

Sessions

5th International Conference on electromagnetic Near-field Characterization and Imaging (ICONIC 2011)

30 Nov. – 2 Dec. 2011, Rouen, France

Wednesday, Nov. 30, 2011

OPENING SESSION (Amphi CHARPAK) 09.00 am - 10.40 am

09.00 am
09.30 am

Welcome and Registration

09.30 am
10.00 am

Welcome & organization/program of ICONIC 2011
*Eric Durieux, Guillaume Devauchelle, Director of
ESIGELEC/IRSEEM EA 4353, R&D Director of VALEO, France
Blaise Ravelo (Scientific committee chair)*

10.00 am
10.40 am

Invitee speaker 1 – Chairman: R. DuBroff & T. Lasri
Mid-infrared near-field microscopy applied to plasmonics
*By Prof. Yannick De Wilde, LOP, ESPCI, CNRS UPR A0005, Univ.
Pierre & Marie Curie, Paris VI, France*

Wednesday, Nov. 30, 2011

Session 1: NF imaging process (Amphi CHARPAK)

11.00 am - 12.40 am

Chairman: F. Las-Heras & G. Devauchelle

11.00 am 11.20 am	1A	A near-field localization method for cylindrical buried objects	By <u>Simone Meschino</u> , Lara Pajewski, Giuseppe Schettini
11.20 am 11.40 am	1B	A Banach regularization method for electromagnetic imaging#	By Claudio Estatico, Alessandro Fedeli, Matteo Pastorino, <u>Andrea Randazzo</u>
11.40 am 12.00 pm	1C	The PZMI and neural network to ameliorate the convergence of electromagnetic inverse method	By Saidi Sofiene, Jaleddine Ben Hadj Slama, David Baudry
12.00 pm 12.20 pm	1D	Near-field characterization of scatterer objects for profile reconstruction	By Cebrián García González, Yuri Álvarez López, <u>Fernando Las-Heras</u>
12.20 pm 12.40 pm	1E	Microwave imaging system for cylindrical structures	By Asser Qaddoumi, Soudeh Haydari Nasab, Mohammad Asefi, Lutfi Al-Basha

Wednesday, Nov. 30, 2011

Session 2: Microwave NF probe characterization (Amphi CHARPAK)

2.00 pm - 3.20 pm

Chairman: P. Eudeline & A. Randazzo

2.00 pm 2.20 pm	2A	Wide-band near-field microwave microscope#	By Kamel Haddadi , Tuami Lasri, Hind Bakli
2.20 pm 2.40 pm	2B	Utilization of direct antenna modulation to improve capacity performance of an inductively coupled near field communication system	By Umar Azad, Yuanxun Wang
2.40 pm 3.00 pm	2C	Nondestructive inspection of wood materials by a microwave imaging approach - experimental results	By Manuela Maffongelli, Ricardo Monleone, Matteo Pastorino, Samuel Poretti, Andrea Randazzo
3.00 pm 3.20 pm	2D	Near field probe correction using least squares filtering algorithm	By Moutaouekkil Mohammed Anisse, Ziyat Abdelhak, Dominique Picard, Serhir Mohammed

Wednesday, Nov. 30, 2011

Session 3: Optic/nanophotonic analyses (Amphi CHARPAK)

3.25 pm - 4.25 pm

Chairman: T. Lasri & A. Vella

3.25 pm 3.45 pm	3A	Electro-optic sensors for specific absorption rate measurements	By Shuo Zhang, <u>Sebastien Euphrasie</u> , Pascal Vairac, Bernard Cretin
3.45 pm 4.05 pm	3B	Measurement of 3D location, size, and refractive index of spherical particles by near field digital holography at rainbow angle	By <u>Sawitree Saengkaew</u> , Siegfried Meunier-Guttin-Cluzel, Xue Cheng Wu, Ling Hong Chen, Denis Lebrun, Marc Brunel, Sébastien Coëtmellec, Gerard Gouesbet, Ke Fa Cen, Gerard Grehan
4.05 pm 4.25 pm	3C	Micropipe flow visualization using digital in-line holographic microscopy	By Clément Remacha, Sébastien Coëtmellec, Denis Lebrun, Marc Brunel

Wednesday, Nov. 30, 2011

POSTER SESSION (1/2) - Wednesday, Nov. 30, 2011

3.25 pm - 5.30 pm

Chairman: **B. Ravelo & A. Randazzo**

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| SP1 | Reconstruction of separate scatterers by a multiscale approach to microwave imaging based on the electric field integral equation | By Giacomo Oliveri, Andrea Massa, <u>Andrea Randazzo</u> , Matteo Pastorino, Claudio Estatico |
| SP2 | Preliminary assessment of a contrast source formulation for the iterative multiscale reconstruction of cylindrical objects in electromagnetic imaging | By Giacomo Oliveri, Andrea Massa, <u>Andrea Randazzo</u> , Matteo Pastorino, Claudio Estatico |
| SP3 | Direct visualization of conductivity of composite materials by a near-field scanning microwave microscope | By Carnis Jerome, Arsen Babajanyan, Tigran Abrahamyan, Harutyun Melikyan, Jongchel Kim, Kiejun Lee, Barry Friedman, Didier Trichet, Annick Perronnet, Gerard Berthiau |
| SP4 | Continuous monitoring of adhesives curing with a microwave sensor | By Beatriz Garcia-Banos, Jose Catala-Civera, Pedro Plaza-Gonzalez, Jose Gutierrez-Cano |
| SP5 | Capacity performance of air-air and ocean-ocean inductively-coupled near-field communication link | By Umar Azad, Yuanxun Wang |
| SP6 | Modeling of electromagnetic radiation and coupling between components and transmission lines | By <u>Hanen Shall</u> , Laurent Leyssenne, Priscila Fernandez-Lopez, David Baudry |

Wednesday, Nov. 30, 2011

POSTER SESSION (2/2) - Wednesday, Nov. 30, 2011 / 3.25 pm - 5.30 pm

Chairman: **B. Ravelo & A. Randazzo**

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| SP7 | Study of the transmission line coupling with near-field excitation and its effect on the LNA performance | By <u>A. Alaeddine</u> , M. Kadi, K. Daoud |
| SP8 | Near-field/near-field transform in frequency domain with PWS method | By <u>Yang Liu</u> , Blaise Ravelo, Priscila Fernandez-Lopez, David Baudry, Jaleleddine Ben Hadj Slama |
| SP9 | Compaction estimation of asphalt using high frequency electromagnetic methods | By <u>Bo Li</u> , Cyrille Fauchard, Laurent Laguerre, Nabil Benjelloun, Belhacène Mazari |
| SP10 | Numerical modeling of radiated emissions from indoor powerline communications | By <u>Vesna Arnautovski Tosheva</u> , Khalil El Khamlichi Drissi, Kamal Kerroum |
| SP11 | Hardening of electrical and electronical installations for industry, medicine and service industry | By Patrice Joyeux, <u>Daniel Soleil</u> , Mathieu Ferrino, George Zeigler, |
| SP12 | Improvement of EMC near-field measurements with an electro-optic test bench | By <u>David Chevallier</u> , David Baudry, Anne Louis |
| SP13 | Plane wave spectrum expansion from near-field measurements on non-planar lattices | By Christian Reinhold, Christian Hangmann, Thomas Mager, Christian Hedayat, <u>Ulrich Hilleringmann</u> |

Thursday, Dec. 30, 2011

Session 4: RF & power system radiation (Amphi CHARPAK)

9.20 am - 10.20 pm

Chairman: M. Kadi & P. Eudeline

9.20 am 9.40 am	4A	Electrical rotating machine fault detection by low frequency near magnetic field analysis	By Olivier Chadebec, <u>Laure-Line Rouve</u>
9.40 am 10.00 am	4B	Near-field microwave testing method for outdoor insulators using artificial neural network	By Nasser Qaddoumi, Ayman El-Hag, Yasser Saker
10.00 am 10.20 pm	4C	Contribution to the development of near-field measurements in time-domain. Application to power electronics systems	By Jaleddine Ben Hadj Slama, Mimoun Wiem, David Baudry

Thursday, Dec. 1, 2011

Session 5: Plane-wave NF Characterization (Amphi ARMAND)

10.40 am - 12.00 pm

Chairman: R. DuBroff & D. Pissort

10.40 am 11.00 am	5A	NF-multifocused arrays using optimization	By <u>Rafael Gonzalez-Ayestaran</u> , Jana Álvarez, Jesús López-Fernández, Fernando Las-Heras
11.00 am 11.20 am	5B	Review on E-field computation method from H-near-field with PWS transform	By <u>Yang Liu</u> , Blaise Ravelo, Priscila Fernandez-Lopez, Adam Jastrzebski, Jaleleddine Ben Hadj Slama
11.20 am 11.40 am	5C	Portable microwave system for dielectric characterization of powder and liquid materials	By Jose Catala-Civera, Felipe Penaranda-Foix, Beatriz Garcia-Banos, Antoni Canos
11.40 am 12.00 pm	5D	Review on time domain near-field analysis with PWS theory	By <u>Yang Liu</u> , Blaise Ravelo, Adam Jastrzebski, Jaleleddine Ben Hadj Slama

Thursday, Dec. 1, 2011

Session 6: EMC & NF couplings (Amphi CHARPAK)

10.40 am - 12.00 pm

Chairman: T. Mager & F. Las-Heras

10.40 am 11.00 am	6A	Local EM perturbations into CMOS ring oscillator#	By <u>Francois Poucheret</u> , Philippe Maurine, Laurent Chusseau
11.00 am 11.20 am	6B	Sensitivity study of the nearest-neighbor crosstalk for PCB interconnects	By <u>Thomas Eudes</u> , Blaise Ravelo, Anne Louis
11.20 am 11.40 am	6C	Comparison between hybrid methods in the optimization of radiated coupling calculation	By <u>Rajkumar Elagiri Ramalingam</u> , Mohamed Bensetti, Abhishek Ramanujan, Anne Louis, Blaise Ravelo
11.40 am 12.00 pm	6D	Reliability and robustness studies of SiC diodes through LF noise and EM emission measurements	By <u>Patrick Denis</u> , Guillaume Coru, Moncef Kadi, Pascal Dherbécourt, Kaouther Daoud

Thursday, Dec. 1, 2011

Invitee speaker (Amphi CHARPAK) / 1.15 pm - 1.55 pm

Chairman: B. Ravelo & M. Kadi

1.15 pm Exposure on near-field: Modeling and future challenge
 1.55 pm By *Dr. Azeddine Gati, RD-RESA-ISS, France*

Session 7: Probe/antenna design and radars (Amphi CHARPAK) / 1.55 pm - 3.55 pm

Chairman: A. Randazzo & D. Pissoort

1.55 pm 2.15 pm	7A	Calibration of active phased antenna array with near-field measurements	By <u>Yeo-Sun Yoon</u> , Sung-Cheol Kang, Seung-Eui Lee, Dong-Jin Yeom, Dong-Hee Hong, Min-Joon Lee
2.15 pm 2.35 pm	7B	Millimetric near-field imaging experiment using a transition from rectangular waveguide to cylindrical surface wave guide	By Jean-Paul Guillet, Laurent Chusseau
2.35 pm 2.55 pm	7C	Capacity performance of an inductively-coupled near-field communication link for thermal noise and natural interference limited scenarios	By Umar Azad, Yuanxun Wang
2.55 pm 3.15 pm	7D	Ultra wideband antenna for the near-field multi-probe system of scanning	By <u>Semkin Vasily</u> , Tommi Laitinen
3.15 pm 3.35 pm	7E	A novel UWB antenna with tunable notch function	By S. Abazari Aghdam, H. Mardani, M. Nouri, M. Golpour
3.35 pm 3.55 pm	7F	Nano-antenna for NMR spectroscopy	By <u>M. Akel</u> , E. Nativel, B. Aleman, P. Gall-Borrut, M. Zanca, A. Zettl, C. Goze-Bac

Thursday, Dec. 1, 2011

Session 8: NFC technique (Amphi ARMAND)

2.10 pm - 3.10 pm

Chairman: T. Mager & R. DuBroff

2.15 pm 2.35 pm	8A	An inductively-coupled near-field power transmission system – The principle and experimental results#	By Umar Azad, Yuanxun Wang
2.35 pm 2.55 pm	8B	Semi-embedded RFID sensor networks for imaging applications#	By <u>Marta Guardiola</u> , Gemma Roqueta, Santiago Capdevila, Jordi Romeu, Lluís Jofre
2.55 pm 3.15 pm	8C	Study of a near-field antenna module for real electromagnetic noise and reliability evaluations	By <u>J.M. Dienot</u> , E. Batista, J.L. Massol P. Chalimbaud

Friday, Dec. 2, 2011

Invitee speaker 3 (Amphi CHARPAK)

9.00 am - 9.40 am / Chairman: B. Deconihout & T. Mager

9.00 am Nanoaperture antennas to enhance
9.40 am optical spectroscopies

By Prof. Jérôme Wenger, Institut Fresnel,
CNRS, Aix-Marseille Université, Ecole
Centrale Marseille, France

Session 9: Numerical computation NF-methods (Amphi CHARPAK)

10.00 am - 11.40 am

Chairman: D. Pissort & B. Ravelo

10.00 am 10.20 am	9A	New approach to avoid local minima in the iterative Fourier method for phaseless near-field measurements	By <u>J. Puskely</u> , S. Costanzo, G. Di Massa
10.20 am 10.40 am	9B	Fast evaluation of electric field Green's functions and their volumetric integrals for near field imaging applications	By Mehmet Çayören, Fjolla Shehu, Ali Yapar, İbrahim Akduman, -
10.40 am 11.00 am	9C	Near-field scanning as an EMC debug tool: Example out of practice	By Bram Van Der Streeck, Filip Vanhee, Bart Boesman, <u>Davy Pissort</u> , Lieven Broucke
11.00 am 11.20 am	9D	Optimisation of an inductive proximity sensor with regards to the side-metal-effect	By Frank Lebahn, Hartmut Ewald
11.20 am 11.40 am	9E	Near-field solution to scattering by buried cylindrical targets	By Fabrizio Frezza, Lara Pajewski, <u>Cristina Ponti</u> , Giuseppe Schettini

Thank you!