7 Dual-band and Dual-Polarized Repeater Antenna for Wearable Applications

Kai Li, Li-Jie Xu, Zhu Duan, Yiming Tang, Yaming Bo (China, Mainland)


Min Liang, Hongyin Zhang, Fu-Shun Zhang, Fu-Kun Sun (China, Mainland)

P.9 Compact 28-GHz Two-Dimensionally Scanning Multibeam Array With Sidelobe Suppression

Ji-Wei Lian, Yong-Ling Ban, You-Quan Wu, Le-Hao Zhong (China, Mainland)
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Oscillators & Phase-Locked Devices
Session Chairs: Xun Luo and Jun Yin

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  *Jun Yin* (China, Macau)

14:00 - 14:15 A Novel Terahertz Phased Array Based on Coupled Oscillators
  *Longheng Qi, Qian Xie, Longjiang Deng, Zheng Wang* (China, Mainland)

14:15 - 14:30 A 173 GHz Transformer-Based Push-Push Oscillator with 11.2% Tuning Range in 28nm CMOS
  *Yiyang Shu, Huizhen Jenny Qian, Xun Luo* (China, Mainland)

14:30 - 14:45 Cross-shaped PnC for anchor loss reduction of thin-film ALN-on-silicon high frequency MEMS resonator
  *Mohammed Awad, Feihong Bao, Jingfu Bao, Xiaosheng Zhang* (China, Mainland)

14:45 - 15:00 Performance Comparison of Divide-by-2 Injection-Locked Frequency Divider with Balanced and Unbalanced Injection Methods
  *Sheng-Lyang Jang, Chung Yi Huang, Wen-Cheng Lai* (China, Taiwan)

15:00 - 15:15 On Optimization of Miller Divider with Transformer Injection Enhancement
  *Girish Tiwari, Sivaramakrishna Rudrapati, Shalabh Gupta* (India)

15:15 - 15:30 A Compact Passive Resonator Based on Through-Silicon Via Technology for Microwave Applications
  *Xiangkun Yin, Zhangming Zhu, Yintang Yang, Qijun Lu, Xiaoxian Liu, Yang Liu* (China, Mainland)

ORAL Session: TP2I
Wireless Power Transfer
Session Organizer: Mauro Mogiardo; Session Chairs: Mauro Mogiardo and Zhizhang (David) Chen

16:00 - 16:30 Power Maximization for Capacitive Wireless Power Transfer with Two Transmitters and One Receiver (Invited)
  *Ben Minnaert, Nobby Stevens* (Belgium)

16:30 - 16:45 Conjugate Image Impedance Matching for Maximizing the Gains of a WPT Link
  *Qinghua Wang, Wenquan Che, Giuseppina Monti, Mauro Mogiardo, Marco Dionigi, Franco Mastri* (China, Mainland)

16:45 - 17:00 Constant-Current Output LCC Wireless power transfer Circuit
  *Nan Yang, Jianyu Lan, Yong Liu, Xiaobin He, Zhangfeng Li* (China, Mainland)

17:00 - 17:15 Transducer Gain Maximization for a Resonant Inductive WPT Link Using Relay Resonators
  *Giuseppina Monti, Franco Mastri, Mauro Mogiardo, Laura Corchia, Luciano Tarricone* (Italy)

17:15 - 17:30 Experimental Investigation of Frequency Characteristics of Underwater Wireless Power Transfer
  *Wangqiang Niu, Wei Gu, Jianxin Chu* (China, Mainland)

17:30 - 17:45 Multi–coil High Efficiency Wireless Power Transfer System against Misalignment
  *Chen Xu, Yuan Zhuang, Hongjian Han, Chaoyun Song, Yi Huang, Jiafeng Zhou* (United Kingdom)

17:45 - 18:00 Constant Capacitive Wireless Power Transfer at Variable Coupling
  *Ben Minnaert, Franco Mastri, Mauro Mogiardo, Alessandra Costanzo, Nobby Stevens* (Belgium)
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Amplifiers
Session Chairs: Xiaoguang Liu and Huizhen Qian

13:30 - 13:45 Evaluation of Knee Voltage Effect and Soft Turn-on Characteristic on the Load Modulated Continuous Class-B/J Power Amplifier
Xuekun Du, Chang Jiang You, Xiang Li, Mohamed Helaoui, Jingye Cai, Fadhel Ghannouchi (China, Mainland)

13:45 - 14:00 A 60 GHz Low Noise Variable Gain Amplifier with Small Noise Figure and IIP3 variation in a 40-nm CMOS Technology
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14:15 - 14:30 K-band combined GaAs monolithic Doherty power amplifier
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14:30 - 14:45 A 21.5-26.4 GHz CMOS Cascode Driver Amplifier with 13.9 dBm Output Power for 24G FMCW Radar Applications
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14:45 - 15:00 An 18-GHz-Bandwidth Master-Slave Sample-and-Hold Amplifier for High-Speed Communication in 0.13um SiGe BiCMOS
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Antennas, Arrays and Transmitters
Session Chairs: Quan Xue and Chao Yu

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You Lan, Tianliang Zhang, Di Jiang (China, Mainland)

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Shaowei Liao, Quan Xue (China, Mainland)

16:00 - 16:15 Beamforming UWB-IR Transmitter for NLOS Indoor Positioning and Tracking Application
Md Arif Hussain Ansari, Choi Look Law (Singapore)

16:15 - 16:30 Dual-Band Dual-Polarized Transmitarray for Satellite Communications
Abdul Aziz, Fan Yang, Shenheng Xu, Maokun Li, Hai-tao Chen (China, Mainland)

16:30 - 16:45 A 14×14 Electronically Reconfigurable Reflectarray Using 1-Bit Reflective Element
Xuxiang Chen, Yuehe Ge (China, Mainland)

16:45 - 17:00 Near-Field Focused Reflectarray Antenna at 140 GHz
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17:00 - 17:15 A Low-RCS, Wideband and Circularly Polarized Metasurface Antenna
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P.10 Equivalent 2-port of Cascade WPT Systems
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Session Organizer: Maurizio Boziz ; Session Chairs: Maurizio Boziz and Ke Wu

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09:15 - 09:30 Compact Resonators in Substrate Integrated Waveguide Technology
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10:45 - 11:00 A Robust and Broadband Digital Predistortion Utilizing Negative Feedback Iteration
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11:15 - 11:30 A 1GSps RF Sampling Pipelined ADC with Novel Background Digital Calibration
Xizhu Peng, Shuaishuai Shi, Qingqing Bao, Shengpu Niu, He Tang (China, Mainland)

11:30 - 11:45 High Efficient and High Reliable GaN RF Device for 5G Communication
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IoT and RF Devices and Systems
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Standard booth (2 m x 3 m):
Consist of one headboard with company name (limited in 30 characters), one table, two chairs etc.
Exhibition Contact: Mr. Wei Zilun, Gao Xin E-mail: mwrf@vip.163.com kingradio@188.com
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