

# IEEE RADIO 2016: 10 – 13 October 2016, Saint-Gilles Les Bains, Reunion Island

Monday 10/10/16	Tuesday 11/10/16	Wednesday 12/10/16	Thursday 13/10/16
08:30 – 09:30 Registration	08:30 – 09:10 The Physics and Mathematics of Multiantenna Systems and How to Improve their Performances Prof. Tapan Sarkar, Syracuse University, USA	08:30 – 09:10 Progress and Challenges in Microwave Imaging and Microwave Induced Thermoacoustic Tomography Prof. Qing Liu, Duke University, USA	08:30 – 09:10 Remote Sensing of Physical Qualities of Fruits Prof. Monai Krairiksh, King Mongkut's Institute of Technology Ladkrabang, Thailand
Opening Ceremony 09:30 – 10:00	09:10 – 10:30	09:10 – 10:10	09:10 – 10:10
Coffee Break 10:00 – 10:20	Metamaterials & Applications I	Biological Effects of EMF I	Advances in Radio Astronomy
	Coffee Break 10:30 – 10:50	Coffee Break 10:10 – 10:30	Coffee Break 10:10 – 10:30
10:20 – 12:00	10:50 – 12:10	10:30 – 11:50	10:30 – 11:30
Wireless Communication	Metamaterials & Applications II	Biological Effects of EMF II	Wave Propagation and Remote Sensing I
LUNCH 12:00 – 13:30	LUNCH 12:10 – 13:30	LUNCH 12:00 – 13:30	LUNCH 11:30 – 13:00
13:30 – 14:50	13:30 – 15:10	13:30 – 14:30	13:00 – 14:00
Antenna Design	Devices and Circuits I	Wireless Sensor Networks I	Wave Propagation and Remote Sensing II
Coffee Break 14:50 – 15:10	Coffee Break 15:10 – 15:30	Coffee Break 14:30 – 14:50	Coffee Break 14:00 – 14:20
15:10 – 16:30	15:30 – 16:30	14:50 – 15:50	14:20 – 16:00
Computational Electromagnetics	Devices and Circuits II	Wireless Sensor Networks II	IEEE SIGHT Workshop
			Awards Ceremony 16:00 – 16:20
			Closing Ceremony 16:20 – 16:30
		GALA DINNER : 19:30 – 23:00	

**Monday 10/10/16**

08:30 – 09:30 Registration

09:30 – 10:00 Opening Ceremony

10:00 – 10:20 Coffee Break

10:20 – 12:00 **Wireless Communication**

**Chair: Eric Mokole**

1. Beamforming for 3G base stations antennas, Gilles Thierry
2. Decoupled 2D DOA estimation using LVQ neural networks and UCA array, Joseph D. Ndaw, Andre Faye and Amadou S. Maïga (Student)
3. Output power analysis of a software defined radio device, Rafik Zitouni and Laurent George
4. Measurement of a 4-port MIMO antenna system, Montaha Bouezzeddine and Werner L. Schroeder (Student)
5. Joint channel and phase noise estimation in MIMO-OFDM systems, Ibo Ngebani, Joseph Chuma, Ishmael Zibani, Edwin Matlotse and Kelebaone Tsamaase

12:00 – 13:30 LUNCH

13:30 – 14:50 **Antenna Design**

**Chair: Mikhail Lapine**

1. Design of compact integrated diodes Pifa rectennas for energy harvesting application, Van-Hieu Nguyen, Jean-Lou Dubard, Alexandre Douyère and Jean-Daniel Lan Sun Luk
2. Design of a CPW fed circular slot loop antenna for RF/DC rectifier at low power level, Jérôme Rivière, Alexandre Douyère, Jonathan Cazour, Frédéric Alicalapa and Jean-Daniel Lan Sun Luk
3. Dipole antenna of elliptical shape driver with tapered ground, Hyeonjin Lee, Byung Ik Jung, Ki Dong Park, Wonho Kim, Kang-Yeon Lee and Teahong Kim
4. Dielectric loading effect on periodic microstrip structure, Seyi Stephen Olokede and Babu Sena Paul

14:50 – 15:10 Coffee Break

15:10 – 16:30 **Computational Electromagnetics**

**Chair: Tapan Sarkar**

1. Images, Geometry and Space in Electromagnetism, Sara L. Vesely, Alessandro A. Vesely and Caterina A. Dolci
2. An electromagnetic-thermal-chemical model for simulating the dynamics of laminar reactive flows under microwave heating, Michel Roddy Lollchund and Shailendra Oree
3. Characteristics of Vivaldi antenna located on a cylindrical surface, Y. V. Yukhanov, T. Y. Privalova and A. V. Gevorkyan
4. Comparison of RF photonics-based beamformers for super-wide bandwidth phased array antennas, Mikhail E. Belkin, Alexander S. Sigov, Yuri Tyschuk and Vladislav Golovin

**Tuesday 11/10/16**

08:30 – 09:10 The Physics and Mathematics of Multiantenna Systems and How to Improve their Performances  
Prof. Tapan Sarkar, Syracuse University, USA

09:10 – 10:30 **Metamaterials and Applications I**  
**Chair: Pavel Belov**

1. Advanced electromagnetic materials for Magnetic Resonance Imaging, A. P. Slobzhanyuk, A. V. Shchelokova, and Pavel Belov
2. All-dielectric microwave devices for controlling the path of electromagnetic waves, Jianjia Yi, André de Lustrac, Gérard-Pascal Piau and and Shah Nawaz Burokur
3. Anisotropy in dielectric THz meta-atoms, Irina Khromova, Petr Kuzel, Igal Brener, John L. Reno, U-Chan Chung Seu, Catherine Elissalde, Patrick Mounaix and Oleg Mitrofanov
4. EBG metasurfaces for MRI application, Anna A. Hurshkainen, Tatyana A. Derzhavskaya, Stanislav B. Glybovski, Ingmar J. Voogt, Irina V. Melchakova, Cornelis A. T. van den Berg and Alexander J. E. Raaijmakers

10:30 – 10:50 Coffee Break

10:50 – 12:10 **Metamaterials and Applications II**  
**Chair: Shah Nawaz Burokur**

1. Metasurfaces for antennas and sensors, Badreddine Ratni, Elena Bochkova, André de Lustrac, Anotole Lupu, Gérard-Pascal Piau and and Shah Nawaz Burokur
2. Scattering control using nonlinear smart metasurfaces with internal feedback, Diana Semenikhina and Andrey Semenikhin
3. Strong boundary effects in microwave metamaterial samples, Mikhail Lapine
4. Electrical characterization of two-dimensional materials and their heterostructures, Himani Arora, Gotthard Seifert, Gianaurelio Cuniberti, Manfred Helm and Artur Erbe (Student)

12:10 – 13:30 LUNCH

13:30 – 15:10 **Devices and Circuits I**  
**Chair: Guy Pignolet**

1. A fully-instrumented solid-state variable frequency microwave generator for laboratory applications, Shailendra Oree and Yashvir Ramlukon
2. A new assessment of pHEMT models by comparing relative errors of drain current and its derivatives up to the third order, Josef Dobes, Martin Grabner, Pavel Puricer, Frantisek Vejrazka, Jan Michal and Jakub Popp
3. A low-loss 2<sup>nd</sup> order Chebychev microwave cavity band pass filter, Matthews Chose, Joseph M. Chuma, Abid Yahya, Olebogeng B. Kobe, Ibo Ngebani and Thato M. Pholele
4. A novel microstrip feed based on the theory of small reflection, Seyi Stephen Olokede and Babu Sena Paul
5. Modelling high-Q square spiral with variable segment width and spacing, Olebogeng B. Kobe, Joseph M. Chuma, Rodrigo S. Jamisola Jr., and Matthews Chose

15:10 – 15:30 Coffee Break

15:30 – 16:30 **Devices and Circuits II**  
**Chair: Shailendra Oree**

1. Wideband 8-port decoupling network based on 180 degrees hybrid couplers, Montaha Bouezzeddine and Werner L. Schroeder (Student)
2. Miniaturized broadside-coupled split ring resonator filter using capacitor loading, Peh Tee Howe and Nor Muzlifah Mahyuddin (Student)
3. Effect of hollow centre post in coupled combline resonators, Thato M. Pholele and Joseph M. Chuma

**Wednesday 12/10/16**

08:30 – 09:10 Progress and Challenges in Microwave Imaging and Microwave Induced Thermoacoustic Tomography  
Prof. Qing Liu, Duke University, USA

**09:10 – 10:10 Biological Effects of EMF I**

**Chair: Vikass Monebhurrn**

1. Glial markers and emotional memory in rats following cerebral radiofrequency exposures, Amélie Barthélémy, Amandine Mouchard and Anne-Sophie Villégier
2. Reduced viability of two prokaryotic organisms treated by low frequency electromagnetic field, Jan Barabas, Michal Zabovsky, Katarina Zabovska, Ladislav Janousek, Roman Radil and Ivona Malikova
3. Neurobiological effects of repeated radiofrequency exposures in male senescent rats, Marc Bouji and Anne-Sophie Villégier

10:10 – 10:30 Coffee Break

**10:30 – 11:50 Biological Effects of EMF II**

**Chair: Qing Liu**

1. Modeling biological effects of radiowaves using evolutionary game theory, Andrzej Swierniak and Michal Krzeslak
2. RF exposure survey of children and their parents in Slovenia, Peter Gajsek and Michal Krzeslak
3. TLM numerical thermal dosimetry in realistic environment, Oualid Makhoulouf, Marylène Cueille and Jean-Lou Dubard
4. Evaluation of the real-life exposure due to mobile phones in an indoor environment, V. Monebhurrn and A. Rojatkcar

12:00 – 13:30 LUNCH

**13:30 – 14:30 Wireless Sensor Networks I**

**Chair: Abdelhamid Mellouk**

1. Landslide prevention using a buried sensor network, Youness Lami, Grégory Nocera, Denis Genon-Catalot, André Lagreze and Nicolas Fourty
2. Monitoring of environment: A high performance method for radio coverage exploration, M.Tuyen Phong Truong, Hiep Xuan Huynh and Bernard Pottier
3. Designing an analytical model for IEEE 802.15.6 scheduled access mode in non-saturation regime, Tanumay Manna and Iti Saha Misra (Student)

14:30 – 14:50 Coffee Break

**14:50 – 15:50 Wireless Sensor Networks II**

**Chair: Jean-Daniel Lan Sun Luk**

1. A solar powered 24 GHz RFID sensor node for industrial applications, Bernd Geck, Quang Huy Dao and Bernard Lüers
2. Interference evaluation of WiFi devices over wake-up radio in wireless sensor networks, Jean Mickael Lebreton, Somasekhar Kandukuri, Nour Murad, Denis Genon-Catalot and Richard Lorion (Student)
3. Assumption-free noise suppression for autonomous tractors tracking, Leatile Marata, Joseph Chuma, Ibo Ngebani and Abid Yahya

19:30 – 23:00 **Gala Dinner**

**Thursday 13/10/16**

08:30 – 09:10 Remote Sensing of the Physical Qualities of Fruits  
Prof. Monai Krairiksh, King Mongkut's Institute of Technology Ladkrabang, Thailand

**09:10 – 10:10 Advances in Radio Astronomy**  
**Chair: Russell Taylor**

1. Radio frequency interference detection using Machine Learning, Olorato Mosiane, Nadeem Oozeer and Bruce A. Bassett
2. Classifying bent radio galaxies from a mixture of point-like/extended images with Machine Learning, David Bastien, Nadeem Oozeer and Radhakrishna Somanah
3. MIGHTEE: The International GHz Tiered Extragalactic Exploration, Russell Taylor and Matt Jarvis

10:10 – 10:30 Coffee Break

**10:30 – 11:30 Wave Propagation and Remote Sensing I**  
**Chair: Nadeem Oozeer**

1. Ground-based and in-situ studies of plasma phenomena affecting transionospheric radio signals, Wojciech J. Miloch
2. Atmospheric gases attenuation in West Africa, Sayo Akinwumi, Temidayo Omotosho, Moji Usikalu, Mustapha Adewusi and Oluwafunmilayo Ometan
3. Tropospheric scintillation and its impact on Earth-Space satellite communication signals, Temidayo Omotosho, Sayo Akinwumi, Moji Usikalu, Oluwafunmilayo Ometan and Mustapha Adewusi

11:30 – 13:00 LUNCH

**13:00 – 14:00 Wave Propagation and Remote Sensing II**  
**Chair: Monai Krairiksh**

1. A comparative study: received signal strength based zone differentiation using mobile transmitters, Riad Kanan, Rofaida Bensalem and Obaidallah Elhassan
2. An improved technique based on Zadoff-Chu sequences for distance measurements, Giovanni Piccinni, Gianfranco Avitabile and Giuseppe Coviello (Student)
3. Arc fault detection & localisation by electromagnetic-acoustic remote sensing, Costin Vasile and Cornel Ioana

14:00 – 14:20 Coffee Break

**14:20 – 16:00 IEEE Special Interest Group on Humanitarian Technology (SIGHT) Workshop**  
**Chair: Eric Mokole**

16:00 – 16:20 Awards Ceremony

16:20 – 16:30 Closing Ceremony