IWOBI 2018 Program

Location	Wednesday 18th	Thursday 19th	Friday 20th
CTEC Hall	07,00 Registration		
CTEC Auditorium	07,30 – 09,00 Opening Ceremony	08,30 – 10,00 Plenary Keyspeaker: Alexander Gelbukh Deep learning applications in sentiment analysis for human-computer interaction	08,30 – 10,00 Plenary Keyspeaker: Pascal Tyrrell Machine Learning in Medical Imaging Research: Partnership Is King
CTEC Auditorium	09,00 – 10,30 Plenary Keyspeaker: Pedro Mendes COPASI software for systems biology and medicine - Towards personalized models of iron physiology		
Dining Room	10,30 – 10,50 Coffee Break	10,00 – 10,20 Coffee Break	10,00 – 10,20 Coffee Break
A15 - A17 Classrooms	10,50 – 12,30 Session #1 **A15: Track on Bioinformatics and Systems Biology** *Chairperson: Rebeca Campos* 1. Modelling gene dosage compensation mediated by sensor loops in large-scale mathematical models of microRNA-transcription factor networks 2. Gene expression dynamics induced by ciprofloxacin and loss of LexA function in Pseudomonas aeruginosa PAO1 using data mining and network analysis 3. In-silico modeling for the identification of regulatory microRNA targets in epitelial mesenchymal transition	10,20 – 12,20 Session #3 **A15: Track on Bioinformatics and Systems Biology** *Chairperson: Rodrigo Mora* 1. Detection of ERV-derived transcripts in human testis using high throughput sequencing: pipeline for annotation and genomic localization 2. A Systems Biology Approach to Investigate Control Targets of Intracellular Calcium Transients induced by Clostridium perfringens Phospholipase C 3. Predicting cancer chemosensitivity based on intensity/distribution profiles of cells loaded with a fluorescent sphingolipid analogue 4. A Systems Biology approach to identify candidate targets to downregulate angiogenic gene expression in Cancer	10,20 – 12,20 Session #5 **A15: Track on Bioinformatics and Systems Biology** *Chairperson: José Molina* 1. A transcriptional regulatory network model reveals miR-34a as a potential regulator of proliferation in tumor cell lines 2. Algorithm for History Reconstruction of Viral Recombination Events: Preliminary Results 3.Modules of correlated genes in a gene expression regulatory network of CDDP-resistant cancer cells 4. Cellular-level characterization of Dengue and Zika virus infection using multiagent simulation

	A16: Regular Track: TECHNIQUES AND PARADIGMS (I) *Chairperson: Saúl Calderón* 1 Hybrid Speech Enhancement with Wiener filters and Deep LSTM Denoising Autoencoders 2 Multi-Objective Filtering Transform for Optimization of Random Signal Estimation 3 Pre-training Long Short-term Memory Neural Networks for Efficient Regression in Artificial Speech Postfiltering	**A16: Regular Track: TECHNIQUES AND PARADIGMS (II)** *Chairperson: Andrés Segura* 1 A Dreaming Approach to Perceptual Class Delimitation within the DREAM Architecture 2 A Multilingual System based on Semantic Knowledge for complex environments 3 Perspectives to predict dropout in university students with machine learning 4 Learning the prediction error for improving an analytical-based prediction (object-model) system for manipulation tasks	**A16: Regular Track: NATURAL AND EARTH SCIENCES** *Chairperson: Esteban Arias* 1 Identification of the internal resistance in solar modules under dark conditions using differential evolution algorithm 2 Preliminary design methodology and prototype of a passive magnetic suspension system for a blood axial flow pump 3 Design of an artificial neural network controller for a tankless water heater by using a low-profile embedded system 4 Comparative efficiency study of two proposed designs tested in water and air cooling conditions for a high power humanoid robot hollow joint
Dining Room	12,30 Lunch	12,30 Lunch	12,30 Lunch
A15 - A17 Classrooms	14,00 – 16,00 Session #2 **A15: Track on High Performance Computing for Natural and Health Sciences** *Chairperson: Francisco Siles* 1. Parallelization of a Denoising Algorithm for Tonal Bioacoustic Signals using OpenACC Directives 2. Comparative Analysis of de Bruijn Graph Parallel Genome Assemblers 3 DNLM-MA-P: A Parallelization of the Deceived Non Local Means Filter with Moving Average and Symmetric Weighting 4 Parallel implementation in a GPU of the calculation of disparity maps for computer vision **A16: Regular Track: IMAGE AND VIDEO PROCESSING APPROACHES (I)** *Chairperson: Marvin Coto* 1 Localization of Facial Landmarks in Depth Images using Gated Multiple Ridge Descent 2 Automated Image-based Identification of Forest	14,00 – 16,00 Session #4 and Poster Special Session I (A18 Classroom) **A15: Regular Track: BIOMEDICINE AND RELATED APPLICATIONS (I)** *Chairperson: Esteban Meneses* 1 Towards Accessories-Aware Ear Recognition with Robustness to Spoofing 2 Clustering of Human Gait with Parkinson's Disease by using Dynamic Time Warping 3 Automatic Classification of Normal and Abnormal PCG Heart Sound Recording Using Fourier Transform 4 Simple Graph Comparison Inspired on Metabolic Pathway Correlation **A16: Regular Track: DEVELOPMENTS IN ROBOTICS** *Chairperson: Mauricio Rodriguez* 1 An Object Manipulation System Architecture for Humanoid Robots Based on Primate Cognition	14,00 – 16,00 Session #6 **A15: Regular Track: IMAGE AND VIDEO PROCESSING APPROACHES (II)** *Chairperson: Melvin Ramirez* 1 End-to-End Iris Segmentation Model based on the U-Net Architecture 2 Image Processing Based Classification of Enzymatic Browning in Chopped Apples 3 Camera localization in outdoor garden environments using artificial landmarks 4 Goniometry-based Glitch-Correction Algorithm for Optical Motion Capture Data **A16: Regular Track: AGRICULTURAL APPLICATIONS** *Chairperson: Jorge Arroyo* 1 Xylem vessels segmentation through a Deep Learning approach: a first look 2 Hidden Biases in Automated Image-Based Plant Identification

	Species: Challenges and Oportunities for 21st Century Xylotheques 3 Analysis of Content-Aware Image Compression with VGG16 4 Selective Face Deidentification with End-to-End Perceptual Loss Learning	2 Teleoperation of a Humanoid Robot Using an Optical Motion Capture System 3 Smart placement of a two-arm assembly for an everyday object manipulation humanoid robot based on capability maps 4 Analysis of Atomic Tasks in a Kitchen and in a Collaborative Workshop Table for Humanoid Robots	3 Using Deep Convolutional Networks for Species Identification of Xylotheque Samples 4 Evaluation of Fog Reduction Algorithms for Photogrammetric Applications in Agriculture
Dining Room	16,00 – 16,20 Coffee Break	16,00 – 16,20 Coffee Break	16,00 – 16,20 Coffee Break
A15 - A17 Classrooms	16,30 Departure for Social Event ***(dress code: Bathing suit and comfortable clothes recommended for the thermal springs trip)*** ***Natural hot springs at the Los Lagos Hotel, Spa & Resort*** http://www.hotelloslagos.com/servicios-aguas-termales.html	16,20 – 17,20 **Technical Talk by BD (A17 Classroom) and Poster Special Session II (A18 Classroom)** *Ensemble Learning Models for Description and Prediction for Chemosensitivity in Cancer* *Clustering of Breast Cancer Subtypes Cases Using a Hopfield Network Built from RNA-Seq Gene Expression Data* *Optical Flow for Velocity Estimation on Ventricular Assist Device's Fluid* *Unveiling Learned Patterns on Deep Plant Identification of Costa Rican Leaves* *Insight GT: a public, fast, web image ground truth authoring tool* *Development of an automated system to estimate characteristic parameters of space weather.* *Machine learning as a tool for the prediction of new cases of Zika fever in Colombia* *Estimation of Pedochemical Properties with Multispectral Images*	16,20 – 18,20 Session #7 **A15: Regular Track: BIOMEDICINE AND RELATED APPLICATIONS (II)** *Chairperson: Juan Crespo* 1 M-Phase Feature Extraction Algorithm for Phenotype Classification from Cancer Brightfield Microscopy 2 Comparison of Bio-Inspired Algorithms From The Point of View of Medical Image Segmentation 3 Genome Copy Number Feature Selection based on Chromosomal Region Alterations and Chemosensitivity Subtypes 4 Deep Multi-class Eye Segmentation for Ocular Biometrics
		17,30 Departure for evening cocktail and gala dinner ***(dress code: business casual)*** ***Arenal Manoa Hotel*** http://www.arenalmanoa.com/hotel.php	18,30 (Dining Room) Closing Ceremony, Best Papers Awards and IWOBI 2019 Presentation