

## **Session: Medical I**

**Chair: Elise Fear and Michal Okoniewski**

**Date: Wednesday 8:00-12:40, Room F3**

### **Thermal analysis of catheter antennas for microwave ablation therapy**

Stefano Pisa, Marta Cavagnaro, Emanuele Piuze, Paolo Bernardi: University of Rome, Italy; James C. Lin: University of Illinois, USA

### **Characteristics of single-arm microstrip archimedean spiral antennas in near field probing of tissue**

Svein Jacobsen\*: University of Tromso, Norway; Hans Olav Rolfsnes, Paul Stauffer: University of California, USA

### **A quantitative comparison of calculated and measured 3-D temperature data sets using a 3-D hyperthermia applicator inside a 1.5 Tesla tunnel-type MR tomograph**

Jacek Nadobny, Waldemar Wlodarczyk, Lothar Westhoff, Johanna Gellermann, Roland Felix, Peter Wust: Charité Universitätsmedizin Berlin, Germany

### **Pulsed response of optimally absorbing tissue layers for hyperthermic applications**

Daniel Razansky, Pinchas D. Einziger, Dan R. Adam: Technion - Israel Institute of Technology, Israel

### **Bessel transform electrical impedance tomography method for reconstruction of layered biological tissues**

Madlena Dolgin, Pinchas D. Einziger: Technion - Israel Institute of Technology, Israel

### **Sensing biomolecules with microwave and terahertz frequencies**

Daniel W. van der Weide, Min Ki Choi, Kimberly Taylor, Alan Bettermann: University of Wisconsin, USA

### **Phase effects in terahertz pulsed imaging**

Sadie Reed, Elizabeth Berry, A.Giles Davies, Andrew P. Foulds, Mark R. Stringer: University of Leeds, UK

### **3D microwave breast tomography: 3D data acquisition and algorithm development**

Paul M. Meaney, Qianqian Fang, Timothy Reynolds, Margaret W. Fanning, Lincoln Potwin, Colleen J. Fox, Keith D. Paulsen: Dartmouth College, NH, USA

### **Non-linear microwave tumor imaging in a heterogeneous female breast**

Bert Jan Kooij: Delft University of Technology, The Netherlands

### **Estimation of average breast tissue properties at microwave frequencies using a time-domain inverse scattering technique**

David W. Winters, Essex J. Bond, Susan C. Hagness, Barry D. Van Veen: University of Wisconsin - Madison, USA

### **Microwave imaging for mammography using an iterative time-domain reconstruction algorithm; initial experiments**

Andreas Fhager, Parham Hashemzadeh, Mikael Persson: Chalmers University of Technology, Sweden; Lars Bååth: Halmstad University, Sweden

**Session: Medical II**

**Chair: Elise Fear and Michal Okoniewski**

**Date: Wednesday 14:00-15:20, Room F3**

**Tissue sensing adaptive radar for breast tumour detection: Investigation of issues for system implementation**

Jeff M. Sill, Trevor C. Williams, Elise C. Fear: University of Calgary, Canada

**Breast microwave imaging and focusing based on range migration techniques**

Daniel Flores-Tapia, Gabriel Thomas: University of Manitoba, Canada

**Breast tumour detection using a flat 16 element array**

Rajagopal Nilavalan, Ian Craddock, Jack Leendertz, Ralf Benjamin, Alan Preece: Department of Medical Physics, University of Bristol, UK

**Microwave imaging of malignant breast cancer tumor based on optimization technique**

Magda El-Shenawee\*: University of Arkansas, USA; Eric Miller: Northeastern University, USA

**Session: Low Frequency**

**Chair: Maria Stuchly and John Nyenhuis**

**Date: Wednesday 16:00-17:40, Room F3**

**Electric fields in the human body at power-line frequencies**

Maria Anna Stuchly\*: University of Victoria, Canada

**Modeling of bone marrow cells in low-frequency electric field**

Roanna Chiu, Maria Anna Stuchly\*: University of Victoria, Canada

**Influence on biological tissue by electric current**

Andrey N. Volobuev, Aleksandr I. Sirota, Asia U. Bakhito: Samara State University, Russia

**Interactions of time varying magnetic fields in MRI with medical implants**

John Nyenhuis, Arslan Amjad, Rungkiet Kamondetdacha, Sung-Min Park: Purdue University, USA

**Stimulation by pulsed magnetic fields**

Werner Irnich: University Hospital, Giessen, Germany

**Session: High Frequency**

**Chair: Om Gandhi and Michal Okoniewski**

**Date: Thursday 8:30-12:20, Room F3**

**A theoretical and experimental methodology for identifying dielectric models of biological cells**

Caterina Merla, Micaela Liberti, Alfonsina Ramundo Orlando, Francesca Apollonio, Guglielmo D'Inzeo: ICEmB, Rome, Italy

**MSRC measurements of high frequency non ionizing electromagnetic radiations (NIR) on living organisms**

David Roux\*, Alain Vian, Pascale Goupil, Gérard Ledoigt, Sébastien Girard, Françoise Paladian, Pierre Bonnet: Blaise Pascal University (Clermont-Ferrand II), France

**Wideband complex dipole antenna design for reference measurements in the human body from radio-frequencies in the (5 to 6)GHz band**

Daniel R. Brooks, Stuart Nicol, Jacek Wojcik: APREL Laboratories, Canada

**Solving biomedical EMC problems using the ADI FDTD method **CANCELLED****

Stefan Schmidt, Gianluca Lazzi\*: North Carolina State University, USA

**Non-local coupling: how to overcome problem of large geometric ratio in numerical models**

Blaz Valic, Damijan Miklavcic: University of Ljubljana, Slovenia

**Averaged SAR computation: A neural network approach**

Mauro Francavilla, Andrea Schiavoni: Telecom Italia Lab, Torino, Italy

**Using a hybrid finite element / method of moments numerical technique for SAR compliance zone profiling of a real GSM base station antenna**

Frans J.C. Meyer, Marnus J. Van Wyk, Robert A. Kellerman: EM Software and Systems, Stellenbosch, South Africa

**Efficient calculation of human exposure in front of base station antennas by a combination of the FDTD and hybrid(2)-method**

A. Bitz, A. El Ouardi, J. Streckert, V. Hansen, University of Wuppertal, Germany

**An in-factory SAR prediction system by H-field measurements for mass production quality control purposes**

Koichi Ogawa, Akihiro Ozaki, Shoichi Kajiwara, Atsushi Yamamoto, Yoshio Koyanagi, Yutaka Saito: Matsushita Electric Industrial Co, Japan

**Sensitivity evaluation of SAR on size and permittivity of rat brains exposed to microwaves at mobile-phone frequency bands using the FDTD method**

Yisok Oh, Jong-Chul Hyun\*: Hongik University, Korea