PROGRAM

XXI RINEM

Riunione Nazionale di Elettromagnetismo

September 12-14, 2016 Parma, Italy

Topics:

- Electromagnetic Propagation
- Electromagnetic Diagnostic
- Remote Sensing
- Optics and Photonics
- Antennas
- Metamaterials
- Bioelectromagnetism
- Sensors
- RF components
- Wireless networks
- Mobile Radio system
- Logistic, Medical and Security Applications
- Electromagnetic Metrology
- Material Processing
- Plasma and Accelerators
- Computational Electromagnetism
- Energy and Environment

Conference Chair:

Stefano Selleri, University of Parma

Conference Venue:

"Santa Elisabetta Congress Center"
Parma University Campus

More Info:

http://rinem2016.unipr.it

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GAEM Group of Applied ElectroMagnetics
University of Parma Information Engineering Department

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COMUNE DI PARMA

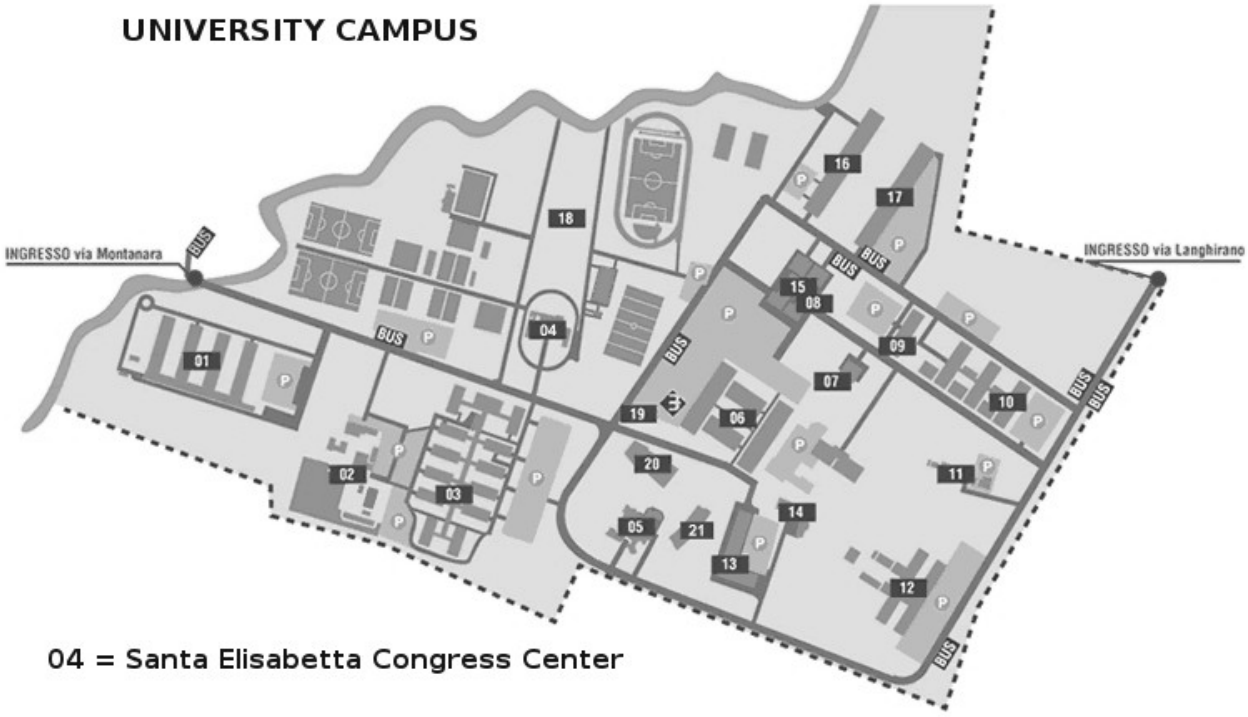
XXI RINEM

Riunione Nazionale di Elettromagnetismo

Parma, Italy **September 12-14, 2016**

Santa Elisabetta Congress Center

Parma University Campus, Viale G. P. Usberti 93, Parma Italy



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XXI RINEM

Parma, Italy **September 12-14, 2016**

Conference Chair

Stefano Selleri, *University of Parma*

Promoting Committee

Graziano Cerri, *Marche Polytechnic University*
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Conference Venue:

Santa Elisabetta Congress Center
Parma University Campus,
Viale G. P. Usberti 93, Parma Italy
+39 0521 905527

Info at: http://rinem2016.unipr.it/

Invited Speakers

Fulvio Ricci: *"Universe observation through gravitational waves"*

Biography: Fulvio Ricci is full professor of Experimental Physics at the university of Rome La Sapienza since 2000 and research associate to the Italian Institute of Nuclear Physics (INFN). He started his scientific career in 1975 joining the gravitational wave (g.w.) group of Professor E. Amaldi at Rome University. He spend two years at the CNR laboratory of Frascati to put in operation a 400 kg g.w. antenna, cooled at cryogenic temperature. Then for fifteen years he was at CERN, where he had the responsibility of the installation and operation of the 2300 kg g. w. detector EXPLORER, which achieved the sensitivity goal of h=7 10-19 for g.w. burst of 1 ms of duration (Action Evading transducer) in order to circumvent the limitation imposed by the quantum mechanical nature of the antenna. In 1995 he joined the VIRGO collaboration, the French-Italian project for the construction of a 3 km laser interferometer to detect the gravitational waves. He was data analysis coordinator of the VIRGO international collaboration and then since 2007 the Italian coordinator for the INFN of the VIRGO collaboration. Since 2014 he is the spokesperson of the VIRGO international collaboration. In 2016 he announced the first direct detection of a gravitational wave signal, a result obtained in the context of the collaboration between the USA project LIGO and Virgo.

Abstract: La prima e la seconda rilevazione diretta di un segnale di onda gravitazionale è avvenuta grazie ai due rivelatori avanzati LIGO a cui presto si affiancherà Virgo in Europa.Nel prossimo futuro sarà possibile osservare segnali provenienti da supernovae, stelle di neutroni rotanti, coalescenze di sistemi binari formati da oggetti collassati, distanti di milioni di milioni di milioni di chilometri come è già avvenuto nel caso di due buchi neri trenta volete più pesanti del Sole. In questo presentazione sintetizzeremo il principio di misura e le caratteristiche degli apparati sperimentali che sono stati sviluppati in questi anni. Quindi illustreremo i multati ottenuti.

Hubregt J. Visser: *"Practical Applications of Radiative Wireless Power Transfer"*

Biography: Hubregt J. Visser was born in 1964. He received the M.Sc. degree in electrical engineering from Eindhoven University of Technology, The Netherlands, in 1989. In 2009 he obtained a Ph.D. from Eindhoven University of Technology, The Netherlands and Katholieke Universiteit Leuven, Belgium. He is part-time full professor at Eindhoven University of Technology where he teaches antenna theory. Hubregt is author of the books 'Array and Phased Array Antenna Basics' (Wiley, 2005), 'Approximate Antenna Analysis for CAD' (Wiley, 2009) and `Antenna Theory and Applications' (Wiley, 2012).

Abstract: in the presentation the principle of Radiative Wireless power Transfer (RWPT) will be given. In RWPT radio waves are used to transfer energy over a distance of several meters. It is a technology different from inductive power transfer that is used for near-contact applications. After the principle of RWT has been explained, a detailed discussion of rectifying antenna (rectenna) design and optimization will be presented. Then, pairing rectenna technology to (ultra) low-power wireless sensor technology – using commercially available components- will be treated and demonstrators of the technology will be shown.

Aydogan Ozcan: *"Democratization of Next-Generation Microscopy, Sensing and Diagnostics Tools through Computational Photonics"*

Biography: Dr. Aydogan Ozcan received his Ph.D. degree at Stanford University Electrical Engineering Department. After a short post-doctoral fellowship at Stanford University, he was appointed as a research faculty at Harvard Medical School, Wellman Center for Photomedicine in 2006. Dr. Ozcan joined UCLA in the summer of 2007 as an Assistant Professor, and was promoted to Associate and Full Professor ranks in 2011 and 2013, respectively. He is currently the Chancellor's Professor at UCLA and an HHMI Professor with the Howard Hughes Medical Institute, leading the Bio- and Nano-Photonics Laboratory at UCLA Electrical Engineering and Bioengineering Departments, and is also the Associate Director of the California NanoSystems Institute (CNSI) at UCLA. Dr. Ozcan holds 32 issued patents (all of which are licensed) and more than 20 pending patent applications for his inventions in nanoscopy, wide-field imaging, lensless imaging, nonlinear optics, fiber optics, and optical coherence tomography. Dr. Ozcan gave more than 250 invited talks and is also the author of one book, the co-author of more than 400 peer reviewed research articles in major scientific journals and conferences. In addition, Prof. Ozcan is the founder and a member of the Board of Directors of Holomic LLC. Prof. Ozcan received several major awards including the 2011 Presidential Early Career Award for Scientists and Engineers (PECASE), which is the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers. Dr. Ozcan received this prestigious award for developing innovative optical technologies and signal processing approaches that have the potential to make a significant impact in biological science and medicine; addressing public health needs in less developed countri; and service to the optical science community including mentoring and support for underserved minority undergraduate and graduate students. Dr. Ozcan also received the 2015 UCLA Postdoctoral Scholars Mentoring Award for his dedicated efforts to training and mentoring of postdoctoral researchers. In addition, Dr. Ozcan received the 2015 International Commission for Optics (ICO) Prize, the 2013 SPIE BioPhotonics Technology Innovator Award, the 2011 Army Research Office Young Investigator Award, 2011 SPIE Early Career Achievement Award, the 2010 NSF CAREER Award, the 2009 NIH Director's New Innovator Award, the 2009 Office of Naval Research (ONR) Young Investigator Award, the 2009 IEEE Photonics Society Young Investigator Award and the MIT's Technology Review TR35 Award for his seminal contributions to near-field and on-chip imaging, and telemedicine based diagnostics.

Prof. Ozcan is also the recipient of the 2013 and 2015 Microscopy Today Innovation Awards, 2012 Popular Science Brilliant 10 Award, 2012 National Academy of Engineering (NAE) The Grainger Foundation Frontiers of Engineering Award, 2011 Innovators Challenge Award presented by the Rockefeller Foundation and mHealth Alliance, the 2010 National Geographic Emerging Explorer Award, the 2010 Gates Foundation Grand Challenges Award, the 2010 Popular Mechanics Breakthrough Award, the 2009 Wireless Innovation Award (Vodafone Americas Foundation) and the 2008 Okawa Foundation Award. Prof. Ozcan was selected as one of the top 10 innovators by the U.S. Department of State, USAID, NASA, and NIKE as part of the LAUNCH: Health Forum organized in 2010. He also received the 2012 World Technology Award on Health and Medicine, which is presented by the World Technology Network in association with TIME, CNN, AAAS, Science, Technology Review and Fortune. Dr. Ozcan is elected Fellow of SPIE and OSA, and is a Lifetime Member of AAAS.

Abstract: My research focuses on the use of computation/algorithms to create new optical microscopy, sensing, and diagnostic techniques, significantly improving existing tools for probing micro- and nano-objects while also simplifying the designs of these analysis tools. In this presentation, I will introduce a new set of computational microscopes which use lens-free on-chip imaging to replace traditional lenses with holographic reconstruction algorithms. Basically, 3D images of specimens are reconstructed from their "shadows" providing considerably improved field-of-view (FOV) and depth-of-field, thus enabling large sample volumes to be rapidly imaged, even at nanoscale. These new computational microscopes routinely generate >1–2 billion pixels (giga-pixels), where even single viruses can be detected with a FOV that is >100 fold wider than other techniques. At the heart of this leapfrog performance lie self-assembled liquid nano-lenses that are computationally imaged on a chip. These self-assembled nano-lenses are stable for >1 hour at room temperature, and are composed of a biocompatible buffer that prevents nano-particle aggregation while also acting as a spatial "phase mask." The field-of-view of these computational microscopes is equal to the active-area of the sensor-array, easily reaching, for example, >20 mm2 or >10 cm2 by employing state-of-the-art CMOS or CCD imaging chips, respectively. In addition to this remarkable increase in throughput, another major benefit of this technology is that it lends itself to field-portable and cost-effective designs which easily integrate with smartphones to conduct giga-pixel tele-pathology and microscopy even in resource-poor and remote settings where traditional techniques are difficult to implement and sustain, thus opening the door to various telemedicine applications in global health. Some other examples of these smartphone-based biomedical tools that I will describe include imaging flow cytometers, immunochromatographic diagnostic test readers, bacteria/pathogen sensors, blood analyzers for complete blood count, and allergen detectors. Through the development of similar computational imagers, I will also report the discovery of new 3D swimming patterns observed in human and animal sperm. One of this newly discovered and extremely rare motion is in the form of "chiral ribbons" where the planar swings of the sperm head occur on an osculating plane creating in some cases a helical ribbon and in some others a twisted ribbon. Shedding light onto the statistics and biophysics of various micro-swimmers' 3D motion, these results provide an important example of how biomedical imaging significantly benefits from emerging computational algorithms/theories, revolutionizing existing tools for observing various micro- and nano-scale phenomena in innovative, high-throughput, and yet cost-effective ways.

Fetah Benabid: *"Hollow core photonic crystal fibre: Novel light guidance and myriad of gas-photonic applications"*

Biography: Fetah Benabid is a CNRS director of research and honorary professor at the universities of Bath (UK) and Western Australia (Australia). He is the group founder and leader of Gas-Phase Photonic and Microwave Materials (GPPMM) at the CNRS UMR Xlim, Limoges, France. Fetah Benabid has pioneered the development of hollow-core photonic crystal fibres (HC-PCF) and their incorporation into scientific and technological applications. He is the inventor of Kagome HC-PCF and an all-fibre gas cells, coined photonic microcell (PMC). He is the inceptor of new optical guidance mechanism called inhibited coupling optical guidance that led to low loss optical fiber with negative curvature core-contour, and the "photonic tight-binding model" to explain the formation of photonic bandgap in photonic crystal fibres. Fetah Benabid research interests covers guided photonics, gas-phase based nonlinear and coherent optics. Fetah Benabid is also the founder of the start-up GLOphotonics (www://http.glophotonics.fr) market leader in hollow-core fibers for industrial applications.

Abstract: In 2002 the development of a new type of hollow-core photonic crystal fibre (HC-PCF), coined Kagome fibre, paved the way to a new manner to guide light within a hollow core. The fibre guides light via a new mechanism that doesn't require a photonic bandgap in the fibre cladding. Instead, the light is confined within the fibre core, and prevented from leaking out through the cladding by a strong coupling inhibition between the core guided mode and the cladding mode continuum. This guidance mechanism, called Inhibited Coupling (IC), is the guided photonic analogue of the concept of bound or quasi-bound state in a continuum established within the field of solid-state quantum physics. The IC guidance offered a design tool to the seminal introduction of hypocycloid core-contour (i.e. negative curvature) hollow-core photonic crystal fibre, which allowed a dramatic reduction in transmission loss of IC guiding HC-PCF. This improvement is such that IC guiding HC-PCF, which previous typical loss figure was in the range of 0.5 -1 dB/m, outperforms photonic bandgap (PBG) guiding HC-PCF in optical transmission. Today, the lowest loss figures at the benchmark wavelengths of the NIR-VIS spectral range are all set by IC guiding HC-PCF, such as the records of 17 dB/km ~1μm wavelength or 7.7 dB/km at ~750 nm. Furthermore, because of the intrinsic properties of the IC guidance, the reduction in loss means systematically a reduction in the power overlap with the silica core-surround. As a result high optical power handling is expected with the transmission loss reduction. This has been illustrated in the recent results in ultra-short pulse transportation and compression, leading to the record 1 mJ energy pulse delivery. Here, 1 milli-Joule energy, gigawatt peak power and close-to pettawatt/cm2 intensity ultra-fast laser-pulses from 600 fs Yb fiber-laser were successfully guided and compressed in HC-PCF. The guidance was achieved with low loss and in a single-mode fashion, and the pulse compression is achieved in a self-compression manner. Another result in high optical-field is the self-compression down to sub-cycle regime of 80 fs USP operating at 1.8 μm and with several tens of μJ pulse-energy. These results open exciting prospects in fibre based high field photonics and laser micromachining. As a matter of fact, IC guiding Kagome HC-PCF is currently commercially available from GLOphotonics and is strongly used as a fibre beam delivery of high power ultra-short pulse lasers.

Invited Speakers

Qing Huo Liu: *"Subsurface Sensing and Super-Resolution Imaging: Application of Computational Acoustics and Electromagnetics"*

Biography: Qing Huo Liu (S'88-M'89-SM'94-F'05) received his B.S. and M.S. degrees in physics from Xiamen University in 1983 and 1986, respectively, and Ph.D. degree in electrical engineering from the University of Illinois at Urbana-Champaign in 1989. His research interests include computational electromagnetics and acoustics, inverse problems, and their applications in geophysics, nanophotonics, and biomedical imaging. He has published over 300 refereed journal papers and 450 conference papers in conference proceedings, and his H-index is 48 (Google Scholar). He was with the Electromagnetics Laboratory at the University of Illinois at Urbana-Champaign as a Research Assistant from September 1986 to December 1988, and as a Postdoctoral Research Associate from January 1989 to February 1990. He was a Research Scientist and Program Leader with Schlumberger-Doll Research, Ridgefield, CT from 1990 to 1995. From 1996 to May 1999 he was an Associate Professor with New Mexico State University. Since June 1999 he has been with Duke University where he is now a Professor of Electrical and Computer Engineering. Dr. Liu is a Fellow of the IEEE, Fellow of the Acoustical Society of America, Fellow of Electromagnetics Academy, and Fellow of the Optical Society of America. Currently he serves as the founding Editor in Chief of the *IEEE Journal on Multiscale and Multiphysics Computational Techniques*, the Deputy Editor in Chief of *Progress in Electromagnetics Research*, an Associate Editor for *IEEE Transactions on Geoscience and Remote Sensing*, and an Editor for the *Journal of Computational Acoustics*. He was recently a Guest Editor in Chief of *the Proceedings of the IEEE* for a 2013 special issue on large-scale electromagnetics computation and applications. He received the 1996 Presidential Early Career Award for Scientists and Engineers (PECASE) from the White House, the 1996 Early Career Research Award from the Environmental Protection Agency, and the 1997 CAREER Award from the National Science Foundation. He serves as an IEEE Antennas and Propagation Society Distinguished Lecturer for 2014-2016.

Abstract: Acoustic/seismic and electromagnetic waves have widespread applications in geophysical subsurface sensing and imaging. In these applications, often the problems of understanding the underlying wave phenomena, designing the sensing and imaging measurement systems, and performing data processing and image reconstruction require large-scale computation in acoustics and electromagnetics. It is very challenging to solve such problems with the traditional finite difference and finite element methods. In this presentation, several high-performance computational methods and super-resolution imaging in acoustics and electromagnetics will be discussed along with their applications in oil exploration and subsurface imaging.

Program Overview

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Remote sensing</td></tr>
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Integrated and nonlinear optics</td><td rowspan="3">Session 6

Metamaterials and nanomaterials</td></tr>
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EMF propagation</td><td rowspan="8">Session 2

Microwaves</td><td rowspan="4">Start-up and Spin-off</td></tr>
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Antenna design and measurement</td></tr>
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EMF for energy and environment applications</td><td rowspan="4">Session 12

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cocktail party</td></tr>
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Conference Sessions

9:30 – 10:30 Registration

Plenary Session

10:30-11:00 Room "Auditorium"

Chairman: Stefano Selleri, *University of Parma*

10:30 Welcome and opening remarks

Session 1: EMF propagation

11:00-13:15 Room "Auditorium"

Chairman: Luca Perregrini, *University of Pavia*

11:00-11:40 Invited presentation, *Room "Auditorium"*
UNIVERSE OBSERVATION THROUGH GRAVITATIONAL WAVES
F. Ricci
"La Sapienza" University of Rome

11:45-12:00 1.1
GENERATION OF LIMITED-DIFFRACTIVE TWISTED PULSES
D. Comite[1], W. Fuscaldo[1,2], S.C. Pavone[3]
[1]Deparment of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome
[2]Institut d'Électronique et de Télécommunications de Rennes, Université de Rennes 1, France
[3]Department of Information Engineering and Mathematics, University of Siena

12:00-12:15 1.2
"BLIND" FIELD SEPARATION OF 2D FAR ZONE DATA
G. Leone, A. Natale,
Department of Industrial and Information Engineering, Second University of Naples

12:15-12:30 1.3
INHOMOGENEOUS WAVES GENERATION FOR THE ELECTROMAGNETIC DEEP PENETRATION INTO LOSSY MEDIA
V. Pascale, F. Pelorossi, N. Tedeschi, F. Frezza
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

12:30-12:45 1.4

ITERATED VIRTUAL EXPERIMENTS AND COMPRESSIVE SENSING FOR QUANTITATIVE INVERSE SCATTERING PROBLEMS

R. Palmeri[1], M.T. Bevacqua[1], L. Crocco[2], T. Isernia[1,2], L. Di Donato[3]
[1]*DIIES, Università Mediterranea di Reggio Calabria*
[2]*CNR-IREA, Naples*
[3]*DIEEI, Università di Catania*

12:45-13:00 1.5

ELECTROMAGNETIC MODELING OF FORWARD SCATTER RADAR

M.T. Falconi, D. Comite
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

13:00-13:15 1.6

ELECTROMAGNETIC SCATTERING BY PERFECTLY CONDUCTING BURIED OBJECTS

F. Di Murro, M. Lucido, G. Panariello, C. Santomassimo, F. Schettino
Department of Electrical and Information Engineering, University of Cassino and Southern Lazio

Session 2: Microwaves

11:00-13:15 Room "Master"

Chairman: Gino Sorbello, *University of Catania*

11:00-11:40 Invited presentation, *Room "Auditorium"*

UNIVERSE OBSERVATION THROUGH GRAVITATIONAL WAVES

F. Ricci
"La Sapienza" University of Rome

11:45-12:00 2.1

ON THE DESIGN OF AN ANTENNA ARRAY FOR CUBE SATS OPERATING IN THE KA-FREQUENCY BAND

G. Buttazzoni, M. Comisso, A. Cuttin, R. Vescovo
Department of Engineering and Architecture, University of Trieste

12:00-12:15 2.2

THE ALPHASAT PROPAGATION EXPERIMENT: INTERIM RESULTS FROM ASI AND NASA GROUND STATIONS

C. Riva[1,2], L. Luini[1,2], R. Nebuloni[2], J. Nessel[3], G. Codispoti[4], G. Parca[4], A. Tuozzi[4]
[1]*Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano*
[2]*Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni, Consiglio Nazionale delle Ricerche, Milano*
[3]*NASA Glenn Research Center, Cleveland, OH, USA*
[4]*Italian Space Agency, Rome*

12:15-12:30 2.3

A NOVEL MICROWAVE FREQUENCY SWEEP INTERFEROMETER FOR ECR PLASMA ELECTRON DENSITY MEASUREMENTS

G. Torrisi[1,2], O. Leonardi[1], G. Sorbello[1,3], D. Mascali[1], G. Castro[1], L. Celona[1], S. Gammino[1]

[1]*INFN - Laboratori Nazionali del Sud, Catania*
[2]*Università Mediterranea di Reggio Calabria*
[3]*Università degli Studi di Catania*

12:30-12:45 2.4

X-BAND WAVEGUIDE DIPLEXER DESIGN WITH RELAXED FABRICATION TOLERANCE

E. Agastra

Department of Electronics and Telecommunications, Polytechnic University of Tirana, Albania

12:45:13:00 2.5

X/KA-B AND DUAL-POLARIZED DIGITAL BEAMFORMING SYNTHETIC APERTURE RADAR

C. Mao[1], S. Gao[1], C. Tienda[2], S. Glisic[3], E. Arnieri[4], P. Penkala[5], M. Krstic[6], A. Dominuez[7], A. Patyuchenko[2], F. Qin[1], U. Yodprasit[3], O. Schrape[6], L. Boccia[4], G. Amendola[4], M. Younis[2], E. Celton[7], V. Petrovic[6]

[1]*School of Engineering and Digital Arts, University of Kent, UK*
[2]*Microwaves and Radar Institute, German Aerospace Center (DLR), Germany*
[3]*Silicon Radar GmbH, Germany*
[4]*DIMES, Università della Calabria*
[5]*Evatronix S.A. Bielsko-Biała, Poland*
[6]*IHP, Germany*
[7]*Innovative Solutions In Space BV, Netherlands*

13:00-13:15 2.6

ADDITIVE MANUFACTURING OF METAL PASSIVE WAVEGUIDE COMPONENTS

M. Lumia[1], M. Lorusso[2]

[1]*Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni, Consiglio Nazionale delle Ricerche, Turin*
[2]*Center for Space Human Robotics, Istituto Italiano di Tecnologia, Turin*

13:15 – 14:15 Lunch

Session 3: Antennas

14:15-16:30 Room "Auditorium"

Chairman: Graziano Cerri, *Marche Polytechnic University*

14:15-14:55 Invited presentation, *Room "Auditorium"*

PRACTICAL APPLICATIONS OF RADIATIVE WIRELESS POWER TRANSFER

H.J. Visser
TU Eindhoven

15:00-15:15 3.1

A CPW-FED PRINTED LPDA FOR WIRELESS COMMUNICATIONS

G.A. Casula, G. Montisci, P. Maxia, G. Muntoni, G. Mazzarella
Dipartimento di Ingegneria Elettrica ed Elettronica, Università degli Studi di Cagliari

15:15-15:30 3.2

NONREDUNDANT SPHERICAL NEAR-FIELD–FAR-FIELD TRANSFORMATION FOR A NONCENTRED ANTENNA

F. D'Agostino, F. Ferrara, C. Gennarelli, R. Guerriero, M. Migliozzi
Dipartimento di Ingegneria Industriale, Università di Salerno

15:30-15:45 3.3

IMMUNITY TEST SIMULATION IN A MULTIPLE ANTENNA SOURCE STIRRED REVERBERATION CHAMBER

A. De Leo, V. Mariani Primiani, P. Russo, G. Cerri
Dipartimento di Ingegneria dell'Informazione, Università Politecnica delle Marche

15:45-16:00 3.4

BROADBAND TEST-SOURCE FOR ANTENNA MEASUREMENTS WITH UNMANNED AERIAL VEHICLES

F. Paonessa
Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni, Consiglio Nazionale delle Ricerche, Torino

16:00-16:15 3.5

A SINGLE-LAYER PENTAGONAL ARRAY BASED ON THE SEQUENTIAL ROTATION ARRANGEMENT OF FIVE ELEMENTS

S. Maddio, G. Pelosi, M. Righini, S. Selleri
Department of Information Engineering, University of Florence

16:15-16:30 3.6

TAPERED EBG SUPERSTRATES FOR HIGH-GAIN EBG RESONATOR ANTENNAS

C. Ponti[1], S. Ceccuzzi[1], P. Baccarelli[2], G. Schettini[1]
[1]*Department of Engineering, Roma Tre University*
[2]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*

Session 4: RFID

14:15-16:30 Room "Master"

Chairman: Luciano Tarricone*, University of Salento*

14:15-14:55 Invited presentation, *Room "Auditorium"*

PRACTICAL APPLICATIONS OF RADIATIVE WIRELESS POWER TRANSFER

H.J. Visser

TU Eindhoven

15:00-15:15 4.1

UWB-UHF RFID TAG ON PAPER FOR SIMULTANEOUS COMMUNICATION AND RF ENERGY HARVESTING

M. Fantuzzi[1], D. Masotti[1], A. Costanzo[2]

[1]*DEI, University of Bologna*

[2]*DEI, Cesena Campus, University of Bologna*

15:15-15:30 4.2

PASSIVE RFID SENSOR NETWORK FOR INDUSTRIAL INTERNET OF THINGS

C. Occhiuzzi[1], S. Amendola[1,2], S. Manzari[1], G. Marrocco[1,2]

[1]*RADIO6ENSE*

[2]*Pervasive Electromagnetics Lab, University of Tor Vergata*

15:30-15:45 4.3

MODULAR ANTENNAS FOR NEAR-FIELD UHF-RFID SYSTEMS

A. Michel, P. Nepa, G. Manara

Department of Information Engineering, University of Pisa

15:45-16:00 4.4

ENHANCED BATTERY-FREE AUGMENTED RFID TAG

R. Colella, L. Catarinucci, L. Tarricone

Department of Innovation Engineering, University of Salento

16:00-16:15 4.5

CHIPLESS RFID TAGS AND SENSORS FOR WIRELESS SENSOR NETWORKS

F. Costa[1,2], S. Genovesi[1,2], M. Borgese[1,2], F.A. Dicandia[1,2], A. Monorchio[1,2], G. Manara[1,2]

[1]*Department of Information Engineering, University of Pisa*

[2]*Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Parma*

16:15-16:30 4.6

EXPERIMENTAL TOOL FOR RFID TAG ELECTROMAGNETIC ANALYSIS

R. Colella

Department of Innovation Engineering, University of Salento

16:30 – 18:00 Coffee Break

Poster Session 1

16:30-17:45

P1.1

ANALYSIS OF THE ROBUSTNESS OF WEARABLE PIFAS TO THE HUMAN BODY COUPLING

G.A. Casula[1], A. Michel[2], G. Montisci[1], P. Nepa[2], G. Mazzarella[1]
[1]*Dipartimento di Ingegneria Elettrica ed Elettronica, Università degli Studi di Cagliari*
[2]*Department of Information Engineering, University of Pisa*

P1.2

A CENTRALISED ADS-B SYSTEM FOR EN-ROUTE AND LOW LEVEL COVERAGE

M. Arpaio[1], S. Selleri[2]
[1]*Thales Italia Spa, Air Traffic Management Domain*
[2]*Department of Information Engineering, University of Parma*

P1.3

CHARACTERIZATION OF LOCALIZED AND STATIONARY DYNAMIC BRILLOUIN GRATINGS

F. Chiarello, L. Palmieri, M. Santagiustina
Department of Information Engineering, University of Padua

P1.4

EXPLOITING FREQUENCY DIVERSITY IN PROPAGATION-BASED WIRELESS LOCALIZATION OF MOBILE DEVICES

A. Polo
ELEDIA Research Center ELEDIA@UniTN, University of Trento

P1.5

WIRELESS SENSOR NETWORK AND DOPPLER RADAR TECHNOLOGIES FOR WILDLIFE ROAD CROSSING MONITORING

F. Robol
ELEDIA Research Center ELEDIA@UniTN, University of Trento

P1.6

INVERSE SCATTERING METHODOLOGIES AND APPLICATIONS @ ELEDIA RESEARCH CENTER

N. Anselmi[1], M. Donelli[1], M.A. Hannan[1], G. Oliveri[1,2], L. Poli[1], P. Rocca[1], M. Salucci[1,2], L. Tenuti[1], A. Massa[1,2]
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[2]*ELEDIA Research Center ELEDIA@L2S, UMR8506 [CNRS-CS-UPS], France*

P1.7

DISTRIBUTED WIRELESS SENSING, MONITORING, AND DECISION SUPPORT: CURRENT ACTIVITIES @ ELEDIA RESEARCH CENTER

H. Ahmadi[1], M. S. Dao[2], E. Giarola[3], A. Polo[3], F. Robol[3], F. Viani[3], A. Massa[3,4]
[1]*ELEDIA Research Center ELEDIA@Innov'COM Sup'Com Tunis, Tunisia*
[2]*ELEDIA Research Center ELEDIA@UTB, Universiti Teknologi Brunei, Brunei Darussalam*
[3]*ELEDIA Research Center ELEDIA@UniTN, University of Trento*
[4]*ELEDIA Research Center ELEDIA@L2S, UMR 8506 [CNRS-CS-UPS], France*

P1.8

WIRELESS-BASED DECISION SUPPORT SYSTEMS AND FLEET MANAGEMENT @ ELEDIA RESEARCH CENTER

A. Polo[1], A. Massa[2]
[1]*ELEDIA Research Center ELEDIA@UniTN, University of Trento*
[2]*ELEDIA Research Center ELEDIA@L2S, UMR 8506 [CNRS-CS-UPS]*

P1.9

DESIGN AND OPTIMIZATION OF ADVANCED RADAR AND COMMUNICATIONS SYSTEMS AND ARCHITECTURES @ ELEDIA RESEARCH CENTER

N. Anselmi[1], M. Donelli[1], M.A. Gelmini[1], G. Gottardi[1], G. Oliveri[1,2], L. Poli[1], P. Rocca[1], L. Tenuti[1], A. Massa[1,2]
[1]*ELEDIA Research Center ELEDIA@UniTN, University of Trento*
[2]*ELEDIA Research Center ELEDIA@L2S, UMR8506 [CNRS-CS-UPS], France*

P1.10

JOINT EFFECTS OF CLOUDS AND RAIN ON EHF SATELLITE COMMUNICATION SYSTEMS

L. Luini, C. Capsoni
Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano

P1.11

RFIDRONES : PRELIMINARY EXPERIMENTS AND ELECTROMAGNETIC MODELS

G. Casati, M. Longhi, D. Latini, F. Carbone, F. Del Frate, A. Perrone, G. Schiavon, G. Marrocco
Civil Engineering and Computer Science, University of Rome Tor Vergata

P1.12

LOW-COST WIRELESS SENSING BY MEANS OF RECONFIGURABLE RFID SYSTEMS

M.C. Caccami, G. Marrocco
Department of Civil and Information Engineering, University of Rome Tor Vergata

P1.13

COPRIME SYNTHETIC ARRAYS

G. Di Martino, A. Iodice
Department of Electrical Engineering and Information Technology, University of Naples "Federico II"

P1.14

MICROWAVE CHARACTERIZATION OF A DILUTED WATER-BASED FERROFLUID IN PRESENCE OF AN EXTERNAL POLARIZING MAGNETIC FIELD FOR BIOMEDICAL APPLICATIONS

G. Bellizzi[1,2], G.G. Bellizzi[2,3], O.M. Bucci[3.4]
[1]*DIETI, Università di Napoli "Federico II"*
[2]*IREA, Consiglio Nazionale delle Ricerche, Napoli*
[3]*DIIES, Università Mediterranea della Calabria*
[4]*Consorzio Nazionale Interuniversitario sulle Telecomunicazioni, Parma*

P1.15

EXPERIMENTAL VALIDATION OF MAGNETIC NANOPARTICLE ENHANCED MICROWAVE IMAGING OF BREAST CANCER

O.M. Bucci[1,4], G. Bellizzi[2,4], A. Borgia[3], S. Costanzo[3], L. Crocco[1], G. Di Massa[3], R. Scapaticci[2]

[1]*IREA, Consiglio Nazionale delle Ricerche, Napoli*

[2]*DIETI, Università di Napoli "Federico II"*

[3]*DIMES, Università della Calabria*

[4]*Consorzio Nazionale Interuniversitario sulle Telecomunicazioni, Parma*

P1.16

A SPECTRAL-DOMAIN METHOD FOR THE ELECTROMAGNETIC SCATTERING FROM A MULTILAYERED SPHERE BURIED IN A STRATIFIED LOSSY MEDIUM

F. Mangini[1,2]

[1]*Enrico Fermi Research Center, Rome*

[2]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*

P1.17

ANALYSIS OF DB UNIT CELL AND EXTRACTION OF ITS EFFECTIVE CONSTITUTIVE PARAMETERS

M. Khalid, N. Tedeschi, F. Frezza

Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

P1.18

ELECTROMAGNETIC INTERACTION WITH A MISALIGNED BROKEN PIPE

P.P. Di Gregorio[1], V. Ferrara[1], F. Frezza[1], F. Mangini[1,2], M. Muzi[1]

[1]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*

[2]*Enrico Fermi Research Center, Rome*

P1.19

RECONFIGURABLE FABRY-PEROT CAVITY LEAKY-WAVE ANTENNAS BASED ON NEMATIC LIQUID CRYSTALS FOR THZ APPLICATIONS

W. Fuscaldo[1,2], S. Tofani[1,3], P. Burghignoli[1], P. Baccarelli[1], D.C. Zografopoulos[2], R. Beccherelli[3], A. Galli[1]

[1]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*

[2]*Institut d'Électronique et de Télécommunications de Rennes, UMR CNRS 6164, Université de Rennes 1, France*

[3]*Institute for Microelectronics and Microsystems, National Research Council, Rome*

P1.20

CELLULAR VOLUME FRACTION ESTIMATION THROUGH COMPLEX DIELECRTIC PERMITTIVITY MEASUREMENT AND MONTE CARLO ALGORITHM

F. Mangini, M. Muzi, N. Tedeschi

Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

P1.21
EARTHQUAKE DAMAGE DETECTION IN URBAN AREAS FROM VHR SAR IMAGERY
R. Anniballe[1], M. Chini[2], N. Pierdicca[1]
[1]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*
[2]*Luxembourg Institute of Science and Technology, Belvaux, Luxembourg*

P1.22
HTS FILTERS FOR THE SARDINIA RADIO T ELESCOPE
P. Bolli[1], L. Cresci[1], F. Huang[2], S. Mariotti[3], D. Panella[4]
[1]*Arcetri Astrophysical Observatory, INAF, Florence*
[2]*School of EESE, University of Birmingham, Birmingham, UK*
[3]*Institute of Radio Astronomy, INAF, Bologna*

P1.23
ORTHO-MODE TRANSDUCERS FOR MULTI-FEED RECEIVERS
G. Addamo, G. Virone, O. A. Peverini, M. Lumia, R. Tascone
CNR-IEIIT, c/o Politecnico di Torino

P1.24
DESIGN OF ERBIUM DOPED CHALCOGENIDE MICRODISK EMITTING AT 4.5 μm WAVELENGTH
G. Palma[1], M.C. Falconi[1], F. Starecki[2], V. Nazabal[2], L. Bodiou[3], Y. Dumeige[3], J. Lemaitre[3], J. Charrier[3], F. Prudenzano[1]
[1]*Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari*
[2]*ISCR, UMR UR1-CNRS 6226, Université de RENNES 1, France*
[3]*FOTON-UMR-CNRS 6082, ENSSAT BP80518, Lannion, France*

P1.25
MONTE CARLO MODEL OF CLOUD SCATTERING OF SOLAR RADIATION FOR VLC AIRCRAFT SYSTEMS
D. Tagliaferri[1], R. Nebuloni[2], L. Luini[1,2], C. Capsoni[1]
[1]*Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano*
[2]*IEIIT-CNR, Milano*

P1.26
PRELIMINARY RESULTS ON A MINIATURIZED QUADRATURE HYBRID COUPLER USING SLOW-WAVE TRANSMISSION LINES
G. Acri[1], P. Ferrari[2], L. Boccia[1], D. Calzona[1], G. Amendola[1]
[1]*Department of Telecommunication Engineering, University of Calabria*
[2]*IMEP-LAHC, University Grenoble-Alpes, France*

P1.27
ANALYSIS AND DESIGN OF IN-PACKAGE TRANSMIT-ARRAYS
G.R. Chamba Romero, F. Greco, L. Boccia, G. Amendola, E. Arnieri
DIMES – Microwave laboratory Rende, University of Calabria

P1.28
LINEAR PROGRAMMING RELAXATION IN 3D ELECTROMAGNETIC CONSTRAINED POWER FOCUSING
D.A.M. Iero
DIIES, Università Mediterranea di Reggio Calabria

P1.29
A STEP-WISE MICROWAVE IMAGING STRATEGY FOR LANDMINE DETECTION MODELLING AND NUMERICAL ASSESSMENT
A. Brancaccio[1,7], G. Maiello[1,7], M.D. Migliore[2,7], D. Pinchera[2,7], F. Schettino[2,7], T. Isernia[3,7], M. Ambrosanio[4,7], V. Pascazio[4,7], L. Di Donato[5,7], L. Crocco[6,7]
[1]*DIII, Seconda Università di Napoli*
[2]*DIEI, Università di Cassino e del Lazio Meridionale*
[3]*DIIES, Università Mediterranea di Reggio Calabria*
[4]*Dipartimento di Ingegneria, Università di Napoli Parthenope*
[5]*DIEEI, Università di Catania*
[6]*IREA-CNR, Napoli*
[7]*Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Parma*

P1.30
NEAR-FIELD WPT TO LOOSELY-COUPLED SMALL IMPLANTS
A. Pacini, F. Berra, A. Costanzo, F. Mastri, D. Masotti
DEI, University of Bologna

17:45 – 21:00 **Visit at "*Centro Studi e Archivio della Comunicazione*" (CSAC), cocktail party and guitar concert**

8:30 – 9:30 Registration

Session 5: Integrated and nonlinear optics

9:00-11:15 Room "Auditorium"

Chairman: Gaetano Bellanca*, University of Ferrara*

9:00-9:40 Invited presentation, *Room "Auditorium"*

DEMOCRATIZATION OF NEXT-GENERATION MICROSCOPY, SENSING AND DIAGNOSTIC TOOLS THROUGH COMPUTATIONAL PHOTONICS

A. Ozcan
University of California, Los Angeles, CA, USA

9:45-10:00 5.1

ALL-OPTICAL UNSCRAMBLING OF MIXED SPATIAL MODES ON A SILICON PHOTONIC CHIP

F. Morichetti1, A. Annoni[1], S. Grillanda[1], N. Peserico[1], M. Carminati[1], P. Ciccarella[1], G. Ferrari[1], E. Guglielmi[1], M. Sorel[2], A. Melloni[1]
[1]*Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano*
[2]*School of Engineering, University of Glasgow, Glasgow, UK*

10:00-10:15 5.2

INVESTIGATING THE USE OF A H YBRID PLASMONIC-PHOTONIC NANORESONATOR FOR OPTICAL TRAPPING USING FINITE-D IFFERENCE TIME-DOMAIN METHOD

M. Mossayebi[2], G. Bellanca[1], A.J. Wright[2], A. Parini[1], M.G. Somekh[3], E.C. Larkins[2]
[1]*Department of Engineering, University of Ferrara*
[2]*Department of Electrical and Electronic Engineering, University of Nottingham, Nottingham, UK*
3Department of Electrical and Information Technology, Hong Kong Polytechnic University, Kowloon, Hong Kong, China

10:15-10:30 5.3

OPTICAL KERR DARK-LUMP DYNAMICS OF HYDRODYNAMIC ORIGIN

F. Baronio[1], C. De Angelis[1], S. Wabnitz[1], Y. Kodama[2]
[1]*INO CNR and Department of Information Engineering, University of Brescia*
[2]*Department of Mathematics, Ohio State University, Columbus, OH, USA*

10:30-10:45 5.4

DESIGN OF MESOSCOPIC PHOTONIC CRYSTAL MICROCAVITY BASED SENSORS DEVOTED TO OPTICAL TWEEZING APPLICATIONS

B. Ferrara[1], M. Grande[1], G. Calò[1], A. D'Orazio[1], V. Petruzzelli[1], G. Magno[2], B. Dagens[2], A. Monmayrant[3], O. Gauthier-Lafaye[3]
[1]*Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari*
[2]*IEF, CNRS, University Paris-Sud, University Paris-Saclay, Orsay, France*
[3]*CNRS, LASS, Toulouse, France; University De Toulouse, LAAS, Toulouse, France*

10:45-11:00 5.5
A DESIGN TOOL FOR INTEGRATED OPTICAL SEGMENTED WAVEGUIDES
A.E. Kaplan[1], G. Bellanca[2], P. Bassi[1]
[1]*Department of Electrical, Electronic and Information Engineering, University of Bologna*
[2]*Department of Engineering, University of Ferrara*

11:00-11:15 5.6
EFFECT OF ETCHING SLOPE IN HIGH Q-FACTOR OPTICAL NANOBEAMS
D. Panettieri[1], L. O'Faolain[2], M. Grande[1]
[1]*Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari*
[2]*SUPA, School of Physics and Astronomy, University of St. Andrews, UK*

Session 6: Metamaterials and nanomaterials

9:00-11:15 Room "Master"

Chairman: Federica Poli*, University of Parma*

9:00-9:40 Invited presentation, *Room "Auditorium"*
DEMOCRATIZATION OF NEXT-GENERATION MICROSCOPY, SENSING AND DIAGNOSTIC TOOLS THROUGH COMPUTATIONAL PHOTONICS
A. Ozcan
University of California, Los Angeles, CA, USA

9:45-10:00 6.1
DESIGN AND ANALYSIS OF AN ULTRA-THIN DUAL-BAND METAMATERIAL ABSORBER FOR THZ APPLICATIONS
M.D. Astorino, N. Tedeschi
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

10:00-10:15 6.2
MATERIAL-BY-DESIGN PHASED ARRAYS SINTHESIS
L. Tenuti
ELEDIA Research Center ELEDIA@UniTN, University of Trento

10:15-10:30 6.3
EFFECT OF EXTREME ANISOTROPY ON THE REFLECTION FROM THE INTERFACE OF A MATCHED UNIAXIAL MEDIUM
M. Khalid
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

10:30-10:45 6.4
INFLUENCE OF DISORDER ON LASING ONSET IN PLANAR MEDIA
C. Molardi[1], X. Yu[2], H.K. Liang[2], A. Cucinotta[1], S. Selleri[1]
[1]*Information Engineering Department, University of Parma*
[2]*Precision Measurement Group, Singapore Institute of Manufacturing Technology, Singapore*

10:45-11:00 6.5
A SIMPLE WIDE-ANGLE METAMATERIAL ABSORBER
E. Sassolini, N. Tedeschi, M. Khalid, E. Lia, M.D. Astorino, F. Frezza
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

11:00-11:15 6.6
SIW FILTERS BASED ON PERFORATED DIELECTRIC SUBSTRATE
L. Silvestri[1], E. Massoni[1], M. Bozzi[1], L. Perregrini[1], C. Tomassoni[2], A. Coves[3]
[1]*Department of Electrical, Computer and Biomedical Engineering, University of Pavia*
[2]*Department of Engineering, University of Perugia*
[3]*Departamento de Ingenieria de Comunicaciones, Universidad Miguel Hernandez, Elche, Spain*

11:15 – 11:45 Coffee Break

Session 7: Numerical methods

11:45-13:15 Room "Auditorium"

Chairman: Stefano Selleri*, University of Florence*

11:45-12:15 Invited presentation
EM MODELING OF COMPLEX AND ELECTRICALLY LARGE ELECTROMAGNETIC SYSTEMS FROM A RF AND EMC POINT OF VIEW
E. Leroux
CST Italy srl

12:15-12:30 7.1
SINGULARITY EXTRACTION FOR WEAKLY SINGULAR INTEGRALS ON HIGH ORDER ELEMENTS
G. Borzì
Department of Engineering, Messina University

12:30-12:45 7.2
A FINITE-ELEMENT BASED FIELD ESTIMATION VIA A KALMAN FILTERING APPROACH
G. Battistelli, L. Chisci, N. Forti, G. Pelosi, S. Selleri
Department of Information Engineering, University of Florence

12:45-13:00 7.3
ELECTROMAGNETIC IMAGING IN LP BANACH SPACES: 3D FREE SPACE RECONSTRUCTIONS
A. Fedeli, M. Pastorino, A. Randazzo, E. Tavanti
Department of Electrical, Electronic, Telecommunications Engineering, and Naval Architecture, University of Genoa

13:00-13:15 7.4
THE BI-RME METHOD COMBINED WITH THE SEGMENTATION TECHNIQUE APPLIED TO THE MODELING OF 3D COMPONENTS
S. Battistutta, M. Bozzi, M. Bressan, M. Pasian, L. Perregrini
Department of Electrical, Computer and Biomedical Engineering, University of Pavia

Session 8: Antenna design and measurement

11:45-13:15 Room "Master"

Chairman: Raffaele Solimene*, Second University of Naples*

11:45-12:00 8.1
THE SYSTEM-BY-DESIGN APPROACH FOR SOLVING HIGH-COMPLEXITY EM DESIGN PROBLEMS
M. Salucci[1,2]
[1]*ELEDIA Research Center ELEDIA@UniTN, University of Trento*
[2]*ELEDIA Research Center ELEDIA@L2S, UMR8506 [CNRS-CS-UPS], France*

12:00-12:15 8.2
ε-ENTROPY OF SCATTERED FIELD
M.A. Maisto, R. Solimene, R. Pierri
Dipartimento di Ingegneria Industriale e dell'Informazione, Seconda Università di Napoli

12:15-12:30 8.3
ANTENNA NEAR FIELD PHASE RECOVERY BY IMPROVED INDIRECT HOLOGRAPHIC METHOD
G. Di Massa, S. Costanzo,
Dipartimento di Ingegneria Informatica, Modellistica, Elettronica e Sistemistica, Università della Calabria

12:30-12:45 8.4
SYNTHESIS OF DIELECTRIC CLOAKS VIA INVERSE SCATTERING DESIGN WITHOUT METAMATERIAL COATINGS
G. Labate[1], L. Di Donato[2]
[1]*Dipartimento di Elettronica e Telecomunicazioni, Politecnico di Torino*
[2]*Dipartimento di Ingegneria Elettrica, Elettronica e Informatica, Università di Catania*

12:45-13:15 Invited presentation
DESIGN ED ANALISI DI ANTENNE IN MATLAB
Stefano Olivieri
MathWorks Italy

13:15 – 14:15 Lunch

14:15 – 15:30 Siem Meeting (CS, CD)

15:30 – 16:00 Coffee Break

Poster Session 2

14:15-16:00

P2.1
DEEP PENETRATION PROPERTIES OF INHOMOGENEOUS WAVES
P. Baccarelli, F. Frezza, P. Simeoni, N. Tedeschi
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

P2.2
ANALYSIS OF LEAKY-WAVE THZ ANTENNAS BASED ON GRAPHENE
W. Fuscaldo[1,2], P. Burghignoli[1], P. Baccarelli[1], A. Galli[1]
[1]Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome
[2]Institut d'Électronique et de Télécommunications de Rennes, UMR CNRS 6164, Université de Rennes 1, France

P2.3
WIRE-MEDIUM LOADED FABRY-PEROT CAVITY ANTENNAS
D. Comite, P. Burghignoli, P. Baccarelli, A. Galli
Department of Information Engineering, Electronic and Telecommunications, "La Sapienza" University of Rome

P2.4
A HIGH GAIN DIELECTRIC RESONATOR ANTENNA FOR WIDEBAND WIRELESS APPLICATIONS
R. Cicchetti, E. Miozzi, O. Testa
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

P2.5

COMPUTATIONAL MODELLING OF THE INDUCED FIELDS DURING CEREBELLAR AND SPINAL DIRECT CURRENT STIMULATION IN CHILDREN

S. Fiocchi[1], P. Ravazzani[1], A. Priori[2], M. Parazzini[1]
[1]*Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni IEIIT, CNR Consiglio Nazionale delle Ricerche*
[2]*Dipartimento di Scienze della Salute, Università degli studi di Milano, Ospedale San Paolo*

P2.6

DESIGN OF PATTERN RECONFIGURABLE SPARSE ANTENNA ARRAYS

G. Buttazzoni
Department of Engineering and Architecture, University of Trieste

P2.7

POLARIMETRIC SAR RAW SIGNAL SIMULATION

G. Di Martino, A. Iodice, D. Poreh, D. Riccio
Department of Electric Engineering and Information Technology, University of Naples "Federico II"

P2.8

TWO-PORT WPT LINK USING THREE COUPLED INDUCTORS

G. Monti[1], A. Costanzo[2], F. Mastri[2], M. Mongiardo[3], L. Tarricone[1]
[1]*DII, University of Salento*
[2]*DEI, University of Bologna*
[3]*DE, University of Perugia*

P2.9

MONOPOLE ARRAY WITH PARASITIC ELEMENTS AND CORPORATE-FEED NETWORK

M. Farran[1], S. Boscolo[2], A. Locatelli[1], A.D. Capobianco[3], M. Midrio[2], V. Ferrari[1], D. Modotto[1]
[1]*Dipartimento di Ingegneria dell'Informazione, Università di Brescia*
[2]*Dipartimento di Ingegneria Elettrica, Gestionale e Meccanica, Università di Udine*
[3]*Dipartimento di Ingegneria dell'Informazione, Università di Padova*

P2.10

PATH-LOSS STATISTICAL MODEL FOR URBAN MOBILE BACKHAULING AT MM-FREQUENCIES

F. Fuschini[1], M. Barbiroli[1], M. Zoli[1], A. Perikleous[2], V. Petrini[3], C. Carciofi[3]
[1]*DEI, University of Bologna*
[2]*Consorzio Elettra2000, Pontecchio Marconi (BO)*
[3]*Fondazione Ugo Bordoni, Pontecchio Marconi (BO)*

P2.11

FREQUENCY RECONFIGURABLE SELF-ADAPTING CONFORMAL ARRAY FOR CHANGING SURFACES

G. Mansutti[1], M.S. Khan[1], B.D. Braaten[2], A.D. Capobianco1[1]
[1]*Department of Information Engineering, University of Padua*
[2]*Department of Electrical and Computer Engineering, North Dakota State University, ND, USA*

P2.12
FRACTIONAL–CALCULUS–BASED FDTD MODEL FOR SIMULATING ARBITRARY DISPERSIVE DIELECTRIC MATERIALS
P. Bia[1], L. Mescia[1], D. Caratelli[2]
[1]*Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari*
[2]*The Antenna Company Nederland B.V., AE Eindhoven, The Netherlands*

P2.13
A SIMPLIFIED RADIATION MODEL OF A WAVEGUIDE SLOT
G. Buonanno, G. Leone
Department of Industrial and Information Engineering, Second University of Naples

P2.14
INVERSE SOURCE IMMERSED IN INHOMOGENEOUS MEDIUM
M.A. Maisto, R. Solimene, R. Pierri
Dipartimento di Ingegneria Industriale e dell'Informazione, Seconda Università di Napoli

P2.15
COUPLING STRUCTURES FOR ON-CHIP MODE-DIVISION MULTIPLEXING SIGNAL PROCESSING
A. Parini[1], Y.G. Boucher[1], G. Bellanca[2], C. Peucheret[1]
[1]*FOTON Laboratory, CNRS UMR 6082, Lannion, France*
[2]*Department of Engineering, University of Ferrara*

P2.16
ELECTROMAGNETIC SCATTERING BY ROTATING AXISYMMETRIC OBJECTS
P.K. Ramakrishnan, M. Raffetto
Department of Electrical, Electronic, Telecommunications Engineering, and Naval Architecture, University of Genoa

P2.17
A LOW-PROFILE ULTRAWIDEBAND ANTENNA FOR AUTOMOTIVE APPLICATIONS
A. Michel[1], V. Franchina[1], P. Nepa[1], G. Manara[1], M. Gallo[2], I. Moro[2], D. Zamberlan[2]
[1]*Department of Information Engineering, University of Pisa*
[2]*Calearo Antenne S.p.A., Isola Vicentina (VI)*

P2.18
NUMERICAL ANALYSIS OF THE RFID PRINTER ENCODER ANTENNAS PERFORMANCE
A. Michel, A. Buffi, P. Nepa, G. Manara
Department of Information Engineering, University of Pisa

P2.19
SIMPLE TOOLS FOR UNDERSTANDING THE LIMITATIONS OF ORBITAL ANGULAR MOMENTUM ANTENNAS
A.F. Morabito[1], L. Di Donato[2]
[1]*DIIES Department, University of Reggio Calabria and CNIT Consortium*
[2]*DIEEI Department, Università degli Studi di Catania*

P2.20

A NEW APPROACH TO THE DIAGNOSTICS OF ARRAY ANTENNAS BY MEANS OF A SMALL NUMBER OF PHASELESS MEASUREMENTS

A.F. Morabito, R. Palmeri
DIIES Department, University of Reggio Calabria, and CNIT Consortium

P2.21

FURTHER APPROACH TO PHASE RETRIEVAL THROUGH CONSTRAINED POWER INFLATION AND FLIPPING

A.R. Laganà , T. Isernia
LEMMA Research Group @ DIIIES, Università Mediterranea di Reggio Calabria

P2.22

LATTICE OPTIMIZATION FOR A MULTI-ARRAY ANTENNA SYSTEM AIMED AT SPACE DEBRIS SURVEILLANCE

G. Siciliano[1], M. Mendijur[2], P. Besso[2], M. Pasian[1], M. Bozzi[1], L. Perregrini[1]
[1]*Department of Electrical, Electronic and Biomedical Engineering, University of Pavia*
[2]*Department of Ground Stations and Operations, European Space Operations Center (ESOC), Darmstadt, Germany*

P2.23

ADDITIVE MANUFACTURING OF SUBSTRATE INTEGRATED WAVEGUIDE COMPONENTS

E. Massoni, L. Silvestri, S. Moscato, M. Pasian, M. Bozzi, L. Perregrini
Department of Electrical, Computer and Biomedical Engineering, University of Pavia

P2.24

RADIATION OF AN APERTURE ON THE FACE OF A PERFECTLY ELECTRIC CONDUCTING WEDGE-SHAPED SCREEN

M. Righini
Department of Information Engineering, University of Florence

P2.25

A BACK PROJECTION ALGORITHM TO FOCUS SYNTHETIC APERTURE RADAR DATA ACQUIRED FROM STRONGLY NON-RECTILINEAR TRAJECTORIES

S. Perna[1,2], A. Natale[2], P. Berardino[2]
[1]*DI, Università degli Studi di Napoli "Parthenope"*
[2]*IREA – CNR, Napoli*

P2.26

INVESTIGATION OF THE PATH REDUCTION FACTOR ON TERRESTRIAL LINKS FOR THE DEVELOPMENT OF A PHYSICALLY-BASED RAIN ATTENUATION MODEL

R. Ghiani[1], L. Luini[2,3], A. Fanti[1]
[1]*DIEE, Università di Cagliari*
[2]*DEIB, Politecnico di Milano*
[3]*IEIIT, Consiglio Nazionale delle Ricerche, Milano*

P2.27
MICROWAVE BESSEL BEAM LAUNCHER FOR PLANETARY DRILLING OPERATIONS
S. Costanzo, G. Di Massa, A. Borgia, A. Raffo
DIMES, University of Calabria

P2.28
DI-SILICATE DENTAL CERAMIC SURFACE PREPARATION BY FIBER LASER: ULTRASTRUCTURAL ANALYSIS
C. Fornaini[1,2], F. Poli[1], E. Merigo[2], M. Valentini[3], L. Romoli[3], F. Bondioli[3], S. Selleri[1], A. Cucinotta[1]
[1]*Information Engineering Department, University of Parma*
[2]*Micoralis Laboratory, Faculty of Dentistry, University of Nice, France*
[3]*Department of Industrial Engineering, University of Parma*

P2.29
OPTIMIZATION OF STRAIGHT AMPLIFIER ERBIUM DOPED WAVEGUIDES WITH THE IMPLEMENTATION OF AN ADIABATIC INPUT TAPER
V. Vaiti
Information Engineering Department, University of Parma

P2.30
PLASMONIC NANOANTENNA FOR POSSIBLE CMOS INTEGRATION
M. Celli[1], A. Polemi[1,2], L. Vincetti[1]
[1]*Department of Engineering "Enzo Ferrari", University of Modena*
[2]*Department of Material Science and Engineering, Drexel University, Philadelphia, PA, USA*

16:00 – 18:30 Siem Meeting (AS)

20:00 – 23:00 Social Dinner at "Ridotto del Teatro Regio", with exhibition of "Corale Giuseppe Verdi di Parma"

8:30 – 8:45 Registration

Session 9: Optical Fibers

8:45-11:00 Room "Auditorium"

Chairman: Luca Vincetti, *University of Modena and Reggio Emilia*

8:45-9:25 Invited presentation, Room "Auditorium"

HOLLOW CORE PHOTONIC CRYSTAL FIBRE: NOVEL LIGHT GUIDANCE AND MYRIAD OF GAS-PHOTONIC APPLICATIONS

F. Benabid

Research Institute XLIM - UMR CNRS n°7252, Limoges, France

9:30-9:45 9.1

REDUCTION OF HARMONIC DISTORTION IN RADIO OVER FIBER LINKS THROUGH DIGITAL PREPROCESSING

F. Fuochi, M.U. Hadi, J. Nanni, P.A. Traverso, G. Tartarini

Department of Electrical, Electronic and Information Engineering, University of Bologna

9:45-10:00 9.2

DYSPROSIUM-DOPED CHALCOGENIDE FIBER LASER FOR MEDICAL APPLICATIONS

M.C. Falconi[1], G. Palma[1], F. Starecki[2], V. Nazabal[2], J. Troles[2], S. Taccheo[3], M. Ferrari[4], F. Prudenzano[1]

[1]*Department of Electrical and Information Engineering, Politecnico di Bari*

[2]*Institut des Sciences Chimiques de Rennes, UMR 6226, Université de Rennes 1, France*

[3]*Institute of Advanced Telecommunications, Swansea University, Wales, UK*

[4]*CSMFO Laboratory, Consiglio Nazionale delle Ricerche Istituto di Fotonica e Nanotecnologie, Trento*

10:00-10:15 9.3

MULTI-MODE PROPAGATION IN OPTICAL FIBERS FOR SPACE-DIVISION MULTIPLEX TRANSMISSION

C. Antonelli[1], A. Mecozzi[1], M. Shtaif[2]

[1]*Department of Physical and Chemical Sciences, University of L'Aquila*

[2]*Department of Physical Electronics, Tel Aviv University, Tel Aviv, Israel*

10:15-10:30 9.4

A PRELIMINARY NUMERICAL ANALYSIS OF THE DIFFERENTIAL GROUP DELAY OF A 6-SPATIAL-MODES SPUN FIBER

L. Palmieri, G. Guerra, L. Marcon, M. Santagiustina, A. Galtarossa

Department of Information Engineering, University of Padua

10:30-10:45 9.5

INFLUENCE OF INNER CLADDING GEOMETRY ON SYMMETRY-FREE PHOTONIC CRYSTAL FIBER PROPERTIES UNDER SEVERE HEAT LOAD

F. Poli, G. Ciletti, E. Coscelli, A. Cucinotta, S. Selleri

Information Engineering Department, University of Parma

10:45-11:00 9.6
A QUASI-D ISTRIBUTED OPTICAL FIBER LOAD SENSOR
L. Schenato[1], A. Pasuto[1], A. Galtarossa[2,3], L. Palmieri[2]
[1]*Research Institute for Geo-Hydrological Protection, National Research Council, Padua*
[2]*Department of Information Engineering, University of Padua*
[3]*IIUSE, Southeast University, Nanjing, China*

Session 10: Remote Sensing

8:45-11:00 Room "Master"

Chairman: Daniele Riccio, *University of Naples "Federico II"*

8:45-9:25 Invited presentation, Room "Auditorium"
HOLLOW CORE PHOTONIC CRYSTAL FIBRE: NOVEL LIGHT GUIDANCE AND MYRIAD OF GAS-PHOTONIC APPLICATIONS
F. Benabid
Research Institute XLIM - UMR CNRS n°7252, Limoges, France

9:30-9:45 10.1
DEVELOPING A LOW COST MULTIPURPOSE X-BAND FMICW RADAR
C. Lucianaz[1], S. Bertoldo[1], P. Petrini[1], M. Allegretti[2]
[1]*Department of Electronics and Telecommunications, Politecnico di Torino*
[2]*CINFAI (Consorzio Interuniversitario Nazionale per la Fisica delle Atmosfere e delle Idrosfere) c/o Politecnico di Torino, Torino*

9:45-10:00 10.2
ELECTROMAGNETIC SCATTERING AND A NEW PERSPECTIVE IN SAR DESPECKLING
G. Di Martino, A. Di Simone, A. Iodice, D. Riccio, G. Ruello
Department of Information Technology and Electrical Engineering, University of Naples "Federico II"

10:00-10:15 10.3
OPTIMAL TILING FOR NEW GENERATION RADAR SYSTEMS
N. Anselmi
ELEDIA Research Center ELEDIA@UniTN, University of Trento

10:15-10:30 10.4
EXPERIMENTAL ASSESSMENT OF SOFTWARE DEFINED RADAR FOR LANDSLIDE EARLY WARNING
S. Costanzo, G. Di Massa, A. Costanzo, A. Borgia, A. Raffo
DIMES – University of Calabria

10:30-10:45 10.5
COLOR-CODING OF SAR IMAGES USING MULTITEMPORAL
D. Amitrano, G. Di Martino, A. Iodice, D. Riccio, G. Ruello
Department of Electrical Engineering and Information Technology, University of Napoli "Federico II"

10:45-11:00 10.6
NEURAL NETWORKS ARCHITECTURES FOR OIL SPILL MONITORING USING FULLY POLARIMETRIC SAR DATA
V. Scappiti, D. Latini, A. Ghezzi, F. Del Frate, G. Schiavon
Department of Civil Engineering and Computer Science Engineering, University of Rome Tor Vergata

11:00 – 11:30 Coffee Break

Start-up and Spin-off

11:30-13:15 Room "Auditorium"

Chairman: Annamaria Cucinotta, *University of Parma*

11:30-11:40 **Welcome and opening remarks**

11:40-12:00
VISLAB UN'ESPERIENZA DA RIPETERE..!
G. Gandolfi
University of Parma

12:00-12:20
START UP E SPIN OFF: RISCHI E OPPORTUNITÀ DURANTE IL PERCORSO DI CRESCITA
S. Vurro
Università del Salento

12:20-12:40
"SENZA FILI SENZA CONFINI". IL SUCCESSO DELL'INNOVAZIONE SOCIALE A BASE POPOLARE
D. Trinchero
Politecnico di Torino

12:40-13:00
UN'ESPERIENZA DI SPINOFF UNIVERSITARIO NEL CAMPO DELLE RF
R. Sorrentino
Università degli Studi di Perugia

13:00-13:10
WE LAB
A. Tonelli
DNAPhone s.r.l.

13:10-13:15 **Concluding remarks**

13:15 – 14:15 Lunch

Session 11: EMF for energy and environment applications

14:15-16:30 Room "Auditorium"

Chairman: Lorenzo Crocco, *CNR*

14:15-14:55 Invited presentation, Room "Auditorium"

SUBSURFACE SENSING AND SUPER-RESOLUTION IMAGING: APPLICATION OF COMUPTATIONAL ACOUSTICS AND ELECTROMAGNETICS

Q.H. Liu
Duke University, Durham, NC, USA

15:00-15:15 11.1

A PORTABLE WIRELESS CHARGER FOR THIN-FILM BATTERIES

G. Monti, L. Corchia, E. De Benedetto, L. Tarricone
Department of Engineering for Innovation, University of Salento

15:15-15:30 11.2

A PRELIMINARY STUDY OF EBG HOLLOW-CORE STRUCTURES FOR HIGH VOLTAGE APPLICATION

O. Leonardi[1], G. Castorina[2], G. Sorbello[2], G. Torrisi[1], L. Di Donato[2], L. Celona[1], S. Gammino[1]
[1]*Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali del Sud, Catania*
[2]*DIEEI, Università degli Studi di Catania*

15:30-15:45 11.3

A UHF PASSIVE SENSING LINK IN A NEAR-FIELD WIRELESS POWER TRANSFER SYSTEM

R. Trevisan[1], A. Costanzo[2]
[1]*Innovation R&D – IMA SpA, Ozzano dell'Emilia (BO)*
[2]*Department of Electrical, Electronic and Information Engineering, University of Bologna*

15:45-16:00 11.4

INTERLEAVED ISOPHORIC ARRAY ARCHITECTURES FOR RECONFIGURABLE FULL-EARTH COVERAGE FROM GEO SATELLITES

O.M. Bucci[1,4], S. Perna[2,3,4], D. Pinchera[3,4]
[1]*IREA, Consiglio Nazionale delle Ricerche, Napoli*
[2]*DI, Università degli Studi di Napoli "Parthenope"*
[3]*DIEI, Università degli Studi di Cassino e del Lazio Meridionale*
[4]*Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Parma*

16:00-16:15 11.5
UNMANNED AERIAL VEHICLE FOR THE MEASUREMENT OF 3D ELECTROMAGNETIC FIELDS DISTRIBUTION
D. Latini[1], F. Carbone[2], J. Bulli[3], A. Saitto[4], F. Del Frate[1], G. Schiavon[1]
[1]*Earth Observation Laboratory, Department of Civil Engineering and Computer Science Engineering, University of Rome Tor Vergata*
[2]*GEO-K s.r.l., Rome*
[3]*Mpb s.r.l., Rome*
[4]*Consorzio NITEL, Rome*

16:15-16:30 11.6
SOIL MOISTURE RETRIEVALS FROM RADAR DATA AT L-BAND THROUGH A MULTI-TEMPORAL APPROACH
F. Fascetti1, N. Pierdicca[1], L. Pulvirenti[2]
[1]*Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome*
[2]*Cima Research Foundation, Savona*

Session 12: Bioelectromagnetism and biomedical applications

14:15-16:45 Room "Master"

Chairman: Marta Cavagnaro, *"La Sapienza" University of Rome*

14:15-14:55 Invited presentation, Room "Auditorium"
SUBSURFACE SENSING AND SUPER-RESOLUTION IMAGING: APPLICATION OF COMUPTATIONAL ACOUSTICS AND ELECTROMAGNETICS
Q.H. Liu
Duke University, Durham, NC, USA

15:00-15:15 12.1
SUPERPARAMAGNETIC SCAFFOLDS FOR TISSUE ENGINEERING
M. B. Lodi[1], A. Fanti[1], B. Bisceglia[2], G. Mazzarella[1]
[1]*Department of Electric and Electronic Engineering, University of Cagliari*
[2]*Department of Industrial Engineering, University of Salerno*

15:15-15:30 12.2
INDUCTIVE LINK FOR RECHARGEABLE PULSE GENERATORS IMPLANTED IN THE CHEST
G. Monti, M. V. De Paolis, L. Tarricone
Department of Engineering for Innovation, University of Salento

15:30-15:45 12.3
TISSUE SHRINKAGE IN MICROWAVE THERMAL ABLATION
L. Farina, M. Cavagnaro
Department of Information Engineering, Electronics and Telecommunications, "La Sapienza" University of Rome

15:45-16:00 12.4

EPIDERMAL UHF ANTENNAS FOR SKIN SENSING: FUNDAMENTAL LIMITATIONS AND OPTIMAL PERFORMANCE

S. Amendola, G. Marrocco
Department of Civil Engineering and Informatics, University of Rome Tor Vergata

16:00-16:15 12.5

FEASIBILITY STUDY ON THE USE OF MICROWAVE TOMOGRAPHY FOR TEMPERATURE MONITORING IN ABLATION TREATMENTS

R. Scapaticci[1], G.G. Bellizzi[1,2], O.M. Bucci[1,3], M. Cavagnaro[4], L. Crocco[1], V. Lopresto[5]
[1]*IREA, National Council of Research of Italy, Naples*
[2]*DIIES, Mediterranea University of Reggio Calabria*
[3]*CNIT - National Interuniversity Consortium on Telecommunications, Parma*
[4]*DIET, "La Sapienza" University of Rome*
[5]*ENEA, Division of Health Protection Technologies, Rome*

16:15-16:30 12.6

MICROWAVE HYPERTHERMIA OF PHOENIX CANARIENSIS FOR RED PALM WEEVIL PEST CONTROL

R. Massa[1], M.D. Migliore[2], G. Panariello[2], D. Pinchera[2], F. Schettino[2], E. Caprio[3], R. Griffo[4]
[1]*Physics Department "Ettore Pancini", University of Naples "Federico II"*
[2]*DIEI, University of Cassino and Southern Lazio*
[3]*Department of Agricultural Sciences, University of Naples "Federico II"*
[4]*Plant Protection Service of Campania Region*

16:30-16:45 12.7

FIBER-BASED BIOSENSOR FOR DNA DETECTION

M. Barozzi[1], S. K. M. Al-Hayali[2], A. Candiani[3], A. Vannucci[1], A. H. Al-Janabi[2], A. Cucinotta[1], S. Selleri[1]
[1]*Information Engineering Department, University of Parma*
[2]*Institute of Laser for Postgraduate Studies, University of Baghdad*
[3]*DNAPhone s.r.l.*

16:45 – 17:30 Closing remarks and awards

Premio Barzilai

Il Premio Barzilai è erogato dalla SIEm (Società Italiana di Elettromagnetismo) ed è conferito al migliore lavoro proposto da autori di età inferiore ai 35 anni.

Giorgio Barzilai: (1911 – 1987) fu l'iniziatore della Scuola di elettromagnetismo della Facoltà di Ingegneria dell'Università di Roma "La Sapienza", dove diede vita al corso di specializzazione in "Elettromagnetismo applicato" e poi al dottorato di ricerca in "Elettromagnetismo applicato e scienze elettrofisiche". La sua attività scientifica svolta durante il cinquantennio 1935-1985 fu improntata al rigore metodologico e alla costante ricerca di finalità applicative, coniugando aspetti teorici e sperimentali. Dal 1976 al 1985 Giorgio Barzilai fu Presidente della Commissione Italiana dell' URSI. Nel 1978 fu nominato Fellow dell'Institute of Electrical and Electronic Engineers (IEEE) e nel 1985 ricevette la Medaglia del Centenario dell'IEEE.

Premio Sannino

Il Premio Sannino è erogato da GAAS e MECSA in memoria del Prof. Mario Sannino ed è destinato alle migliori memorie di giovani ricercatori (età inferiore ai 35 anni), sui circuiti e dispositivi a microonde e onde millimetriche.

Mario Sannino: era nato a Cannobio (NO) nel 1940, conseguendo la laurea in Ingegneria Elettronica con lode a Palermo nel 1964 e la libera docenza in Elettronica Applicata nel 1972 presso l'Istituto di Elettrotecnica ed Elettronica dell'Università di Palermo. Nel 1980 diventava Professore Ordinario in Elettronica Applicata presso il Dipartimento di Ingegneria Elettrica dell'Ateneo palermitano di cui veniva eletto Direttore per due mandati quadriennali consecutivi (1984-1992). Gli interessi principali di ricerca riguardavano la caratterizzazione e modellistica a microonde in termini di cifra e di parametri di rumore di dispositivi avanzati a semiconduttore, settore in cui riscuoteva apprezzamenti a livello internazionale per le competenze originali e approfondite, e della progettazione di circuiti a basso rumore, ma aveva acquisito visibilità scientifica anche nel campo delle metodologie di analisi non lineare degli oscillatori, dei circuiti a diodo tunnel, dei trasmettitori per sistemi radar MTI, dell'automazione di sistemi di misura e del progetto di strumentazione digitale. Il Prof. Sannino era un profondo conoscitore dell'Elettronica e la insegnava trasmettendone con passione i contenuti ai suoi allievi così come ai giovani ricercatori che hanno avuto il piacere e l'onore di lavorargli accanto. Era una mente libera e persona trasparente, umanamente e professionalmente ricca, un vero Docente Universitario.

Premio Latmiral

Il Premio Latmiral è erogato dalla SIEm ed è conferito al migliore poster proposto da autori di età inferiore ai 35 anni.

Gaetano Latmiral: (1909 – 1995) è stato insieme a Giorgio Barzilai e Mario Boella il fondatore della ricerca in elettromagnetismo in Italia. Nacque a Roma e si laureò in Ingegneria Industriale al Politecnico di Milano. Durante il secondo conflitto mondiale contribuì in modo decisivo allo sviluppo del radar e di contromisure radar. Fu detenuto nel carcere militare di Tegel, dove stabilì un singolare sodalizio col teologo Dietrich Bonhoeffer, successivamente vittima del nazismo. Sfuggito alle persecuzioni razziali, nel dopoguerra svolse attività di studio e ricerca presso il CERN di Ginevra, l'Istituto Militare Superiore delle Trasmissioni, il Consiglio Nazionale delle Ricerche, e in qualità di professore incaricato di Fisica nell'Università di Roma "La Sapienza". Nel 1955 divenne professore di "Teoria e Tecnica delle Onde Elettromagnetiche", presso l'Istituto Universitario Navale di Napoli.

Lavori interdisciplinari meritevoli

Tre premi saranno riservati agli studenti che presenteranno, nell'ambito della ricerca sull'elettromagnetismo, lavori interdisciplinari di particolare interesse.

Monday September 12th 17:45-21:00

17:45 **Departure by bus from university campus, or from "Parcheggio Scambiatore Sud" (located just outside the campus)**

18:30 **Visit at "*Centro Studi e Archivio della Comunicazione*" (CSAC)**

Later **Cocktail party and guitar concert**

Centro Studi e Archivio della Comunicazione

The Study Centre and Communication Archive (CSAC) is a research centre of the University of Parma founded in 1968 by Professor Arturo Carlo Quintavalle. Right from the start, it concentrated on assembling a collection of fine art, photography, architectural drawings, design, fashion and graphics, as well as organizing exhibitions and publishing catalogues.
Since 2007, it has been based at the Valserena Abbey, also known as the Charterhouse of Paradigna, just a few kilometres from Parma. It is divided into five sections – Fine Art, Photography, Media, Project, and Visual Arts – containing around 12 million single items. Its institutional task is the collection, conservation, cataloguing and promotion of cultural heritage. In addition, it provides scientific consultancy to support teaching, research and design, and organizes exhibitions: to date, it has over 100 exhibitions and as many publications to its credit.

Guitar Concert

IAMES SANTI graduated in Guitar studies with perfect marks in 1992 at the Conservatory of "Buzzolla di Adria" under the supervision of Michelangelo Severi. He perfected his style with the help of Walter Zanetti, and later he followed the course taught by Alberto Ponce in Bologna. Moreover he became in contact with musical extemporization following the courses taught by François Laurent, Monica Paolini, Walter Zanetti, and by the jazz guitar player Domenico Caliri. He reached the top ranking in several international competition. Currently he is performing concert activity both as a soloist and as a member of chamber music group (duet with guitar, piano, harpsichord, flute, violin, voice and acting voice). He conducted educational activities with the association "L'arte dei suoni" of Bazzano and at the "Centro Giovanile Giardini Margherita" of Bologna, furthermore he is cooperating with associations and theatre companies, concerning the musical aspect, to stage different performances.

Tuesday September 13th 20:00-23:00

20:00 **Meeting at "*Teatro Regio*" of Parma**

20:15 **Concert performed by the "*Corale Giuseppe Verdi di Parma*"**

20:30 **Social dinner at "*Ridotto del Teatro Regio*"**

The dinner and the buffet will be prepared and wait on by *Massimo e Luciano Spigaroli*, owners of the renowned restaurant "*Antica Corte Pallavicina*", located in Polesine Parmense, Parma, Italy.

Antica Corte Pallavicina

Built at the beginning of 1400 on a prior fortification by Marquises Pallavicino of Polesine, Antica Corte Pallavicina has got spectacular cellars, where cured meats, culatelli, cheeses and wines are sharpened. The inner spaces have been carefully restored in the middle of 1500 and the coffer ceilings were replaced with wonderful umbrella-shaped vaults. After 1780, this court became a barracks, occupied by borders "Dragons", that tried to contrast the increasing smuggling, developed between the banks of Po river. After 1860, it was divided in small residences and utilized by farmers, fishers, carters and artisans. Almost forgotten, the court was periodically flooded by Po, while it was moving and approaching to it.
Antica Corte Pallavicina has been carefully restored by Spigaroli family and it is now back to its ancient beauty: a huge number of Culatelli, Parmigiano wheels and wines age inside the cellars, in the 1 Star Michelin restaurant it is possible to taste the Parma province lowlands best kitchen and to overnight inside amazing ancient rooms with view on Po river and its floodplain.

http://www.anticacortepallavicinarelais.com/

Corale Giuseppe Verdi di Parma

The Corale Giuseppe Verdi di Parma was founded in 1905 thanks to the initiative of Maestro Eraclio Gerbella, a teacher at the "Regia Scuola di Musica" of Parma (Parma Royal Music School) where Arturo Toscanini was one of his pupils.In its one hundred years of life the Corale Giuseppe Verdi di Parma achieved prestigious goals both in concert activities, including international tours, in recordings and in participation in major opera productions.
The corale was appreciated by some of the most important musicians, starting with the great Toscanini. The Ensemble has had the honor of making music with the leading soloists of the 20th century: from Franco Corelli, Giulietta Simionato, Ettore Bastianini, Carlo Bergonzi, Beniamino Gigli to Aureliano Pertile.
Today, the ensemble is directed by Fabrizio Cassi, from Busseto, choirmaster and conductor, a close collaborator of the great tenor Carlo Bergonzi.

http://www.giuseppeverdi.it/istitutieassociazioni/coralegiuseppeverdidiparma/

	Monday Sept. 12		Tuesday Sept. 13		Wednesday Sept. 14	
8:30-8:45			Registration		Registration	
8:45-9:00					Session 9 Optical fibers	Session 10 Remote sensing
9:00-9:30			Session 5 Integrated and nonlinear optics	Session 6 Metamaterials and nanomaterials		
9:30-10:00	Registration					
10:00-10:30					Coffee Break	
10:30-11:00	Plenary Session					
11:00-11:15	Session 1 EMF propagation	Session 2 Microwaves	Coffee Break		Start-up and Spin-off	
11:15-11:30						
11:30-11:45						
11:45-12:00			Session 7 Numerical methods	Session 8 Antenna design and measurement		
12:00-12:30						
12:30-13:00						
13:00-13:15						
13:15-13:30	Lunch		Lunch		Lunch	
13:30-14:00						
14:00-14:15						
14:15-14:30	Session 3 Antennas	Session 4 RFID	Siem Meeting (CS, CD) + Poster 2		Session 11 EMF for energy and environment applications	Session 12 Bioelectro-magnetism and biomedical applications
14:30-15:00						
15:00-15:30						
15:30-15:45			Poster 2 + Coffee break			
15:45-16:00						
16:00-16:30			CNIT Meeting + Siem Meeting (AS)			
16:30-17:00	Poster 1 + Coffee Break				Closing and awards	
17:00-17:30						
17:30-17:45						
17:45-18:00	Visit at CSAC + cocktail party					
18:00-18:30						
18:30-20:00						
20:00-20:30			Social Dinner			
20:30-21:00						
21:00-23:00						

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