

XIX RiNEM – Scientific Program

Monday 10 September 2012

12:00 – 14:00 Registration

14:00 – 14:30 Opening Ceremony of XIX RiNEM – Aula N11

Welcome address

Paolo Mele, Dean of the Faculty of Engineering, “Roma Tre” University

Paolo Lampariello, President of the *Italian Society of Electromagnetics (SIEM)*

Luisa Cifarelli, President of the *Italian Society of Physics (SIF)*

Mario Martinelli, Coordinator of the *AICT Photonics and Electro-Optics Group*

Dario Petri, President of the *IEEE Italy Section*

Introduction of the Conference Chairs

Giuseppe Schettini and Lucio Vegni, “Roma Tre” University

14:30 – 15:30 Plenary Lecture I – Aula N11

Chairperson: G. Schettini, “Roma Tre” University, Italy

Marian Marciniak

National Institute of Telecommunications, Warsaw, Poland

Converged optical and wireless communications for the future

15:30 – 16:00 Coffee Break

16:00 – 18:00 URSI Session – Aula N11

Chairperson: R. Sorrentino, University of Perugia, Italy

Commission B – Fields and Waves.

Gaetano Marrocco, “Tor Vergata” University of Rome

The Electromagnetic Way to the Internet of Things

Commission D – Electronics and Photonics.

Stefano Selleri, University of Parma

The ALPINE Project

Commission F – Wave Propagation and Remote Sensing.

M. Brogioni, S. Paloscia, P. Pampaloni, Pettinato, E. Santi (IFAC-CNR, Firenze)

Microwave Remote Sensing of snow

Commission H – Waves in Plasma.

Angelo Tuccillo, UTFUS-MAG, EURATOM-ENEA Association on Fusion,
Frascati Research Center

High power RF in Fusion Plasmas: from 10s of MHz to 100s of GHz

Tuesday 11 September 2012

09:30 – 11:00 Session 1 – Microwave Components I – Aula N11

*Chairpersons: G. Marrocco, “Tor Vergata” University, Italy
M. Mongiardo, University of Perugia, Italy*

09:30-09:45

L. Ntibarikure, G. Pelosi, and S. Selleri

Harmonic balance Finite Element analysis of third order intermodulation products in ferrite devices

09:45-10:00

M. Oldoni, F. Seyfert, and G. Macchiarella

Tuning diplexers with rational filters

10:00-10:15

G. Virone, R. Tascone, O.A. Peverini, G. Addamo, Z. Farooqui, A. Tibaldi, and R. Orta

Synthesis strategy for broadband multiplexers

10:15-10:30

C. Tomassoni, S. Bastioli, and R. Sorrentino

TM dual-mode cavity filters with symmetric and asymmetric filtering functions

10:30-10:45

L. Zappelli

An equivalent circuit for microwave discontinuities

09:30 – 11:00 Session 2 – Bioengineering I – Aula N13

*Chairpersons: G. d’Inzeo, Sapienza University of Rome, Italy
S. Caorsi, University of Pavia*

9:30-9:45

A. Candiani, M. Sozzi, A. Cucinotta, R. Veneziano, R. Corradini, R. Marchelli, P. Childs, S. Pissadakis, and S. Selleri

DNA biosensor based on a double tilted fiber Bragg grating

9:45-10:00

E. Pievanelli, A. Plesca, R. Stefanelli, and D. Trincherò

Wearable self-powered wireless units for ultraviolet radiation dosimetry

10:00-10:15

M. Cavagnaro, F. Frezza, R. Laurita, M. Tannino, L. Manganaro, M. Marini, P. Sollazzo, A. Stagnitti, V. Lopresto, and R. Pinto

From magnetic resonance imaging to water content evaluation of a human tissue

10:15-10:30

B. Bisceglia, and V. Ivone

Health effects from cell phone radiations: the verdict of the court of appeal of Brescia

10:30-10:45

D. A. M. Iero

Optimal focusing of vectorial fields subject to arbitrary upper bounds

10:45-11:00

R. Iovine, L. La Spada, F. Bilotti, and L. Vegni

Gold nano-particles as a platform for biosensing

11:00 – 11:30 Coffee Break

11:30 – 13:00 Session 3 – Electromagnetic Theory – Aula N11

Chairpersons: G. D’Elia, “Federico II” University of Naples, Italy

G. Migliaccio, “Parthenope” University of Naples, Italy

11:30-11:45

K. Watanabe, Y. Nakatake, and G. Schettini

Plane-wave scattering from cylindrical objects

11:45-12:00

L. Infante, and S. Mosca

A closed-form estimation of the mutual coupling matrix applied to uniform circular arrays

12:00-12:15

P. Burghignoli

A phase-center study of Fabry-Pérot cavity antennas

12:15-12:30

M. Cametti, M. Bozzi, M. Pasian, and L. Perregrini

An analytical model to quantify the efficiency of arrays composed by high-gain reflector antennas

12:30-12:45

G. Castaldi, V. Galdi, A. Alù, and N. Engheta

Nonlocal transformation optics

12:45-13:00

F. Mangini

Electromagnetic scattering of an elliptically polarized plane wave by a buried sphere

11:30 – 13:00 Session 4 – Electromagnetic Imaging Techniques – Aula N13

*Chairpersons: T. Isernia, Università Mediterranea, Italy
M. Pastorino, University of Genoa, Italy*

11:30-11:45

M. Ferrara, P. Lucantoni, S. Mori, P. Nocito, G.M. Tosi Beleffi, E. Restuccia, F. Frezza, and F. S. Marzano

Atmospheric visibility through optical images

11:45-12:00

A. Guagliumi, M. Gnan, A. Liberato, L. De Marco, D. Bruni, F. Canini, and P. Bassi

System-level analysis and optimization of task-oriented imaging systems

12:00-12:15

D. Pinchera, M.D. Migliore, and F. Schettino

Through-wall communication by means of an ultra wide permittivity antenna (UWPA)

12:15-12:30

R. Solimene, A. D'Alterio, and R. Pierri

TWI for a lossless unknown wall

12:30-12:45

R. Scapaticci, L. Di Donato, I. Capatano, and L. Crocco

Differential microwave imaging from brain stroke monitoring

12:45-13:00

G. Bellizzi, O.M. Bucci, I. Capatano, L. Crocco, and R. Scapaticci

Advancements in microwave breast cancer imaging enhanced by magnetic nanoparticles as contrast agent

13:00 – 14:00 Lunch

14:00 – 15:30 Session 5 – Numerical Methods in Electromagnetics – Aula N11

*Chairpersons: G. Biffi Gentili, University of Florence, Italy
V. Galdi, University of Sannio, Italy*

14:00-14:15

A. Fantì

A vector finite difference approach to the computation of modes in circular waveguide

14:15-14:30

G. Angiulli, D. De Carlo, and A. Sgrò

Nested BiCGStab for non-Hermitian linear systems arising from discretization of the EFIE

14:30-14:45

G. Valerio, S. Paulotto, P. Baccarelli, A. Galli, D. R. Jackson, and D. R. Wilton

Efficient computation of periodic Green's functions for printed structures with vertical elements

14:45-15:00

O. A. Peverini, A. Tibaldi, Z. Farooqui, G. Addamo, G. Virone, R. Orta, and R. Tascone
Analysis and design of passive waveguide devices by spectral element methods

15:00-15:15

D. Pinchera

An effective hybrid synthesis method for sparse plane wave generators

15:15-15:30

L. Ntibarikure

Model order reduction in Finite Element analysis of phased array antennas

14:00 – 15:30 Session 6 – Synthetic Aperture Radar – Aula N13

***Chairpersons: C. Capsoni, Polytechnic of Milan, Italy
P. Basili, University of Perugia, Italy***

14:00-14:15

G. Di Martino, A. Iodice, D. Riccio, G. Ruello, and I. Zinno

A novel high level SAR product: fractal dimension map

14:15-14:30

M. Picchiani, F. Del Frate, G. Schiavon, S. Stramondo, and M. Chini

DInSAR and neural networks for seismic source analysis

14:30-14:45

R.G. Avezzano, D. Latini, F. Del Frate, D. Velotto , and S. Lehner

Oil spill detection using X-band SAR data

14:45-15:00

A. Capozzoli, C. Curcio, and A. Liseno

SAR tomography with optimized track distribution and controlled resolution

15:00-15:15

N. Pierdicca, and L. Pulvirenti

Future use of the data from the ESA Sentinel-1 mission for operational soil moisture mapping: a multitemporal algorithm

15:30 – 16:00 Coffee Break

16:00 – 17:30 Poster Session I

Chairpersons: S. Selleri, University of Parma, Italy

S. Ceccuzzi, S. Meschino

The role of evanescent modes excited inside the longitudinal corrugations of mode filters

F. Di Murro, M. Lucido, and F. Schettino

Electromagnetic scattering by a finite metallic cylinder

- P. Imperatore, A. Iodice, and D. Riccio
Volume and roughness scattering effects: a unified perturbative approach
- N. Tedeschi
Deep penetration of inhomogeneous plane waves in lossy media
- F. Corsetti, M. Lucido, and G. Panariello
Analysis of propagation in coupled polygonal cross-section dielectric waveguides
- P. Imperatore, A. Iodice, and D. Riccio
Perturbative approach for scattering in random media via distribution theory for discontinuous test functions
- F. Chiadini, V. Fiumara, and A. Scaglione
A synthesis method for multi-section devices
- A. Iodice, A. Natale, and D. Riccio
A novel interpretation for the Kirchhoff scattering from classical and fractal surfaces
- G. Gradoni, T.M. Antonsen, and E. Ott
Random coupling model for wave chaotic cavities
- L. Di Donato, D.A.M. Iero, I. Catapano, L. Crocco, G. Sorbello, and T. Isernia
Two approaches to field focusing in unknown environments
- L. La Spada, R. Iovine, F. Bilotti, and L. Vegni
Infrared absorption measurements using metamaterials
- F. Frezza, P. Nocito, and E. Stoja
A study on the fundamental mode characteristics sustained by the plasmonic slot waveguide
- R. Ana Perez-Herrera, E. Coscelli, M. Sozzi, A. Cucinotta, S. Selleri, and M. Lopez-Amo
YB - doped photonic crystal fiber laser
- C. Molardi, Masruri, E. Coscelli, F. Poli, A. Cucinotta and S. Selleri
FEM solver optimization for PCF design
- A. C. Lesina, A. Vaccari, and A. Bozzoli
A modified RC - FDTD algorithm for plasmonics in Drude dispersive media
- F. Baronio, M. Conforti, M. Levenius, K. Gallo, V. Pasiskevicius, F. Laurell, and C. De Angelis
Broadband optical parametric generation in LiTaO₃
- R. Tumolo, G. Russo, S. Immediata, L. Timmoneri, M. D'Urso
Modeling and Simulating Wind Farm effects on Radar systems
- P. Vinetti, M. D'Urso, M. Dispenza
Embedded Photonic Sensor Networks for Large Arrays Diagnostic

Wednesday 12 September 2012

09:30 – 10:00 Industry Lecture – Aula N11
Chairperson: F. Bilotti, “Roma Tre” University, Italy

Giancarlo Prisco
Selex S.I.
Receiving sparse signals in radar systems: blind recovery at minimum rate

10:00 – 11:00 SIEm Meeting – Aula N11

11:00 – 11:30 Coffee Break

11:30 – 13:00 SIEm Meeting – Aula N11

11:30 – 12:15 CST Workshop – Aula N13
WLAN Microstrip Patch Array Design. From single element to finite antenna array

11:30 – 13:00 Poster Session II

Chairperson: M. Midrio, University of Udine, Italy

S. Ceccuzzi, D. Milanesio, and G.L. Ravera
Analysis of a flat, dielectric - loaded, ion cyclotron, test antenna by using three electromagnetic codes

R. Stefanelli and D. Trinchero
Full-analytical procedure for the design of micro-magnetic radiators

E. Di Salvo, F. Frezza, and S. Mosca
Analysis of cylindrical frequency selective surfaces for antenna radomes

P. Baccarelli, S. Paulotto, and D. R. Jackson
Matching techniques for efficient broadside radiation in 1D periodic printed leaky-wave antennas

A.F. Morabito and L. Di Donato
A canonical problem in multibeam antenna synthesis

S. Costanzo and A. Costanzo
Modified U-slot patch antenna with low cross-polarization for broadband applications

F. D’Agostino, F. Ferrara, C. Gennarelli, R. Guerriero, and M. Migliozzi
Direct far-field reconstruction from near-field data acquired through a helicoidal scanning

O. Leonardi, M. Pavone, G. Sorbello, and T. Isernia
A new compact monolithic patch antenna for dedicated short range communications systems

A. Galli, S. Mazzocchi, G. Valerio, M. Ciattaglia, and M. Zucca
UWB multifunctional arrays based on versatile printed rhombic antenna configurations

C. Occhiuzzi and G. Marrocco

Sensing-oriented design methodology for passive RFID antennas

A. D'Alessandro, A. Buffi, and P. Nepa

A new localization method for UHF-RFID smart shelves

S. Costanzo, G. Di Massa, and O.H. Moreno

Equivalent impedance retrieval of planar surfaces by open resonator technique

G. Monti, L. Tarricone, F. Congedo, and P. Arcuti

Wireless power transmission links: experimental results at the electromagnetic laboratory of Lecce

P. Rocca

Time-modulated arrays for next generation cognitive radio systems – potentialities and envisaged solutions

F. Viani

Array design in the correlation domain: a new paradigm

A. Buonanno, P. Vinetti, M.G. Labate, M.D'Urso, M. Albertini, L. Russo

Digital Multiple Beams Radars for Airport Monitoring and Surveillance

D.Pavone, G. Sorrentino, A.Buonanno, M. D'Urso

Surveillance of wide zones with Unattended Ground Sensors: from detection to alert

12:30 – 14:00 Lunch

14:00 – 15:30 Session 7 – Microwave Components II – Aula N11

Chairpersons: R. Tascone, CNR-IEIIT, Italy

P. Tognolatti, University of L'Aquila, Italy

14:00-14:15

G. Castaldi, V. Galdi, and I.M. Pinto

Short-pulsed wavepacket propagation in ray-chaotic enclosures: a random-plane-wave model

14:15-14:30

A. Sorrentino, and M. Migliaccio

The phase kurtosis index for reverberating chamber near LOS conditions

14:30-14:45

G. Grandoni, V. Mariani Primiani, and F. Moglie

Analysis of the entropy in fast time domain simulations of reverberation chambers

14:45-15:00

G. A. Casula, P. Maxia, G. Montisci, G. Mazzarella, and F. Desogus

Design of cavity resonators for chemical reactions

14:00 – 15:30 Session 8 – Ground Penetrating Radar – Aula N13

*Chairpersons: E. Pettinelli, “Roma Tre” University, Italy
F. Soldovieri, CNR-IREA, Italy*

14:00-14:30

A. Benedetto

Civil engineering applications of ground penetrating radar (invited)

14:30-14:45

D. Comite, A. Galli, F. Soldovieri, G. Valerio, P.M. Barone, S.E. Lauro, E. Mattei, and E. Pettinelli

Estimation of the geometrical features of buried objects from GPR analysis

14:45-15:00

F. Frezza, L. Pajewski, C. Ponti, G. Schettini, and N. Tedeschi

Plane wave scattering by a perfectly-conducting circular cylinder buried in a lossy medium

15:00-15:15

R. Persico, G. Leucci, and F. Soldovieri

Effect of the height of the measurement line on the diffraction curves in GPR prospecting

15:15-15:30

R. Monleone, M. Maffongeli, M. Pastorino, S. Poretti, A. Randazzo, and A. Salvadè

Detection of metallic bodies in dielectric structure by microwave imaging - Experimental results

15:30 – 16:00 Coffee Break

16:00 – 17:30 Session 9 – Antenna Arrays – Aula N11

*Chairpersons: G. Di Massa, University of Calabria, Italy
R. Vescovo, University of Trieste, Italy*

16:00-16:15

G. A. Casula, P. Maxia, G. Montisci, and G. Mazzarella

Design of printed UWB log-periodic dipole arrays

16:15-16:30

S. Mosca, and L. Infante

Tangram shaped subarrays for multiple beam array

16:30-16:45

A. F. Morabito, and A. R. Laganà

A size-tapered architecture for high performances isophoric direct radiating arrays

16:45-17:00

F. Venneri, S. Costanzo, G. Di Massa, E. Marozzo, A. Borgia, and M. Salzano

Implementation of a full-range varactor tuned element for the design of a reconfigurable reflectarray

17:00-17:15

G. Buttazzoni, and R. Vescovo

Co-polar and cross-polar pattern synthesis for reconfigurable antenna arrays

17:15-17:30

E.D. Di Claudio, G. Jacovitti, A. Laurenti

Hermite and Laguerre beams for Ultra Wide Band antenna array processing

16:00 – 17:30 Session 10 – Propagation and Scattering – Aula N13

Chairpersons: R. Pierri, Second University of Naples, Italy

V. Fiumara, University of Basilicata, Italy

16:00-16:15

C. Capsoni, L. Luini, and R. Nebuloni

Preliminary assessment of site diversity schemes for earth-space optical links

16:15-16:30

A. Di Carlofelice, E. Di Giampaolo, M. Elaiopoulo, and P. Tognolatti

A study of radiowave propagation into collapsed buildings for rescue of trapped people

16:30-16:45

P. Imperatore, A. Iodice, and D. Riccio

The role of internal field approximation for scattering from layered rough interfaces

16:45-17:00

M. Carlin, L. Manica, G. Oliveri, L. Poli, P. Rocca, and A. Massa

Advances on inverse scattering methodologies and applications @ ELEDIA research center

17:00-17:15

L. Di Donato, I. Catapano, L. Crocco, and T. Isernia

A new framework for quantitative inverse scattering

20:30

Social Dinner

Hotel Hassler, Piazza Trinità dei Monti 6 (tel. +39 06 699340)

Thursday 13 September 2012

09:30 – 11:00 Session 11 – Bioengineering II – Aula N11

*Chairpersons: R. Olmi, CNR-IFAC, Italy
G. Sorbello, University of Catania, Italy*

09:30-09:45

P. Bernardi, R. Cicchetti, S. Pisa, E. Pittella, E. Piuze, and O. Testa

Analysis and design of a UWB radar for non-invasive breath activity monitoring

09:45-10:00

P. Russo, V. Mariani Primiani, A. De Leo, and G. Cerri

Radiated emission and susceptibility of breath monitoring system based on UWB pulses in spacecraft modules

10:00-10:15

G. Biffi Gentili, and M. Linari

A novel thermo-ablative microwave multi-applicator system

10:15-10:30

A. Denzi, F. Camera, A. Paffi, C. Merla, F. Apollonio, P. Marracino, G. D'Inzeo, and M. Liberti

Effects of nanosecond pulsed electric field on the activity of a Hodgkin and Huxley neuron model

10:30-10:45

A. Doria, G.P. Gallerano, E. Giovenale, G. Messina, A. Ramundo Orlando, and I. Spassovsky

Electromagnetic pulser for the investigation of cell membranes

09:30 – 11:00 Session 12 – Antenna Design and Measurements – Aula N13

*Chairpersons: A. Massa, University of Trento, Italy
C. Gennarelli, University of Salerno, Italy*

09:30-09:45

L. Lucci, R. Nesti, G. Pelosi, and S. Selleri

Design of circular corrugated horn with constant width corrugations

09:45-10:00

E. Bekele, R. Chirikov, M. Carlin, L. Manica, G. Oliveri, L. Poli, P. Rocca, and A. Massa

What's new on antenna synthesis @ ELEDIA research center

10:00-10:15

A.D. Capobianco, E. Autizi, A. Locatelli, D. Modotto, C. De Angelis, S. Boscolo, and M. Midrio

Printed CRLH omnidirectional loop antenna for mobile WLAN applications

10:15-10:30

M. Aldrigo, A. Costanzo, D. Masotti, and V. Rizzoli

A wearable UHF small patch antenna on a new magneto-dielectric material

10:30-10:45

O. Losito, M. Bozzetti, G. Cannone, F. Prudenzano, L. Mescia, A. Di Tommaso, P. Bia, V. Castrovilla, M. De Sario

Measurements of antenna factor with antenna impedance method

10:45-11:00

F. D'Agostino, F. Ferrara, C. Gennarelli, R. Guerriero, and M. Migliozzi

Spherical near-field to far-field transformation for quasi-planar antennas: an experimental validation

11:00 – 11:30 Coffee Break

11:30 – 12:30 Plenary Lecture II – Aula N11

Chairperson: L. Pajewski, “Roma Tre” University, Italy

Evert Slob

Delft University of Technology, Delft, The Netherlands

Full waveform inversion as a two-step linear process

Sébastien Lambot

Université Catholique de Louvain, Louvain-la-Neuve, Belgium

A closed form full-wave radar model for near-field layered media reconstruction

12:30 – 14:00 Lunch

14:00 – 15:30 Session 13 – Optical Fibers – Aula N11

Chairpersons: A. Galtarossa, University of Padua, Italy

S. Wabnitz, University of Brescia, Italy

14:00-14:15

L. Ursini, and M. Santagiustina

Applications of fiber optics dynamic Brillouin gratings in ultra wideband communications

14:15-14:30

M. Surico, A. Di Tommaso, P. Bia L. Mescia, M. Bozzetti, O. Losito, M. De Sario, and F. Prudenzano

Large mode area fibers for high power and high beam quality lasers

14:30-14:45

L. Schenato, L. Palmieri, L. Vianello, G. Marcato, G. Gruca, T. van de Watering, D. Iannuzzi, A. Pasuto, and A. Galtarossa

Fiber optic sensor for precursory acoustic signals detection in rockfall events: feasibility analysis

14:45-15:00

L. Palmieri, A. Galtarossa, and L. Schenato

Distributed fiber optic sensor for intense magnetic field mapping

15:00-15:15

E. Balliu, A. Braglia, A. Califano, M. Olivero, A. Penna, and G. Perrone
A new pumping scheme for high power Tm-doped fiber laser

14:00 – 15:30 Session 14 – Radio Frequency Identification – Aula N13

***Chairpersons: G. Mazarella, University of Cagliari, Italy
L. Tarricone, University of Lecce, Italy***

14:00-14:15

G. Marrocco, and S. Caizzone
Electromagnetic properties of passive RFID networks

14:15-14:30

S. Manzari, C. Occhiuzzi, A. Catini, C. Di Natale, and G. Marrocco
Chemical loaded RFID antenna for humidity detection

14:30-14:45

D. De Donno, L. Catarinucci, R. Colella, and L. Tarricone
Performance evaluation of passive UHF RFID tags with software - defined radio

14:45-15:00

L. Catarinucci, R. Colella, and L. Tarricone
Innovative prototyping techniques for UHF RFID tags

15:00-15:15

A. Buffi, P. Nepa, and F. Lombardini
Localization of RFID tagged items on a conveyor belt

15:15-15:30

A. Michel, R. Caso, A. Buffi, and P. Nepa
Near-field UHF RFID antenna for desktop reader

15:30 – 16:00 Coffee Break

16:00 – 17:00 Poster Session III

Chairpersons: V. degli Esposti, University of Bologna, Italy

D. Riccio and G. Ruello

A novel approach for the sampling of fractal surfaces in remote sensing

S. Meschino, L. Pajewski, M. Pastorino, A. Randazzo, and G. Schettini

Sub-array processing techniques applied to the detection of buried targets

Y. Pei, S. Yi, J. Zhou, R. Notarpietro, P. Savi, and M. Pini

GNSS reflectometry for Earth's surface monitoring exploiting an open-loop approach

- S. Pompili, A. Di Carlofelice, P. Romano, and C. Sciannella
Spaceborne microwave interferometric radiometers: lunar sub-surface remote sensing, inverse problems and electromagnetic diagnostics
- L. Pulvirenti, M. Chini, F.S. Marzano, N. Pierdicca, S. Mori, and L. Guerriero
Detection of floods and heavy rain using COSMO-SkyMed data
- F. Nunziata and M. Montuori
Reflection symmetry to observe metallic targets at sea by a dual-polarimetric SAR
- G. Di Martino, A. Iodice, D. Riccio, and G. Ruello
Electromagnetic characterization of speckle in SAR images
- G. Olivieri
Contrast source bayesian compressive imaging by a minimum norm formulation
- M. Muzi
Resolution of MEG inverse problem via reweighted ℓ_1 minimization algorithm
- A. Di Carlofelice, E. Di Giampaolo, and P. Tognolatti
Electromagnetic propagation inside a module of international space station: a numerical analysis
- G. Bellizzi and O.M. Bucci
Criterion for the optimal choice of the operative conditions in magnetic nanoparticle hyperthermia: uncertainty analysis
- B. Bisceglia , E. Avallone , A. Buonerba, E. Caliendo, F. Chiadini, A. Grassi, L. Incarnato
A. Scaglione, and L. Guerriero
Microwave treatment of tuff-stones. Structural analysis
- P. Marracino, M. Migliorati, A. Paffi, M. Liberti, G. d’Inzeo, and F. Apollonio
Signal transduction on enzymes: the effect of electromagnetic field stimuli on superoxide dismutase (SOD)
- M. Cavagnaro, S. Franco, V. Lopresto, and R. Pinto
Characterization of a microwave thermal ablation process
- G. Monti, L. Tarricone, M. Dionigi, and M. Mongiardo
Artificial transmission line for wireless power transmission
- M. Dal Forno, P. Craievich, R. Vescovo, and C. Serpico
Microwave design studies of linear accelerators for free electron laser photoinjectors
- G.L. Ravera and S. Ceccuzzi
Analysis of the FAST ICRH antenna straps array with water load using HFSS code
- M. Barbuto, A. Monti, D. Ramaccia, F. Bilotti, A. Toscano, and L. Vegni
Metamaterial activities at microwave and optical frequencies at “Roma Tre” University

17:00 – 18:30 Session 15 – Photonic Crystals – Aula N13

***Chairpersons: R. Orta, Polytechnic of Turin, Italy
S. Selleri, University of Parma, Italy***

17:00-17:15

S. Roy, M. Santagiustina, S. Combrié, A. De Rossi, A. Wilinger, and G. Eisenstein
Slow light engineered photonic crystal waveguide: propagation and parametric gain properties

17:15-17:30

D. Modotto, G. Manili, U. Minoni, S. Wabnitz, M. Andreana, V. Couderc, and A. Tonello
Giant dispersive wave generation in double core photonic crystal fiber

17:30-17:45

E. Coscelli, F. Poli, A. Cucinotta, and S. Selleri
Air-hole ring influence on the cut-off proprieties of 19-cell double-cladding photonic crystal fibers

17:45-18:00

S. Malaguti, G. Bellanca, S. Trillo, S. Combrié, and A. De Rossi
Filter design for OTDM and WDM receivers in PHC technology

18:00-18:15

A. Brancaccio, G. Leone, R. Solimene, and R. Pierri
Fault detection in a dielectric grid

18:15-18:30

A. Vaccari, A.C. Lesina, L. Cristoforetti, A. Chiappini, and M. Ferrari
A computational approach to the optical characterization of photonic crystals and photonic glasses

17:00 – 18:30 Session 16 – Wireless Communications, Networks and Systems – Aula N11

***Chairpersons: M.D. Migliore, University of Cassino, Italy
P. Nepa, University of Pisa, Italy***

17:00-17:15

A.A. Serra, R. Caso, A. Buffi, A. Guraliuc, A. D'Alessandro, A. Michel, and P. Nepa
Research activities on antenna design for wireless communication networks at the University of Pisa

17:15-17:30

F. Viani, M. Salucci, F. Robol, E. Giarola, and A. Massa
WSNs as enabling tool for next generation smart systems

17:30-17:45

S. Mori, P. Lucantoni, M. Ferrara, P. Nocito, G. M. Tosi Beleffi, E. Restuccia, F. Frezza, and F.S. Marzano

Hydrometeor scattering effects over near-infrared free-space urban links: model and experimental measurements

17:45-18:00

P. Imperatore, A. Iodice, and D. Riccio

Electromagnetic source localization in 3-D outdoor urban scenario using received signal strength

18:00-18:15

R. Stefanelli, N. Carvalho, D. Brunazzi, and D. Trincherro

Design of the wireless front-end for remote administration of domotic equipment

18:15-18:30

M. Dionigi, and M. Mongiardo

Wireless power transfer and near field magnetic communications by multi band resonators

Friday 14 September 2012

09:00 – 10:30 Session 17 – Photonic and Plasmonic Technologies and Components – Aula N13

*Chairpersons: A. D’Orazio, Polytechnic of Bari, Bari, Italy
S. Trillo, University of Ferrara, Italy*

09:00-09:15

F. Morichetti, A. Canciamilla, S. Grillanda, P. Orlandi, S. Malaguti, M.J. Strain, M. Sorel, G. Bellanca, P. Bassi, and A. Melloni

SAPPHIRE: a generic foundry platform for silicon photonics

09:15-09:30

A. Parini, G. Calò, S. Malaguti, G. Bellanca, V. Petruzzelli, and S. Trillo

Photonics interconnect technology for chip multiprocessing architectures: the Photonica project

09:30-09:45

M.P. Bolzoni, G.G. Gentili, and S.M. Pietralunga

Grating-assisted coupling to strip plasmonic modes: 3D numerical analysis

09:45-10:00

M. Grande, G. Magno, R. Marani, G. Calò, V. Petruzzelli, and A. D’Orazio

Design of plasmonic directional couplers

10:00-10:15

F.M. Pigozzo, D. Modotto, and S. Wabnitz

Second harmonic generation in plasmonic waveguides

10:15-10:30

F. A. Bovino

Representation of a Spiral Phase Plate as a two mode Quantum Phase Operator

09:00 – 10:30 Session 18 – Energy and Environment – Aula N13

*Chairpersons: G. Cerri, Polytechnic University of Marche, Italy
L. Roselli, University of Perugia, Italy*

09:00-09:15

A. Carta, R. Stefanelli, and D. Trincherò

Microwave electromagnetic sensors to estimate water density within snow

09:15-09:30

M. Montopoli, G. Vulpiani, and F. S. Marzano

The potential use of microwave weather radar for volcanic ash monitoring

09:30-09:45

M. Sozzi, C. Catellani, A. Cucinotta, S. Selleri, D. Menossi, R. Dharmadasa, A. Bosio, and N. Romeo

Laser scribing integration of polycrystalline thin film solar cells

09:45-10:00

S. Ceccuzzi, F. Napoli, L. Pajewski, G. Schettini, and A.A. Tuccillo

Antenna-plasma coupling calculations at lower hybrid frequencies by using a FEM code

10:00-10:15

R. Moro, S. Kim, M. Bozzi, and M. Tentzeris

Novel inkjet-printed substrate integrated waveguide (SIW) structures for eco-friendly low-cost application

10:15-10:30

A. Facchini, A. Zeffiro, P. Arcioni, and A. Buttafava

Preliminary studies on the microwave pre-treating of lignocellulosic biomasses

10:30 – 11:00 Coffee Break

11:00 – 12:00 Plenary Lecture III – Aula N11

Chairperson: L. Vegni, “Roma Tre” University, Italy

Andrea Alù

University of Texas at Austin, USA

Metamaterials and plasmonics: from RF to optical applications

12:00 – 13:00 Plenary Lecture IV – Aula N11

Chairperson: A. Toscano, “Roma Tre” University, Italy

Leo Kempel

Michigan State University, USA

Half-width Leaky-wave Antennas: A Progress Report

13:00 – 13:30 Young Authors Award Ceremony and Closing Address – Aula N11

Award announcement – P. Lampariello, *Sapienza University of Rome, Italy*

Chair closing – G. Schettini and L. Vegni, *“Roma Tre” University, Italy*