2012 4th International High Speed Intelligent Communication Forum

(HSIC 2012)

Nanjing, Jiangsu, China
10-11 May 2012
### ORAL Session: TA1 (3 presentations)
**Invited Talks**

**Session Chair: Jen-Tsai Kuo**

- **09:10 - 09:35** Security through quantum communication (Invited)
  *Barry Sanders* (Canada)
- **09:35 - 10:00** Recent Progress in Non-planar Microwave Filters – From Theory and Practices (Invited)
  *Ke-Li Wu* (Hong Kong)
- **10:00 - 10:25** Accelerometer-based Body Sensing for Healthy Aging (Invited)
  *Wen-Yen Lin, Wen-Cheng Chou, Ming-Yih Lee, Kin Fong Lei* (Taiwan)

### POSTER Session: TA2 (11 presentations)

**Session Chair: Yung-Yi Wang**

#### Microwave and Antenna

- **P.1** Novel Dual-band Bandpass Filter Using Multi-mode Resonator
  *Wenjie Feng, Wenquan Che, Quan Xue* (Mainland China)
- **P.2** A Photonic Approach for Instantaneous Microwave Frequency Measurement Based on Simultaneous Phase Modulation and Intensity Modulation Using Mach-Zehnder Interferometers
  *Dapeng Wang, Kun Xu, Jian Dai, Zhongle Wu, Lin Gui, Yuefeng Ji, Jintong Lin* (Mainland China)
- **P.3** A Reconfigurable Aperture Coupled Microstrip Patch Antenna on Silicon
  *SADDI PRADEEPREDDY, ASHUDEB DUTTA, SHIV GOVINDSINGH* (India)
- **P.4** A Novel UWB Bandpass Filter Using Highpass And Lowpass Filters
  *Wanchun Tang, Songmao Yang, Xiaoke Wang, Cheng Wang, Y. Leonard Chow* (Mainland China)
- **P.5** A Reconfigurable Aperture Coupled Microstrip Patch Antenna on Silicon
  *Chih-Sheng Yeh, Hsuan-Ling Kao, Juan-Yi Ke, Bo-Wen Wang, Cheng-Lin Cho, Li-Chun Chang* (Taiwan)
- **P.6** The Body Driven Low Phase Noise Injection-Locked V-Band Push-Push Complementary-Colpitts Oscillator
  *Chiao-Yi Chu, Bo-Yu Ke, Hsien-Chin Chiu* (Taiwan)
- **P.7** Low Insertion Loss Ka-Band SPST Switch Using S-GCPW Designs
  *Kuan-Liang Cho, Hsien-Chin Chiu, Yen-Chang Tu, Chia-Sung Wu* (Taiwan)
- **P.8** An UWB Bandpass Filter with Short-Circuited Multi-Mode Resonator via Inductive Coupling
  *Han Zou, Runqi Zhang, Lei Zhu* (Singapore)

#### Baseband and Protocol

- **P.9** The Analysis and Improvement of Linearly Interpolative Channel Estimation in OFDM System
  *Yung-An Kao, Po-Heng Song* (Taiwan)

#### System (incl. optical, wireless)

- **P.10** Diversity Allocation due to Inter-relay Cooperation for Network- Coded Wireless Networks
  *Yuhan Cheng, Longxiang Yang* (Mainland China)
- **P.11** A Communication with LFM Carrier Modulated by MSK Scheme
  *Chen Xingbo, Wang Xiaomo, Zhang Zhao, Xu Shanfeng* (Mainland China)
### 2012-05-10 AM
Room: Nine Dragons

**ORAL Session: TA3 (3 presentations)**
**Invited Talks**
Session Chair: Wen-Piao Lin

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<th>Time</th>
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<th>Authors/Location</th>
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<tr>
<td>11:15 - 11:40</td>
<td>Woodpile EBG-based Antennas for Body Area Networks at 60GHz (Invited)</td>
<td>Alessio Brizzi, Alice Pellegrini, Lianhong Zhang, Yang Hao (United Kingdom)</td>
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<td>11:40 - 12:05</td>
<td>A Ka Band Broadband Bandpass Substrate Integrated Waveguide Filter (Invited)</td>
<td>Zhibing Liang, Kaundong Guo, Yongmao Huang, Lianfu Liu, Zhen Hai Shao (Mainland China)</td>
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<td>12:05 - 12:30</td>
<td>Study and Modeling of Interconnection in High-Speed Circuit (Invited)</td>
<td>Qunsheng Cao, Xiang He (Mainland China)</td>
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### 2012-05-10 PM
Room: Nine Dragons

**ORAL Session: TP1 (4 presentations)**
**Invited Talks**
Session Chair: Jianyi Zhou

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<tr>
<th>Time</th>
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<tr>
<td>13:55 - 14:20</td>
<td>Liquid Crystal Polymer (LCP): A Promising Technology for Conformal High Performance Microwave/Millimeter-wave Circuits and Packaging (Invited)</td>
<td>Zhang-Cheng Hao, Wei Hong (Mainland China)</td>
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<td>14:20 - 14:45</td>
<td>Performance Analysis of 4-ary OPPM UWB Communication System Based on Time Reversal Technique (Invited)</td>
<td>RUI ZANG, Bing-Zhong Wang, Guang-Ding Ge, Shuai Ding (Mainland China)</td>
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<td>14:45 - 15:10</td>
<td>Improve Worst-Case Robustness of Multi-Antenna Communication Systems (Invited)</td>
<td>Jia-Heng Wang (Mainland China)</td>
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15:10 - 16:00  
POSTER Session: TP2 (15 presentations)  
Post Session, Exhibition and Coffee Break  
Session Chair: Yung-An Kao

Microwave and Antenna

P.1  Study of PAE Comparison Between Class F-1 and Class F Amplifiers Using LDMOS  
Fei Cai, Bingyi Xie, Hong Zhang, Guoqiang Lv (Mainland China)  

P.2  Microstrip Dual-Mode Triangular Patch Resonator Bandpass Filters with Two or Four Transmission Zeros  
Lin-Tong Li, Jia-Lin Li, Jianpeng Wang (Mainland China)  

System (incl. optical, wireless)

P.3  Multipath Cooperative Mobility Management in Wireless Cellular Networks  
Faeez Sadat Mozneb, Ali Broumandnia (Iran)  

P.4  Design of a Novel Fully Integrated Highly Linear Low Noise Up-converted Mixer for Physiological Signal Detection in Deep Sub-micron CMOS  
Yuan Liang (Mainland China)  

P.5  Design of a Low Power Charge Pump Circuit for Phase-locked Loops  
Huili Xu, Zhiqun Li (Mainland China)  

P.6  Frequency Allocation Schemes for Supporting Mobile TV Services in 3G/4G Networks  
Mingfu Li, Liang-Wei Chen (Taiwan)  

P.7  A 7-Bit 26-MS/s SAR ADC in 0.18 μm CMOS Process for WSN Application  
Ting Yang, Zhiqun Li (Mainland China)  

P.8  MCM application in the DPD Circuit  
Zhao Na, Jianping Hou, Guojun Zhang (Mainland China)  

P.9  Wireless Sensing System for Predicting Indoor Air Quality  
Tsang-Chu Yu, Chung-Chih Lin, Ren-Guey Lee, Chao-Heng Tseng, Shi-Ping Liu (Taiwan)  

P.10 Design of a Low-Voltage High-Speed CMOS Integer-M Frequency Divider in WSN Applications  
Lu Yu, Xiangning Fan (Mainland China)  

P.11 A 4th-Order Active-gm-RC Reconfigurable Filter with Time Constant Auto-tuning  
Junbo Liu, Xiangning Fan, Kuan Bao (Mainland China)  

P.12 A Distributed Bidirectional Wideband MIMO Channel Sounder  
Nianzu Zhang, Haiming Wang, Wei Hong, Jianyi Zhou, Guangqi Yang, Hui Zhang, Chen Yu, Zhengqi Kuai (Mainland China)  

P.13 Filter and threshold Based Adaptive Interference Supressing Method in Satellite Communication  
Junhui Zhao, Shengchun Guan, Longji Zeng (Mainland China)  

other

P.14 A Smart Vehicle Parking Scheme for Intelligent Transportation Systems  
Shih-Lin Wu, Hung-Kai Lin (Taiwan)  

P.15 Capacity estimation for low rank MIMO channels  
Jingxiu Zhang, Yuan Yao, Jianfeng Zheng (Mainland China)
2012-05-11 AM
Room: Nine Dragons

**ORAL Session: FA1 (4 presentations)**

*Invited Talks*
Session Chair: Ji-Xin Chen

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<tr>
<td>08:20 - 08:45</td>
<td>Modulated Scattering Antenna Array in MIMO Transmission (Invited)</td>
<td>Qiang Chen, Lin Wang, Kunio Sawaya, Qiaowei Yuan (Japan)</td>
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<td>08:45 - 09:10</td>
<td>THz transmission through superconducting periodic structures (Invited)</td>
<td>Biao-Bing Jin (Mainland China)</td>
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<td>09:10 - 09:35</td>
<td>Approaching Downlink Capacity of Multiplexing Relay Channels with Imperfect Channel Information (Invited)</td>
<td>Wei Xu, Le Liang (Mainland China)</td>
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<td>09:35 - 10:00</td>
<td>Research Progress on Millimeter Wave Transmitarray in SKLMMW (Invited)</td>
<td>Yan Zhang, Abd-Elhady M., Wei Hong, Wei-Dong Li (Mainland China)</td>
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2012-05-11 AM
Room: Dragon Wave

**POSTER Session: FA2 (17 presentations)**

*Microwave and Antenna*

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<tr>
<td>P.1</td>
<td>Analysis and Study of Electrical Characteristics of Through Silicon Via in 3D Integration</td>
<td>Xiang He, Qun sheng Cao (Mainland China)</td>
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<td>P.2</td>
<td>Dual-Band Rat-Race Coupler with Arbitrary Power-Split Ratios</td>
<td>Kuo-Sheng Chin, Yan-Hsiu Wei, Ting-Yi Lin, Chih-Chun Chang (Taiwan)</td>
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<td>P.3</td>
<td>Microstrip DBR Diplexer with DBS</td>
<td>Chunhong Chen, Na Li, Wen Wu (Mainland China)</td>
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<td>P.4</td>
<td>Wideband Planar Polarization Diversity Antenna with High Element Isolation</td>
<td>Wen-jun Lu, Cheng Yin, Hong-Bo Zhu (Mainland China)</td>
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<td>P.5</td>
<td>Multilayer Wide-Band Patch Antenna Using L-probe and Structure</td>
<td>Wang Kai Xu, Gao li, Lai Han Wah, So Kwok Kan, Hong Hang, Xue Quan, Zhang Xiao Yin (Mainland China)</td>
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<td>P.6</td>
<td>Design of a 60 GHz frequency Tripler with Schottky Varactor Diode</td>
<td>Qian Wang (Mainland China)</td>
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<td>P.7</td>
<td>A V-band Frequency Tripler with Output Power Enhancement in 90nm CMOS</td>
<td>Fan-Hsiu Huang, Yue-Ming Hsiin (Taiwan)</td>
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<td>P.8</td>
<td>CPW-fed Slot Antenna with Dual Band-notched Characteristic for UWB Application</td>
<td>Gao Xia, Yang Hong Wei, Lai Han Wah, So Kwok Kan, Hong Hang, Xue Quan (Mainland China)</td>
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<td>P.9</td>
<td>A Co-planar Waveguide Structure Used for UWB Communication Systems with Multiple Notched Bands</td>
<td>Hui Wei, Wang Kang, Qiang Wang, Chen Tan, Song Tao Liang, Wen Wu (Mainland China)</td>
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<td>P.10</td>
<td>Defected Microstrip Structure Bandstop Filter for Millimeter waves application</td>
<td>J.-K. Xiao, W.-J. Zhu (Mainland China)</td>
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<td>P.12</td>
<td>X-band Frequency Synthesizer with High Frequency Resolution</td>
<td>Yu Shengwu, Xu Jiping, Shen Zihao (Mainland China)</td>
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<td>P.13</td>
<td>W-Band SW H-plane Horn Antenna Development</td>
<td>Han-Yu Tsao, Dong-Hua Yang, Ji-Ching Cheng, Jeffrey S Fu, Wen-Piao Lin (Taiwan)</td>
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<td>P.14</td>
<td>Narrow-band Bandpass Filter with Enhanced Q and Selectivity Based on Coupled Negative Resistance</td>
<td>Ling Wang, Changjiang You, Chuan Ge, Xiaowei Zhu (Mainland China)</td>
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<td>P.15</td>
<td>Third-order Intermodulation Distortion Improvement Radio-over-fiber Link Using Dual-wavelength Intensity Modulation</td>
<td>Zhongle Wu, Fan Xu, Jie Niu, Lian Cui, Yi Yang Dai, Jian Tong Lin (Mainland China)</td>
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<td>P.16</td>
<td>Marching-on-in-Degree Time-Domain Integral Equation Analysis of Scattering from Composite Object with Curvilinear RWG Basis Functions</td>
<td>Quan-Quan Wang, Dong-Xue Zhao, Ru-Shan Chen, Da-Zhi Ding, Zhen-Bao Ye (Mainland China)</td>
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<td>P.17</td>
<td>An Adaptive Modular Reduction Based Error-Detection Algorithm</td>
<td>Zuobiao Yin, Wenhui Yang, Jianping Xiong (Mainland China)</td>
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### 2012-05-11 AM
Room: Nine Dragons

**ORAL Session: FA3** (4 presentations)
*Invited Talks (In memory of Professor Jeffrey Fu)*
Session Chair: Kuo-Sheng Chin

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<th>Time</th>
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*Hsien-Chin Chiu, Bo-Yu Ke (Taiwan)* |
| 11:15 - 11:40 | DML - A Novel Transmission Line for Terahertz (Invited)                                           |
|               | *Quan Xue (Hong Kong)*                                                                            |
| 11:40 - 12:05 | Applications of Transversal Signal-Interaction Concept in Ultra-wideband Filter Circuits (Invited)  
*Wenquan Che (Mainland China)* |
| 12:05 - 12:30 | LTCC Integrated Millimeter-wave Antennas (Invited)                                                 |
|               | *Zhi-Ning Chen, Xianming Qing, Junfeng Xu, Wei Hong (Singapore)*                                   |

### 2012-05-11 PM
Room: Nine Dragons

**ORAL Session: FP1** (4 presentations)
*Invited Talks*
Session Chair: Hsuan-Ling Kao

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<td><em>Xin Jiang (Mainland China)</em></td>
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<td>13:55 - 14:20</td>
<td>The Capacity Region of a Class of Z channels with Degraded Message Sets (Invited)</td>
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<td><em>Nan Liu, Wei Kung (Mainland China)</em></td>
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<td>14:20 - 14:45</td>
<td>The Application of Image Transition in HMSIW Power Splitter Design (Invited)</td>
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<td><em>Bing Liu (Mainland China)</em></td>
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<tr>
<td>14:45 - 15:10</td>
<td>The Evolution of Next Generation Communication and The Challenge of T&amp;M (Invited)</td>
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<td><em>Min-Hua Zhang (Mainland China)</em></td>
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2012-05-11 PM  
Room: Dragon Wave

15:10 - 16:00  
POSTER Session: FP2 (14 presentations)  
Post Session, Exhibition and Coffee Break  
Session Chair: Yuan Ouyang

**Baseband and Protocol**

P.1 Channel Estimation for MIMO-OFDM Systems Using a Novel STBC Pilot Pattern  
Yuan Ouyang, Wei-Ju Chen, Sheng-Han Wu (Taiwan)  

P.2 UWB-based Channel Modeling in a Computer Chassis  
Lin Zhao, Yukai Pei, Ning Ge (Mainland China)  

P.3 Adaption Feedback of Precoding Matrix Indicator for 3GPP LTE/LTE-A System  
Linli Cai, Chaoran Qi, Yuan Chen, Zhenhai Shao (Mainland China)  

P.4 Subcarrier Averaging based Blind Beamforming and Equalization for Multiuser OFDM Systems with CFO  
Virginie Gueyap Kamdem, Xiang Chen, Jing Wang (Mainland China)

P.5 Photonic Generation of Frequency-Coded Microwave Signals Using a Polarization Modulator and Equivalent-Chirped Sampled Bragg Gratings  
Peng Xiang, Xiaoping Zheng, Hanzi Zhang, Yuquan Li, Rong Wang (Mainland China)

P.6 Design of a Novel 0.1-12GHz LNA Fully Integrated UWB Inductorless LNA in 0.18μm CMOS Exploiting Noise Cancellation, Circuit and Analysis  
Yuan Liang (Mainland China)

P.7 A 1.8-V 1.8 GHz LC VCO for WSN Application  
Sheng Zhao, Zhiqun Li (Mainland China)

P.8 A low power 12Gb/s 1:4 demultiplexer  
min pan, Jun Feng, Jiahua Dou (Mainland China)

P.9 A Low Complexity 2D-DOA Estimation Algorithm using Signal Decomposition  
Yang Yi Wang, Wei-Wei Chen (Taiwan)

P.10 High Speed Communication Based State Estimator for Smart Grid  
Shin-Yeu Lin, Xian-Chang Guo (Taiwan)

P.11 A 20GHz's Low-Power BiCMOS Comparator Using an Active Inductor Load  
Kuai Yin, Qiao Meng, Kai Tang, Yi Zhang (Mainland China)

P.12 A MTD and angle estimation method of LFMCW radar for automotive applications  
Zhi Hou, Chen Miao, Jin-Dong Zhang, Wei Wu (Mainland China)

P.13 Implementation of Arbitrary Waveform Generator using Direct RF Synthesis  
yun Zhao, Li Jun Wang, Jian Liang Xu (Mainland China)

**Microwave and Antenna**

P.14 Reconfigurable Dual Frequency Microstrip MIMO Patch Antenna Using RF MEMS Switches for WLAN Application  
Hexamedin Joodaki, Amir Abdolsaz Suratgar, Alireza Mollahzadeh (Iran)

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2012-05-11 PM  
Room: Nine Dragons

16:00 - 16:20  
Microstrip Trisection Filters with Quasi-Elliptic and Flat Group Delay Responses  
Ching-Luh Hsu, Cheng-Hsuan Yu, Jen-Tsai Kuo (Taiwan)

16:20 - 16:40  
Investigation and Design of Distributed Subarray Smart Antenna System Using 1x8 Switched Butler Matrix For Phased-Array Radar Applications  
Yasser M. Madany, Hassan M. El Kamchouchi, Amgad A. Salama (Egypt)

16:40 - 17:00  
Numerical Analysis of Millimeter-Wave Dielectric Lens Antenna with Matching Slots  
Yan Zhang, Yan Ma, Shan-shan Lin, Ming-hua Xue, Xiao-ning Ni (Mainland China)

17:00 - 17:20  
Cooperative Data Dissemination in Cellular-VANET Heterogeneous Wireless Networks  
Yuyi Li, Wei Zhang, Peng Cheng, Hui Yu, Hanwen Luo (Mainland China)

17:20 - 17:40  
An anti-overflow control method of state metrics for high throughput Turbo decoder  
Arfa Guan, Limin Xiao, Xijun Zhang, Shijie Cai, Xiang Chen, Shidong Zhou, Jing Wang (Mainland China)