



VI INTERNATIONAL SYMPOSIUM on  
**Biological and Medical Data Analysis**  
November 10-11, 2005, Aveiro, Portugal



## ORGANIZATION



**ieeta** instituto de engenharia electrónica e telemática de aveiro

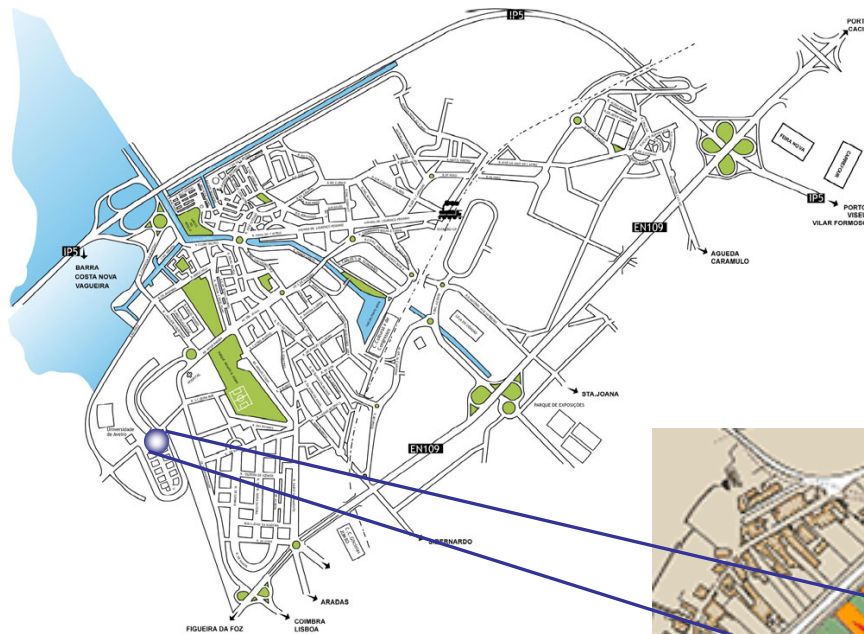


universidade de aveiro

## ENDORSEMENT



# LOCALIZATION



All the hotels within Aveiro, railway station, the conference site and most points of interest are within walking distance (30 min max). Nevertheless, Aveiro has a bus public transport system that serves the city and the surroundings.



The Symposium will take place in the rector's building in the heart of the University of Aveiro campus, near the IEETA.

# PRESENTATION INSTRUCTIONS

## Oral presentations:

The scientific sessions will be held on Thursday and Friday. The time limit for each oral presentation is 15 minutes plus 5 minutes for discussion.

The presentation file should be sent to [isbmda05@ieeta.pt](mailto:isbmda05@ieeta.pt) before the November 6<sup>th</sup>. In alternative, each speaker could bring the presentation in a Memory keys or CD-ROM and deliver it in the registration desk.

## Poster presentations

Posters should have portrait orientation and the standard size of 80 x120 cm.

Posters will be continually on display in the main hall from Thursday morning until Friday afternoon. Furthermore, a specific poster session will be hold. For more information please consult the conference program.

The posters should be delivered in the registration desk.

## Wireless access

The University of Aveiro wireless connection will be available to all symposium participants. Please ask for further information in the registration desk.

## Session chair instructions

The chairperson will be present 10 minutes before the session in the specified room, along with a staff technician.

The chairperson leads the session alone. Time schedule should be strictly followed.

He/she will check that all the slide presentations have been properly loaded before the scheduled start of the session, under control of a local monitor. He/she will inquire with each author about any problem or change about the presentation. He/she will confirm the time allocation and will invite the authors to strictly follow the recommendations.



# PROGRAM

	Thursday, 10	Friday, 11
9:00	Opening and Welcome	<u>SESSION 4:</u> <u>Statistical methods and tools for biomedical data analysis</u>
9:30	<u>SPECIAL SESSION:</u> <u>Challenges for Bioinformatics and Medical Informatics in future Healthcare</u>	
10:00		
10:30		
11:00	Coffee break	Coffee break
11:30	<u>SESSION 1:</u> <u>Medical databases and information systems</u>	<u>SESSION 5:</u> <u>Computational models in Bioinformatics</u>
12:00		
12:30		
13:00	Lunch	Lunch
13:30		
14:00		
14:30	<u>SESSION 2:</u> <u>Data analysis and knowledge discovery</u>	<u>SESSION 6:</u> <u>Decision support systems</u>
15:00		
15:30		
16:00	Coffee break	
16:30	<u>SESSION 3:</u> <u>Bioinformatics: Data analysis</u>	Closing Ceremony
17:00		
17:30		
18:00	<u>Poster Session</u>	
...		
20:00	Conference Dinner	

Thursday, 10	
9:30	Special session: Challenges for Bioinformatics and Medical Informatics in future Healthcare <i>Chair: Fernando Martín Sánchez, ISCIII, Spain</i>
	» Casimir A. Kulikowski, Rutgers Univ., USA » Martin Dugas, Univ. of Munich, Germany » Angel Carracedo, Centro Nacional de Genotipado, Spain
11:00	Coffe break
11:30	Session 1: Medical databases and information systems

*Chair: Victor Maojo, Univ. Politecnica de Madrid, Spain*

**The INFOBIOMED Network of Excellence: Developments for Facilitating Training and Mobility**

- » *Guillermo de la Calle, Mario Benito, Juan Luis Moreno – Univ. Polit. de Madrid, Spain*
- » *Eva Molero – Biomedical Informatics Research Group, Spain*

**Data Management and Visualization issues in a Fully Digital Echocardiography Laboratory**

- » *Carlos Costa, José Luis Oliveira, Augusto Silva – Univ. of Aveiro, Portugal*
- » *Vasco Ribeiro, José Ribeiro – Centro Hospitalar V. N. Gaia, Portugal*

**A Framework Based on Web Services and Grid Technologies for Medical Image Registration**

- » *Ignacio Blanquer, Vicente Hernández, Ferran Mas, Damià Segrelles – Univ. Politécnic de Valencia, Spain*

**Service Oriented Architecture for Biomedical Collaborative Research**

- » *José A. Alvaro, Antonio Estruch, Oscar Coltell – Univ. Jaume I, Spain*
- » *David Pérez del Rey, Guillermo de la Calle – Univ. Politécnic de Madrid, Spain*
- » *Juan Pedro Sanchez – Instituto de Salud Carlos III, Spain*
- » *Ferran Sanz – GRIB, IMIM/UPF Barcelona, Spain*

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13:00 Lunch

14:30 **Session 2: Data analysis and knowledge discovery**  
*Chair: José Luis Oliveira, Univ. Aveiro, Portugal*

**Dynamics of Vertebral Column Observed by Stereovision and Recurrent Neural Network Model**

- » *Fernando Gonzalez, Vicente Lopez – Univ. de Valencia, Spain*
- » *Stanislaw Jankowski, Jacek Dusza – Warsaw Univ. of Technology, Poland*
- » *Javier Clemente – Hospital Univ. La Fe, Spain*

**Endocardial tracking in contrast echocardiography using optical flow**

- » *Norberto Malpica, Juan Garamendi, Emanuele Schiavi – Univ. Rey Juan Carlos, Spain*
- » *Manuel Desco – H.G. Univ. Gregorio Marañón de Madrid, Spain*

**Integration of genetic and medical information through a web crawler system**

- » *Gaspar Dias, José Luis Oliveira – Univ. of Aveiro, Portugal*
- » *Javier Vicente, Fernando Martin-Sanchez – Instituto de Salud Carlos III, Spain*

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**A Grid Infrastructure for Text Mining of Full Text Articles and**

### **Creation of a Knowledge Base of Gene Relations**

» *Jeyakumar Natarajan, Catherine Hack, Werner Dubitzky – Univ. of Ulster, UK*

» *Niranjan Mulay – United Devices Inc, Austin, USA*

» *Catherine DeSesa, Eric Bremer – Northwestern Univ., Chicago, USA*

16:00 Coffee Break

16:30 Session 3: Data analysis in Bioinformatics

*Chair: Manuel Santos, Univ. Aveiro, Portugal*

### **Extracting Molecular Diversity between Populations through Sequence Alignments**

» *Steinar Thorvaldsen, Tor Flå, Nils Willassen – Univ. of Tromsø, Norway*

### **Detection of Hydrophobic Clusters in Molecular Dynamics Protein Unfolding** » *Simulations Using Association Rules*

» *Paulo Azevedo – Univ. of Minho, Portugal*

» *Cândida Silva, J. Rodrigues, Nuno Ferreira, Rui Brito – Univ. of Coimbra, Portugal*

### **Protein Secondary Structure Classifiers Fusion using OWA**

» *Majid Kazemian, Behzad Moshiri, Hamid Nikbakht, Caro Lucas – Univ. of Tehran, Iran*

### **Relevance, Redundancy and Differential Prioritization in Feature Selection for Multiclass Gene Expression Data**

» *Chia Huey Ooi, Madhu Chetty, Shyh Wei Teng – Monash Univ., Australia*

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18:00 Posters session

### **Biomedical Image Processing Integration through INBIOMED: A Web Services–Based Platform**

» *David Pérez del Rey, José Crespo, Alberto Anguita – Univ. Politécnica de Madrid, Spain*

» *Juan Pérez Ordóñez, Julian Dorado – Univ. Coruña, Spain*

» *Gloria Bueno, Vicente Feliú – Univ. Castilla-La Mancha, Spain*

» *Antonio Estruch, José Heredia – Univ. Jaume I, Spain*

### **The Ontological Lens: Zooming in and out from Genomic to Clinical Level**

» *Domenico Pisanelli, Francesco Pincioli, Marco Masseroli – Politecnico di Milano, Italy*

### **Unfolding of Virtual Endoscopy Using Ray-Template**

» *Hye-Jin Lee, Sukhyun Lim, Byeong-Seok Shin – Inha Univ., Rep. of Korea*

### **Prediction of the Performance of Human Liver Cell Bioreactors by Donor Organ Data**

» *Wolfgang Schmidt-Heck, Reinhard Guthke – Hans Knoell Institute,*

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Germany

» *Katrin Zeilinger, Gesine Pless, Joerg Gerlach – Univ. Medicine Berlin, Germany*

» *Michael Pfaff, BioControl Jena GmbH, Germany*

**A Bioinformatic Approach to Epigenetic Susceptibility in Non-Disjunctive Diseases**

» *Ismael Ejarque, Guillermo López-Campos, Javier Vicente, Fernando Martín-Sánchez – Institute of Health Carlos III, Spain*

» *Michel Herranz – Spanish National Cancer Centre, Spain*

**Foreseeing Promising Bio-Medical Findings for Effective Applications of Data Mining**

» *Stefano Bonacina, Marco Masseroli, Francesco Pincioli – Politecnico of Milan, Italy*

**Simultaneous Scheduling of Replication and Computation for Bioinformatic Applications on the Grid**

» *Frédéric Desprez, Antoine Vernois – CNRS-INRIA, France*

» *Christophe Blanchet – LBRS Laboratory / IBCP Institute, France*

**Application of Three-Level Handprinted Documents Recognition in Medical Information Systems**

» *Jerzy Sas, Marek Kurzynski – Wrocław Univ. of Technology, Poland*

**Focal Activity in Simulated LQT2 Models at Rapid Ventricular Pacing: Analysis of Cardiac Electrical Activity Using Grid-Based Computation**

» *Chong Wang, Antje Krause – Univ. of Applied Sciences Wildau, Germany*

» *Chris Nugent, Werner Dubitzky – Univ. of Ulster, UK*

**Efficient Computation of Fitness Function by Pruning in Hydrophobic-Hydrophilic Model**

» *Md Hoque, Madhu Chetty, Laurence Dooley – Monash Univ., Australia*

**Evaluation of fuzzy measures in profile hidden Markov models for protein sequences**

» *Niranjan Bidargaddi, Madhu Chetty, Joarder Kamruzzaman – Monash Univ., Australia*

**Gene Selection and Classification of Human Lymphoma from Microarray Data**

» *Joarder Kamruzzaman, Suryani Lim, Iqbal Gondal – Monash Univ., Australia*

» *Rezaul Begg – Victoria University, Australia*

**Microarray data analysis and management in colorectal cancer**

» *Oscar García-Hernández, Guillermo López-Campos, Juan Pedro Sanchez, Rosa Blanco, Fernando Martín-Sánchez – Institute of Health*

*Carlos III, Spain*  
» *Alejandro Romera-López, Beatriz Pérez-Villamil – Hospital Clínico San Carlos, Spain*

**Boosted Decision Trees for Diagnosis Type of Hypertension**  
» *Michal Wozniak – Wroclaw Univ. of Technology, Poland*

20:00 Conference Dinner

Friday, 11

9:00 Session 4: Statistical methods and tools for biomedical data analysis  
Chair: *Reinhard Guthke, Hans-Knoell Institut, Germany*

**Hybridizing Sparse Component Analysis with Genetic Algorithms for Blind Source Separation**

» *Kurt Stadlthanner, Fabian Theis, Elmar Lang – Univ. of Regensburg, Germany*

» *Carlos Puntonet, Juan Gorriz – Univ. Granada, Spain*

» *Ana Tomé – Univ. of Aveiro, Portugal*

**Hardware Approach for the Artificial Hand Control Algorithm Realization**

» *Andrzej Wolczowski, Przemyslaw Szecowka, Mateusz Kowalski, Krzysztof Krysztoforski – Wroclaw Univ. of Technology, Poland*

**Improving the Therapeutic Performance of a Medical Bayesian Network using Noisy Threshold Models**

» *Stefan Visscher, Marc Bonten, Karin Schurink – Univ. Medical Center Utrecht, Netherlands*

» *Peter Lucas – Institute for Computing and Information Sciences, Netherlands*

**SVM Detection of Premature Ectopic Excitations based on modified PCA**

» *Stanislaw Jankowski, Jacek Dusza – Warsaw Univ. of Technology, Poland*

» *Mariusz Wierzbowski – Military Academy of Technology, Poland*

» *Artur Oreziak – Medical Univ. of Warsaw, Poland*

**A Text Corpora-Based Estimation of the Familiarity of Health Terminology**

[^ Back to Top](#) » *Qing Zeng, Eunjung Kim, Jon Crowell – Harvard Medical School, USA*  
» *Tony Tse – National Library of Medicine, USA*

11:00 Coffee Break

11:30 Session 5: Computational models in Bioinformatics  
Chair: *George Potamias, ICS - FORTH, Greece*

[^ Back to Top](#) **Vertical Integration of Bioinformatics Tools and Information Processing on Analysis Outcome**



» *Andigoni Malousi, Vassilis Koutkias, Ioanna Chouvarda, Nicos Maglaveras – Aristotle Univ., Greece*

**Tumor Classification from Gene Expression Data: a Coding-Based Multiclass Learning Approach**

» *Alexander Huntemann – Katholieke Universiteit Leuven, Belgium*  
» *José Gonzalez – Univ. Politécnica de Madrid, Spain*  
» *Elizabeth Tapia – Escuela de Ingeniería Electrónica, Argentina*

**Using Treemaps to Visualize Phylogenetic Trees**

» *Adam Arvelakis, Martin Reczko, Alexandros Stamatakis, Alkiviadis Symeonidis, » Ioannis Tollis – FORTH/ICS, Univ. of Crete, Greece*

**An ontologic approach to represent molecular structure information**

» *Eva Armengol, Enric Plaza – Artificial Intelligence Research Institute, Spain*

13:00 Lunch

14:30 Session 6: Decision support systems  
*Chair: Rudiger Brause, J.W. Goethe Univ., German*

**On Sample Size and Classification Accuracy: A Performance Comparison**

» *Margarita Sordo, Qing Zeng – Harvard Medical School, Boston, USA*

**Influenza Forecast: Comparison of Case-Based Reasoning and Statistical Methods**

» *Tina Waligora, Rainer Schmidt – Univ. Rostock, Germany*

**Markov Chains Pattern Recognition Approach Applied to the Medical Diagnosis Tasks**

» *Michal Wozniak – Wroclaw Univ. of Technology, Poland*

**Computer-Aided Sequential Diagnosis Using Fuzzy Relations - Comparative Analysis of Methods**

[^ Back to Top](#) » *Marek Kurzynski, Andrzej Zolnierok – Wroclaw Univ. of Technology, Poland*

16:00 Closing Ceremony