

# IWOBI 2015

## 4<sup>rd</sup> IEEE International Work -Conference on Bioinspired Intelligence

*Donostia-San Sebastian (Spain), 9<sup>th</sup>-12<sup>th</sup> June 2015*

# FINAL PROGRAM

### TUESDAY 9<sup>TH</sup> June- 2015

|                    |                            |
|--------------------|----------------------------|
| <b>17:00-18:00</b> | Registration               |
| <b>18:00-20:00</b> | Opening Remarks IWOBI 2015 |

### WEDNESDAY 10<sup>TH</sup> June - 2015

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| <b>08:00-10:00</b> | Registration  |
| <b>08:30-10:30</b> | <p><b>Session 1: Ecosystems and Intelligent Enterprises</b></p> <p><b>Chairperson: German Arana, Jon Iradi Room: 1 (5 papers)</b></p> <p><b>08:30-08:50</b> Mikel Iturrate, Itziar Gurrutxaga, Karmele López de Ipiña and Usue Oses. Sustainable Transport at The University of the Basque Country in San Sebastian</p> <p><b>08:50-09:10</b> Juan Carlos Aldasoro, María Luisa Cantonnet, Enara Zarrabeitia and Ainara Larrea. Is associated the competitive position to intensity in competitive intelligence activities</p> <p><b>09:10-09:30</b> J Žiga Emeršič and Peter Peer. Ear Biometric Database in the Wild</p> <p><b>09:30-09:50</b> Francisco Siles and Juan Carlos Saborío. Parallel Spatial Segmentation for the Automated Analysis of Football</p> <p><b>09:50-10:10</b> Beñat Landeta, German Arana, Patxi Ruiz de Arbulo and Pablo Diaz de Basurto. A case study of the adoption of the ISO 14006 in the Capital Equipment sector</p> |
| <b>10:30-11:00</b> | Coffee-Break  |
| <b>11:00-12:00</b> | <p><b>Keynote speech 1: Ibone Amezaga</b></p> <p>"Ecosystem services and human wellbeing"</p> <p><b>Chairperson: Carmen Hernandez      Room: 1</b></p>  |

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| <p><b>12:00-14:00</b></p> | <p><b>Session 2: Ecosystems and Biodiversity Preservation I (5 papers)</b></p> <p><b>Chairperson: 1 Maria Luisa Cantonnet, Juan Carlos Aldasoro</b></p> <p><b>12:00-12:20</b> Karmele López-De-Ipiña, Jesús B. Alonso, Bernal Rodríguez-Herrera. Automatic acoustic analysis for biodiversity preservation: a multi-environmental approach</p> <p><b>12:20-12:40</b> Dionisio Rodriguez-Esparragon, Ángel García-Pedrero, Javier Marcello-Ruiz, Consuelo Gonzalo-Martin and Francisco Eugenio-González. An object approach to the assessment of the spatial quality of pan-sharpened remote sensing images.</p> <p><b>12:40-13:00</b> Angel García-Pedrero, Dionisio Rodríguez-Esparragón, Consuelo Gonzalo-Martin, Edurne Ibarrola, Mario Lillo-Saavedra and Javier Marcello. Automatic identification of shrub vegetation of the Teide National Park</p> <p><b>13:00-13:20</b> Harkaitz Eguiraun, Karmele Lopez-De-Ipina and Iciar Martinez. Evolution of Shannon entropy in a fish system (European seabass, Dicentrarchus labrax) during the recuperation period after exposure to methylmercury</p> <p><b>13:20-13:40</b> Hoover Pantoja, Alejandro Vergara, Natalia Bedoya, Francisco Vargas and Freddy Ruiz. Characterization of Aedes aegypti Flight Tones (First Step in the Sound-Based Attraction Technic)</p> |
| <p><b>14:00-15:30</b></p> | <p>Lunch</p>  |
| <p><b>15:30-17:30</b></p> | <p><b>Session 3: Session 2: Ecosystems and Biodiversity Preservation II (5 papers)</b></p> <p><b>Chairperson: Karmele López de Ipiña, Carlos Travieso      Room: 1</b></p> <p><b>15:30-15:50</b> Ricardo E. Monge and Juan Luis Crespo Mariño. A New Indicator for Measurement of the Quality of Computational Results Based on Statistical Properties</p> <p><b>15:50-16:10</b> Luis Gomez, Luis Alvarez, Luis Mazorra and Alejandro Frery      Classification of PolSAR Imagery by Solving a Diffusion-Reaction System</p> <p><b>16:10-16:30</b> Saul Calderon Ramirez, Francisco Siles Canales, Maria Elena Buemi, Ismael Orozco, Rodrigo Mora and Aranzazu Saenz. DeWAFF: A Novel Image Abstraction Approach to Improve the Performance of a Cell Tracking System</p> <p><b>16:50-17:10</b> Ricardo Román Brenes, Francisco Torres-Rojas and Alvaro De La Ossa. Sensibility analysis of the Trace Transform on Land Coverage Images (Virtual)</p> <p><b>17:10-17:30</b> Lucero Roldán-Serrato, Tetyana Baydyk, Ernst Kussul, Alberto Escalante-Estrada and Teresa González Rodriguez. Recognition of Pests on Crops with a Random Subspace Classifier (Virtual)</p>   |
| <p><b>18:00-20:00</b></p> | <p>Visit to Donostia-San Sebastian</p>  |
| <p><b>20:00-22:00</b></p> | <p>Pintxo-Route</p>   |

**THURSDAY 11<sup>TH</sup> June - 2015**

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| <b>08:30-10:30</b> | <p><b>Session 4: Bioinspired systems applied to Biomedical Engineering I (6 papers)</b></p> <p><b>Chairperson: Pedro Gomez-Vilda Zdenek Smekal, Room: 1</b></p> <p><b>08:30-08:50</b> Karmele López-De-Ipiña, Unai Martinez de Lizarduy, Nora Barroso, Miriam Eca-Torres, Pablo Martinez-Lage, Fernando Torres and Marcos Faundez-Zanuy. Automatic analysis of Categorical Verbal Fluency for Mild Cognitive Impairment detection: a non-linear language independent approach.</p> <p><b>08:50-09:10</b> Pedro Gómez-Vilda, María C. Vicente-Torcal, Agustín Álvarez-Marquina, Victoria Rodellar-Biarge, Víctor Nieto-Lluis, Rafael Martínez-Olalla and Carlos Lázaro-Carrascosa. Monitoring Parkinson's Disease from Phonation Improvement by Log Likelihood Ratios</p> <p><b>09:10-09:30</b> Jiri Mekyska, Zoltan Galaz, Zdenek Mzourek, Zdenek Smekal, Irena Rektorova, Ilona Eliasova, Milena Kostalova, Martina Mrackova, Dagmar Berankova, Marcos Faundez-Zanuy, Karmele Lopez-De-Ipina and Jesus Alonso-Hernandez . Assessing Progress of Parkinson's Disease Using Acoustic Analysis of Phonation</p> <p><b>09:30-09:50</b> Carlos Lázaro-Carrascosa and Pedro Gómez-Vilda. Assessing a set of glottal features from vocal fold biomechanics for detecting vocal pathology</p> <p><b>09:50-10:10</b> Victoria Rodellar, Daniel Palacios Alonso, Víctor Nieto-Lluis and Pedro Gomez-Vilda. Analysis of emotional stress in voice for deception detection</p> |
| <b>10:30-11:00</b> | Coffee-Break  |
| <b>11:00-12:00</b> | Tour UPV/EHU-NanoGune   |
| <b>12:00-13:00</b> | Visit to CIC NanoGune Research Center   |
| <b>13:00-14:00</b> | Walk-Miramar  |
| <b>14:00-15:30</b> | Lunch   |
| <b>15:30-16:30</b> | <p><b>Keynote speech 2: Doctor Luis Fenipe Callado</b><br/>         "New computational applications for drug addiction"<br/>         Department of Pharmacology, University of the Basque Country (UPV/EHU) &amp; CIBERSAM</p> <p><b>Chairperson: Xavier Leinekugel Room: 1</b></p>   |

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| <b>16:30-18:30</b> | <p><b>Session 5: Bioinspired systems applied to Biomedical Engineering I (5 papers)</b></p> <p><b>Chairperson: Jesus B. Alonso, Jiri Mekyska, Room: 1</b></p> <p><b>16:30-16:50</b> Anupama Bhan, Ayush Goyal, Malay Kishore Dutta, Dushyant Sankhla, Pankhuri Khanna, Carlos M Travieso Gonzalez and Jesús B. Alonso-Hernández. Left Ventricle Wall Extraction in Cardiac MRI Using Region Based Level sets and Vector field Convolution</p> <p><b>16:50-17:10</b> Ayushi Agarwal, Shradha Gulia, Somal Chaudhary, Malay Kishore Dutta, Carlos M Travieso Gonzalez and Jesús B. Alonso-Hernández A Novel Approach to Detect Glaucoma in Retinal Fundus Images using Cup-Disk and Rim-Disk Ratio</p> <p><b>17:10-17:30</b> Miklos Kozlovsky. Multi-parameter health state assessment</p> <p><b>17:30-17:50</b> Ashwini Jai Saxena, Kapish Teckchandani Teckchandani, Prithu Pandey, Manmohan Singh, Malay Kishore Dutta Dutta, Carlos M Travieso Gonzalez and Jesús B. Alonso-Hernández. Palm Vein Recognition using Local Tetra Patterns</p> <p><b>17:50-18:10</b> Karmele López-De-Ipiña, Alberto Bergareche, Patricia De La Riva, Jordi Sole-Casals, Marcos Faundez-Zanuy, Jose Felix Marti-Masso, Mikel Iturrate, Blanca Beitia, Pilar Calvo, Enric Sesa-Nogueras, Josep Roure, Joseba Garcia-Melero. Selection of entropy based features for the analysis of the Archimedes' spiral applied to essential tremor</p> |
| <b>20:00-20:30</b> | Bus-Gala Dinner-Miramar Palace- Laia Restaurant  |
| <b>20:30-23:00</b> | Gala Dinner  |
| <b>23:00-23:30</b> | Bus-Gala Dinner-Laia Restaurant- Miramar Palace  |

FRIDAY 12<sup>TH</sup> June - 2015

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|-------------|--|
| 08:30-10:30 | <p><b>Session 6: Intelligent Bioinspired Systems</b></p> <p><b>Chairperson: Pilar Calvo , Nora Barroso, Room: 1</b></p> <p><b>08:30-08:50</b> Nora Barroso, KarmeLe Lopez-De-Ipina and Pilar M. Calvo An automatic and adaptive phonetic transcriber for the Basque language</p> <p><b>08:50-09:10</b> Fernando de La Calle Silos, Francisco J. Valverde Albacete, Ascensión Gallardo Antolín and Carmen Pelaéz Moreno. Preliminary experiments on the robustness of biologically motivated features for DNN-based ASR</p> <p><b>09:10-09:30</b> Jesús Bernadino Alonso-Hernández, Josué Cabrera-Cruz, Carlos Manuel Travieso-Gonzalez and KarmeLe López-De-Ipiña. First approach to Continuous Tracking of Emotional Temperature</p> <p><b>09:30-09:50</b> Oscar Alvarado-Nava, Hilda Maria Chable Martinez and Eduardo Rodriguez-Martinez. GPGPU Implementation of FIC using Texture Memory</p> <p><b>09:50-10:10</b> Héctor Herrero, Jose Luis Outon, Urko Esnaola, Damien Sallé and KarmeLe López de Ipiña. Development and Evaluation of a Skill Based Architecture for Applied Industrial Robotics</p> |
| 10:30-11:00 | Coffee-Break   |
| 11:00-12:00 | <p><b>Keynote speech 3: Xavier Leinekugel</b></p> <p>“Endogenous neuronal clocks for information processing and the planning of action: experimental evidence and contribution of a new piezoelectric pressure-sensor device allowing exquisite rat and mouse behavioural and cognitive phenotyping</p> <p><b>Chairperson: KarmeLe López de Ipiña Room: 1</b></p>  |
| 12:00-13:30 | <p><b>Session 7: Behavioral analysis and applications</b></p> <p><b>Chairperson: Victoria Rodellar, Aitzol Ezeiza: Room 1</b></p> <p><b>12:00-12:20</b> Carreño, K. López de Ipiña, X. Leinekugel, B. Beitia, A. Frick, A. Moujahid, First approach to the analysis of spontaneous activity of mice based on a Permutation Entropy.</p> <p><b>12:20-12:40</b> Jaime Cascante-Vindas and Francisco Siles. Optimization of Microstructured Fiber Optic Devices for Supercontinuum Generation</p> <p><b>12:40-13:00</b> Manmohan Singh, Prem Kumar, Rachit Agrawal, Surbhi Sharma, Malay Kishore Dutta, Carlos M Travieso Gonzalez and Jesús B. Alonso-Hernández. Finger Vein Recognition Using Integrated Responses of Texture Features</p> <p><b>13:00-13:20</b> Fernando Merchan, Jorge Lezcano and Hector Poveda. An Eigenfaces-Linear Regression based approach for a real time distributed face recognition system</p> <p><b>13:20-13:40</b> Ashwini Jaya Kumar and Khalid Daoudi. Discrimination between pathological voice categories using Matching Pursuit</p>  |
| 13:40-14:00 | CLOSING and Presentation of IWObI 2016   |