

## Friday - October 6

**10:00 am – 11:20 am**

### Fetal and Pediatric Brain Imaging

**Skull thickness changes in early childhood**

Niharika Gajawelli, Sean Deoni, Jie Shi, Holly Dirks, Marvin Nelson, Natasha Lepore and Yalin Wang  
Children's Hospital Los Angeles, USA. University of Southern California.

**Altered Network Topology in Pediatric Traumatic Brain Injury**

Emily L Dennis, Faisal Rashid, Talin Babikian, Richard Mink, Christopher Babbitt, Jeffrey Johnson, Christopher Giza, Robert Asarnow and Paul Thompson  
Keck School of Medicine of University of Southern California

**Statistical shape (ASM) and appearance (AAM) models for the segmentation of the cerebellum in fetal ultrasound**

Misael Reyes López and Fernando Arámbula Cosío  
Universidad Nacional Autónoma de México

**Bayesian automated cortical segmentation for neonatal MRI**

Zane Chou, Natacha Paquette, Bhavana Ganesh, Yalin Wang, Rafael Ceschin, Marvin D Nelson, Luke Macyszyn, Bilwaj Gaonkar, Ashok Panigrahy and Natasha Lepore  
Children's Hospital Los Angeles, University of Southern California, CA, USA.

**Analysis of sEMG Signals using Discrete Wavelet Transform for Muscle Fatigue Detection**

Sonia H Contreras-Ortiz and Luis A Flórez-Prias  
Universidad Tecnológica de Bolívar, Cartagena de Indias, Colombia

**Wavelets analysis for differentiating solid, non-macroscopic fat containing, enhancing renal masses: a pilot study**

Bino A Varghese, Darryl Hwang, Passant Mohamed, Steven Cen, Christopher Deng, Michael Chang and Vinay Duddalwar  
University of Southern California, USA.

**Multi-channel Non-invasive Fetal Electrocardiography Detection using Wavelet Decomposition**

Javier Andres Almeida, Josué Ruano, David Romo-Bucheli, José Ricardo Navarro-Vargas M.D. and Eduardo Romero Castro M.D.  
Universidad Nacional de Colombia, Hospital Universitario Nacional de Colombia

**Fetal ECG Extraction using Independent Component Analysis by Jade Approaching**

Jader Giraldo-Guzmán, Sonia H. Contreras-Ortiz, Gloria Isabel Bautista Lasprilla and Marian Kotas  
Universidad Tecnológica de Bolívar Cartagena de Indias, Colombia.

### Signal Analysis

**2:30 pm – 3:50 pm**

### MRI Phantoms

**Manufacture and characterization of breast tissue phantoms for emulating benign lesions**

Marcela Potosí, Manuel Rojas, Julián Villamarín, José Narváez and Carlos Gaviria  
Universidad Antonio Nariño, Colombia.

**Design and implementation of a MRI compatible and dynamic phantom simulating the motion of a tumor in the liver under the breathing cycle**

Benoît M Macq, Arnould Geelhand de Merxem, Vianney Lechien, Tanguy Thibault and Damien Dasnoy  
University Catholique de Louvain, Belgium.

**Construction of mammography Phantoms with a 3D printer and tested with a TIMEPIX system**

Juan Sebastián Calderón García, Carlos Ávila and Gerardo Roque  
Universidad de los Andes, Colombia

**Feasibility study of a TIMEPIX detector for mammography applications**

Carlos A Ávila, Luis M Mendoza, Gerardo Alfonso Roque, Leonardo Loaiza, Jorge M Racedo and Roberto J Rueda  
Universidad de los Andes, Colombia

**An automatic system for spermogram analysis based on image processing techniques and Support Vector Machine**

Natalia Verónica Revollo Sarmiento, Claudio Delrieux, Rolando González José and Javier Izetta Riera  
Universidad Nacional del Sur, Argentina.

**Retinal blood vessel segmentation in high resolution fundus photographs using automated feature parameter estimation**

José Ignacio Orlando, Marcos Fracchia, Valeria del Río and Mariana del Fresno  
Facultad de Ciencias Exactas, UNCPBA

**Recognition of skin melanoma through dermoscopic image analysis**

Catalina Gómez and Diana Herrera  
Universidad de los Andes, Colombia

**Learning to Segment Mouse Embryo Cells**

Juan León, Alejandro Pardo and Pablo Arbeláez  
Universidad de los Andes, Colombia

### Image Processing

**4:00 pm – 5:20 pm**

### Radiation Therapy Planning

**Prostate cancer: computer aided-diagnosis on multiparametric MRI**

Laura Marin, Daniel Racoceanu, Raphaela Renard Penna and Malek Ezziane  
Pontificia Universidad Católica Del Perú

**Quantification of dose uncertainties for the bladder in prostate cancer radiotherapy based on dominant eigenmodes**

Richard Rios, Oscar Acosta, Caroline Lafond, Jairo Espinosa and Renaud de Crevoisier  
Universidad Nacional de Colombia

**Improvement of Bragg peak shift estimation using dimensionality reduction techniques and predictive linear modeling**

Yafei Xing, Benoit Macq and Arnould Geelhand de Merxem  
Universit catholique de Louvain, Belgium

**Towards an integrative 3D computational model for simulating tumor growth and response to radiation therapy**

Carlos Sosa Marrero, Vivien Aubert, Nicolas Ciferri, Alfredo Hernández, Renaud de Crevoisier and Oscar Acosta  
University of Rennes, France

### Artificial Neural Network

**Bone Age Detection via Carpogram Analysis using Convolutional Neural Networks**

Felipe Torres Figueroa, María Alejandra Bravo Sarmiento, Emmanuel Salinas Miranda, Gustavo Triana and Pablo Andrés Arbeláez Escalante  
Universidad de los Andes, Colombia

**Automated detection of lung nodules with three-dimensional convolutional neural networks**

Gustavo Pérez and Pablo Arbeláez  
Universidad de los Andes, Colombia

**Characterization of physiological networks in sleep apnea patients using Artificial Neural Networks for Granger Causality computation**

Jhon S. Cárdenas Arroyave, Álvaro D. Orjuela-Cañón, Alexander Cerquera and Antonio Ravelo  
Universidad Antonio Nariño, Colombia