

# WEDNESDAY



## Auditorium

### EuMC09

#### Low-Noise Receivers and Related Circuits

Chair: Volker Ziegler, EADS Innovation Works Germany  
Co-Chair: Bumman Kim, Postech

## Room A

### EuMC10

#### Electromagnetic Interference

Chair: Philippe Eudeline, Thales Air Systems  
Co-Chair: Guy Vandenbosch, K.U.Leuven

## Room B

### EuMC11

#### Couplers

Chair: Mike Lancaster, Birmingham University  
Co-Chair: Gerhard Fischerauer, Bayreuth University

## Room B1

### EuMC12

#### Filters 2

Chair: Ian Hunter, University of Leeds  
Co-Chair: Richard Snyder, RS Microwave

08:30 – 08:50

#### *EuMC09-1: Cryogenically Cooled Millimetre-Wave Front Ends for the Australia Telescope*

G. G. Moorey, R. J. Bolton, M. A. Bowen, G. J. Carrad, A. Dunning, R. G. Gough, H. P. Kanoniuk, G. R. Graves, L. J. Reilly  
CSIRO, Epping, Australia

#### *EuMC10-1: Study on Distance of Inference Sources on Wireless Sensor Network*

F. Vanheel<sup>1,2</sup>, J. Verhaevert<sup>1</sup>, I. Moerman<sup>2</sup>  
<sup>1</sup>University College Ghent, Ghent, Belgium  
<sup>2</sup>Ghent University, Ghent, Ghent

#### *EuMC11-1: New High Directivity Coupler Design Using Feed-forward Compensation Technique*

S. Bensmida, F. M. Ghannouchi  
iRadio Lab, Calgary, Canada

#### *EuMC12-1: Bandpass Filters for Ka-Band Satellite Communication Applications Based on LTCC*

D. Kholodnyak<sup>2</sup>, Y. Kolmakov<sup>2</sup>, A. Simin<sup>1</sup>, I. B. Vendik<sup>2</sup>, J. Traber<sup>3</sup>, J. Mueller<sup>3</sup>, K. Drue<sup>3</sup>, M. Hein<sup>3</sup>  
<sup>1</sup>NXP Semiconductors B.V., Nijmegen, Netherlands, <sup>2</sup>St-Petersburg Electrotechnical University, St-Petersburg, Russia  
<sup>3</sup>Technische Universität Ilmenau, Ilmenau, Germany

08:50 – 09:10

#### *EuMC09-2: A High Performance Low IF Receiver for Wireless Local Positioning Applications*

V. Subramanian, M. Krcmar, G. Boeck  
Berlin University of Technology, Berlin, Germany

#### *EuMC10-2: Anti-Collision Tags for Backscatter Sensor Networks*

A. Bletsas, J. N. Sahalos  
RadioCommunications Laboratory (RCL), Thessaloniki, Greece

#### *EuMC11-2: High Directivity Quarter-wave Microstrip Coupler with Cancellation Circuit of Wilkinson Divider*

K. Yamauchi, A. Inoue, M. Miyazaki  
Mitsubishi Electric Corp., Kamakura, Japan

#### *EuMC12-2: A 70-GHz Millimeter-Wave Compact Bandpass Filter Fabricated Using Standard 0.18-µm CMOS Technology*

C. Hsu<sup>1</sup>, Y. Lin<sup>1</sup>, C. Chen<sup>2</sup>, H. Chuang<sup>1</sup>  
<sup>1</sup>National Cheng Kung University, Tainan, Taiwan  
<sup>2</sup>National University of Tainan, Tainan, Taiwan

09:10 – 09:30

#### *EuMC09-3: A Novel Multiple-Element Phased High-Order Subharmonic Self-Oscillating Mixer for Millimeter-Wave Receivers*

S. A. Winkler<sup>1,2</sup>, L. Han<sup>1</sup>, K. Wu<sup>1</sup>, A. Stelzer<sup>2</sup>  
<sup>1</sup>Ecole Polytechnique Montreal, Montreal, Canada  
<sup>2</sup>Johannes Kepler Universität Linz, Linz, Austria

#### *EuMC10-3: Localized and Periodic Spiral-Shaped EBG Structures for the Simultaneous Switching Noise Mitigation*

B. Kim, D. Kim  
Chungnam National University, Daejeon, Korea

#### *EuMC11-3: Design of Quadrature Directional Couplers with Continuously Variable Coupling Ratios*

T. Lehmann, H. Mextorf, R. Knoechel  
University of Kiel, Institute of Electrical and Information Engineering, Kiel, Kiel

#### *EuMC12-3: New 3-D Design of Filtering Components Using Multilayer Board Technologies Multilayer Board Technologies*

T. Kushta, T. Harada  
NEC Corporation, Sagami-hara, Japan

09:30 – 09:50

#### *EuMC09-4: 94 GHz Amplifier in SiGe Technology*

W. Winkler<sup>1</sup>, F. Korndörfer<sup>2</sup>, J. Borngräber<sup>2</sup>  
<sup>1</sup>Silicon Radar GmbH, Frankfurt (Oder), Germany  
<sup>2</sup>IHP GmbH, Frankfurt (Oder), Germany

#### *EuMC10-4: RF Design of On-chip EMI Filters in CMOS Logic IC*

S. Hiura<sup>1</sup>, T. Kitahara<sup>1</sup>, Y. Oohashi<sup>2</sup>  
<sup>1</sup>Toshiba Corporation, Corporate Manufacturing Engineering Center, Yokohama, Japan  
<sup>2</sup>Toshiba Corporation, Semiconductor Company, Kawasaki, Japan

#### *EuMC11-4: Quasi-TEM Approach of Two Layer Circular-Symmetric Coupled Microstrip Line*

H. Khodabakhshi, A. Cheldavi, G. Rezaïrad  
Iran University of Science and Technology, Tehran, Iran

#### *EuMC12-4: Miniaturized Coplanar Bandpass/Bandstop Filter Using Meander Serpentine Shape Shunt/Open-Stubs*

A. Batmanov<sup>1</sup>, A. Boutejdar<sup>2</sup>, A. Omar<sup>2</sup>, E. Burte<sup>1</sup>  
<sup>1</sup>University of Magdeburg, Magdeburg, Germany, <sup>2</sup>University of Magdeburg, Magdeburg, Germany

09:50 – 10:10

#### *EuMC09-5: Design of Broadband CMOS Amplifier Using Bandwidth-Compensation Technique*

H. Hsu, C. Hsu  
National Chung Hsing University, Taichung, Taiwan

#### *EuMC11-5: Variable Directional Coupler Employing Micro-Fluidics*

S. Niyogi, J. Scott, K. Ghorbani  
RMIT University, Melbourne, Australia

#### *EuMC12-5: Novel Design Approach for Ultra Compact, High Rejection LTCC Balanced Filter*

A. Yatsenko<sup>1</sup>, J. Heyen<sup>1</sup>, G. Sevskiy<sup>1</sup>, P. Heide<sup>1</sup>, M. Vossiek<sup>2</sup>  
<sup>1</sup>Epcos AG, Munich, Germany  
<sup>2</sup>TU Clausthal, Clausthal - Zellerfeld, Germany

Room C	Room D	Room E	
<p><b>EuMC13</b>  <b>Design and Modelling of Power Amplifiers</b>                      Chair: Dominique Schreurs, K.U.Leuven                      Co-Chair: Eric Bergeault, ENST Paris</p>	<p><b>EuMC14</b>  <b>Reconfigurable Antennas</b>                      Chair: Roberto Vincenti Gatti, University of Perugia</p>	<p><b>EuMC15</b>  <b>Focussed Session: Microwave Metamaterials (NoE METAMORPHOSE)</b>                      Chair: Ferran Martin, Universidad Autonoma de Barcelona</p>	
<p><i><b>EuMC13-1: Class-AB/F Doherty Power Amplifiers</b></i>                      D. Kang<sup>1</sup>, D. Yu<sup>2,1</sup>, J. Choi<sup>1</sup>, M. Jun<sup>1</sup>, D. Kim<sup>1</sup>, B. Kim<sup>1</sup>  <sup>1</sup>Postech, Pohang, South Korea  <sup>2</sup>WIPAM, Seongnam, South Korea</p>	<p><i><b>EuMC14-1: A Novel Radiation Enhanced Active Antenna with Switched Dual Circular Polarization</b></i>                      A. D. Abeygunasekera, M. Henry, C. E. Free                      University of Surrey, Guildford, United Kingdom</p>	<p><i><b>EuMC15-1: Miniaturization and Characterization of Metamaterial Resonant Particles</b></i>                      F. Aznar<sup>1</sup>, J. Bonache<sup>1</sup>, F. Martin<sup>1</sup>, E. Ozbay<sup>2</sup>, K. B. Alici<sup>3</sup>, F. Bilotti<sup>3</sup>, S. Tricarico<sup>3</sup>, L. Vegni<sup>3</sup>, J. D. Baena<sup>4</sup>, L. Jelinek<sup>4</sup>, R. Marqués<sup>4</sup>  <sup>1</sup>GEMMA/CIMITEC, Universitat Autònoma de Barcelona, Bellaterra, Spain, <sup>2</sup>Bilkent University, Ankara, Turkey, <sup>3</sup>University „Roma Tre“, Rome, Italy, <sup>4</sup>Universidad de Sevilla, Sevilla, Spain</p>	08:30 – 08:50
<p><i><b>EuMC13-2: High-Efficiency Four-Stage Class-E Doherty Amplifier for W-CDMA Base Stations</b></i>                      E. Takahashi, T. Ishikawa, K. Kashimura, N. Adachi                      Japan Radio Co., Ltd., Fujimino, Japan</p>	<p><i><b>EuMC14-2: Polarization Diversity via Reconfigurable Cusp Antenna</b></i>                      E. A. Soliman                      The American University in Cairo, Cairo, Egypt</p>	<p><i><b>EuMC15-2: Tunable Dual-Band Microwave Devices Based on a Combination of Left/Right-Handed Transmission Lines</b></i>                      I. Vendik<sup>1</sup>, D. Kholodnyak<sup>1</sup>, P. Kapitanova<sup>2</sup>, M. Hein<sup>2</sup>, S. Humbla<sup>2</sup>, R. Perrone<sup>2</sup>, J. Mueller<sup>2</sup>  <sup>1</sup>St. Petersburg Electrotechnical University, St. Petersburg, Russia  <sup>2</sup>Ilmenau University of Technology, Ilmenau, Germany</p>	08:50 – 09:10
<p><i><b>EuMC13-3: Novel Compact Transmission-Line Output Network Topology for Class-E Power Amplifiers</b></i>                      P. Aflaki, H. Bae, R. Negra, F. Ghannouchi                      University of Calgary, Calgary, Canada</p>	<p><i><b>EuMC14-3: Extending Functionalities of Waveguide Slot Antennas by Means of Reconfigurable Aperture</b></i>                      Y. Yashchyshyn, K. Derzakowski, J. Modelski                      Warsaw University of Technology, Warsaw, Poland</p>	<p><i><b>EuMC15-3: Compact and Low-profile Frequency Agile Loop Antenna Integrated with Inductors</b></i>                      Y. J. Vardaxoglou<sup>1,2</sup>, D. H. Lee<sup>2,1</sup>, A. Chauraya<sup>1,2</sup>, J. A. Flint<sup>1,2</sup>, W. S. Park<sup>2,1</sup>  <sup>1</sup>Loughborough University, Loughborough, United Kingdom  <sup>2</sup>Pohang University, San 31, South Korea</p>	09:10 – 09:30
<p><i><b>EuMC13-4: Experimental Characterization of Power Transistors for Linearity Optimization</b></i>                      G. I. Abib<sup>1</sup>, E. Bergeault<sup>1</sup>, S. Bensmida<sup>2</sup>, B. Huyart<sup>1</sup>  <sup>1</sup>Telecom ParisTech, Paris, France  <sup>2</sup>University of Calgary, Calgary, Canada</p>	<p><i><b>EuMC14-4: Electrically Small MEMS Antenna for Wireless Biomedical Microsystems</b></i>                      L. A. Rocha, P. M. Mendes                      University of Minho, Braga, Portugal</p>	<p><i><b>EuMC15-4: Transpolarizing Surfaces and Potential Applications</b></i>                      P. J. Ferrer<sup>1</sup>, J. M. Gonzalez-Arbesu<sup>1</sup>, C. Craeye<sup>2</sup>, J. Romeu<sup>1</sup>  <sup>1</sup>Universitat Politècnica de Catalunya (UPC), Barcelona, Spain  <sup>2</sup>Université catholique de Louvain (UCL), Louvain-la-Neuve, Belgique</p>	09:30 – 09:50
<p><i><b>EuMC13-5: A Novel Technique for Determining Kernels of Volterra Based Behavioral Models for RF Amplifiers</b></i>                      S. Zorn, H. J. Ehm, R. Weigel                      Friedrich-Alexander University of Erlangen-Nuremberg, Erlangen, Germany</p>	<p><i><b>EuMC14-5: Tunable Band-notched Ultra Wideband (UWB) Planar Monopole Antennas Using Varactor</b></i>                      W. Jeong, S. Lee, W. Lim, H. Lim, J. Yu                      KAIST, Daejeon, South Korea</p>	<p><i><b>EuMC15-5: Controllable Waveguide Based on Capacitively Loaded Wire Medium</b></i>                      I. S. Nefedov<sup>1</sup>, P. Alitalo<sup>1</sup>, I. B. Vendik<sup>2</sup>, S. A. Tretyakov<sup>1</sup>  <sup>1</sup>Helsinki University of Technology (TKK), Espoo, Finland,  <sup>2</sup>St. Petersburg Electrotechnical University, St. Petersburg, Russia</p>	09:50 – 10:10

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38<sup>TH</sup> EUROPEAN MICROWAVE CONFERENCE 2008

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## Auditorium

### **EuMC16**

#### **MMIC Power Amplifiers**

Chair: Hwei Wang, National Taiwan University  
Co-Chair: Paul Tasker, Cardiff University

## Room A

### **EuMC17**

#### **Microwave Measurements**

Chair: Eric Bergeault, Telecom Paristech  
Co-Chair: Dominique Schreurs, K.U.Leuven

## Room B

### **EuMC18**

#### **Power Dividers, Hybrids and Baluns**

Chair: Ian Robertson, Leeds University  
Co-Chair: Robert Plana, LAAS

## Room B1

### **EuMC19**

#### **Filters 3**

Chair: Richard Ranson, Radio Design Ltd.  
Co-Chair: Eric Rius, University of Brest

10:50 – 11:10

#### **EuMC16-1: A 8W High Efficiency X-Band Power PHEMT Amplifier**

T. Huet<sup>1</sup>, J. Gruenenpuett<sup>2</sup>, Z. Ouarch<sup>1</sup>, D. Bouw<sup>1</sup>, V. Serru<sup>1</sup>, M. Camiade<sup>1</sup>, C. Chang<sup>1</sup>, P. Chaumas<sup>1</sup>  
<sup>1</sup>United Monolithic Semiconductors SAS, Orsay, France  
<sup>2</sup>United Monolithic Semiconductors GmbH, Ulm, Germany

#### **EuMC17-1: A Practical Method to Characterize Interconnect in a Fully Loaded System, and its Application to DDR3 Channel**

E. Mintarno<sup>1</sup>, S. Ji<sup>2</sup>  
<sup>1</sup>Stanford University, Stanford, USA  
<sup>2</sup>Intel, Beaverton, USA

#### **EuMC18-1: Ka-Band CMOS Hybrids Miniaturization Incorporating Multilayer Synthetic Quasi-TEM Transmission Lines**

M. Chiang, H. Wu, C. C. Tzuang  
Graduate Institute of Communication Engineering, Taipei, Taiwan

#### **EuMC19-1: Band Reject Filter in BAW Technology**

L. Mourot<sup>1,2</sup>, P. Bar<sup>2</sup>, S. Bila<sup>1</sup>, G. Parat<sup>3</sup>, P. Ancey<sup>2</sup>, J. Carpentier<sup>2</sup>  
<sup>1</sup>XLIM research institute, Limoges, France  
<sup>2</sup>STMicroelectronics, Crolles, France  
<sup>3</sup>CAE-LETI Minitech, Grenoble, France

11:10 – 11:30

#### **EuMC16-2: A 28-dBm PHEMT Power Amplifier Using Voltage Combiner for K-Band Applications**

B. Koo<sup>1</sup>, C. Park<sup>1</sup>, K. Lee<sup>1</sup>, J. Chun<sup>2</sup>, S. Hong<sup>1</sup>  
<sup>1</sup>Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea  
<sup>2</sup>Samsung Thales Co., Yongin, Republic of Korea

#### **EuMC17-2: Characterization of Coaxial Adapters for S-Parameter Measurements**

J. P. Hoffmann<sup>1</sup>, P. Leuchtmann<sup>1</sup>, A. Kretz<sup>2</sup>, J. Ruefenacht<sup>3</sup>, R. Vahldieck<sup>1</sup>  
<sup>1</sup>ETH Zuerich, Zuerich, Switzerland  
<sup>2</sup>Huber+Suhner AG, Herisau, Switzerland  
<sup>3</sup>METAS, Bern-Wabern, Switzerland

#### **EuMC18-2: FR-4 Embedded Wideband Micro-Balun with Coupled LC Resonators**

J. Park, J. Park  
Kwangwoon University, Seoul, South Korea

#### **EuMC19-2: High Selective Ultra-Wideband (UWB) Bandpass Filter with Wideband Harmonic Suppression**

Z. Hao, J. Hong  
Electrical, Electronic and Computer Engineering, Edinburgh, United Kingdom

11:30 – 11:50

#### **EuMC16-3: GaN MMIC Power Amplifiers for S-Band and X-Band**

E. M. Suijker<sup>1</sup>, M. Sudow<sup>2</sup>, M. Fagerlind<sup>2</sup>, N. Rorsman<sup>2</sup>, P. de Hek<sup>1</sup>, F.E. van Vliet<sup>1</sup>  
<sup>1</sup>TNO, The Hague, The Netherlands  
<sup>2</sup>Chalmers University of Technology, Gothenburg, Sweden

#### **EuMC17-3: Active Envelope Load-Pull for Wideband Multi-tone Stimulus Incorporating Delay Compensation**

S. J. Hashim, M. S. Hashmi, T. Williams, S. Woodington, J. Benedikt, P. J. Tasker  
Cardiff University, Cardiff, United Kingdom

#### **EuMC18-3: Uniplanar Power Dividers Using Asymmetric Coplanar Striplines and Slotlines**

K. Wong, L. Chiu, Q. Xue  
City University, Hong Kong (SAR), Hong Kong

#### **EuMC19-3: Design of Three-Pole Bulk Acoustic Wave Coupled Resonator Filters**

E. Corrales, P. de Paco, O. Menendez, J. Verdu  
Universitat Autònoma de Barcelona, Cerdanyola, Spain

11:50 – 12:10

#### **EuMC16-4: Fully Integrated 5.8 GHz SiGe Power Amplifier**

D. Gruner, G. Boeck  
Technische Universität Berlin, Berlin, Germany

#### **EuMC17-4: Small Signal and Noise Equivalent Circuit for CMOS 65 nm up to 110 GHz**

N. Waldhoff<sup>1</sup>, C. Andrei<sup>1</sup>, D. Gloria<sup>2</sup>, F. Danneville<sup>1</sup>, G. Dambrine<sup>1</sup>  
<sup>1</sup>Institute of Electronics, Microelectronics and Nanotechnology, Villeneuve d'Ascq, France  
<sup>2</sup>STMicroelectronics, Crolles, France

#### **EuMC18-4: Novel Wilkinson-Type Power Dividers Based on Metamaterial Transmission Lines**

D. V. Kholodnyak<sup>1</sup>, P. V. Kapitanova<sup>1,2</sup>, I. B. Vendik<sup>1</sup>, S. Humbla<sup>2</sup>, R. Perrone<sup>2</sup>, J. Müller<sup>2</sup>, M. A. Heintz<sup>2</sup>  
<sup>1</sup>St. Petersburg Electrotechnical University, St. Petersburg, Russia  
<sup>2</sup>Ilmenau University of Technology, Ilmenau, Germany

#### **EuMC19-4: Super-Compact Planar Ultra-Wideband (UWB) Bandpass Filter Composed of Capacitor-Loaded E-Shaped Electrodes**

Y. Horii  
Kansai University, Takatsuki, Japan

12:10 – 12:30

#### **EuMC16-5: A 6-10-GHz CMOS Power Amplifier with an Inter-stage Wideband Impedance Transformer For UWB Transmitters**

H. Chung, J. Yeh, C. Hsu, K. Wei, H. Chuang  
National Cheng Kung University, Tainan, Taiwan, R.O.C

#### **EuMC17-5: A New Phase Shifter-less Delay Line Method for Phase Noise Measurement of Microwave Oscillators**

H. Gheidi, A. Banai  
Sharif University of Technology, Tehran, Iran

#### **EuMC18-5: 16-Way Radial Divider/Combiner for Solid State Power Amplifiers in the K Band**

J. Denoual<sup>1</sup>, A. Peden<sup>1</sup>, B. Della<sup>1</sup>, J. Frayssé<sup>2</sup>  
<sup>1</sup>Telecom Bretagne LAB STICC, Brest, France  
<sup>2</sup>Thales Alenia Space, Toulouse, France

#### **EuMC19-5: New CPW Quarter-Wavelength Resonator with Open Stubs for Multipole Dual-Band Bandpass Filter**

K. Satoh, Y. Takagi, S. Narahashi  
NTT DoCoMo, Inc., Yokosuka, Japan

Room C	Room D	Room E	
<p><b>EuMC20</b>  <b>Microwave Photonics</b>                      Chair: Asher Madjar, Temple University                      Co-Chair: Tibor Berceci, Budapest University of Technology and Economics</p>	<p><b>EuMC21</b>  <b>Wideband Antennas</b>                      Chair: Dirk Manteuffel, IMST                      Co-Chair: Per Ingvarson, Saab Space</p>	<p><b>EuMC22</b>  <b>Quality of Life: Medical Diagnosis and Imaging Systems</b>                      Chair: Manos M. Tentzeris, GECC / Georgia Institute of Technology                      Co-Chair: André Vander Vorst, EuMA</p>	
<p><i>EuMC20-1: W-Band Live Electro-Optic Imaging System</i>                      A. Kanno, K. Sasagawa, M. Tsuchiya                      National Institute of Information and Communications Technology, Koganei, Japan</p>	<p><i>EuMC21-1: Design of an Optimal G-shaped Monopole Antenna Using Particle Swarm Optimization</i>                      R. S, P. Krowvidi                      National Institute of Technology, Tiruchirappalli, India</p>	<p><i>EuMC22-1: Microwave Medical Imaging and Diagnostics</i>                      J. Vrba<sup>1</sup>, L. Oppl<sup>1</sup>, J. Vrba<sup>2</sup>, D. Vrba<sup>1</sup>  <sup>1</sup>Czech Technical University in Prague, Prague 6, Czech Republic  <sup>2</sup>RWTH Aachen, Aachen, Germany</p>	10:50 – 11:10
<p><i>EuMC20-2: Photonic Generation of Sub-Terahertz Noises and its Application to Spectroscopy Measurement</i>                      H. Song, N. Shimizu, T. Furuta, A. Wakatsuki, T. Nagatsuma                      NTT Corporation, Atsugi, Japan</p>	<p><i>EuMC21-2: A Novel UWB Bow-Tie Antenna Design with High F/B Ratio and Directivity</i>                      M. Midrio<sup>1</sup>, S. Boscolo<sup>1</sup>, F. Sacchetto<sup>1</sup>, M. Pascolini<sup>2</sup>, F. Pigozzo<sup>3</sup>, A. Capobianco<sup>3</sup>  <sup>1</sup>Universita' degli Studi di Udine, Udine, Italy,  <sup>2</sup>Motorola Corporate, Fort Lauderdale, USA, <sup>3</sup>Universita' degli Studi di Padova, Padova, Italy</p>	<p><i>EuMC22-2: Visualization of Human Arms and Legs by CP-MCT</i>                      M. Miyakawa<sup>1</sup>, T. Yokoo<sup>1</sup>, N. Ishii<sup>1</sup>, M. Bertero<sup>2</sup>  <sup>1</sup>Niigata University, Niigata-shi, Japan  <sup>2</sup>University of Genoa, Genoa, Italy</p>	11:10 – 11:30
<p><i>EuMC20-3: A UTC-TW Photo Detector Operating at Frequencies Exceeding 100 GHz</i>                      A. Madjar<sup>1</sup>, N. Koka<sup>1</sup>, J. Bloch<sup>2</sup>, P. Yu<sup>2</sup>, A. Stoehr<sup>3</sup>, D. Jaeger<sup>3</sup>  <sup>1</sup>Temple University, Philadelphia, USA  <sup>2</sup>University of California, San Diego, San Diego, USA  <sup>3</sup>University of Duisburg-Essen, Duisburg, Germany</p>	<p><i>EuMC21-3: A Triangular Patch Antenna with Bow Tie Aperture Coupling for Improved Ellipticity Bandwidth</i>                      A. K. Sharma, C. K. Kumar, A. Mittal                      Bharat Electronics Limited, Ghaziabad, India</p>	<p><i>EuMC22-3: Using Coaxial Probe for Broadband Microwave Characterization of Biological Tissues</i>                      M. Obol, N. N. Al-Moayed, M. N. Afsar                      Tufts University, Medford, USA</p>	11:30 – 11:50
<p><i>EuMC20-4: Microwave Filtering Using High Q Optical Resonators</i>                      P. Merrer<sup>1</sup>, O. Llopis<sup>1</sup>, S. Bonnefont<sup>1</sup>, P. Feron<sup>2</sup>, G. Cibiel<sup>3</sup>  <sup>1</sup>LAAS-CNRS Toulouse University, Toulouse, France  <sup>2</sup>ENSSAT-FOTON Rennes University, Lannion, France,  <sup>3</sup>CNES, Toulouse, France</p>	<p><i>EuMC21-4: Novel Circularly Polarized Printed Crossed Dipole Array with Broad Axial Ratio Bandwidth</i>                      J. Baik, K. Lee, W. Yoon, T. Lee, Y. Kim                      Korea University, Seoul, Korea</p>	<p><i>EuMC22-4: Heart Rate Variability Assessment Using Doppler Radar with Linear Demodulation</i>                      O. Boric-Lubecke<sup>1,2</sup>, W. Massagram<sup>1</sup>, V. M. Lubecke<sup>1,2</sup>, A. Host-Madsen<sup>2,1</sup>, B. Jokanovic<sup>3</sup>  <sup>1</sup>University of Hawaii, Honolulu, USA,  <sup>2</sup>Kai Sensors, Inc., Honolulu, USA, <sup>3</sup>Intel Communications, Belgrade, Serbia</p>	11:50 – 12:10
<p><i>EuMC20-5: Experimental Demonstration of the Doppler Frequency Conversion in a Slot Line</i>                      J. Bae, Y. J. Xian, S. Yamada                      Nagoya Institute of Technology, Nagoya, Japan</p>	<p><i>EuMC21-5: Differential Ultra Wide Band Antenna for Single-Chip Radar Transceivers</i>                      A. Locatelli<sup>1</sup>, A. Corsi<sup>1</sup>, D. Modotto<sup>1</sup>, F. Pigozzo<sup>2</sup>, S. Boscolo<sup>3</sup>, C. De Angelis<sup>1</sup>, A. Capobianco<sup>2</sup>, M. Midrio<sup>3</sup>  <sup>1</sup>Università degli Studi di Brescia, Brescia, Italy, <sup>2</sup>Università degli Studi di Padova, Padova, Italy, <sup>3</sup>Università degli Studi di Udine, Udine, Italy</p>	<p><i>EuMC22-5: RF Energy Transmission for Passive Sensor Transponders Deeply Implanted in Human Bodies</i>                      A. Hennig                      Fraunhofer IMS, Duisburg, Germany</p>	12:10 – 12:30

**EuMC Poster Session 02**

Chair: Jan Geralt Bij de Vaate, ASTRON

Exhibition Hall 12:30 – 13:50 (authors present), posters on display 10:10 – 16:00

**EuMCPoster02-1: Cancellation of Passive Intermodulation Distortion in Microwave Networks**

J. Henrie, A. Christianson, W. J. Chappell  
Purdue University, West Lafayette, USA

**EuMCPoster02-2: Miniaturized CPW Filter for Ultra-Wideband Applications**

Y. Hong<sup>1</sup>, S. Myoung<sup>1</sup>, B. Jang<sup>2</sup>, Y. Lee<sup>1</sup>, J. Yook<sup>1</sup>  
<sup>1</sup>Yonsei University, Seoul, Korea,  
<sup>2</sup>Kookmin, Seoul, Korea

**EuMCPoster02-3: New Amplitude Correction and Phase Linearization Technique for Channel Response on Wideband Spectrum Analysers**

Y. He, M. K. Dasilva,  
Tektronix Inc., Beaverton, United States

**EuMCPoster02-4: Compact High-Performance Planar Bandpass Filters with Arbitrarily-Shaped Conductor Patches and Slots**

TT. Kido, H. Deguchi, M. Tsuji, M. Ohira  
Doshisha University, Kyotanabe, Japan

**EuMCPoster02-5: Design and Implementation of an 1-Octave 100nsec Compensated Delay in X-Band**

G. Askari, S. Miri, K. Ghasemi, H. Mirmohammad Sadeghi  
Isfahan University of Technology, Isfahan, Iran

**EuMCPoster02-6: USB Memory Size Antenna for 2.4 GHz Wireless LAN and UWB**

K. Sekine, H. Iwasaki, Sibaura Institute of Technology, Saitam, Japan

**EuMCPoster02-7: Pulse Operation of an Inverse Class-F GaN Power Amplifier**

H. Kim, G. Choi, J. Choi,  
Kwangwoon University, Seoul, Republic of Korea

**EuMCPoster02-8: Multi-octave RF and Microwave Quadrature Signal Generation without Frequency Dividers**

J. D. Birkbeck, J. R. Trinder, Roke Manor Research Ltd., Romsey, UK

**EuMCPoster02-9: Wireless Sensor Using High Q Resonator of Single Walled Carbon Nanotube for Liquids**

M. Obol, N. N. Al-Moayed, A. M. Ayala, M. N. Afsar  
Tufts University, Medford, USA

**EuMCPoster02-10: Multiphysic Modeling and Design of Carbon Nanotubes Based Variable Capacitors for Microwave Applications**

R. Thibault, P. Sebastien, D. David, G. Katia  
LAAS, Toulouse, France

**EuMCPoster02-11: High Q Micro-Machined Cavity Resonator Filter in Low-Cost Silicon Technology**

W. Gautier<sup>1</sup>, B. Schoenlinner<sup>1</sup>, V. Ziegler<sup>1</sup>, U. Prechtel<sup>1</sup>, W. Menzel<sup>2</sup>  
<sup>1</sup>EADS Deutschland GmbH, Munich, Germany  
<sup>2</sup>University of Ulm, Ulm, Germany

**EuMCPoster02-12: Calculating Band Structures of 2-Dimensinal Periodic Dispersive Medium by a New Method Based on Plane-Wave Expansion Method**

A. Jiang, R. Wu  
Nanjing University, Nanjing, China

**EuMCPoster02-13: An Analog Front-End for a Passive UHF Transponder with Temperature Sensor**

T. Feldengut, D. Faber, J. Wang, S. Kolnsberg, R. Kokozinski  
Fraunhofer IMS, Duisburg, Germany

**EuMCPoster02-14: Millimetre-Wave Phase Shifter Based on Dielectric Rod Waveguide**

D. V. Lioubtchenko<sup>1</sup>, P. J. Pousi<sup>1</sup>, S. Dudorov<sup>1</sup>, A. Räisänen<sup>1</sup>, A. Deleniv<sup>2</sup>, V. Drakinskiy<sup>2</sup>, S. Gevorgian<sup>2</sup>

<sup>1</sup>Helsinki University of Technology, Helsinki, Finland  
<sup>2</sup>Chalmers University of Technology, Göteborg, Sweden

**EuMCPoster02-15: Impedance Matching Techniques in 65nm CMOS Power Amplifiers for 2.4GHz 802.11n WLAN**

J. Fritzin<sup>1</sup>, T. Johansson<sup>2</sup>, A. Alvandpour<sup>1</sup>

<sup>1</sup>Linköping University, Linköping, Sweden  
<sup>2</sup>Infineon Technologies Nordic AB, Kista, Sweden

**EuMCPoster02-16: Modelling and Simulation of the New Type of EMI Filter for Integrated Power Electronics Modules**

P. Rydlichowski, W. Bandurski  
Poznan University of Technology, Poznan, Poland

**EuMCPoster02-17: Fast Post-Production SAR Evaluation System through a Comparative E-Fields Extraction Procedure**

S. Boucher<sup>1</sup>, C. Person<sup>1</sup>, F. Le Pennec<sup>1</sup>, R. Butet<sup>2</sup>, G. Toutain<sup>2</sup>, Y. Toutain<sup>2</sup>, V. Vigneras<sup>3</sup>, E. Hamon<sup>3</sup>

<sup>1</sup>Lab-STICC/Institut Telecom/TELECOM Bretagne, France  
<sup>2</sup>SATIMO Bretagne, Plouzané, France  
<sup>3</sup>IMS, Talence, France

**EuMCPoster02-18: Broadband One-port Material Characterization Method of Porous and Fluidic Materials**

G. Károlyi, L. Jakab, F. Lénárt  
Budapest University of Technology and Economics, Budapest, Hungary

**EuMCPoster02-19: On the possibility of Biosensor Based on Split Ring Resonator**

H. Lee, H. L. K. Yoo, J. Yook  
Yonsei University, Seoul, Republic of Korea

**EuMCPoster02-20: I/O Staggering for Low-Power Jitter Reduction**

K. Sham, R. Harjani  
University of Minnesota, Minneapolis, USA

**EuMCPoster02-21: An Ultra-Wideband Bandpass Filter Using Periodic Dielectric Structure**

T. Yasuzumi<sup>1</sup>, T. Takahashi<sup>2</sup>, O. Hashimoto<sup>3</sup>

<sup>1</sup>Aoyama Gakuin University, Fuchinobe, Japan  
<sup>2</sup>TDK Corporation, Higashiwada, Japan  
<sup>3</sup>Aoyama Gakuin University, Fuchinobe, Japan

**EuMCPoster02-22: 94 GHz Waveguide VCO with Magic Tee for FMCW Radar**

D. Ko, S. Moon, M. Lee, S. Lee, D. Ko, S. Bang, Y. Baek, M. Han, S. Choi, T. Baek, S. Kim, J. Rhee  
Millimeter-wave INovation Technology research center (MINT), Seoul, South Korea

**EuMCPoster02-23: Compact Quadruple-Mode Coupled-Ring Resonator Bandpass Filter With Sharp Transition Responses**

Y. Chioy, Y. Wang, J. Kuo  
National Chiao Tung University, Hsinchu, Taiwan

**EuMCPoster02-24: Controlling Phase Responses with Pseudoperiodic Metamaterials Based on Composite Right-Left Handed Transmission Lines**

T. Tsukagoshi<sup>1</sup>, K. Fujimori<sup>2</sup>, M. Sanagi<sup>2</sup>, S. Nogi<sup>2</sup>  
<sup>1</sup>Olympus Corporation, Tokyo, Japan  
<sup>2</sup>Okayama University, Okayama, Japan

12:30 – 13:50

Exhibition Hall 12:30 – 13:50 (authors present), posters on display 10:10 – 16:00

***EuMCPPoster02-25: Low Cost Organic Packaging For Silicon Based Mm-Wave Wireless Systems***

C. Patterson, S. Horst, S. Bhattacharya, J. D. Cressler, J. Papapolymerou  
Georgia Institute of Technology, Atlanta, United States

***EuMCPPoster02-26: Design of a Subwavelength Patch Antenna Using Metamaterials***

J. S. Lim, C. B. Kim, J. S. Jang, H. S. Lee, Y. H. Jung, J. H. Kim, S. B. Park, B. H. Lee, M. S. Lee  
Gyeongsang National University, Jinju, Korea

***EuMCPPoster02-27: Transmittance and Dielectric Permittivity Measurements of Pesticide at Millimeter Wave***

B. C. Piyade, M. N. Afsar  
Tufts University, Medford, USA

***EuMCPPoster02-28: Switched Microstrip Array Antenna for RFID System***

D. Kim, S. Kim, Y. Kim, H. Lim, J. Jang  
Gwangju Institute of Science and Technology, Gwangju, South Korea

***EuMCPPoster02-29: Efficiency Treatment of Two Closely Spaced Dipoles by Characteristic Mode Theory***

P. Hamouz, P. Hazdra, M. Polivka  
Czech Technical University, Prague, Czech Republic

***EuMCPPoster02-30: Integrated Antennas for Wireless Interconnections on Silicon up to 110 GHz***

A. Triantafyllou<sup>1</sup>, N. Corao<sup>1</sup>, P. Benech<sup>1</sup>, F. Ndagijimana<sup>1</sup>, A. Farcy<sup>1,2</sup>, J. Torres<sup>1,2</sup>  
<sup>1</sup>IMEP, Grenoble cedex 1, France  
<sup>2</sup>STMicroelectronics, Crolles cedex, France

***EuMCPPoster02-31: Bilaterally Metal-Loaded Tri-Plate Transmission Line with Loss-Reduced Holes as a Low-Loss and Low-Cost Printed Transmission Lines at Millimeter-wavelength***

R. Tamaru, F. Kuroki  
Kure Nat'l Coll Of Tech, Kure, Japan

***EuMCPPoster02-32: A Novel Optimization Method for Nonlinear Bessel-Fourier PA Model Using an Adjusted Instantaneous Voltage Transfer Characteristic***

M. O'Droma, Y. Lei  
University of Limerick, Limerick, Ireland

***EuMCPPoster02-33: System to Study the Effects of Microwave Hyperthermia on In-Vivo Melanoma Model***

P. Togni<sup>1</sup>, J. Vrba<sup>1</sup>, L. Vannucci<sup>2</sup>  
<sup>1</sup>Czech Technical University, Prague, Czech Republic  
<sup>2</sup>Academy of Sciences of the Czech Republic, Prague, Czech Republic

***EuMCPPoster02-34: Microstrip Line Monopole Antenna for the Wearable Applications***

J. Park, J. Woo  
Chungnam National University, Daejeon, Korea

***EuMCPPoster02-35: Reflector Antenna Synthesis for Reconfigurable Contoured Beams***

B. V. Semenov  
Ural State Technical University – UPI, Ekaterinburg, Russia

***EuMCPPoster02-36: Balanced Directional Coupler Structure with Insensitive Isolation for Load Impedance***

W. Lim, S. Park, S. Lee, J. Yu  
KAIST, Daejeon, South Korea

***EuMCPPoster02-37: Diffraction of Radio Waves for Ad Hoc Network in a Building by an Elliptical Dielectric Column at the End of an Obstacle***

T. Miyashita, T. Nonaka  
Ryukoku University, Otsu, Japan

***EuMCPPoster02-38: Miniaturized Ultra-Wideband Antennas with Band Notch Characteristic***

S. Choi, H. Lee, J. Kim  
Korea Electronics Technology Institute, Seongnam-si, Korea

***EuMCPPoster02-39: Printed Square Quadrifilar Helix Antenna (QHA) for GPS Receiver***

W. Son<sup>1</sup>, W. Lim<sup>1</sup>, M. Lee<sup>2</sup>, S. Min<sup>3</sup>, J. Yu<sup>1</sup>

<sup>1</sup>Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea  
<sup>2</sup>University of Seoul (UOS), Seoul, Republic of Korea  
<sup>3</sup>Actenna Corporation, Seoul, Republic of Korea

***EuMCPPoster02-40: Tunability of Ferromagnetic (La,Sr)MnO<sub>3</sub> (LSMO) Thin Films for Microwave Applications***

M. Al Ahmad<sup>1</sup>, E. Yun<sup>2</sup>, C. Cheon<sup>2</sup>, R. Plana<sup>1</sup>  
<sup>1</sup>CNRS, Toulouse, France  
<sup>2</sup>Hoseo University, Choognam, South Korea,

***EuMCPPoster02-41: Study of Monopole Radiators for Planar Circuit Integration***

L. Quineche Orellana, K. Solbach  
University Duisburg-Essen, Duisburg, Germany

***EuMCPPoster02-42: Design and Optimization of Linear and Planar slot Arrays on Rectangular Waveguides***

H. Oraizi, M. Talafi-Noghani  
Iran University of Science and Technology, Tehran, Iran

***EuMCPPoster02-43: SAR Reduction on a Mobile Phone Antenna Using the EBG Structures***

S. Kwak, D. Sim, J. Kwon  
ETRI(Electronics and Telecommunication Research Institute), Daejeon, South Korea

***EuMCPPoster02-44: GPU Accelerated Krylov Subspace Methods for Computational Electromagnetics***

S. Velamparambil, S. MacKinnon-Cormier, J. Perry, R. Lemos, M. Okoniewski  
Acceleware Corporation, Calgary, Canada

***EuMCPPoster02-45: Design of Linearly Tapered Slot-line Antenna's Array for Quasi-Terahertz Molecular Spectroscopy***

Z. Lukes, V. Otevreil, J. Lacik, Z. Raida  
Faculty of Electrical Engineering and Computer Science, Brno University of Technology, Brno, Czech Republic

***EuMCPPoster02-46: On the Efficient Evaluation of Self and Mutual Admittances of CPW-Fed Slot Elements in Linear Arrays on Electrically Thin Substrates***

J. P. Jacobs, J. Joubert  
University of Pretoria, Pretoria, South Africa

***EuMCPPoster02-47: An Automated Microwave Waveguide Measurement Technique***

S. K. Ng<sup>2,1</sup>, B. B. Noh<sup>1</sup>, K. Williams<sup>1</sup>, A. Gibson<sup>1</sup>, A. Haigh<sup>1</sup>, G. Parkinson<sup>1</sup>, P. Ainsworth<sup>2</sup>, A. Plunkett<sup>2</sup>  
<sup>1</sup>The University Of Manchester, Manchester, UK  
<sup>2</sup>Manchester Metropolitan University, Manchester, UK

***EuMCPPoster02-48: Parametric Analysis of Grid Amplifiers***

I. F. Russo, L. Boccia, G. Amendola, G. Di Massa  
Università della Calabria, Rende, Italy

# WEDNESDAY



## Auditorium

### **EuMC23** **Hybrid High Power Amplifiers and Devices**

Chair: Philippe Eudeline, Thales  
Co-Chair: Tom Brazil, University College of Dublin

## Room A

### **EuMC24** **Reconfigurable Active Circuits**

Chair: Takashi Ohira, Toyohashi University of Technology  
Co-Chair: Kenji Itoh, Mitsubishi Electric

## Room B

### **EuMC25** **Transitions and Interconnects**

Chair: Maurizio Bozzi, Perugia University  
Co-Chair: Leong Yoke Choy, DSO

## Room B1

### **EuMC26** **Filters 4**

Chair: Eric Rius, University of Brest  
Co-Chair: Richard Ranson, Radio Design Ltd.

13:50 – 14:10

#### ***EuMC23-1: High-Efficiency Class-E-Cells-Based GaN HEMT Doherty Amplifier for WCDMA Applications***

Y. Lee, M. Lee, Y. Jeong  
Pohang University of Science and Technology, Pohang, Republic of Korea

#### ***EuMC24-1: Multi Stage Switched Sequential Amplifier***

T. Lehmann, R. Knoechel  
University of Kiel, Institute of Electrical and Information Engineering, Kiel, Germany

#### ***EuMC25-1: A Broadband Coplanar Waveguide to Rectangular Waveguide Transition Using a Truncated Bow-Tie Antenna***

R. Fang, C. Wang  
National Taiwan University of Science and Technology, Taipei, Taiwan

#### ***EuMC26-1: Multiple Band and Multiple Frequency Dielectric Resonator Tunable Filter***

K. D. Pance, G. Rochford  
M/A-COM Inc. Tycoelectronics, Lowell, USA

14:10 – 14:30

#### ***EuMC23-2: A 2.14 GHz, 50 Watt, 60 % Power Added Efficiency GaN Current Mode Class D Power Amplifier***

A. Al Tanany, A. Sayed, G. Boeck  
Berlin University of Technology, Berlin, Germany

#### ***EuMC24-2: 60 GHz Silicon-Based Tunable Amplifier***

D. Dawn, S. Sarkar, P. Sen, S. Pinel, J. Laskar  
Georgia Institute of Technology, Atlanta, USA

#### ***EuMC25-2: Obstacle Based Concept for Compact Mode-Preserving Waveguide Transitions for High-Precision Radar Level Measurements***

G. Armbrecht<sup>1</sup>, E. Denicke<sup>1</sup>, N. Pohl<sup>2</sup>, T. Musch<sup>2</sup>, I. Rolfes<sup>1</sup>  
<sup>1</sup>Leibniz Universität Hannover, Germany  
<sup>2</sup>Ruhr-Universität Bochum, Germany

#### ***EuMC26-2: Investigation of Symmetry Influence in Substrate Integrated Waveguide (SIW) Band-Pass Filters using Symmetric Inductive Posts***

C. T. Bui<sup>1</sup>, P. Lorenz<sup>2</sup>, M. Saglam<sup>2</sup>, W. Kraemer<sup>2</sup>, R. H. Jansen<sup>1</sup>  
<sup>1</sup>RWTH Aachen, Aachen, Germany  
<sup>2</sup>Rohde & Schwarz GmbH & Co. KG, München, Germany

14:30 – 14:50

#### ***EuMC23-3: A High-Efficiency GaN HEMT Hybrid Class-E Power Amplifier for 3.5 GHz WiMAX Applications***

M. Lee, Y. Lee, Y. Jeong  
Pohang University of Science and Technology, Pohang, Republic of Korea

#### ***EuMC24-3: An Inductorless CMOS 0.1-1GHz Automatic Gain Control Circuit***

H. Park, S. Lee, S. Nam  
Seoul National University, Seoul, South Korea

#### ***EuMC25-3: A Broadband Vertical Transition for Millimeter-Wave Applications***

A. Stark, A. F. Jacob  
Technische Universität Hamburg Harburg, Hamburg, Germany

#### ***EuMC26-3: New Stepped-Impedance Parallel-Coupled Line (PCL) Filters for Ultra-Wide Band (UWB) Applications***

W. M. Fathelbab, H. M. Jaradat  
South Dakota School of Mines and Technology, Rapid City, USA

14:50 – 15:10

#### ***EuMC23-4: High-Efficiency GaN-HEMT Class-F Amplifier Operating at 5.7 GHz***

K. Kuroda, R. Ishikawa, K. Honjo  
The University of Electro-Communications, Chofu, Japan

#### ***EuMC24-4: CMOS Programmable Frequency Divider for Millimeter-Wave PLL Frequency Synthesizers***

F. Barale, P. Sen, S. Sarkar, S. Pinel, J. Laskar  
Georgia Electronic Design Center, Georgia Institute of Technology, Atlanta, United States

#### ***EuMC25-4: Compact and Broadband Transition of Microstrip Line to Finite-Ground Coplanar Waveguide***

L. Han<sup>1</sup>, K. Wu<sup>1</sup>, W. Hong<sup>2</sup>, X. Chen<sup>1</sup>  
<sup>1</sup>École Polytechnique de Montréal, Montréal, Canada  
<sup>2</sup>Southeast University, Nanjing, P. R. China

#### ***EuMC26-4: Design of In-Line Dual-Mode Rectangular Waveguide Bandpass Filters using Multiple Inductive Circular Posts***

M. M. Darwish, A. M. EL-Tager, H. N. Ahmed  
MTC, Cairo, Egypt

15:10 – 15:30

#### ***EuMC23-5: Designing, Fabrication and Characterization of Power Amplifiers Based on 10-Watt SiC MESFET & GaN HEMT at Microwave Frequencies***

S. Azam<sup>1</sup>, Q. Wahab<sup>1,2</sup>, R. Jonsson<sup>2</sup>  
<sup>1</sup>Linköping University, Linköping, Sweden  
<sup>2</sup>Swedish Defence Research Agency, Linköping, Sweden

#### ***EuMC24-5: Delay Matching Compensated CMOS Microwave Frequency Doubler***

K. Song<sup>1</sup>, H. Choi<sup>1</sup>, J. Kenney<sup>2</sup>, Y. Jeong<sup>1</sup>  
<sup>1</sup>Chonbuk National University, Jeonju, Republic of Korea  
<sup>2</sup>Georgia Institute of Technology, Atlanta, United States

#### ***EuMC25-5: Wideband Waveguide Matched Loads Based on Photonic Crystals with Nanometer Metal Layers***

D. A. Usanov, A. V. Skripal, A. V. Abramov, A. S. Bogolubov, V. S. Skvortsov, M. K. Merdanov  
Saratov State University, Russian Federation

#### ***EuMC26-5: Quarter-Wave Stepped-Impedance Resonator Filters with Quadruplet and Canonical Form Responses***

L. J. Ching, C. C. Yang  
National Chiao Tung University, Hsinchu, Taiwan

Room C	Room D	Room E	
<p><b>EuMC27</b>  <b>Integral Equations</b>                      Chair: Femke Olyslager, Ghent University                      Co-Chair: Michal Mrozowski, Gdansk University of Technology</p>	<p><b>EuMC28</b>  <b>Distributed Radiating Structures</b>                      Chair: Yevhen Yashchysyn, Warsaw University of Technology                      Co-Chair: Andrzej Kucharski, Wroclaw Technical University</p>	<p><b>EuMC29</b>  <b>Metamaterial and EBG I</b>                      Chair: Tatsuo Itoh, UCLA                      Co-Chair: Luca Perregrini, University of Pavia</p>	
<p><i>EuMC27-1: A Comparison Between the Green's Functions of Connected Slots and Dipoles in the Presence of a Backing Reflector</i>                      A. Neto<sup>1</sup>, D. Cavallo<sup>1</sup>, G. Gerini<sup>1</sup>, G. Tosso<sup>2</sup>, F. E. van Vliet<sup>1</sup>  <sup>1</sup>TNO, Den Haag, Netherlands  <sup>2</sup>ESA ESTEC, Noordwijk, Netherlands</p>	<p><i>EuMC28-1: Design of Multibeam Dielectric Lens Antennas by Multi-Objective Optimization</i>                      T. Maruyama, K. Yamamori, Y. Kuwahara                      Shizuoka University, Hamamatsu, Japan</p>	<p><i>EuMC29-1: A Double H-Shaped Resonator for an Isotropic ENG Metamaterial</i>                      J. Machac, M. Rytir, P. Protiva, J. Zehentner                      Czech Technical University in Prague, Prague 6, Czech Republic</p>	13:50 – 14:10
<p><i>EuMC27-2: FFT Accelerated Marching-On-In-Order Methods</i>                      A. Geranmayeh, W. Ackermann, T. Weiland                      Technische Universität Darmstadt, Darmstadt, Germany</p>	<p><i>EuMC28-2: CBCPW-Fed Side-Plane Patch Antenna</i>                      J. H. Chen, Y. J. Lu, P. Hsu, S. Y. Chen                      National Taiwan University, Taipei, Taiwan</p>	<p><i>EuMC29-2: Millimeter Wave Devices Based on a 3-D Electromagnetic Band Gap Crystal Manufactured by Layer-by-Layer Ceramic Stereolithography</i>                      N. Delhote<sup>1</sup>, D. Baillargeat<sup>1</sup>, S. Verdeyme<sup>1</sup>, C. Delage<sup>2</sup>, C. Chaput<sup>2</sup>  <sup>1</sup>XLIM Research Institute, Limoges, France  <sup>2</sup>CTTC, Limoges, France</p>	14:10 – 14:30
<p><i>EuMC27-3: Investigation of the Convergence Properties of the Method of Moments in the Modeling of Capacitive Frequency Selective Surfaces</i>                      M. Montagna, M. Bozzi, L. Perregrini                      University of Pavia, Pavia, Italy</p>	<p><i>EuMC28-3: Efficiency Treatment of Composite Right/Left-Handed TL Zeroth-Order Resonator Antenna</i>                      M. Polivka, D. Vrba, P. Hamouz, M. Svanda, P. Hudec                      Czech Technical University in Prague, Prague, Czech Republic</p>	<p><i>EuMC29-3: Metamaterial-Based Components for a Compact Dual-Band Beam Pattern Diversity System</i>                      P. Chi, T. Itoh                      University of California, Los Angeles, USA</p>	14:30 – 14:50
<p><i>EuMC27-4: The Application of Macromodels to the Analysis of a Dielectric Resonator Antenna Excited by a Cavity Backed Slot</i>                      A. A. Kucharski, P. M. Slobodzin                      Wroclaw University of Technology, Wroclaw, Poland</p>	<p><i>EuMC28-4: Novel Planar Antennas Using Circular, Curved and Straight Gratings for Conical-Sector Beam Patterns</i>                      S. K. Podilchak<sup>1,2</sup>, A. P. Freundorfer<sup>2</sup>, Y. M. Antar<sup>1,2</sup>  <sup>1</sup>Royal Military College of Canada, Kingston, Canada  <sup>2</sup>Queen's University, Kingston, Canada</p>	<p><i>EuMC29-4: Higher Degree of Miniaturization with Split Rectangle Resonators</i>                      I. A. Al-Naib, M. Koch                      Technical University of Braunschweig, Braunschweig, Germany</p>	14:50 – 15:10
<p><i>EuMC27-5: Full-Wave Consistent MDS-based Simulation of a Beam-Waveguide Circuit Fragment for a Deep Space Communication or Radio Astronomy Antenna</i>                      A. A. Nosich<sup>1</sup>, R. Sauleau<sup>2</sup>, Y. V. Gandel<sup>1</sup>  <sup>1</sup>Kharkov National Univ., Kharkiv, Ukraine  <sup>2</sup>Université de Rennes 1, Rennes, France</p>	<p><i>EuMC28-5: Diagonal Polarized Pin-Based Cavity Antenna Array in Planar Technology</i>                      R. Bolt, S. Bruni, A. Neto, G. Gerini                      TNO Defence, Security and Safety, The Hague, The Netherlands</p>	<p><i>EuMC29-5: A Composite Right/Left-Handed Rectangular Waveguide with Tilted Corrugations for Millimeter-Wave Frequency Scanning Antenna</i>                      T. Iwasaki, H. Kamoda, T. Derham, T. Kuki                      NHK (Japan Broadcasting Corporation), Setagaya, Japan</p>	15:10 – 15:30

# WEDNESDAY

38<sup>TH</sup> EUROPEAN CONFERENCE 2008  
MICROWAVE

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## Auditorium

**EuMC30**  
**Power Amplifier Linearization Techniques and Systems**  
Chair: Raymond Quéré, XLIM CNRS-Université de Limoges  
Co-Chair: Jose Carlos Pedro, University of Aveiro

## Room A

**EuMC31**  
**Reconfigurable Filters and Couplers**  
Chair: Jean-Louis Cazaux, Thales Alenia Space  
Co-Chair: Ian Hunter, University of Leeds

## Room B

**EuMC32**  
**LTCC Components**  
Chair: Bart Nauwelaers, ESAT K.U.Leuven  
Co-Chair: Stepan Lucyszyn, Imperial College

## Room B1

**EuMC33**  
**Filters 5**  
Chair: Pierre Blondy, XLIM CNRS-Université de Limoges  
Co-Chair: Cedric Quendo, University of Brest

16:00 – 16:20

**EuMC30-1: On the Optimization of Biasing Points in a Digitally-Linearized Power Amplifier**  
N. Safari<sup>1</sup>, M. Olavsbråten<sup>1</sup>, T. Røste<sup>2</sup>  
<sup>1</sup>Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Thrane and Thrane Norge AS, Billingstad, Norway

**EuMC31-1: A Dual-Band MEMS Reconfigurable Filter for a Multi-Standard Radio Front-End**  
A. Pothier, C. Palego, P. Blondy, A. Crunteanu  
XLIM CNRS-Université de Limoges, Limoges, France

**EuMC32-1: Integrated Passives on LTCC for Chip-Size-Module**  
X. Mi<sup>1</sup>, T. Takahashi<sup>2</sup>, S. Ueda<sup>1</sup>  
<sup>1</sup>Fujitsu Laboratories LTD., Akashi, Japan  
<sup>2</sup>Fujitsu Media Device LTD., Suzaka, Japan

**EuMC33-1: A Novel Class of Compact Dual-Mode Rectangular Waveguide Filters Using Square Ridge Resonators**  
S. Bastioli<sup>1</sup>, L. Marcaccioli<sup>2</sup>, R. Sorrentino<sup>1</sup>  
<sup>1</sup>University of Perugia, Perugia, Italy  
<sup>2</sup>RF Microtech s.r.l., Perugia, Italy

16:20 – 16:40

**EuMC30-2: LUT/Parametric Digital Predistortion Approach for the Linearization of Power Amplifier Characteristics**  
M. Abi Hussein<sup>1,1</sup>, Y. Wang<sup>1</sup>, G. Peyresoubes<sup>2</sup>, B. Feuvrie<sup>1</sup>, S. Toutain<sup>1</sup>  
<sup>1</sup>IREENA, Nantes, France  
<sup>2</sup>Thales Communications, Cholet, France

**EuMC31-2: Tunable Bandstop and Bandpass MEMS Filters for Millimeter Wave Applications**  
A. Takacs<sup>1</sup>, D. Neculoiu<sup>2</sup>, D. Vasilache<sup>2</sup>, A. Muller<sup>2</sup>, P. Pons<sup>1</sup>, L. Bary<sup>1</sup>, P. Calmon<sup>1</sup>, H. Aubert<sup>1</sup>, R. Plana<sup>1</sup>  
<sup>1</sup>CNRS-Laas, Toulouse, France  
<sup>2</sup>IMT-Bucharest, Bucharest, Romania

**EuMC32-2: A Phase Shifter by LTCC Substrate with an RF-MEMS Switch**  
D. Yamane<sup>1</sup>, T. Yamamoto<sup>2</sup>, K. Urayama<sup>3</sup>, K. Yamashita<sup>2</sup>, H. Toshiyoshi<sup>1</sup>, S. Kawasaki<sup>2</sup>  
<sup>1</sup>University of Tokyo, Meguro-ku, Japan  
<sup>2</sup>Kyoto University, Uji, Japan  
<sup>3</sup>Japan Radio Co., Ltd., Mitaka, Japan

**EuMC33-2: Compact Dual-Mode Microstrip Quasi-Meander Loop Resonator for Filter Applications**  
C. Karpuz<sup>1</sup>, G. M. Eryilmaz<sup>2</sup>, A. Gorur<sup>2</sup>  
<sup>1</sup>Pamukkale University, Denizli, Turkey  
<sup>2</sup>Nigde University, Nigde, Turkey

16:40 – 17:00

**EuMC30-3: Kalman Filtering Algorithm for On-Line Memory Polynomial Predistortion**  
M. Djamai, S. Bachir, C. Duvaud  
University of Poitiers, Poitiers, France

**EuMC31-3: Design of a Broadband MEMS-based Reconfigurable Coupler in Ku-band**  
L. Marcaccioli<sup>1,3</sup>, P. Farinelli<sup>1,3</sup>, M. M. Tentzeris<sup>2</sup>, J. Papapolymerou<sup>2</sup>, R. Sorrentino<sup>3,1</sup>  
<sup>1</sup>RF Microtech s.r.l., Perugia, Italy  
<sup>2</sup>Georgia Institute of Technology, Atlanta, USA  
<sup>3</sup>University of Perugia, Perugia, Italy

**EuMC32-3: Implementation of an LTCC Quad-band Module for WLAN and WiMAX Applications**  
D. H. Kim<sup>1</sup>, D. S. Kim<sup>2</sup>, J. I. Ryu<sup>2</sup>, J. C. Kim<sup>2</sup>, C. D. Park<sup>1</sup>, I. S. Song<sup>3</sup>  
<sup>1</sup>Myongji University, Gyeonggi-do, Korea  
<sup>2</sup>Korea Electronics Technology Institute, Gyeonggi-do, Korea  
<sup>3</sup>Samsung Advanced Institute of Technology, Gyeonggi-do, Korea

**EuMC33-3: Novel Broadside Trisection Filters Employing Nonresonating Nodes**  
M. Martinez Mendoza, D. Cañete Rebenaque, J. Perez Soler, A. Alvarez Melcon  
Technical University Cartagena, Cartagena, Spain

17:00 – 17:20

**EuMC30-4: Using an IQ Data to RF Power Transmitter to Realize a Highly-Efficient Transmit Chain for Current and Next-Generation Mobile Handsets**  
G. Rawlins  
ParkerVision, Jacksonville, USA

**EuMC31-4: Compact Tunable Microstrip Bandpass Filters with Asymmetrical Frequency Response**  
W. Tang, J. Hong, Y. Chun  
Heriot-Watt University, Edinburgh, United Kingdom

**EuMC32-4: High Performance WCDMA1900 Combined LTCC/SAW/BAW Duplexer for Mobile Phones**  
V. Gozhenko, W. Puffer, D. Ritter, A. Przadka  
Epcos AG, Munich, Germany

**EuMC33-4: High-Level Embedded Passive Triplexer and Quintplexer Module into Organic Packaging Substrate**  
S. Lim, S. Cheon, D. Bang, J. Park  
Kwangwoon University, Seoul, South Korea

17:20 – 17:40

**EuMC30-5: An Efficiency Optimized Controlling Scheme for Dynamic Load Modulation of Power Amplifiers**  
H. Mashad Nemat<sup>1</sup>, C. Fager<sup>1</sup>, U. Gustavsson<sup>2</sup>, H. Zirath<sup>1</sup>  
<sup>1</sup>Chalmers University of Technology, Gothenburg, Sweden  
<sup>2</sup>Ericsson AB, Stockholm, Sweden

**EuMC31-5: Tunable Ring Resonator Filter for Duplexer**  
K. Kawai, H. Okazaki, S. Narahashi  
NTT DoCoMo, Inc., Yokosuka, Japan

**EuMC32-5: A Miniature Stacked Spiral Inductor Utilizing a Proposed Taper Structure for RFIC Size Reduction**  
S. Park, K. Lee, Y. Kim  
Samsung Electro-Mechanics Co., Ltd., Suwon, South Korea

**EuMC33-5: Compact Planar Microwave Blocking Filter**  
K. U-yen, E. J. Wollack  
NASA Goddard Space Flight Center, Greenbelt, USA

Room C	Room D	Room E	Room C
<p><b>EuMC34</b>  <b>Discrete and Modal Techniques</b>                      Chair: Guy Vandenbosch, K.U. Leuven                      Co-Chair: Peter Russer, Technical University Munich</p>	<p><b>EuMC35</b>  <b>New Concepts in Antennas</b>                      Chair: Anton Tjihuis, Eindhoven University of Technology                      Co-Chair: Martijn van Beurden, Eindhoven University of Technology</p>	<p><b>EuMC36</b>  <b>Metamaterial and EBG II</b>                      Chair: Paolo Lampariello, "La Sapienza" University of Rome                      Co-Chair: Ramon Gonzalo, Universidad Publica de Navarra</p>	<p><b>Women in Engineering</b>                      Chair: Dominique Schreurs, K.U.Leuven                      Co-Chairs: Stefania Monni, TNO Defence and Peter Hoogeboom, TNO Defence and T.U. Delft</p> <p><b>17:45 – 20:00</b>                      Advance registration required at <a href="http://www.eumw2008.org/wie">www.eumw2008.org/wie</a> or via <a href="http://www.eumweek.com">www.eumweek.com</a></p>
<p><i>EuMC34-1: Accuracy of Finite Difference Frequency Domain Methods in the Presence of Effective Metamaterials</i>                      G. Oliveri, M. Raffetto                      University of Genoa, Genoa, Italy</p>	<p><i>EuMC35-1: Minkowski Fractal Microstrip Antenna for RFID Tags</i>                      M. V. Rusu<sup>1</sup>, M. Hirvonen<sup>2</sup>, H. Rahimi<sup>1</sup>, P. Enoksson<sup>1</sup>, C. Rusu<sup>3</sup>, N. Pesonen<sup>2</sup>, O. Vermesan<sup>4</sup>, H. Rustad<sup>4</sup>  <sup>1</sup>Chalmers University of Technology, Gothenburg, Sweden  <sup>2</sup>VTT, Helsinki, Finland  <sup>3</sup>Imego AB, Gothenburg, Sweden  <sup>4</sup>Sintef ICT, Oslo, Norway</p>	<p><i>EuMC36-1: Distributed Amplifier with CRLH-Transmission Line Leaky Wave Antenna</i>                      K. Mori<sup>1</sup>, T. Itoh<sup>1</sup>  <sup>1</sup>University of California, Los Angeles, Los Angeles, USA  <sup>2</sup>Sony Corporation, Atsugi, Japan</p>	<p><b>17:45 – 17:55</b>  <i>Introduction by the Chair</i></p> <p><b>17:55 – 18:10</b>  <i>The European Commission and the Position of Women Scientists and Engineers</i>                      Barbara van Balen                      Barbara van Balen, social scientist, wrote her Ph.D. dissertation about the position of women in universities. She has a long and diverse academic experience. She currently works as an education and research consultant on several projects involving a.o. quality assurance, human resources, European research and co-operation, coordination, management and organization.</p>
<p><i>EuMC34-2: Efficient Pole Expansion of the Generalized Admittance Matrix Representation of Planar Waveguide Junctions</i>                      F. E. Mira Pérez<sup>1</sup>, A. A. San Blas Oltra<sup>2</sup>, V. E. Boria Esbert<sup>3</sup>, B. Gimeno Martínez<sup>4</sup>  <sup>1</sup>CTTC, Castelldefels, Spain, <sup>2</sup>Universidad Miguel Hernández de Elche, Elche, Spain, <sup>3</sup>Universidad Politécnica de Valencia, Valencia, Spain, <sup>4</sup>Universidad de Valencia, Burjasot, Spain</p>	<p><i>EuMC35-2: A Matching Technique of Miniaturized Cross Meander-line Antenna at 300 MHz Band</i>                      S. Kashihara, F. Kuroki                      Kure Nat'l Coll of Tech, Kure, Japan</p>	<p><i>EuMC36-2: Patch Antennas Partially Filled with CRLH Cells for Self-Diplexed Antennas for RFID Application</i>                      F. Herraiz-Martinez<sup>1</sup>, E. Ugarte-Muñoz<sup>1</sup>, V. González-Posadas<sup>1,2</sup>, D. Segovia-Vargas<sup>1</sup>  <sup>1</sup>Universidad Carlos III de Madrid, Leganes, Spain  <sup>2</sup>Universidad Politécnica de Madrid, Madrid, Spain</p>	<p><b>18:10 – 18:35</b>  <i>The Progress of Women in Engineering and the Importance of Diversity in Advancing the Profession</i>                      Linda Katehi                      Linda Katehi is the Provost and Vice Chancellor for Academic Affairs at the University of Illinois at Urbana-Champaign and Professor of Electrical and Computer Engineering. She holds a joint appointment with the Program of Gender and Women Studies at the University of Illinois.</p>
<p><i>EuMC34-3: Rigorous Modal Analysis of Radiation from Coaxial Waveguide Mounted on Finite Circular Flange</i>                      C. Tomassoni<sup>1</sup>, M. Mauro<sup>1</sup>, P. Russer<sup>2</sup>, R. Sorrentino<sup>1</sup>  <sup>1</sup>University of Perugia, Perugia, Italy  <sup>2</sup>Technische Universität München, Munich, Germany</p>	<p><i>EuMC35-3: Frequency Selective Surfaces for Extended Bandwidth Backing Reflector Functions</i>                      M. Pasion<sup>1,2</sup>, A. Neto<sup>1</sup>, S. Monni<sup>1</sup>, M. Ettorre<sup>1</sup>, G. Gerini<sup>1</sup>  <sup>1</sup>TNO Defence, Security and Safety, The Hague, The Netherlands  <sup>2</sup>University of Pavia, Pavia, Italy</p>	<p><i>EuMC36-3: Novel Left-Handed Unit Cell for Multi-Band Filtering Applications</i>                      V. M. Radonic<sup>1</sup>, V. B. Crnojevic-Bengin<sup>1</sup>, B. Jakanovic<sup>2</sup>  <sup>1</sup>Faculty of Technical Science, Novi Sad, Serbia  <sup>2</sup>Intel Communications, Beograd, Serbia</p>	<p><b>18:35 – 19:00</b>  <i>Making a Scientific Career in Engineering, in a Man's World</i>                      Jenny Dankelman                      Jenny Dankelman started in 1984 as the first female scientist at the Faculty of Mechanical Engineering of the Delft University of Technology. In 2001 she became full professor in Biomechanical Engineering. She leads the Minimally Invasive Surgery and Interventional Techniques (MISIT) research group.</p>
<p><i>EuMC34-4: A Stable High-Accuracy Subgridding Scheme</i>                      L. Kulas, M. Mrozowski                      Gdansk Univ. of Technology, Gdansk, Poland</p>	<p><i>EuMC35-4: Impedance Matching of Rectangular Microstrip Antennas Partially Loaded with DNG Metamaterials</i>                      K. Zheng<sup>1</sup>, W. Tam<sup>1</sup>, D. Ge<sup>2</sup>  <sup>1</sup>The Hong Kong Polytechnic University, Hong Kong, China  <sup>2</sup>Xidian University, Xidian, China</p>	<p><i>EuMC36-4: Broadband EBG-Structures with Compact Unit Cell</i>                      A. Stark, S. Prorok, A. F. Jacob                      Techn. Univ. Hamburg-Harburg, Hamburg, Germany</p>	<p><b>19:00 – 20:00</b>  <i>Discussion, Drinks and Snacks in the Amsterdam Café</i></p>
<p><i>EuMC34-5: A Three-Dimensional Unconditionally-Stable FDTD Method Based on Split-Step Scheme and Crank-Nicolson Scheme</i>                      Q. Chu, Y. Kong                      South China University of Technology, Guangzhou, China</p>	<p><i>EuMC35-5: EBG-Based 60 GHz On-Chip Antenna in Passive Silicon</i>                      R. van Dijk<sup>1</sup>, A. Neto<sup>1</sup>, I. J. Akkermans<sup>2</sup>, J. Mills<sup>3</sup>  <sup>1</sup>TNO, The Hague, The Netherlands  <sup>2</sup>Eindhoven University of Technology, Eindhoven, The Netherlands  <sup>3</sup>Philips, Eindhoven, The Netherlands</p>	<p><i>EuMC36-5: Extraordinary Transmission through Slits from a Microwave Engineering Perspective</i>                      F. Medina<sup>1</sup>, D. C. Skigin<sup>2</sup>, F. Mesa<sup>1</sup>  <sup>1</sup>University of Seville, Seville, Seville  <sup>2</sup>Universidad de Buenos Aires, Buenos Aires, Argentina</p>	