



Università G. d'Annunzio  
Chieti-Pescara



ITAB



Fondazione  
"Università G. d'Annunzio"

# 17<sup>th</sup> Meeting **ISBET**

INTERNATIONAL SOCIETY FOR BRAIN ELECTROMAGNETIC TOPOGRAPHY  
IMAGING THE BRAIN IN THE LIFE SPAN

SEPTEMBER 27-30, 2006  
CHIETI, ITALY

**PROGRAMME**





Pierluigi Lelli Chiesa

**AtB**

**Functional Imaging Instruments**

Advanced Technologies Biomedica

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SEPTEMBER 27-30, 2006  
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INTERNATIONAL SOCIETY FOR BRAIN ELECTROMAGNETIC TOPOGRAPHY  
IMAGING THE BRAIN IN THE LIFE SPAN

UNDER THE AUSPICES OF



*Università G. d'Annunzio  
Chieti-Pescara*



*Fondazione  
"Università G. d'Annunzio"*



*Presidenza del  
Consiglio Regionale*



*Provincia di Pescara*



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## Legenda:

A = Abstract

L = Lecture

K = Keynote speaker



## SCIENTIFIC SECRETARIAT

ITAB – Institute of Advanced Biomedical Technologies  
and Dept. Clinical Sciences and Bioimaging  
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## ORGANISING SECRETARIAT

Athena Congressi  
Via Passo Lanciano, 78  
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## WELCOME MESSAGE

*Dear Colleagues and Friends,*

On behalf of the Organising Committee, it is a great pleasure and honour for us to welcome you to the **17<sup>th</sup> Meeting of the International Society for Brain Electromagnetic Topography**, in Chieti, Italy, September 27<sup>th</sup> to 30<sup>th</sup>, 2006.

All the scientific sessions will be hosted by the Institute of Advanced Biomedical Technologies (ITAB) at the university campus. ITAB is an interdisciplinary research institute devoted to multimodal functional imaging and is equipped with several imaging techniques, such as MEG, EEG, fMRI and TMS.

The subject of the Meeting will be Imaging the Brain in the Life Span with the ambitious goal of presenting state-of-the-art applications of functional imaging to the study of the physiology and pathology of the human brain, across various phases of life. This organization is reflected in a series of keynote lectures that will address topics related to specific stages of human life. Due to the increasing importance of multimodal approaches to the study of the human brain, keynote lectures will present studies conducted with various imaging techniques such as fMRI and TMS, in addition to EEG and MEG. Similarly, contributed papers, in basic and clinical neurosciences, describing findings obtained with the above mentioned techniques and with a multimodal approach are welcome.

Two plenary sessions have been planned, a Galvani lecture at the beginning and a Williamson lecture at the end of the meeting. The latter will be dedicated to the memory of Samuel J. Williamson, one of the pioneers of Magnetoencephalography, whose work has paved the way for the development of Biomagnetism, and whose loss is still deeply felt by all his friends and pupils all over the world.

Young investigators, i.e. researchers not older than 32, are invited to take part in the Young Investigators Competition. The winner will receive a prize of Euros 1000,00.

Chieti, where the Meeting is held, is a small town that traces its history back to the pre-roman era. The city developed later during the Roman period under the name of Teate Marrucinorum, the ruins of which still remain today. Subsequently, Chieti was part of the duchy of Benevento in the 7<sup>th</sup> century, fell to the Normans in 1078, and later became part of the Kingdom of Naples. In 1860 Chieti became part of the growing Italian Kingdom. Today Chieti is a lively town, capital of the Provincia of Chieti, with a fine Romanesque cathedral (11<sup>th</sup> cent.) and a 14<sup>th</sup> century tower, whose life is livened up by the presence of the University "G. d'Annunzio". During summertime, it is also possible to enjoy the nearby sea resort of Pescara.

Another qualifying aspect of this meeting is the thorough care given to the organizational details. Indeed, the registration fee will cover lunch during the meeting, transportation from and to the hotels, as well as the welcome reception and the gala dinner. Last but not least, all participants will be offered a farewell party that will give them a taste of the local traditional cuisine. In this party, meeting attendants will be welcome to entertain the audience performing their artistic skills (e.g. dancing, singing, instrument playing and juggling).

*We wish you a pleasant stay in Chieti.*

Gian Luca Romani	Chair
Cosimo Del Gratta	Co-chair
Vittorio Pizzella	Co-chair
Maurizio Corbetta	Chair of the Scientific Committee

## COMMITTEES

### ISBET EXECUTIVE COMMITTEE

Chair	Wolfgang Skrandies, Giessen - Germany
Co-Chair	Silvana Galderisi, Naples - Italy
Treasurer	Thomas Dierks, Bern - Switzerland
Secretary	Koichi Hirata Mibu, Tochigi - Japan
Members at large	Alan Gevins, San Francisco - USA Ken Nagata, Akita - Japan Yoshio Okada, Albuquerque - USA Richard Silberstein, Melbourne - Australia Fernando Lopes da Silva, Amsterdam - The Netherlands Peter K. H. Wong, Vancouver - Canada Frank Duffy, Boston - USA Dietrich Lehmann, Zurich - Switzerland Konrad Maurer, Frankfurt - German Shigeaki Matsuoka, Kitakyushu - Japan
Honorary Emeriti Chairs	
Honorary Founding member	
Honorary Emeritus member	

### ISBET MEETING

Chair	Gian Luca Romani, Chieti - Italy
Co-Chairs	Vittorio Pizzella, Chieti - Italy Cosimo Del Gratta, Chieti - Italy
Scientific Committee	
Chair	Maurizio Corbetta, St. Louis - USA
Members	Thomas Dierks, Bern - Switzerland Gaspere Galati, Chieti - Italy Silvana Galderisi, Naples - Italy Yoshio Okada, Albuquerque - USA Andrew Papanicolaou, Houston - USA Gert Pfurtscheller, Graz - Austria Jean-Baptiste Poline, Orsay - France Paolo M. Rossini, Rome - Italy Riitta Salmelin, Helsinki - Finland Wolfgang Skrandies, Giessen - Germany Peter Wong, Vancouver - Canada
Local Organising Committee	Carmine Di Ilio Silvia Comani Silvano Di Luzio Armando Tartaro Maurizio Bertollo Massimo Caulo Giorgia Committeri Stefania Della Penna Antonio Ferretti Arcangelo Merla
Technical and Secretarial Support	Luigi Di Donato Maurizio Stefanachi Carlo Michetti

# INVITED SPEAKERS AND CHAIRS

## Galvani Lecture

Richard Frackowiak, London - UK

## Williamson Lecture

Rodolfo Llinás, New York - USA

## Keynote Speakers

Claudio Babiloni, Rome - Italy  
Leonardo Cohen, Bethesda - USA  
Cesare Colosimo, Rome - Italy  
Maurizio Corbetta, St. Louis - USA  
Thomas Dierks, Bern - Switzerland  
Gaspare Galati, Chieti - Italy  
Jay N. Giedd, Bethesda - USA  
Patrick Haggard, London - UK  
Riitta Hari, Helsinki - Finland  
Minna Huotilainen, Helsinki - Finland  
Ryusuke Kakigi, Okazaki - Japan  
Jean-Philippe Lachaux, Lyon - France  
Louis Lemieux, London - UK  
Marcello Massimini, Madison - USA  
Maria Concetta Morrone, Milan - Italy  
Yoshio Okada, Albuquerque - USA  
Guy Orban, Leuven - Belgium  
Andrew Papanicolaou, Houston - USA  
Gert Pfurtscheller, Graz - Austria  
Pietro Pietrini, Pisa - Italy  
Luigi Pizzamiglio, Rome - Italy  
Jean-Baptiste Poline, Orsay - France  
Paolo M. Rossini, Rome - Italy  
Riitta Salmelin, Helsinki - Finland  
Martin Staudt, Tübingen - Germany

## Tutorial Lectures

Rainer Goebel, Maastricht - The Netherlands  
Massimiliano Oliveri, Palermo - Italy  
Michael Scherg, Heidelberg - Germany

## Chairs

Claudio Babiloni, Rome - Italy  
Fabio Babiloni, Rome - Italy  
Maurizio Corbetta, St. Louis - USA  
Cosimo Del Gratta Chieti - Italy  
Thomas Dierks, Bern - Switzerland  
Leonardo Fogassi, Parma - Italy  
Gaspare Galati, Chieti - Italy  
Patrick Haggard, London - UK  
Riitta Hari, Helsinki - Finland  
Ryusuke Kakigi, Okazaki - Japan  
Jean-Philippe Lachaux, Lyon - France  
Marcello Massimini, Madison - USA  
Maria Concetta Morrone, Milan - Italy  
Yoshio Okada, Albuquerque - USA  
Andrew Papanicolaou, Houston - USA  
Pietro Pietrini, Pisa - Italy  
Luigi Pizzamiglio, Rome - Italy  
Vittorio Pizzella, Chieti - Italy  
Gian Luca Romani, Chieti - Italy  
Paolo M. Rossini, Rome - Italy  
Riitta Salmelin, Helsinki - Finland  
Wolfgang Skrandies, Giessen - Germany  
Martin Staudt, Tübingen - Germany  
Franca Tecchio, Rome - Italy



## PROGRAMME

**Wednesday  
September 27<sup>th</sup>  
2006**

9.00 Registration

9.30 OPENING CEREMONY

### GALVANI LECTURE

**Chair: Maurizio Corbetta**

10.00 L1 **The adapting, learning brain: imaging studies in humans**  
Richard Frackowiak, United Kingdom

10.50 *Coffee break*

### COMPARATIVE BRAIN

**Chair: Maria Concetta Morrone**

11.10 K1 **Electrophysiological bases of MEG and EEG**  
Keynote: Yoshio Okada, USA

11.45 K2 **The breakthrough provided by fMRI in the awake monkey**  
Keynote: Guy Orban, Belgium

### ORAL SESSION I - DEVELOPMENT

**Chair: Martin Staudt**

12.20 A57 **Fetal MEG signal characteristics revealed by beamformer analysis**  
H. Preißl, Germany

12.30 A58 **Cortico-cerebellar coherence in patients with perinatally acquired brain lesions**  
P. Belardinelli, Italy

12.40 A59 **Neuromagnetic mapping of sensory and motor cortex using event-related beamforming: implication for pediatric imaging**  
D. Cheyne, Canada

12.50 A60 **Organization of large scale spatiotemporal networks in young adults with a history of dyslexia**  
R.E. Frye, USA

13.10 *Lunch*



# PROGRAMME

**Wednesday**  
**September 27<sup>th</sup>**  
**2006**

## DEVELOPING BRAIN

**Chair: Yoshio Okada**

- 14.30 K3 **Child and adolescent brain development: new views from magnetic resonance**  
Keynote: Jay N. Giedd, USA
- 15.05 K4 **(Re-)Organization of motor and sensory pathways after early brain lesions**  
Keynote: Martin Staudt, Germany
- 15.40 K5 **Addressing the cognitive functions in the fetal and neonatal brain**  
Keynote: Minna Huotilainen, Finland
- 16.30 POSTER SESSION I and Coffee  
18.30 **Attention - Cognition (A1-A12)**  
**Perception (A13-A25)**
- 19.00 *Welcome Cocktail*  
*"G. d'Annunzio" University Campus, "Dinosaur Gallery"*





# PROGRAMME

**Thursday**  
**September 28<sup>th</sup>**  
**2006**

## ORAL SESSION III - ATTENTION and COGNITION

**Chair: Luigi Pizzamiglio**

- 12.20 A1 Frontal lobe shapes number space  
E. Rusconi, United Kingdom
- 12.30 A2 Prediction error detection for internal model update: a magnetoencephalographic study  
M. Yumoto, Japan
- 12.40 A3 Interfering with human parietal areas and primary visual-spatial consciousness.  
A rTMS study  
F. Vecchio, Italy
- 12.50 A4 Visual and acoustic intention - related activity within the human parietal reach region  
G. Pelle, Italy
- 13.00 A5 Retrosplenial and hippocampal regions in human topographical orientation:  
a complementary contribution to the formation and use of cognitive maps  
C. Guariglia, Italy
- 13.20 *Lunch*
- 13.20 **EXECUTIVE COMMITTEE MEETING**

## CONNECTED, STATISTICAL and SYNCHRONIZED BRAIN

**Chair: Fabio Babiloni**

- 14.30 K10 **Connectivity and excitability in human thalamocortical networks across state of vigilance:  
TMS – EEG studies**  
Keynote: Marcello Massimini, USA
- 15.05 K11 **Towards better group connectivity analyses with fMRI**  
Keynote: Jean-Baptiste Poline, France
- 15.40 K12 **Local and long range synchrony and cognition: insight from intracranial EEG recordings  
in humans**  
Keynote: Jean-Philippe Lachaux, France

## 16.30 **POSTER SESSION II and Coffee**

- 18.30 **Language - Memory (A26-A31)**  
**Emotion - Pain (A32-A34)**  
**Neurology (A35-A41)**  
**Psychiatry (A42-A48)**

# PROGRAMME

Friday  
September 29<sup>th</sup>  
2006

## fMRI TUTORIAL

Chair: **Cosimo Del Gratta**

8.00            **New directions in structural and functional data analysis**  
8.45            Rainer Goebel, The Netherlands

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## PLASTIC and INTERFACED BRAIN

Chair: **Pietro Pietrini**

9.00        K13 **Modulation of cortical plasticity in the human brain**  
              Keynote: Leonardo Cohen, USA

9.35        K14 **Interfacing the brain**  
              Keynote: Gert Pfurtscheller, Austria

## ORAL SESSION IV - METHODS and ANALYSIS

Chair: **Jean-Baptiste Poline**

10.10      A71 **Functional source separation applied to induced visual gamma activity**  
              G. Barbati, Italy

10.20      A72 **SWARM: Slorete-Weighted, Accurate Minimum- Norm Inverse solutions**  
              M. Wagner, Germany

10.30      A73 **Hypermehods for EEG hyperscanning**  
              F. Babiloni, Italy

10.40      A74 **A Cartesian time-frequency approach to reveal brain interaction dynamics**  
              L. Marzetti, Italy

10.50      A75 **Distinguishing true brain interaction from artefacts of volume conduction in EEG/MEG data analysis**  
              G. Nolte, Germany

11.00            *Coffee break*

## PRESURGICAL BRAIN

Chair: **Franca Tecchio**

11.10      K15 **Pre-surgical mapping by fMRI: a critical review**  
              Keynote: Cesare Colosimo, Italy

11.45      K16 **Questioning the “gold standards” of brain mapping**  
              Keynote: Andrew Papanicolau, USA

# PROGRAMME

Friday  
September 29<sup>th</sup>  
2006

## ORAL SESSION V - NEUROLOGY

Chair: Andrew Papanicolau

- 12.20 A35 Sources and coherence of cortical EEG rhythms could predict progression from mild cognitive impairment to Alzheimer disease  
F. Vecchio, Italy
- 12.30 A36 fMRI vs. MEG evaluation of post-stroke plastic brain reorganization in sensorimotor hand areas  
F. Tecchio, Italy
- 12.40 A37 EEG microstates in mild Alzheimer's disease  
M. Yoshimura, Japan
- 12.50 A38 Artefact removal in MEG measurements of epileptic patients  
S. Taulu, Finland
- 13.00 A39 Training to modulate EEG mu-Rhythm for operation of a Brain Computer Interface  
F. Cincotti, Italy
- 13.20 *Lunch*

## PAINFUL and SPEAKING BRAIN

Chair: Riitta Hari

- 14.30 K17 **Painful brain**  
Keynote: Ryusuke Kakigi, Japan
- 15.05 K18 **Language in the brain: timing, location and connectivity**  
Keynote: Riitta Salmelin, Finland

## ORAL SESSION VI - LANGUAGE-MEMORY

- 15.40 A26 Electrophysiological correlates of neural plastic induced by Human perceptual learning  
W. Skrandies, Germany
- 15.50 A27 Effects of cholinergic modulation on brain response to working memory as task difficulty increases in young and older subjects  
E. Ricciardi, Italy
- 16.00 A28 Neural processing associated with the Shakespearian functional shift  
G. Thierry, United Kingdom
- 16.10 A29 Dynamic connectivity during syllable perception revealed by Granger causality  
R.E. Frye, USA

## 16.30 GENERAL ASSEMBLY

17.00 POSTER SESSION III and Coffee  
18.30 **Body - Action (A49 - A56)**  
**Development (A57 - A60)**  
**Methods - Analysis (A61 - A76)**

20.00 *Gala Dinner*  
*Parco dei Principi*



## TMS TUTORIAL

**Chair: Marcello Massimini**

8.00                    **Applications of transcranial magnetic stimulation in neuroscience**  
8.45                    Massimiliano Oliveri, Italy

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## SOCIAL and EMBODIED BRAIN

**Chair: Leonardo Fogassi**

9.00            K19 **The social brain**  
                  Keynote: Riitta Hari, Finland

9.35            K20 **Brain, body and self**  
                  Keynote: Patrick Haggard, United Kingdom

## ORAL SESSION VII - BODY and ACTION

**Chair: Patrick Haggard**

10.10        A49 Single-trial MEG source imaging reveals large scale interactions in multiple frequency bands during continuous visuomotor control  
                  K. Jerbi, France

10.20        A50 Cortical processing of acute pain and touch in chronic pain patients  
                  N. Vartiainen, Finland

10.30        A51 Relationship between neural efficiency and cortical alpha Rhythms: an EEG study  
                  P. Capotosto, Italy

10.40        A52 Cortical causality patterns during the execution of cognitive and motor tasks in normal and disabled subjects by using high resolution EEG and graph theory  
                  F. De Vico, Italy

11.00                    *Coffee break*

## ORIENTING and EPILEPTIC BRAIN

**Chair: Paolo M. Rossini**

11.10        K21 **Imaging multiple spatial representations**  
                  Keynote: Gaspare Galati, Italy

11.45        K22 **EEG correlated fMRI and its application to epilepsy**  
                  Keynote: Louis Lemieux, United Kingdom

# PROGRAMME

**Saturday  
September 30<sup>th</sup>  
2006**

## ORAL SESSION VIII - PSYCHIATRY

**Chair: Thomas Dierks**

- 12.20 A44 Phase resetting: a major key to understand disturbances in early information processing  
R. Mueller, Germany
- 12.30 A45 Emotion processing in panic disorder: brain electrical microstate finding  
A. Mucci, Italy
- 12.40 A46 Time course of valence and arousal representation in ERP microstates  
L.R.R. Gianotti, Switzerland
- 12.50 A47 Modified trains of rTMS pulses, that take account of background EEG, can be used in developing stimulus parameters for the treatment of depression  
G.W. Price, Australia
- 13.00 A48 Neural response to neutral and emotional faces in patients with social phobia  
C. Gentili, Italy

13.20 *Lunch*

## PSYCHIATRIC and AGEING BRAIN

**Chair: Claudio Babiloni**

- 14.30 K23 **Neuropathophysiology of schizophrenia**  
Keynote: Thomas Dierks, Switzerland
- 15.05 K24 **The ageing brain: functional correlates of cholinergics enhancement on neural-activity at different ages in humans**  
Keynote: Pietro Pietrini, Italy
- 15.40 K25 **Contribution of neurophysiological imaging to physiological and pathological ageing**  
Keynote: Paolo M. Rossini, Italy

16.15 *Coffee Break*

## WILLIAMSON LECTURE

**Chair: Gian Luca Romani**

- 16.40 L2 **Human dynamic brain imaging: Sam Williamson's legacy**  
Keynote: Rodolfo Llinás, USA

17.30 **YOUNG INVESTIGATOR AWARD**

17.45 **CLOSING SESSION**

20.00 *Farewell party*  
*4 Vele Disco Bar*

**Attention - Cognition (A1-A12)**

- A1** Frontal lobe shapes number space  
E. Rusconi, D. Buetti, V. Walsh, B. Butterworth, United Kingdom
- A2** Prediction error detection for internal model update: A magnetoencephalographic study  
M. Yumoto, Y. Yatomi, Japan
- A3** Interfering with human parietal areas and primary visual – spatial consciousness. A rTMS study  
F. Vecchio, C. Babiloni, S. Rossi, A. De Capua, S. Bartalini, M. Ulivelli, P.M. Rossini, Italy
- A4** Visual and acoustic intention-related activity within the human parietal reach region  
G. Pelle, G. Committeri, P. Belardinelli, A. Tartaro, G.L. Romani, G. Galati, Italy
- A5** Retrosplenial and hippocampal regions in human topographical orientation: a complementary contribution to the formation and use of cognitive maps  
G. Iaria, J.K. Chen, C. Guariglia, A. Ptito, M. Petrides, Canada - Italy
- A6** Brain response to the marketing messages: an high resolution EEG study  
F. Babiloni, F. Cincotti, D. Mattia, M.G. Marciani, F. De Vico Fallani, L. Bianchi, S. Salinari, V. Meroni, L. Astolfi, Italy
- A7** Cerebral correlates of personal space awareness in humans  
G. Committeri, S. Pitzalis, G. Galati, F. Patria, G. Pelle, U. Sabatini, A. Castriota-Scanderbeg, L. Piccardi, C. Guariglia, L. Pizzamiglio, Italy
- A8** Intracerebral EEG during distance judgments in topographical space  
G. Committeri, A. Berthoz, P. Kahane, G. Galati, J.P. Lachaux, Italy - France
- A9** Dissociation of slow potentials preceding different types of attended visual object  
E.V. Mnatsakanian, I.M. Tarkka, Russia - Finland
- A10** Fronto-parietal network subserving intelligent behaviour: the contributions of supplementary motor and dorso-lateral prefrontal cortex in fluid reasoning  
B. Perfetti, A. Saggino, A. Ferretti, M. Caulo, G.L. Romani, M. Onofri, Italy
- A11** Experience in Qigong mediation influences the topography of EEG theta frequency localization  
S. Tei, P.L. Faber, D. Lehmann, T. Tsujiuchi, H. Kuman, A. Akabayashi, L.R.R. Gianotti, K. Kochi, Japan - Switzerland
- A12** An fMRI-MEG study of cortical activity preceding the execution of visually guided saccades  
C. Sestieri, V. Pizzella, F. Cianflone, G.L. Romani, M. Corbetta, Italy - USA

**Perception (A13-A25)**

- A13** MEG coherence discloses high-band alpha functional coupling between auditory cortical areas during dichotic listening of speech sounds  
S. Della Penna, A. Brancucci, C. Babiloni, P. Capotosto, R. Franciotti, V. Pizzella, D. Rossi, K. Torquati, F. Vecchio, P.M. Rossini, G.L. Romani, Italy
- A14** Crossmodal source coherence in the theta and alpha bands (4 –12 Hz) during audiovisual integration in humans: a MEG study  
G. Stefanics, S. Della Penna, R. Franciotti, L. Finos, L. Ciancetta, V. Pizzella, I. Hernádi, G.L. Romani, Italy-Hungary
- A15** Neural correlates of visual and tactile spatial detection in sighted and congenitally – blind subjects  
D. Bonino, E. Ricciardi, L. Sani, T.E. Vecchi, P. Pietrini, Italy
- A16** Supramodal organization in hMT+ cortex in sighted and blind individuals  
L. Sani, E. Ricciardi, D. Bonino, N. Vanello, F. Di Salle, P. Pietrini, Italy
- A17** Mobile phone emission interference with inter-hemispheric functional coupling: an EEG spectral coherence analysis  
F. Vecchio, C. Babiloni, F. Ferreri, G. Curcio, P.M. Rossini, Italy
- A18** Lateralization of dichotic speech stimuli is based on specific auditory pathways interactions. Evidence from magnetoencephalography  
A. Brancucci, S. Della Penna, C. Babiloni, R. Franciotti, V. Pizzella, D. Rossi, P.M. Rossini, K. Torquati, G.L. Romani, Italy
- A19** Simultaneous EEG and fMRI in a visual oddball paradigm  
S. Cugini, M.G. Perrucci, L. Marzetti, A. Ferretti, C. Del Gratta, G.L. Romani, Italy
- A20** The influence of stimulation frequency on visual evoked potential topography  
W. Skrandies, Germany
- A21** Automatic detection of the somatosensory two-point  
K. Akatsuka, H. Nakata, R. Kakigi, Japan
- A22** Intranasal trigeminal function in subjects with and without an intact sense of smell  
E. Iannilli, J. Gerber, J. Frasnelli, T. Hummel, Italy - Germany
- A23** Cortical responses to working memory of somatosensory stimuli: an fMRI study  
N. Savini, A. Ferretti, C. Babiloni, C. Del Gratta, G. Perrucci, A. Tartaro, G.L. Romani, Italy
- A24** Sensory-motor feedback in primary hand cortical areas: a MEG assessment  
F. Tecchio, F. Zappasodi, J.M. Melgari, C. Porcaro, G. Barbati, E. Cassetta, P.M. Rossini, Italy
- A25** Steady-sound spectral perception reflected in auditory-evoked N1m  
T. Mizuochi, Japan

## POSTER SESSION II:

### Language - Memory (A26-A31)

### Emotion - Pain (A32-A34)

### Neurology (A35-A41)

### Psychiatry (A42-A48)

### Language - Memory (A26-A31)

- A26** Electrophysiological correlates of neural plasticity induced by human perceptual learning  
W. Skrandies, G. Skiera, J. Beckert, S. Kastaun, A. Manhart, V. Nürnberger, J. Nitsch, C. Rieger, S. Schott, D. Tag, Germany
- A27** Effects of cholinergic modulation on brain response to working memory as task difficulty increases in young and older subjects  
E. Ricciardi, P. Pietrini, S.I. Rapoport, M.B. Schapiro, M.L. Furey, Italy - USA
- A28** Neural processing associated with the Shakespearian functional shift  
G. Thierry, C. Martin, V. Gonzalez-Diaz, R. Rezaie, N. Roberts, P. Davis, United Kingdom
- A29** Dynamic connectivity during syllable perception revealed by Granger causality  
R.E. Frye, USA
- A30** ERP-fMRI approach to the study of the neural correlates of reading functions  
S. Casarotto, A.M. Bianchi, S. Cerutti, N. Vanello, E. Ricciardi, C. Gentili, L. Sani, D. Bonino, M. Guazzelli, P. Pietrini, L. Landini, G.A. Chiarenza, Italy
- A31** Theta frequency during verbal working memory task in juvenile myoclonic epilepsy  
V. Aldrete-Cortez, E. Santiago-Rodriguez, T. Harmony, L. Cárdenas-Morales, Mexico

### Emotion - Pain (A32-A34)

- A32** EEG alpha rhythms during expectancy correlates with subjective perception of pain  
P. Capotosto, C. Babiloni, A. Brancucci, C. Del Percio, L. Arendt-Nielsen, G.L. Romani, P.M. Rossini, Italy
- A33** MEG localization of anterior cingulum during somatosensory stimulation using beamformer technique in the frequency space  
R. Franciotti, L. Ciancetta, S. Della Penna, P. Belardinelli, V. Pizzella, G.L. Romani, Italy
- A34** Hypothalamus, sexual arousal, and psychosexual personality in human males: An fMRI study  
M. Brunetti, C. Babiloni, A. Ferretti, C. Del Gratta, A. Merla, M. Olivetti Belardinelli, G.L. Romani, Italy



## POSTER SESSION II:

**Language - Memory (A26-A31)**

**Emotion - Pain (A32-A34)**

**Neurology (A35-A41)**

**Psychiatry (A42-A48)**

### Neurology (A35-A41)

- A35** Sources and coherence of cortical EEG rhythms could predict progression from mild cognitive impairment to Alzheimer disease  
F. Vecchio, C. Del Percio, P. Pasqualetti, E. Cassetta, G. Binetti, G. Dal Forno, F. Ferreri, G. Frisoni, P. Chiovenda, C. Miniussi, L. Parisi, C. Babiloni, P.M. Rossini, Italy
- A36** fMRI vs. MEG evaluation of post-stroke plastic brain reorganization in sensorimotor hand areas  
C. Altamura, K. Torquati, F. Zappasodi, A. Ferretti, V. Pizzella, F. Tibuzzi, F. Vernieri, C. Del Gratta, P. Pasqualetti, D. Landi, G.L. Romani, P.M. Rossini, F. Tecchio, Italy
- A37** EEG microstates in mild Alzheimer's disease  
M. Yoshimura, T. Koenig, T. Isotani, T. Yagyu, K. Nobuhara, T. Yoshida, M. Kikuchi, S. Irisawa, T. Sugimoto, T. Minami, A. Nakadaira, M. Suzuki, T. Kinoshita, W.K. Strik, T. Dierks, Switzerland - Japan
- A38** Artefact removal in MEG measurements of epileptic patients  
S. Taulu, R. Paetau, M. Medvedovsky, Finland
- A39** Training to modulate EEG mu-Rhythm for operation of Brain Computer Interface  
F. Cincotti, Italy
- A40** Genotype and EEG phenotype in Alzheimer disease and mild cognitive impairment subjects  
C. Del Percio, C. Babiloni, F. Bergami, G. Binetti, E. Cassetta, G. Dal Forno, F. Ferreri, R. Ferri, G. Frisoni, R. Guidoni, C. Miniassi, G. Rodriguez, F. Vecchio, P.M. Rossini, Italy
- A41** Impairment of verb processing in progressive supranuclear palsy  
A. Daniele, A. Barbier, C. Marra, D. Di Giuda, A. Giordano, G. Gainotti, Italy

### Psychiatry (A42-A48)

- A42** Reduced activation of left middle-insula in non-affected relatives of schizophrenic patients during an attentional task. An event-related fMRI study  
G. Sepede, A. Ferretti, M.G. Perrucci, F. Gambi, F. Di Donato, F. Nuccetelli, A. Salone, C. Del Gratta, A. Tartaro, F.M. Ferro, G.L. Romani, Italy
- A43** EEG global and local dimensionality in first-episode, productive, medication-naïve schizophrenics  
T.N.O. Lehmann, P.L. Faber, T. Koenig, E. Braecker, L.R.R. Gianotti, M. Koukkou, D. Lehmann, Switzerland
- A44** Phase resetting: a major key to understand disturbances in early information processing  
R. Mueller, A. Brockhaus-Dumke, S. Popovych, T. Kuepper, J. Klosterkoetter, U. Faigle, Germany
- A45** Emotion processing in panic disorder: brain electrical microstate findings  
A. Mucci, T. Koenig, F. Centanaro, E. Merlotti, S. Galderisi, Italy - Switzerland
- A46** Time course of valence and arousal representation in ERP microstates  
L.R.R. Gianotti, P.L. Faber, M. Schuler, K. Kochi, D. Lehmann, Switzerland
- A47** Modified trains of rTMS pulses, that take account of background EEG, can be used in developing stimulus parameters for the treatment of depression  
G.W. Price, J.Y. Lee, N. Gibson, G. Riley, Australia
- A48** Neural response to neutral and emotional faces in patients with social phobia  
C. Gentili, M.I. Gobbini, E. Ricciardi, N. Vanello, P. Pietrini, J.V. Haxby, M. Guazzelli, Italy - USA

## POSTER SESSION III:

### Body - Action (A49-A56) Development (A57-A60) Methods - Analysis (A61-A76)

#### Body - Action (A49-A56)

- A49** Single-trial MEG source imaging reveals large-scale interactions in multiple frequency bands during continuous visuomotor control  
K. Jerbi, J.P. Lachaux, K. N'Diaye, D. Pantazis, R.M. Leahy, L. Garnero, S. Baillet, France - USA
- A50** Cortical processing of acute pain and touch in chronic pain patients  
N. Vartiainen, E. Kirveskari, K. Kallio-Laine, M. Gockel, E. Kalso, N. Forss, Finland
- A51** Relationship between neural efficiency and cortical alpha rhythms: an EEG study  
P. Capotosto, C. Babiloni, G. Perrucci, M. Brunetti, A. Ferretti, C. Del Percio, F. Vecchio, M. Doppelmayr, W. Klimesch, C. Neuper, A. Neubauer, G. Pfurtscheller, R.H. Grabner, P.M. Rossini, V. Pizzella, C. Del Gratta, G.L. Romani, Italy - Austria
- A52** Cortical causality patterns during the execution of cognitive and motor tasks in normal and disabled subjects by using high resolution EEG and graph theory  
F. De Vico Fallani, F. Babiloni, F. Cincotti, M. Mattiocco, D. Mattia, M.G. Marciani, S. Salinari, S. Gao, D. Zhang, L. Ding, J. Edgar, B. Miller, B. He, A. Colosimo, L. Astolfi, Italy - China - Usa
- A53** Evaluation of cortical connectivity during real and imagined rhythmic finger tapping  
M. Stavrinou, L. Cimponeriu, L. Morau, S. Della Penna, A. Bezerianos, Greece
- A54** Body image distortion: preliminary ERP and fMRI data  
U. Volpe, S. Galderisi, A. Prinster, A. Mucci, C. Mollica, S. Pappatà, Italy
- A55** Long-term visual perceptual learning in athletes: a high-resolution EEG study  
C. Del Percio, A. Brancucci, F. Vecchio, N. Marzano, F. Bergami, M. Pirritano, E. Meccariello, S. Padoa, A. Mascia, A.T. Giallonardo, P. Aschieri, A. Lino, E. Palma, C. Babiloni, F. Eusebi, Italy
- A56** Amagnetic optic-mechanical device to quantify finger kinematics for fMRI studies of bimanual coordination  
C. De Luca, S. Comani, L. Di Donato, M. Caulo, M. Bertollo, G.L. Romani, Italy

#### Development (A57-A60)

- A57** Fetal MEG Signal Characteristics Revealed by Beamformer Analysis  
S.E. Robinson, J. Vrba, J. McCubbin, C. Lowery, H. Eswaran, H. Preißl, Germany
- A58** Cortico-cerebellar coherence in patients with perinatally acquired brain lesions  
P. Belardinelli, L. Ciancetta, C. Braun, M. Staudt, V. Pizzella, A. Londei, N. Birbaumer, G.L. Romani, Italy - Germany - USA
- A59** Neuromagnetic mapping of sensory and motor cortex using event-related beamforming: Implications for pediatric imaging  
D. Cheyne, A. Bostan, W. Gaetz, E. Pang, Canada
- A60** Organization of large-scale spatiotemporal networks in young adults with a history of dyslexia  
R. E. Frye - USA

## POSTER SESSION III:

**Body - Action (A49-A56)**  
**Development (A57-A60)**  
**Methods - Analysis (A61-A76)**

### Methods - Analysis (A61-A76)

- A61** Studying of Alpha and Beta Rhythms in the Human Brain: a simultaneous EEG-fMRI study  
M.G. Perrucci, A. Ferretti, C. Babiloni, C. Del Gratta, G.L. Romani, Italy
- A62** Assessing time-varying causality between cortical areas of the brain by adaptive multivariate estimators  
L. Astolfi, F. De Vico Fallani, F. Cincotti, D. Mattia, M.G. Marciani, S. Salinari, S. Gao, W. Wu, F. Babiloni, Italy - China
- A63** Bioelectric field simulations on cartesian grids: accurate treatment of anisotropies, singularities and immersed interface  
S. Moehrsa, G. Belmontea, L Biagi, M Cosottini, A Del Guerra, M Tosetti, Italy
- A64** A new Bayesian MCMC method for analysing fMRI data  
F. de Pasquale, Italy
- A65** An automated method for the reconstruction of artefact-free MEG signals  
D. Mantini, R. Franciotti, G.L. Romani, V. Pizzella, Italy
- A66** Wavelet coherence analysis and learning-related electrical brain activity  
A. Klein, T. Sauer, A. Jedynak, W. Skrandies, Germany
- A67** Localizing complex neural circuits without bias due to source correlation  
P. Belardinelli, L. Marzetti, L. Ciancetta, V. Pizzella, G. Nolte, G.L. Romani, Italy - Germany
- A68** The use of standardized infinity reference for EEG coherency estimation  
L. Marzetti, G. Nolte, G.L. Romani, C. Del Gratta, Italy - Germany
- A69** Digital Phantom for DTI-MR scanning methods  
E. Iannilli, F. Uhlemann, U. Morgenstern, C. Del Gratta, G.L. Romani, Italy - Germany
- A70** A method for addressing safety guidelines in a clinical trial of rTMS in depression  
G.W. Price, J.Y. Lee, N. Gibson, G. Riley, Australia
- A71** Functional source separation applied to induced visual gamma activity  
G. Barbati, C. Porcaro, A. Hadjipapas, F. Tecchio, V. Pizzella, G.L. Romani, S. Seri, G.R. Barnes, Italy - United Kingdom
- A72** SWARM: sLORETA-Weighted, Accurate Minimum-Norm Inverse Solutions  
M. Wagner, M. Fuchs, J. Kastner, Germany
- A73** Hypermethods for EEG hyperscannings  
L. Astolfi, F. De Vico Fallani, F. Cincotti, D. Mattia, M.G. Marciani, L. Bianchi, M. Mattiocco, S. Salinari, F. Babiloni, Italy
- A74** A Cartesian time-frequency approach to reveal brain interaction dynamics  
L. Marzetti, S. Della Penna, G. Nolte, R. Franciotti, V. Pizzella, G.L. Romani, Italy
- A75** Distinguishing true brain interaction from artefacts of volume conduction in EEG/MEG data analysis  
G. Nolte, Germany
- A76** Single trial estimation of magnetic auditory responses using independent component analysis  
G. Zouridakis, J. Diaz, U. Patidar, USA

## SCIENTIFIC INFORMATION

### Oral presentation

The time allotted for each oral communication is 10 minutes for the presentation and 2,5 minutes for the discussion. The presenting Author must be registered to the Meeting. Only one speaker is allowed to present the paper. All papers selected for oral presentation are also to be displayed as posters.

### Poster sessions

All contributed abstracts are presented as posters and have to be displayed by 10.00 hrs on Wednesday 27<sup>th</sup> and collected by 17.00 hrs on Saturday 30<sup>th</sup>.

During poster sessions the Authors are requested to stand by their poster and be available for any questions. No oral presentation for posters is planned within the visit or in the Meeting hall. A single board, 80 cm wide and 120 cm high is available for each poster. The reference number on the poster board corresponds to the number next to the poster title on the final programme. The material to display the poster is provided by the Organising Secretariat and available at the reception desk.

### Abstract book

All the accepted abstracts have been published in the official volume of abstracts, which will be distributed to all registered participants.

### Proceedings

A number of selected papers will be published in a special issue of Brain Topography devoted to ISBET 2006 to appear in summer 2007. Authors who wish to submit a paper for this special issue may hand in at the meeting a written and electronic version of their paper according to the editorial guidelines of Brain Topography to be found at the website [www.springerlink.it](http://www.springerlink.it).

Contributed papers will be peer reviewed by a guest editorial board.

### Official language

The official Meeting language is English. No translation service is provided.

### Audiovisuals

The following equipment is available at the Meeting venue: computer projection (with a single or double screen). Speakers are required to hand in their CDs/pen drives to the technical centre at least two hours before their contribution.

### Participation certificate

The certificate can be collected at the reception desk starting from Saturday, September 30<sup>th</sup>.

### Exhibition

A technical-scientific exhibition will take place during the Meeting.

## **Internet**

An internet corner is available at the ITAB premises.

## **Young Investigators Competition**

The Scientific Committee will award the best oral presentation with a prize of Euro 1,000,00.

The award will be assigned during the closing session on Saturday 30<sup>th</sup>.

## **For Italian participants only**

The Meeting has been introduced in the Continuing Education in Medicine Programme of the Italian Ministry of Health.





## GENERAL INFORMATION

### Meeting venue

ITAB Meeting Hall, “G. d’Annunzio” University Campus, Chieti.

### Organising Secretariat

ATHENA CONGRESSI - Via Passo Lanciano, 78 - 65124 Pescara

Tel. 0039 085 4214343 Fax 0039 085 4213788

e-mail: [congressi@athenacongressi.it](mailto:congressi@athenacongressi.it) - internet: [www.athenacongressi.it](http://www.athenacongressi.it)

Telephone number during the Meeting: 349 4948766

The Organising Secretariat reception desk will be available at ITAB for the whole period of the Meeting starting from 8.00 on Wednesday, September 27<sup>th</sup>.

### On Site Registration fee (in Euros, 20% VAT included)

Full 530,00      Student\* 280,00      Accompanying Person 300,00

\* Proof of student state is mandatory otherwise the full registration will be applied.

**Payment of the registration fee on site is accepted only in cash in Euros or by credit card** (Italian cheques are accepted)

*The Meeting registration fee includes:* participation in all sessions, including tutorials; Meeting kit including the final programme and the abstract book; Meeting proceedings; coffee breaks; lunch; access to the exhibition; Welcome Cocktail; Gala Dinner; Farewell Party; transfer for the Meeting and for the evening programme.

*The accompanying person's registration fee includes:* Welcome Cocktail; Gala Dinner; Farewell Party; a full day guided tour (if at least 10 persons are registered). It does not include admission to scientific or educational sessions.

### Meeting replacements

If you are pre-registered but unable to attend, you may be replaced by another participant at no additional charge provided that a written request was addressed to Athena Congressi by August 30<sup>th</sup>. Replacement cannot be accepted after that date.

### Meeting cancellation policy

In the event of cancellation, the fee minus a 50% cancellation fee will be refunded upon written request received prior to August 30<sup>th</sup>. Refunds will not be issued after that date. Cancellation must have been communicated in writing to the Organising Secretariat. All refunds will be processed after the Meeting.

### Hotel cancellation policy

For any cancellation that has been communicated in writing to Athena Congressi by August 30<sup>th</sup> the deposit of one night has been charged. For any cancellation that has been received after August 30<sup>th</sup> the total amount of the hotel expenses will be charged.

## Transfer service

A bus service for all transfers from/to the hotels will be available.

*Transfers for tutorial sessions on September 28<sup>th</sup>, 29<sup>th</sup> and 30<sup>th</sup> have to be booked at the Secretariat reception desk.*

Details on all scheduled transfers for participants and accompanying persons both for the Meeting and the social programme are supplied in the Meeting kit and available at the Secretariat reception desk as well as at the reception of each hotel.

## Coffee break and lunch

Coffee breaks and lunch will be served at the ITAB premises.

## Social programme

Wednesday, September 27<sup>th</sup>, 19.00 hrs

*Welcome Cocktail at the University Campus, "Dinosaur Gallery".*

Friday, September 29<sup>th</sup>, 20.00 hrs

*Gala Dinner at Parco dei Principi, Pescara.*

Saturday September 30<sup>th</sup>, 20.00 hrs:

*Farewell Party at 4 Vele Disco Bar*

Meeting attendants will be welcome to entertain the audience performing their artistic skills (e.g. dancing, singing, instrument playing and juggling). In order to organise the party programme all participants wishing to take part in the entertainment are kindly requested to address their proposals to the Meeting Secretariat by September 28<sup>th</sup>



Smoking is forbidden in all the ITAB areas used for the Meeting



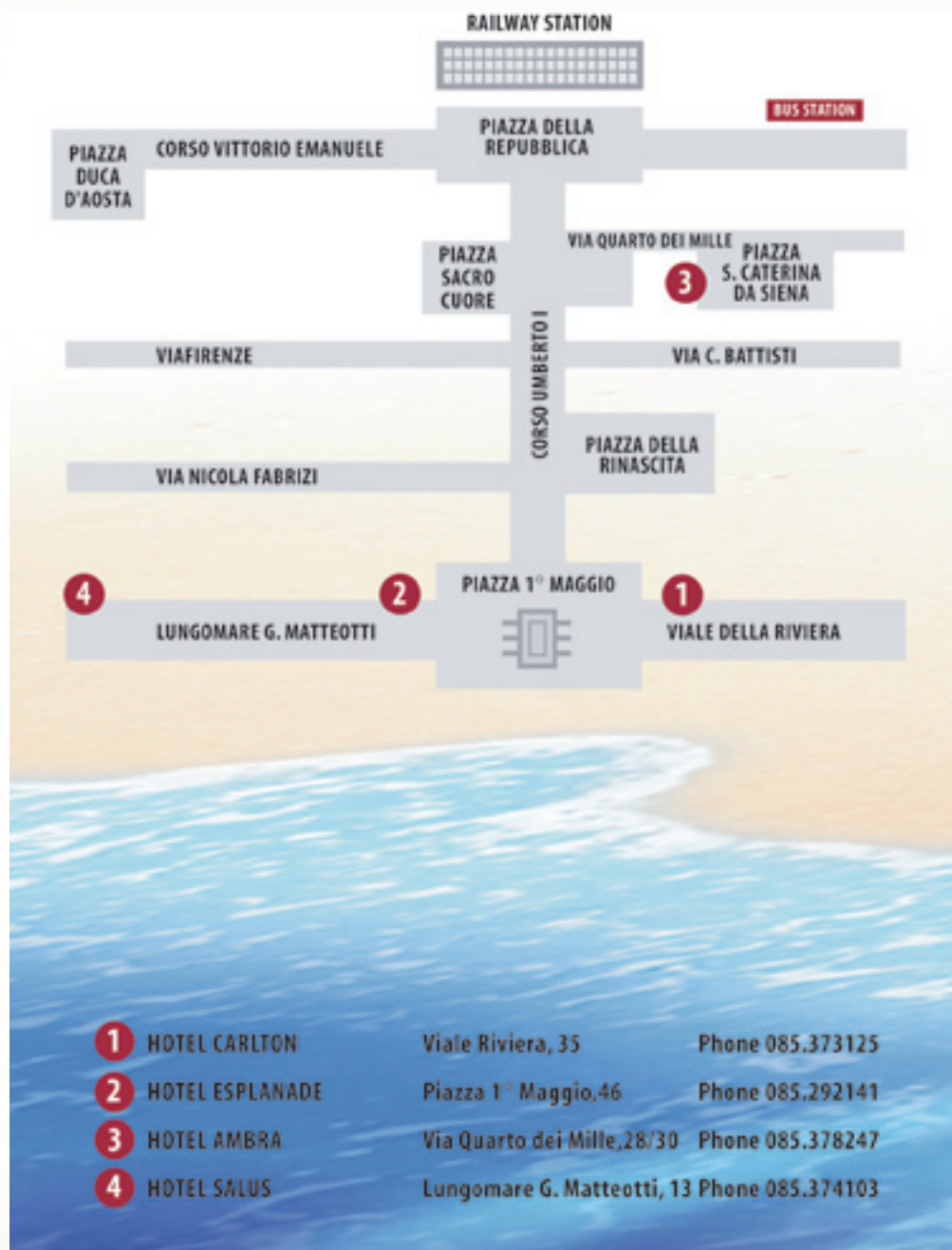
Participants are invited to switch off their mobile telephones during the working sessions



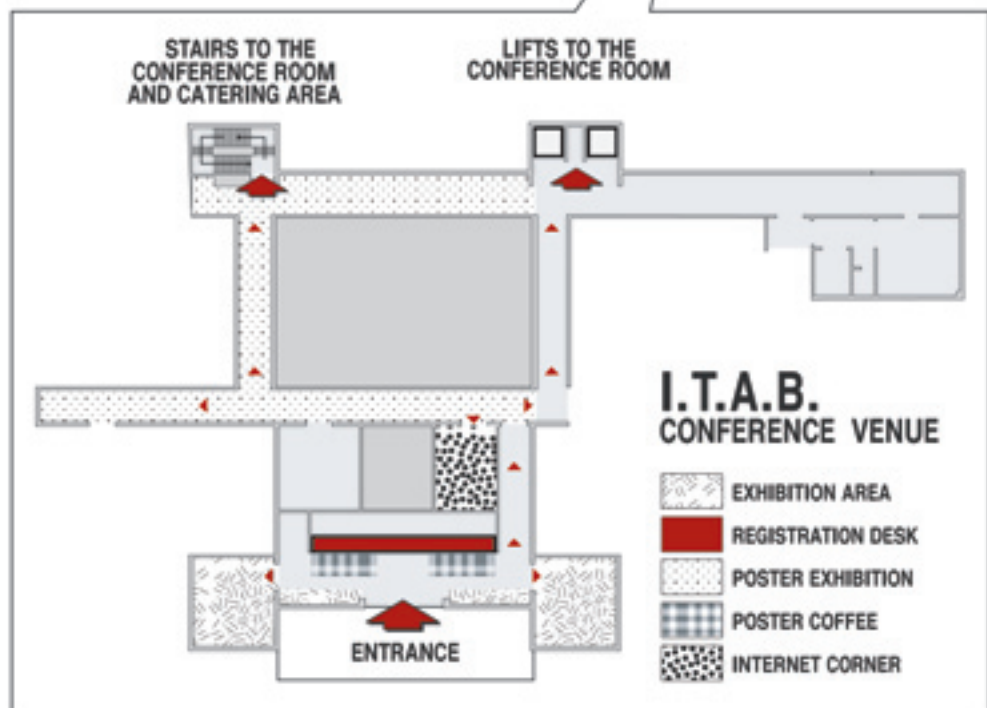
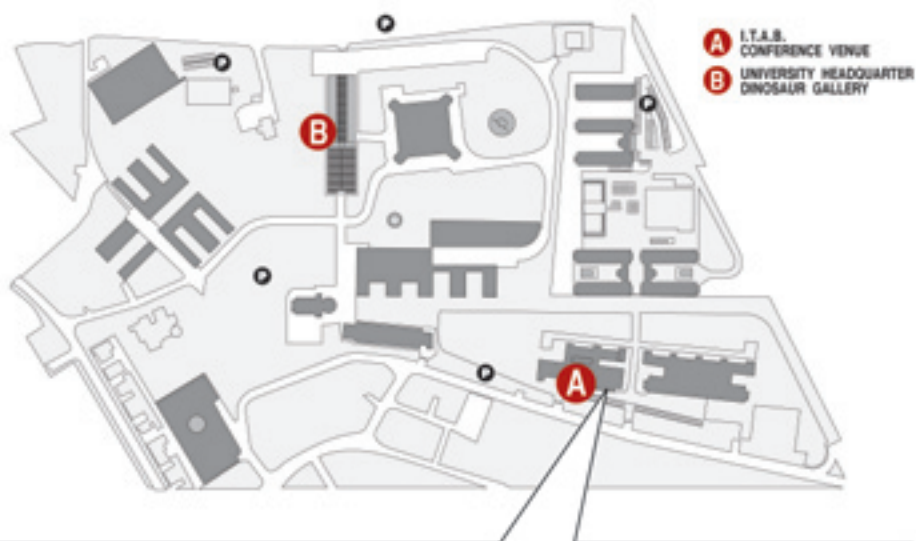
Disabled participants should inform the Organising Secretariat of their participation in order to guarantee appropriate access (where necessary)

The Organising Committee and the Organising Secretariat do not assume any liability for any loss or damages occurred to the participants during the Meeting

## PESCARA CITY CENTRE-HOTELS



## CAMPUS MAP



## NOTE

## NOTE



## **ACKNOWLEDGEMENTS**

### **Università degli Studi “G. d’Annunzio”**

Facoltà di Medicina  
Facoltà di Scienze Motorie  
Facoltà di Farmacia

### **Fondazione Università “G. d’Annunzio”**

#### **ITAB**

Institute of Advanced Biomedical Technologies  
and Dept. Clinical Sciences and Bioimaging

#### **Regione Abruzzo**

### **Philips Medical Systems S.p.a**

#### **ATB Advanced Technologies**

**Casa di Cura Privata “Villa Serena” – Pescara**

**A.N.T. - Advanced Neuro Technologies**

**BMDSys GmbH**

**Bracco S.p.A**

**Brain Products GmbH**

**CD Audiovideo**

**EFFEGI**

**E.M.S Srl - VSM MedTech Ltd**

**Go Infoteam**

**Medigas Italia S.r.l - Compumedics Neuroscan**

**Megis Software GmbH**

**Neuromag – Elekta Spa**

**Schering S.p.a**

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VSM MedtecTh Ltd





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