

**PROGRAMA  
PROGRAMA  
PROGRAMME**

# Bienvenida

El Consejo Regional de Ingeniería Biomédica para América Latina (CORAL) realiza el VII Congreso Latinoamericano de Ingeniería Biomédica – CLAIB 2016 durante los días 26 al 28 de octubre de 2016 en la Universidad Autónoma de Bucaramanga, Colombia. Este congreso es organizado y convocado por la Asociación Colombiana de Bioingeniería y Electrónica Médica- ABIQIN, auspiciado por la Federación Internacional para la Ingeniería Médica y Biológica (IFMBE) y la Sociedad para la Ingeniería en Medicina y Biología (EMBS-IEEE), y cuenta con el apoyo de las universidades de la región y del entorno nacional.

Se recibieron alrededor de 400 trabajos científicos que fueron revisados por tres evaluadores independientes en un proceso de revisión ciego. De los manuscritos enviados, 285 fueron seleccionados para ser presentados en CLAIB 2016. Adicionalmente, se presentan 14 conferencias de reconocidos científicos a nivel internacional, y se organizaron paneles de trabajo con académicos y profesionales de alto impacto en el quehacer de la ingeniería biomédica. Finalmente, en el CLAIB 2016 participan empresas del sector mostrando sus productos e intercambiando ideas con los participantes. Esperamos que su participación en CLAIB 2016 sea muy productiva, aumente sus nexos personales y profesionales y le permita disfrutar de la pujante y bella región de Santander.

# Welcome

The Regional Council of Biomedical Engineering for Latin America (CORAL) hosts the VII Latin-American Congress of Biomedical Engineering, CLAIB2016 from October 26<sup>th</sup> to October 28<sup>th</sup>, 2016 at *Universidad Autónoma de Bucaramanga, Colombia*. This congress is organized and summoned by the Colombian Association of Bioengineering and Medical Electronics (ABIQIN), and sponsored by the International Federation for Medical and Biological Engineering (IFMBE), and the Society for Engineering in Medicine and Biology (EMBS-IEEE). This congress is also supported by different universities of the region and the national environment.

Around 400 scientific papers were received and revised by three independent judges in a blind revision process. From these papers, 285 were selected to be presented at CLAIB 2016. Additionally, 14 conferences of renowned scientists at international level take place, and discussion panels with academics and professionals of high impact in the area of biomedical engineering are organized. Finally, companies of the region are participating at CLAIB 2016, showing their products and sharing ideas with the participants of this congress. We hope that your participation in CLAIB 2016 will be very productive, increase your personal and professional network, and also that you can enjoy from the courageous and beautiful region of Santander.

**HORARIO ASCEDENTE DE PLENARIAS**  
**UP PROGRAMAÇÃO PLENÁRIA**  
**UP SCHEDULE PLENARY**



**Emerging trends in the signal and image processing and computer-aided diagnosis.**

Andrew Laine,  
President IEEE/EMBS Professor of Biomedical Engineering, Chair Department of Biomedical Engineering, Columbia University, New York USA.  
Mié/Wed 26 Oct. 2016 10:30-11:30 a. m.  
Auditorio Mayor Carlos Gómez Albarracín



**A Wellness-Centric Healthcare System Interoperable with Public Health: The Multidimensional Global Threats, Interdependences of the Critical Infrastructures, and Geomedicine.**

Luis Kun,  
Editor in Chief - Journal of Health & Technology - Springer - IUPESM - WHO, IFMBE Chairman Global Citizen Safety and Security WG.  
Mié/Wed 26 Oct. 2016 11:30 a.m. - 12:30 p.m.  
Auditorio Mayor Carlos Gómez Albarracín



**E-health: notable developments, - WHO: the Temple of Public Health.**

Marc Nyssen  
Treasurer IFMBE, Medische Informatica, Faculteit Geneeskunde en Farmacie Vrije Universiteit Brussel  
Mié/Wed 26 Oct. 2016 2:00-3:00 p.m.  
Auditorio Mayor Carlos Gómez Albarracín



**A Glimpse at Emerging Innovative Cardio-Tech Solutions**

Shankar Krishnan,

Ph.D. Elected President IFMBE. Professor & Chair. Department of Biomedical Engineering. WIT, Boston, USA.

Jue/Thu 27 Oct. 2016 8:00-9:00 a.m.

Auditorio Mayor Carlos Gómez Albarracín



**Emerging trends in Musculoskeletal Biomechanics in relation to Tissue Repair and Regeneration**

James GOH

President, International Federation of Medical and Biological Engineering (IFMBE), PhD (1982), University of Strathclyde, Glasgow, UK

Jue/Thu 27 Oct. 2016 1:30-2:30 p.m.

Auditorio Mayor Carlos Gómez Albarracín



**Improving prevention and treatment of diabetes**

Ratko Magjarević

Past President IFMBE Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia.

Vie/Fri 28 Oct. 2016 8:00-9:00 a.m.

Auditorio Mayor Carlos Gómez Albarracín



**Heart, Heart rate, & Heart rate variability with respiratory sinus arrhythmia**

Kang-Ping Lin

Ph.D. Secretary General IFMBE Distinguished Professor, Chung-Yuan Christian University.

Vie/Fri 28 Oct. 2016 5:00-6:00 p.m.

Auditorio Mayor Carlos Gómez Albarracín

## SEMI-PLENARIAS / SEMI-PLENÁRIAS / SEMI-PLENARY



### **El reto de la interoperabilidad en tecnología para la salud**

Antonio Hernández

ACCE - U.S.A.

Jue/Thu 27 Oct. 2016 6:00-6:30 p.m.

Auditorio Mayor Carlos Gómez Albarracín



### **Desafíos de la Ingeniería Clínica: Nuevos escenarios de gestión de Tecnología Médica.**

Renato García

Jue/Thu 27 Oct. 2016 6:30-7:00 p.m.

Auditorio Mayor Carlos Gómez Albarracín



### **Registro de imágenes médicas: Aplicaciones en epilepsia.**

Juan Pablo Graffigna

Jue/Thu 27 Oct. 2016 6:00-6:30 p.m.

Auditorio de Ingenierías Jesús Alberto Rey Mariño.



**Tecnologías de rehabilitación emergentes para una vejez activa.**

Martha Lucía Zequera.

Jue/Thu 27 Oct. 2016 6:30-7:00 p.m.

Auditorio de Ingenierías Jesús Alberto Rey Mariño.



**La forma de los átomos explicaría el funcionamiento de las estructuras orgánicas complejas.**

Jaime Delgado.

Jue/Thu 27 Oct. 2016 6:00-6:30 p.m.

Auditorio Menor Alfonso Gómez Gómez.

**De la forma de los átomos al código oculto del ADN.**

Jaime Delgado.

Jue/Thu 27 Oct. 2016 6:30-7:00 p.m.

Auditorio Menor Alfonso Gómez Gómez.



**Mediciones psicofisiológicas instrumentales, un campo emergente de la Ingeniería Biomédica.**

Guillermo Avendaño

Vie/Fri 28 Oct. 2016 1:30-2:00 p.m.

Auditorio Mayor Carlos Gómez Albarracín.



**Materiales inteligentes aplicados a la Ingeniería Biomédica.**

Ernesto Suaste

Vie/Fri 28 Oct. 2016 2:00-2:30 p.m.

Auditorio Mayor Carlos Gómez Albarracín.



**Tendencias en Biomecánica clínica y deportiva.**

Ariel Braidot.

Vie/Fri 28 Oct. 2016 1:30-2:00 p.m.

Auditorio de Ingenierías Jesús Alberto Rey Mariño.



**Implantes cardiovasculares a la luz de nuevas técnicas y materiales.**

Jhon Bustamante

Vie/Fri 28 Oct. 2016 2:00-2:30 p.m.

Auditorio de Ingenierías Jesús Alberto Rey Mariño

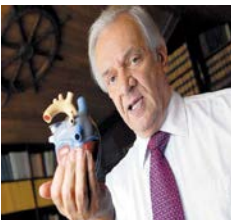


**Un Nuevo Concepto de Gestión para Hemodiálisis.**

Miguel Cadena. (Conferencia presentada por Joaquín Aspiroz ó Fabiola Martinez)

Vie/Fri 28 Oct. 2016 1:30-2:00 p.m.

Auditorio Menor Alfonso Gómez Gómez.



**Impacto de las nuevas tecnologías Biomédicas en el futuro de la medicina.**

Jorge Reynolds.

Vie/Fri 28 Oct. 2016 2:00-2:30 p.m.

Auditorio Menor Alfonso Gómez Gómez.

## Areas temáticas / Tópicos de interesse / Topics

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Procesamiento de Señales

ProSig      Processamento de Sinais  
Signal Processing

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Bioinstrumentación y Sensores

BioSens      Bionstrumentação e Sensores  
Bioinstrumentation and Sensors

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Biomecánica y Análisis del Movimiento

BioMec      Biomecânica e Análise de Movimento  
Biomechanics and MotionAnalysis

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Ingeniería Clínica, Tecnologías de Salud y Electromedicina

EClin      Engenharia Clínica, Tecnologias de Saúde e Electromedicina  
Clinical      Engineering,      Health      Technologies      and  
Electromedicine

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Modelado y Simulación

ModSim      Modelagem e Simulação  
Modeling and Simulation

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Tecnología, Educación e Innovación

EduTec      Tecnologia, Educação e Inovação  
Technology, Education and Innovation

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Visualización y Procesamiento de Imágenes

Proclm      Processamento de Imagem  
Image Processing

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	Tópicos Varios
VTopic	Vários Temas Varied Topics
Rehab	Ingeniería Neural y de Rehabilitación, Prótesis e implantes bioprotésicos (biónicas) Engenharia de Reabilitação, Neural e Próteses Rehabilitation Engineering, Neural and Prosthetics
InfoMed	Informática Medica y TICS Informática Médica e TICS Medical Informatics and ICT'S
TeleMed	Telemedicina, Cuidado de la Salud Telemedicina, Saúde e atendimento domiciliar Telemedicine, Health and Home Care
BioMat	Biomateriales Biomateriais Biomaterials
BioInfo	Bioinformática y Biología Computacional Bioinformática e Biologia Computacional Bioinformatics and Computational Biology
BioRob	Control, Sistemas no lineales y Biorrobótica Controle, Sistemas não Lineares e Biorrobótica Control, Nonlinear Systems and Bio robotics

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Física Medica y Medicina Nuclear

FisMed Física Medica e Medicina Nuclear

Medical Physics and Nuclear Medicine

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Ingeniería Molecular, Celular y de Tejidos

EnMolec Engenharia Molecular, Celular e Tecidos

Molecular, Cell and Tissue Engineering

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Ingenieria Cardiovascular, Endocrino y Pulmonar

CardioEn Engenharia Cardiovascular, Endócrino e Pulmonar

Cardiovascular, Endocrine and Pulmonary Engineering

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Posters

Post Posters

Posters

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## Artículos / Artigos / Papers

### **Oral ProSig: PROCESAMIENTO DE SEÑALES**

*Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30*

*Lugar / place: Auditorio de Ingeniería Alberto Rey Mariño*

TÍTULO	AUTORES
Characterization Framework for Ex-combatants Based on EEG and Behavioral Features. (ID. 88)	Andrés Quintero Zea, Lina María Sepúlveda Cano, Mónica Rodríguez Calvache, Sandra Trujillo Orrego, Natalia Trujillo Orrego and José David López.
Brain Functional Connectivity in Parkinson's disease – EEG resting analysis. (ID. 82)	Jairo Carmona, Jazmín Suarez and John Ochoa.
Feature selection for KNN classifier to improve accurate detection of subthalamic nucleus during deep brain stimulation surgery in Parkinson's patients. (ID. 181)	Luciano Schiaffino, Alfredo Rosado Muñoz, Juan Guerrero Martínez, José Vicente Francés Villora, Antonio Gutiérrez, Irene Martínez Torres, Manuel Bataller and Vicente Teruel Martí.
Cardiorespiratory Interaction Using Nonlinear Data Processing Techniques In Patients Undergoing Test Tube T. (ID. 190)	Carlos Julio Arizmendi Pereira, Jose Ignacio Trapero and Beatriz Fabiola Giraldo Giraldo.
A visual EEG epilepsy detection method based on a wavelet statistical representation and the Kullback-Leibler divergence. (ID. 10)	Antonio Quintero-Rincón, Marcelo Pereyra, Carlos D'giano, Hadj Batatia and Marcelo Risk.
Assessment of surface electromyography during orofacial praxis in healthy subjects.	Santiago Cadavid Arboleda, Lina M. Ramírez Arbelaez, Estefanía Pérez Giraldo, Sebastián

(ID. 72)	Restrepo Agudelo, Sebastián Roldan Vasco, Juan C. Suarez Escudero, German Cantillo Mackenzie, Claudia L. Bedoya Londoño, Liliana Martínez Moreno and Andrés Orozco Duque.
Signal modes for design-oriented analysis of active SEMG spatial filter electrodes. (ID. 208)	Federico N Guerrero, Pablo Andrés García and Enrique M. Spinelli.
Study of Medical Device Purchasing Cycles through Temporal Series Analysis. (ID. 194)	Juan Camilo Guerrero, Javier Hernando García and Alher Mauricio Hernández.
Analysis of the respiratory flow signal for the diagnosis of patients with chronic heart failure using artificial intelligence techniques. (ID. 201)	Carlos Arizmendi and Beatriz Fabiola Giraldo Giraldo.
Dimensionality Reduction In The Modelling Of EEG Signals Based On ICA. (ID. 282)	Jon Duque-Grajales, David Medina-Arias, Frank Sánchez and Rodrigo Solarte.

**Oral EClín: INGENIERÍA CLÍNICA**

*Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30*

*Lugar / place: Auditorio Menor Alberto Gómez Gómez*

<b>TITULO</b>	<b>AUTORES</b>
Impact of Clinical Alarm Issues on Patient Safety. (ID. 70)	Tobey Clark
Ensaio de conformidade em	Alexander Narváez Rodríguez.

<p>equipamento eletromedico avaliando inspeção, segurança elétrica e compatibilidade eletromagnética conforme normas iec e cispr11. (ID. 163)</p>	
<p>Desarrollo de un equipo de diagnóstico de hipoacusia por fotoemisiones acústicas y potenciales auditivos evocados. (ID. 250)</p>	<p>Sergio Ponce, Francisco Madrid and Leonardo Garberoglio.</p>
<p>Ultrasound stimulation of insulin release from pancreatic beta cells. (ID. 28)</p>	<p>Iván Suarez Castellanos, Bogdan Balteanu, Tania Singh, Aleksandar Jeremic and Vesna Zderic.</p>
<p>Influence of the Immune System on the Biological Dynamics of the Interstitial Fluid Pressure. (ID. 123)</p>	<p>Ruy Freitas Reis, Rodrigo Weber Dos Santos and Marcelo Lobosco.</p>
<p>Permanent Magnets to Enable Highly-Targeted Drug Delivery Applications: A Computational and Experimental Study. (ID. 238)</p>	<p>Marcela Mercado Montoya, Alher Mauricio Hernández Valdivieso and Juan Carlos Cruz Jiménez.</p>
<p>Lead (Pb++) effect on human atrial action potential under normal and atrial fibrillation conditions. In silico study. (ID. 29)</p>	<p>Catalina Tobón, Diana Pachajoa, Juan Pablo Ugarte and Javier Saiz.</p>
<p>Wimote-based Infrared System for Instrumental Tracking in Minimally Invasive Spine Procedures for Training. (ID. 110)</p>	<p>Moisés Domínguez Sánchez, Daniel Lorias Espinoza and Rigoberto Martinez-Mendez.</p>
<p>. A Comprehensive System for Healthcare Technology Management HTM. (ID. 106)</p>	<p>Luis Vilcahuaman, Mauricio Cordova, Jenifer Kalafatovich and Rossana Rivas.</p>

**Oral Proclm: VISUALIZACIÓN Y PROCESAMIENTO DE IMÁGENES**

Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30

Lugar / place: Sede Jardín UNAB D11

TITULO	AUTORES
Metodología de diagnóstico del síndrome del ojo seco basado en la termografía infrarroja. (ID. 33)	Luis-Enrique Llamosa-Rincón, Jeimy Melissa Jaime Díaz and Mariney Rodríguez Rengifo.
Muscle strain field estimation using object tracking in high definition video sequences. (ID. 157)	Miguel Angel Zamora M, Hugo Franco, Qianqian Fang, Sandra Shefelbine, J. Andrew Taylor and Angelica Ramirez-Martinez.
Approximations of Pupillary Shape in High-Definition Video-Oculography Registers. (ID. 175)	Rodrigo Mora and Ernesto Suaste.
Automatic Detection of the Retroareolar Region in X-ray Mammography Images. (ID. 68)	German F. Torres and S. Pertuz.
MC3C3-E1cell response to zirconium (Zr) implants with different surface characteristic by digital image processing analysis. (ID. 74)	María Rosa Katunar, Agustina Bouchet, Josefina Ballarre and Juan Ignacio Pastore.
Síndrome Visual del Computador (SVC) - Análisis Termográfico. (ID. 34)	Luis-Enrique Llamosa-Rincón, Jeimy-Melissa Jaime-Díaz and Diego-Fernando Ruiz-Cardona.
Images Digitalization and Characterization of Surface and Fundus obtained through a Slit Lamp Adapted. (ID. 59)	Ismael Cassi, AdrianSalvatelli, Gustavo Bizai, Alejandro Hadad, Diego Ramirez Arduh and Bartolomé Drozdowicz.
Color morphological reconstruction as a tool for microscope cell images. (ID. 126)	Juan Ignacio Pastore, Marcel Brun, Agustina Bouchet and Virginia Laura Ballarin.
Modelo Gravitacional Simplificado na Análise de Textura de Imágenes Mamográficas. (ID. 332)	Daniel Freitas Colaco, Paulo Cesar Cortez, Jarbas Joaci de Mesquita Sá Júnior and André

	Ricardo Backes.
Gesture Recognition and Machine Learning Applied to Sign Language Translation. (ID. 100)	Luis Estrada, Marco Benalcázar and Nelson Sotomayor.

<b>Oral CardioEn: INGENIERÍA CARDIOVASCULAR, PULMONAR Y ENDOCRINA</b>	
<i>Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30</i>	
<i>Lugar / place: Sede Jardín UNAB D22</i>	
<b>TITULO</b>	<b>AUTORES</b>
Incidence and risks associated with nasal injury in newborns undergoing non-invasive ventilation through the binasal prong. (ID. 191)	Débora De Fátima Camillo, Frieda Saicla Barros, Taisa Daiana Costa and Percy Nohama.
Nonlinear measures characterize atrial fibrillatory dynamics generated using fractional diffusion. (ID. 230)	Juan Pablo Ugarte, Sara Isabel Duque, Andres Orozco-Duque, Catalina Tobon, John Bustamante and Henry Andrade-Caicedo.
Noninvasive approach to estimate ventilatory mechanics in spontaneous breathing with different PEEP and pressure support values: validation with mechanical simulation. (ID 102)	Isabel Cristina Muñoz and Alher Mauricio Hernández
Generation of arterial tree models considering a power law with exponent dependent on bifurcation level. (ID. 231)	Lucas Diego Mota Meneses, Patricia Fonseca de Brito, Bernardo Martins Rocha, Rodrigo Weber Dos Santos and Rafael Alves Bonfim de Queiroz.
Construction of arterial networks considering the Fahraeus-Lindqvist	Patricia Fonseca de Brito, Lucas Diego Mota Meneses, Bernardo

effect. (ID. 113)	Martins Rocha, Rodrigo Weber Dos Santos and Rafael Alves Bonfim de Queiroz.
In vitro study of proliferation and cellularisation on electrospun membranes for vascular prosthesis. (ID. 255)	Yuliet Montoya, Raúl Valencia, Isabel Ortiz, Lina Hoyos and John Bustamante.

**Oral EduTec: TECNOLOGÍA, EDUCACIÓN E INNOVACIÓN**

*Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30*

*Lugar / place: Sede Jardín UNAB D32*

<b>TITULO</b>	<b>AUTORES</b>
Presentación Sobre los Alcances y el Estado del Arte en la Educación en Ingeniería Biomédica en Latinoamérica.	Jesús María Soto
Extending the horizon of biomedical engineering to help other species. (ID. 108)	Andrés Mauricio González-Vargas.
Biomedical Engineering in Latin America: A Survey of 90 Undergraduate Programs. (ID. 45)	Joaquin Azpiroz, Fabiola Martinez Licon, Gerardo Urbina Medal, Miguel Cadena Mendez and Emilio Sacristan Rock.
Ambiente Virtual como Ferramenta Complementar ao Aprendizado da Imagenologia Odontológica. (ID. 128)	Pasqual Bonzanini Neto, Francisco Douglas Lima Abreu and Silvia Rodríguez.
Creation of the Biomedical Systems Engineering undergraduate program, School of Engineering, UNAM. (ID. 198)	Jesus Manuel Dorador Gonzalez, LivierBaez Rivas, Maricarmen Guillén Mandujano and Leopoldo González González.



Programas de Educación en Ingeniería Biomédica: Cómo Mejorarlos. (ID. 334)	Antonio Rienzo and Guillermo Avendaño.
How Can Biomedical Engineering and Health Science Students Learn Together? (ID. 24)	William Ricardo Rodríguez Dueñas, Adriana María Ríos Rincón and Antonio Miguel Cruz.
Clinical Engineering Internships: University Collaboration in the Americas. (ID. 95)	Tobey Clark, Rossana Rivas and Jesus Maria Soto.
Diseño de estrategia de entrenamiento para el personal asistencial en el uso adecuado de la tecnología biomédica. (ID. 200)	Daniela Arias, Javier Camacho and Jessica Osorno
Presentación Sobre los Alcances y el Estado del Arte en la Educación en Ingeniería Biomédica en Latinoamérica.	Jesús María Soto

**Oral Rehab: INGENIERÍA DE LA REHABILITACIÓN Y PRÓTESIS**

*Miércoles / Quarta-feira / Wednesday 26, 15:00 a 18:30*

*Lugar / place: Sede Jardín UNAB D28*

<b>TITULO</b>	<b>AUTORES</b>
Workshop Of Social Projection Of The Disability's Technology.	Jean Marc Van Hissenhoven
Diseño conceptual de un rehabilitador para el dedo pulgar humano. (ID. 346)	Maria Carolina Plaza Useche, Ricardo Gustavo Rodríguez Cañizo, Gerardo Villegas Medina, Emmanuel A. Merchán and Álvaro Marcos Santiago Miguel.
First Steps For A Web-Based	Sergio Daniel Cano-Ortiz, Zoila

Platform Oriented To The Study Of The Infant Neuro-Development And Disability. (ID. 14)	Gonzales-Videaux, Amilcar Borrás-Gonzalez, Reinhardt Langmann, Hartmut Haehnel and Ludmila Regueiferos-Diaz.
Sistema de rehabilitación de miembro superior en pacientes con monoplejía. (ID. 162)	Laura Melissa Quintana Gómez, Andrés Torres Velásquez and Róbinson Alberto Torres Villa.
Desenvolvimento de Órtese Funcional de Membro Superior para Atletas Tetraplégicos Praticantes de Bocha Paralímpica. (ID. 269)	Lucyana M. Moreira, Alessandro P. Silva, Terigi A. Scardovelli and Silvia R.M.S. Boschi.
Voice Controlled Prosthetic Hand with Predefined Grasps and Movements. (ID. 212)	Juan Pablo Ángel López and Nelson Arzola de La Peña.
Diseño y Construcción de un Exoesqueleto de Rehabilitación para Brazo y Mano con Neurorealimentación, para Pacientes Pediátricos. (ID. 240)	Togo Arredondo, Cesar Galindo, Hugo Mladineo and Germán Blanchard.
Workshop Of Social Projection Of The Disability's Technology.	Jean Marc Van Hissenhoven

### ***Oral BioSens: BIOINSTRUMENTACIÓN Y SENSORES***

*Jueves / Quinta-feira / Thursday 27, 09:00 a 12:20*

*Lugar / place: Auditorio Mayor Carlos Gómez Albarracín*

<b><i>TITULO</i></b>	<b><i>AUTORES</i></b>
An Embedded Hybrid BCI Speller. (ID. 16)	Pablo Andres García, Enrique Mario Spinelli and Graciela Mabel Toccaceli.

<p>Desarrollo de un sistema vestible de medición de variables fisiológicas. (ID. 344)</p>	<p>Sergio Ponce, Natalia Lopez, David Piccinini, Martin Roberti, Sofia Avetta, Nicolas Andino, Alexis Sparapani and Camilo Garcia.</p>
<p>Fall detection system for elderly by MEMS accelerometer and SMS alert. (ID. 48)</p>	<p>Edgard Oporto and Luis Vilcahuaman.</p>
<p>Desarrollo de un estimulador eléctrico transcraneal para monitoreo intraoperatorio. (ID. 78)</p>	<p>Alberto García, Iván Zamora, Manuel Sánchez, Tania Aznielle, Vivian Martin and Ivette Cabana.</p>
<p>Development and Evaluation of a Method for Fall Detection Based on a Wrist-Located Device. (ID. 107)</p>	<p>Thiago De Quadros, André Eugênio Lazzaretti and Fabio Kurt Schneider.</p>
<p>Fabrication of piezoelectric PVDF/Graphene membranes by electrospinning for respiratory rate and temperature sensing. (ID. 167)</p>	<p>Daniel Hernández-Rivera and Ernesto Suaste Gómez.</p>
<p>Usability Evaluation for a Vital Signs Monitor Prototype. (ID. 260)</p>	<p>Paola Juliana Bedoya Ramirez, Lorena Arenas Rivillas, Laura Correa Agudelo, Juan Guillermo Barreneche Ospina and Alher Mauricio Hernandez Valdivieso.</p>
<p>Simultaneous detection of the position of eye movements and head for diagnostic purposes of the vestibular system. (ID. 44)</p>	<p>Geovanny Palomino Roldan, Ernesto Suaste-Gómez and Adrián Castañeda Galván.</p>
<p>Efeito De Diferentes Eletrodos Sob Tecido Hepático Cancerígeno utilizando a técnica de ablação Por Radiofrequência. (ID. 94)</p>	<p>Diana Carolina Montilla Perafan, João Y. Ishihara and Suelia Rodrigues F. Rosa.</p>

**Oral ModSim: MODELADO Y SIMULACIÓN**

*Jueves / Quinta-feira / Thursday 27, 09:00 a 12:20*

*Lugar / place: Auditorio de Ingeniería Alberto Rey Mariño*

TITULO	AUTORES
Model Fitting and Simulation of the Respiratory Control System under Incremental Exercise and Altitude in Healthy Subjects. (ID. 246)	Carlos Andrés Sarmiento Pérez, Alher Mauricio Hernández Valdivieso and Leidy Yanet Serna.
Computer models for ions under electric and magnetic fields: random walks and relocation of calcium in dendrites depends on timing and population type. (ID. 304)	Juan Fernando Gomez Molina, Mauricio Corredor, Alberto Antonio Restrepo Velasquez and Ulises M. Ricoy.
Modeling and simulation of ciprofloxacin pharmacokinetics: electric circuits approach. (ID. 280)	Julián David Otálvaro Gallego, Andrés Felipe Zuluaga Salazar and Alher Mauricio Hernández Valdivieso.
Numerical simulation and fitting of tumor growth kinetics models using Python. (ID.171)	Erick E. Ramirez, Luis E. Bergues, Roger E. Rivero and Joan Lambert.
An Age-based Multiscale Mathematical Model of the Hepatitis C Virus Life-cycle During Infection and Therapy: Including Translation and Replication. (ID. 209)	Barbara M. Quintela, James M. Hyman, Jessica M. Conway, Rodrigo W. Dos Santos, Marcelo Lobosco and Alan S. Perelson.
Non-homogeneous multichannel electroencephalographic dynamic forward modeling of epilepsy. (ID. 60)	Pablo Andrés Muñoz Gutiérrez and Eduardo Giraldo.

<p>Simulación del esfuerzo y deformación en una geometría del segmento facial en estado sano. (ID. 298)</p>	<p>Jessika Viviana Soto and Ingrid Mercedes Cruz.</p>
<p>Comparing Myocardium Perfusion Data Acquired by a MRI-Phantom and a Mathematical Model. (ID. 125)</p>	<p>João Alves, Rafael de Queiroz and Rodrigo Dos Santos.</p>

**Oral EClín: INGENIERÍA CLÍNICA**

*Jueves / Quinta-feira / Thursday 27, 09:00 a 12:20*

*Lugar / place: Auditorio Menor Alberto Gómez Gómez*

<b>TITULO</b>	<b>AUTORES</b>
<p>Evaluation of computer vision based objective measures for complementary balance function description and assessment in Multiple Sclerosis. (ID. 155)</p>	<p>Germán D. Sosa, Juanita Sánchez, Xiomary Bermúdez, Angélica Ramírez and Hugo Franco.</p>
<p>Impactos na conservação de peças de mão odontológicas na atenção básica de saúde. (ID. 193)</p>	<p>André Vieira, Felipe Rosa, Juliano Martins and Renato Garcia.</p>
<p>Glu4Pred: A computational tool for design and testing of insulin therapies for patients with type 1 diabetes based on interval simulation. (ID. 135)</p>	<p>Maira Garcia Jaramillo, Jhonatan Delgado and Fabian León Vargas.</p>
<p>Prototipo de Marcapasos Diafragmático con Comunicación Inalámbrica. (ID. 218)</p>	<p>Jorge Reynolds, Jose David Forero Cubides and Maria Lucia Arango Cortés.</p>
<p>Estimation of the optimal maintenance frequency of medical devices: A Monte Carlo simulation</p>	<p>Antonio Miguel Cruz and William Ricardo Rodríguez Dueñas.</p>

approach. (ID. 9)	
Pressure Monitor in Endotracheal Cuff for Effective Intubation of Patients. (ID. 43)	Simon Villa, Elisa Mejía, Juan Manuel Gómez, Sebastian Uribe and Róbinson A. Torres.
Clinical Evaluation of Inductive Spectrometer to detect Breast Cancer. (ID. 293)	Cesar Gonzalez, M Celeste Uscanga, L Maritza Lozano and Carla Ivonne Guerrero.
CAMACUA: Low Cost Real Time Risk Alert and Location System for Healthcare Environments. (ID. 39)	Ignacio Decia, Agustin Farias, Deborah Szerman, Lucía Grundel, Diego Briatore, Maria Piñeyrua, Alvaro Villar and Franco Simini.
Análisis cualitativo de eventos adversos asociados a los equipos biomédicos en una Institución Prestadora de Servicios de Salud de alta complejidad. (ID. 215)	Johana Patricia Perez Peña and Sandra Patricia Usaquén Perilla.
Avaliação de pré-requisitos para uso de recursos de Engenharia Biomédica aplicados à simulação humana na identificação e medição de variáveis fisiológicas. (ID. 57)	Heitor Hermes de Carvalho Rodrigues, Aristides Sampaio Cavalcante Neto, José Vilson Martins Filho, Vicente Machado Neto and Miguel Antônio Sovierzoski.

### ***Oral BioMec: BIOMECÁNICA Y ANÁLISIS DEL MOVIMIENTO***

*Jueves / Quinta-feira / Thursday 27, 09:00 a 12:20*

*Lugar / place: Sede Jardín UNAB D11*

<b><i>TITULO</i></b>	<b><i>AUTORES</i></b>
Measurement of the strength of upper limbs in cervical lesion users to design a propulsion wheelchair mechanism. (ID. 296)	Norma Araceli Coral Hernández, Cuitláhuac Osornio Correa, María Del Carmen Mercado Chaparro, Ana María Vásquez Gallego, Jorge Letechipia and

	Andrés Torres Velásquez.
Parámetros Biomecánicos en Posición Estática de Amputados Transtibiales por Minas Antipersona. (ID. 42)	Lely A. Luengas, Giovanni Sánchez y Kristel Novoa.
Parametric modeling of kinetic-kinematic polycentric mechanical knee. (ID. 257)	Andres Mauricio Cardenas Torres, Alher Mauricio Hernández Valdivieso and Juliana Uribe Pérez.
Assessment of Ankle Movements Through a Game-Based Sphere: Proof of Concept. (ID. 287)	Juan Manuel Gomez Gonzalez and Arturo Vega Gonzalez.
Evaluation of methods based on conventional videography for detection of gait events. (ID. 76)	Andrea Arcila Cano, David Ewins, Aliah Shaheen and Paola Catalfamo Formento.
Influencia de los gestos del tiro al aro de básquet en el varo/valgo de rodilla. (ID. 321)	Ariel Andrés Antonio Braidot, Guillermo Favaretto, Melisa Frisoli, Diego Gemignani, Gustavo Gumpel, Roberto Massuh, Josefina Rayan, Matías Turin, Jonathan Gotte and David Nietzsche.
Knee Joint Angle Monitoring System Based on Inertial Measurements Units for Human Gait Analysis. (ID. 297)	Jhon Jairo Castañeda Bernal, Andres Felipe Ruiz-Olaya, Claudia Natalia Lara-Herrera and Franczy Zulay Roldan Villamizar.
Assessment protocol of wrist flexion and extension to support processes in occupational health using Myo Armband. (ID. 254)	Julieth Vanessa Montoya Leal, Andrés Felipe Orozco Duque, Juan Pablo Ugarte Macías, Mario Andrés Portela Gaviria, Juan Camilo Franco Mesa and Vera Zasúlich Pérez Ariza.
Kinematic Soccer Kick Analysis Using a Motion Capture System. (ID. 295)	Juan Pablo Ángel López, Belarmino Segura Giraldo, Luz Dary Rodríguez Sotelo and Karol

**Oral TeleMed: TELEMEDICINA Y CUIDADO DE LA SALUD***Jueves / Quinta-feira / Thursday 27, 09:00 a 12:20**Lugar / place: Sede Jardín UNAB D31*

<i>TITULO</i>	<i>AUTORES</i>
Supporting Diabetic Patients with a Remote Patient Monitoring Systems. (ID. 248)	Sara Zulj, Goran Seketa, Dominik Dzaja, Filip Sklebar, Sinisa Drobnjak, Luka Celic and Ratko Magjarevic.
Managing Heterogeneous Medical Data: Learning from Experiences in Telemedicine. (ID. 289)	Juan Camilo Vanegas Serna, Jairo José Pérez García and Henry Hermel Andrade Caicedo.
Analizando experiencias de telemedicina en el Servicio de Salud Valparaíso-San Antonio, Chile. (Analyzing telemedicine's experiences in Valparaíso - San Antonio Health Service, Chile). (ID.96)	Javier Rojo and Antonio Rienzo.
Prototipo de dispositivo para gestionar alertas en domicilio en una red de teleasistencia. (ID. 104)	Maria Sanchez, Diana María Gutierrez Cárdenas, Belarmino Segura Giraldo, Carlos Alberto Cortes A. and Ruben Florez.
Health Technology Management for Digital Medical Scales in Primary Healthcare. (ID. 117)	Felipe Rosa and Renato Garcia.
SAFER: A Context-Aware Ubiquitous Assistance Platform for Elderly Care. (ID. 139)	Jack Fernando Bravo Torres, Hugo Santiago Redrován Parra, Angel Fernando Soto Sarango, José Arcesio Andrade Padilla, Esteban Fernando Ordoñez



	Morales, Martín López Nores and Yolanda Blanco Fernández.
Sistema Inalámbrico para la Detección y Alerta de Fibrilación Auricular en Pacientes Postrados en Cama. (ID. 66)	Eduardo Toledo, Alvaro Vasquez and Pedro Segura.
Motion Artifacts Recognition in Electrocardiographic Signals through Artificial Neural Networks and Support Vector Machines for Personalized Health Monitoring. (ID. 176)	Fabian Andres Castaño Usuga and Alher Mauricio Hernández.
Design and Construction of a Wearable Wireless Electrogoniometer for Sports. (ID. 161)	Sonia Contreras Ortiz and Isabela Marina Mercado Aguirre.
Space Adventures: a serious game for childhood obesity prevention. (ID. 64)	Laura Parra, Diego Páez Ardila, Jefferson Luiz Brum Marques and Maria Marlene S. Pires.

**Oral EnMolec: INGENIERÍA MOLECULAR, CELULAR Y DE TEJIDOS**

*Jueves / Quinta-feira / Thursday 27, 9:00 a 12:20*

*Lugar / place: Sede Jardín UNAB D24*

<b>TITULO</b>	<b>AUTORES</b>
Discovery of novel dihydroorotate dehydrogenase inhibitors in trypanosomatids through a molecular docking and molecular dynamics approach. (ID. 63)	Rodrigo Ochoa, Carlos Muskus and Maria Luisa Serrano.
Experimental Study Of Apatite Layer Formation On Chitosan/Bioactive Glass Scaffolds For Bone Tissue Regeneration.	Lindsey Alejandra Quintero Sierra, David Orlando Grajales Lopera and Diana Marcela Escobar Sierra

(ID. 132)	
Fibrosis evaluation of animal liver tissue by thermal conduction.(ID 291)	Nathalie Alemán, Adolfo Pérez, Javier Sánchez, Fidel Silva, Enoch Gutiérrez, Martha R. Ortíz, Joséln Hernández, David Kershenobich and Celia Sánchez
Estabelecimento de Banco de Células de Trabalho para Produção de Taq DNA Polimerase. (ID. 262)	SurianGuerios Faria, Viviane Monteiro Góes and Fabio Kurt Schneider.
Selective cytotoxicity of a novel compound based on Ruthenium II in a Gallbladder carcinoma cell line. (ID. 118)	Hernan Villota, Giuliano Bernal and Fabian Cortes.
Anti-proliferative effect of a novel ruthenium II complex in a Gallbladder carcinoma cell line. (ID. 119)	Hernán Villota, Sebastián Pizarro, Francisco Gajardo, Álvaro Delgadillo, Fabián Cortés-Mancera, Giuliano Bernal.
Development Of An Electrospinning Equipment To Prepare Nanofibers For Tissue Engineering Since A Standpoint Of The Industrial Design. (ID.150)	Edwin Yesid Gómez-Pachon, Sergio Rúa Jiménez, Juan David Villate Lagos, Yolanda Torres Perez and Efren De Jesus Muños Prieto.
Síntesis, caracterización y actividad antimicrobiana de nanopartículas de plata producidas a partir de extractos de Chenopodiumquinoa y Solanumbetaceum. (ID. 5)	Martha Elena Londoño and Santiago Benavides López.

**Oral BioMat: BIOMATERIALES**

*Jueves /Quinta-feira / Thursday 27, 14:30 a 18:00*

TITULO	AUTORES
Electrodes based on PPy polymer for electrocardiography and impedance plethysmography. (ID. 99)	Omar Teran, Daniel Hernandez and Ernesto Suaste.
Synthesis and characterization of nanofibroin hydrogels from Colombian silkworm Bombyx Mori L. (ID. 325)	Augusto Zuluaga-Velez, Robinson Buitrago-Sierra, Juan Felipe Santa, Alexander Tabares-Villa, Enrique Aguilar and Juan Carlos Sepúlveda-Arias.
An overview on biological effects of trace-element in substituted calcium phosphates.(ID 32)	Rosa Mayelin Guerra Bretaña, José Guerra-López and Lúdia A. de Sena.
Study On The Main Biomaterials Currently Used And Features. (ID. 268)	Gabriel Costabeber and Renato De Camargo Bortholin.
Experimental study of synthesis and thermal process for B-type carbonated hydroxyapatite using traditional reagents. (ID. 124)	Yesica Lorena Botero, Eric Champion and Isabelle Julien.
Green synthesis of silver nanoparticles using green coffee bean extract. (ID. 92)	Lukas Cardeño and Martha Londoño.
Characterization of silver nanoparticles for potential use as antimicrobial agent. (ID. 103)	Jenniffer Zapata-Giraldo, Pedro Mena, Beatriz Galeano, Nelson Escobar, Monica Liliana Mejia, Isabel Ortiz, Diana Cuesta, Luz Elena Botero and Lina Marcela Hoyos-Palacio.
Tribological properties study of lubricants for possible nanoclays reinforced biomedical applications. (ID 136)	Joseph Pardo, Laura Peña and Román Vidaltamayo.

<p>Theoretical study of the interaction between carbon nanotubes and the linoleic acid, an atherogenic polyunsaturated fatty acid. (ID. 204)</p>	<p>Ana Torres López, John Bustamante Osorno, Andrés Garay Tapia and Tapas Kar.</p>
<p>Biofunctionalization Process of a-SiC:H Surfaces Applied to an Interdigitated Microelectrode Array to Detect Enterotoxigenic Escherichia coli. (ID. 19)</p>	<p>José Herrera Celis, Claudia Reyes Betanzo, Abdu Orduña Diaz, Ana Pérez Coyotl, Armando Hernández Flores, Janet Morales Chávez and Arely Culebro Gomez.</p>

<p><b>Oral Proclm: VISUALIZACIÓN Y PROCESAMIENTO DE IMÁGENES</b></p>	
<p><i>Jueves /Quinta-feira / Thursday 27, 14:30 a 18:00</i></p>	
<p><i>Lugar / place: Auditorio de ingeniería Alberto Rey Mariño</i></p>	
<p><b>TITULO</b></p>	<p><b>AUTORES</b></p>
<p>Development of a detection system microaneurysms in color fundus images. (ID. 71)</p>	<p>Rutilio Nava Martinez, Norma Hernandez Ramirez and Margarita Alvarez Cervera.</p>
<p>Processing of thermal images oriented to the automatic analysis of hand thermoregulation. (ID. 285)</p>	<p>Nelson Zapata, Savier Orrego, Lina Ramírez, Andrés Castro and Hermes Fandiño-Toro.</p>
<p>Pupillary Latency in Chromatic High speed Video-oculography. (ID. 40)</p>	<p>Anabel Sanchez Sanchez and Ernesto Suaste Gomez.</p>
<p>Facial Movements Detection Using Neural Networks And MPEG-7 Descriptors Applied To Alternative And Augmentative Communication Systems. (ID. 274)</p>	<p>Alexandre Henzen and Percy Nohama.</p>

Video Tracking Analysis System for Forelimb Akinesia test in the Rat Parkinson model. (ID. 335)	Maria Paula Bonaccorso Marinelli, Mauricio José Ledesma, Franco Emiliano Nieto Grimalt and Ricardo Cabrera.
Architecture of an emotion recognition and video games system to identify personality traits. (ID. 22)	Mauro Callejas-Cuervo, Laura Alejandra Martínez Tejada and Jairo Alberto Botero Fagua.
Improve Image Quality for Minimally Invasive Surgery Simulator Using Lenses and Image Processing. (ID. 165)	Edgar M. Ramírez-Rodríguez, Daniel Lorias-Espinoza, José Antonio Gutierrez-Gnecchi
Thermoregulation of the Hand: Assessment with Infrared Thermography. (ID. 319)	Laura C Ospina-Restrepo, L.M. Herrera Velásquez, C.J. BarreraCausil, H. A. Fandiño Toro and Lina Marcela Ramirez Arbelaez.
Human-Computer interaction for Image Guide Surgery Systems Using Physiological Signals: Application to Deep Brain Stimulation Surgery. (ID. 330)	David Jimenez Sierra, José Bestier Padilla Bejarano, Ramiro Arango and Hernan Felipe Garcia Arias.

**Oral ProSig: PROCESAMIENTO DE SEÑALES**

*Jueves / Quinta-feira / Thursday 27, 14:30 a 18:00*

*Lugar / place: Auditorio Menor Alberto Gómez Gómez*

<b>TITULO</b>	<b>TITULO</b>
Case Study: Audiometry and ECR profile time convergence. (ID. 301)	Agar Quintana, Ma Del Pilar Granados and Juan Cornejo.
Iterative joint dynamic brain	Eduardo Giraldo, Pablo Andrés

<p>mapping and neural activity modeling from electroencephalographic signals. (ID. 178)</p>	<p>Muñoz Gutiérrez and German Castellanos-Dominguez.</p>
<p>Automatic ABR detection at near-threshold intensities combining template-based approach and energy analysis. (ID. 50)</p>	<p>Ivette Cabana, Ernesto Velarde, Alejandro Torres, Eduardo Eimil and Alberto García.</p>
<p>Ensemble Kalman filter for state estimation of brain activity by considering a large scale nonlinear dynamical model. (ID. 182)</p>	<p>Eduardo Giraldo and Pablo Andrés Muñoz Gutiérrez.</p>
<p>Desarrollo y evaluación de los filtros LMS y Kalman para señales de electrocardiografía fetal. (ID. 120)</p>	<p>Karin Stefanny Muñoz Castillo, Lina Maria Peñuela Calderon and Nelson Fernando Velasco Toledo.</p>
<p>Comparative Study of Robust Methods for Motor Imagery Classification based on CSP and LDA. (ID. 51)</p>	<p>Ana Julia Villar</p>
<p>Autoregressive Models of Electrocardiographic Signal Contaminated with Motion Artifacts: Benchmark for Biomedical Signal Processing Studies. (ID. 180)</p>	<p>Fabian Andres Castaño Usuga and Alher Mauricio Hernández.</p>
<p>Emotion recognition in single-channel EEG signals using Stationary Wavelet Transform. (ID. 283)</p>	<p>Alejandro Gómez Montoya, Lucia Quintero Montoya, Natalia M. López Celani, Jaime Alberto Castro Martínez, Luisa Villa, and Gustavo Mejía Quiros.</p>
<p>VCG and ECG indexes for classification of patients with</p>	<p>Raúl Correa, Pedro Arini, Eric Laciari and Lorena Correa.</p>

Myocardial Infarction. (ID. 206)	
Atrial fibrillation detection through heart rate variability using a machine learning approach and Poincare plot features. (ID. 241)	Juan Pablo Sepúlveda Suescún, Juan Pablo Murillo Escobar, Robert David Urda Benitez, Diana Alexandra Orrego Metaute and Andres Felipe Orozco Duque.

<b>Oral EduTec: TECNOLOGIA; EDUCACION E INNOVACION</b>	
<i>Jueves / Quinta-feira / Thursday 27, 14:30 a 18:00</i>	
<i>Lugar / place: Sede Jardín UNAB D11</i>	
<b>TITULO</b>	<b>TITULO</b>
Proposta de Análise e Desenho Educacional Para o Ensino de Metrologia em Saúde. (ID. 242)	João Nicoladelli de Figueiredo and Renato Garcia.
Análisis comparativo de Planes de Estudios en la carrera de Bioingeniería de la Universidad Nacional de San Juan. Argentina. (ID. 243)	Juan Pablo Graffigna, Ana Maria Echenique and Paula Seminara.
How do our students learn clinical engineering? A pilot study. (ID. 15)	Antonio Miguel Cruz, Daniel Alejandro Quiroga Torres, Nestor Florez Luna and Ana Maria Presiga Lucena.
Tendencias Y Desafios De La Ingeniería Biomedica Latinoamericana. (ID. 160)	Ricardo Armentano and Leandro Cymberknop.
A System to study the Evolution of Cardiac Arrhythmias at Home (ID. 6)	René Iván González Fernández, Margarita Lucia Mulet Cartaya, Juan Dayron López Cardona, Alejandro López Reyes, Olivia

	Canto Hernandez, Eyglis Ledesma Valdés, Vilma Rodríguez Peraza, Pedro González Acosta and Miguel Gomez-Florida.
Learning Tool for Mechanical Ventilation during Spontaneous Breathing Test on Patients Intoxicated with Pesticides. (ID. 105)	Maria Bernarda Salazar Sánchez, Alher Mauricio Hernández Valdivieso, Andres Felipe Botero Ospina and Cesar Cortés Daza.
Teaching maintenance of medical devices in simulation centers: a pilot study. (ID. 17)	Daniel Alejandro Quiroga Torres, Ana María Presiga Lucena, Nestor Florez Luna and Antonio Miguel Cruz.
Classification of Weight Status Using Anthropometric and Clinical Indicators. (ID. 23)	Alma Martinez-Licona, Fabiola Martinez-Licona, Jose Romero-Macias and Luis Del Castillo-Alfaro.
Brief description on offered courses on Biomedical Engineering undergraduate programs in Mexico. (ID. 307)	Adriana Pliego-Carrillo and Edgar Del Hierro-Gutiérrez.
Trading barriers in the medical devices industry. Are these barriers hindering the development of this sector in Cuba? (ID.35)	Yariza Chaveco Salabarría, Juan Carlos Rubio Romero and Rosa Mayelín Guerra Bretaña.

**Oral InfoMed: INFORMÁTICA MÉDICA Y TIC**

*Jueves / Quinta-feira / Thursday 27, 14:30 a 18:00*

*Lugar / place: Sede Jardín UNAB D31*

**TITULO**

**TITULO**

Data transmission system from

Ricardo Espinosa, Dario Fuentes



<p>instrumented insole to a mobile device for evaluation of gait. (ID. 55)</p>	<p>and Andres Julian Rincon.</p>
<p>Desarrollo de un Prototipo Informático Para la Verificación de Mensajes HL7 2.5.1 de la Guía de implementación Chilena de Admisión de Urgencias. (ID. 237)</p>	<p>Cesar Galindo and Christian Vargas.</p>
<p>Leveraging Wireless Communications and Biomedical Devices to Support Prehospital Trauma Care in Cuenca, Ecuador. (ID. 233)</p>	<p>Roque Daniel Contreras-Chacón, Jack Fernando Bravo-Torres and Mónica Karel Huerta.</p>
<p>Electronic Stethoscope With Wireless Communication to a Smart-phone, Including a Signal Filtering and Segmentation Algorithm of Digital Phonocardiography Signals. (ID. 234)</p>	<p>Jorge Reynolds, Jose David Forero Cubides, Juan Manuel Botero, Vivian Lorena Leguizamon, Luis Ramírez and Carlos Lozano.</p>
<p>Diaphragmatic Pacemaker Prototype with Wireless Communication. (ID. 219)</p>	<p>Jorge Reynolds Pombo, Jose David Forero Cubides and María Lucia Arango Cortés.</p>
<p>Mobile Application: Assistance in Mathematics Basic Operations in Children with Learning Disabilities. (ID. 339)</p>	<p>Francisco Douglas Lima Abreu, Fabio Prado Da Silva, Pasqual B Neto, Marcia Bissaco, and Silvia Rodrigues</p>
<p>Biomedical IoT Device for Self-Monitoring Applications. (ID. 142)</p>	<p>Tatiana Huertas and Diego Mendez.</p>

IoT Protocol Model on Healthcare Monitoring. (ID. 85)	Edward Paul Guillen Pinto, Jeisson Sanchez Mahecha and Leonardo Juan Ramirez Lopez.
An IoT Approach to an ECG Online Monitor System in an Android Application. (ID. 101)	Francisco Machado, Eduardo Bertogna and Miguel Antonio Sovierzoski.
Thematic profile of the e-health field, based on mainstream scientific production. (ID. 315)	Patricia Romero, Yelina Piedra and Marc Nyssen.

**Oral VTopic: TOPICOS VARIOS**

*Jueves / Quinta-feira / Thursday 27, 2:30 a 6:00*

*Lugar / place: Sede Jardín UNAB D24*

<i>TITULO</i>	<i>AUTORES</i>
Structural and functional genomics analysis of methyltransferase genes and networks associates to understand antibiotic resistance inside the pangenome of <i>Pseudomonas aeruginosa</i> . (ID. 305)	Diana Carolina Castaño, Jeanneth Mosquera Rendón and Mauricio Corredor.
Cost Estimate Methodology in procurement processes of ME. (ID. 75)	Renato Zaniboni, Renato Garcia and Vitor O. Fagundes.
Implementation of risk management activities within a quality management system. An osseous adhesive as case study. (ID. 7)	Rosa Mayelin Guerra Bretaña, Mayra De La Caridad Pérez Álvarez, Marcelo San Martin de Almeida and Lidia Ágata de Sena.
Inhibition of Erythrocyte Hemolysis induced by H <sub>2</sub> O <sub>2</sub> with	Elizabeth Pareja, Yancy Salazar, Sandra Sulay Arango, Maria

Mangifera indica L. extract. (ID. 186)	Elena Maldonado, Juan Gonzalo Zuluaga and Sebastian Restrepo.
Gait Kinematics of Load Carriage in Healthy College Students. (ID. 281)	Fátima G. Tapia-Rodríguez, Daniela M. Castro, Favia P. Aviles H., J. Daniel Moreno-González, L. Fernando Andrade-Heredia and Arturo Vega-González.
Main Effects of Energy Drinks on Mood, Reaction Time and Brain Regions. (ID. 275)	Cecila Martínez Torres, Diana Martínez Cancino and Luis Jiménez Angeles.
Dispersive Raman Analysis of Sacha Inchi Ozonated Oil. (ID. 352)	Henrique Cunha Carvalho, Débora Alicia Buendía Palacios, Carlos José de Lima, Milene S Melo, Landulfo Silveira and Renato Zangaro.
The Output Circuit of a Biphasic Constant Current Electrical Stimulator. (ID. 273)	Raphael Ramos Nogueira, Delmar Souza, Julio Palma, Percy Nohama and Guolherme Nogueira Neto.
Effect of Light Scattering due to Multilamellar Bodies in the Human Eye. (ID. 25)	Emilia M. Méndez Aguilar, Ismael Kelly Pérez and L. R. Berriel Valdos.
Plastic Casing in Medical Equipment: Evaluation of 3D Design and Molding Simulation. (ID. 49)	Miguel Gómez Florido, Yuri Humberto Villalta Elejalde and Juan Enrique Suen Díaz.

**Oral BioSens: BIOINSTRUMENTACIÓN Y SENSORES**

*Viernes /Sexta-feira / Friday 28, 09:00 a 12:00*

*Lugar / place: Auditorio Mayor Carlos Gómez Albarracín*

**TITULO**

**TITULO**

<p>New insights into the scoring of respiratory events based on alternative sensors: A comparative effectiveness study. (ID. 261)</p>	<p>Carlos R. Dell'Aquila, Lorena S. Correa, Raul Correa, Gabriel E. Cañadas and Eric Laciár.</p>
<p>Caracterizando la presión táctil de la mano a partir de la toma de objetos de uso cotidiano. (ID. 226)</p>	<p>Nicolás Duarte, Togo Arredondo, Pablo Reyes and Álvaro Jara.</p>
<p>Exhaled Breath analysis of smokers and nonsmokers using sensors based ultrapure Organically Modified Gold Nanoparticles. (ID. 320)</p>	<p>Oscar Eduardo Gualdron Guerrero, T Welearegay, Lisset Jaimes, Juan Martin Caceres, Cristhian Manuel Duran Acevedo, Radu Ionescu, Giovanni Pugliese and Marisol Maestre.</p>
<p>Climbing/Descending Stairs Detection Using Inertial Sensors and Implementing PCA and a SVM Classifier. (ID. 251)</p>	<p>Roberth Alvarez, Edith Pulido and Daniel A. Sierra.</p>
<p>Surface Electromyographic Characterization Of Five Orofacial Ideomotor Praxis In 20 Healthy Individuals. (ID. 97)</p>	<p>German Cantillo-Mackenzie, Juan Camilo Suárez-Escudero, Lina Ramírez-Arbelaez, Claudia Liliana Bedoya Londoño, Andrés Orozco-Duque, Santiago Cadavid-Arboleda, Estefania Pérez-Giraldo, Sebastián Restrepo Agudelo, Liliana Martinez Moreno and Sebastián Roldand.</p>
<p>Vibrotactile System For The Replication Of Textures. (ID. 210)</p>	<p>Mauricio Santís Chaves, Diana Milena Jaramillo Quiceno and Vera Zasulich Pérez Ariza.</p>
<p>Acoustic spectrometer: resonant sensing platform for measuring volumetric properties of liquid</p>	<p>Simon Villa, Róbinson Torres, Panayiotis Kyriacou and Ralf Lucklum.</p>

samples. (ID. 30)	
Height Difference Effects Between the Standard and the Equipment Under Test in Calibration Process for Sphygmomanometers in Colombia. (ID. 256)	Miguel Angel Castro Leal and Miguel Angel Castro Cortés.

<b>Oral EClín: INGENIERÍA CLÍNICA</b>	
<i>Viernes /Sexta-feira / Friday 28, 09:00 a 12:00</i>	
<i>Lugar / place: Auditorio de Ingeniería Alberto Rey Mariño</i>	
<b>TITULO</b>	<b>AUTORES</b>
Aspectos de segurança do paciente e riscos no ambiente hospitalar com equipamentos médicos assistenciais – reflexões. (ID. 263)	Kleber Stelmasuk and Miguel Antonio Sovierzoski
Development of a Lab Monitor Heart Rate Variability. (ID. 343)	Gisella Borja, María Barrios and Jean Gilede.
La Evaluación de tecnologías en Salud, desarrollo internacional y aplicación en instituciones hospitalarias. (ID.146)	Sandra Patricia Usaquén Perilla, Alejandra Cano Muñoz and Diana Marcela Troncoso Escobar.
Evaluación de un Protocolo Preliminar de Extracción de Osteoblastos Derivados del Cuerpo Vertebral para Ensayos de Viabilidad Celular . (ID. 342)	Kevin Daniel Genez Valencia, Viviana Marcela Posada Pérez, Gloria Patricia Fernández Morales and Juan Fernando Ramírez Patiño.
Incorporation of Current Density Map Method in the Epilepsy Surgery Protocol.	Alfredo Rogelio García, Juan Pablo Graffigna and Raúl Otoya.

(ID. 207)	
Estudio del comportamiento de fallas en equipamiento electromédico. (ID. 265)	Debora Rubio, Germán Plattoni, Marcelo Lencina, Andres Valdez and Sergio Ponce.
Application Of Electrical Stimulation For Ulcer Healing In Diabetic Patients. (ID. 47)	Juan Enrique Suen Díaz, Liu Margarita Alfonso Zayas, Yadel Forneiro Martín-Viaña, Miguel Gómez Florido, Elsie Denis González, Yanery González Canino, Ailien Piloto Delgado and Dagnarys Vecino Blanco
Continuous body temperature monitoring system based on a flexible PPy/PLA wrist sensor. (ID. 46)	Grissel Rodriguez-Roldan and Ernesto Suaste-Gomez.
Desarrollo de una Guía de Implementación para un Sistema de Mensajería HL7. (ID. 225)	Cesar Galindo and Juan Pablo Urzua.

**Oral VTopic: TÓPICOS VARIOS**

*Viernes /Sexta-feira / Friday 28, 09:00 a 12:00*

*Lugar / place: Auditorio Menor Alberto Gómez Gómez*

<b>TITULO</b>	<b>AUTORES</b>
Avaliação Heurística para Dispositivos Médicos com Touchscreen. (ID. 329)	Carlos Viviani and Saide Calil.
Thermographic comparative study between an acupuncture point and sham acupuncture for cervical pain. (ID. 177)	Denise Moreira and Percy Nohama.
Máquinas de estado con lógica	Adán Alonso Peña Orea, Maria

difusa aplicadas en la Gestión de Equipo Médico. (ID. 158)	Guadalupe Ramirez Sotelo and Agustín Ignacio Cabrera-Llanos.
Formalization of Gene Ontology relationships with factor graph towards Biological Process prediction. (ID. 26)	Flavio Spetale, Pilar Bulacio, Sergio Ponce, Elizabeth Tapia and Flavia Krsticevic.
Biomedical computational reproducible research using Madagascar. (ID. 156)	Jorge Monsegny.
Dofetilide effect on human atrial action potential under normal and atrial fibrillation conditions. In silico study. (ID. 21)	Catalina Tobón, Sandra Pérez, Juan Pablo Ugarte and Javier Saiz.
Prototipo Funcional De Un Sistema De Identificación De Rutas Del Sistema Urbano De Transporte Para Personas Con Discapacidad Visual. (ID. 13)	Ivan Roldan and Camilo Ladino.
Design of a Validation Protocol for Medical Technology According to Current Standards (ID.276)	Juliana Acevedo López, Nataly Saldarriaga, Juan Sebastián Orozco Gallego and Javier García Ramos.
A Comparison between Solar Radiation and Skin Cancer in South Brazil. (ID. 185)	Pedro Bertemes-Filho and Fernando Imei.

**Oral BioMec: BIOMECÁNICA Y ANÁLISIS DEL MOVIMIENTO**

*Viernes /Sexta-feira / Friday 28, 09:00 a 12:00*

*Lugar / place: Sede Jardín UNAB D11*

TITULO	TITULO
Ergonomic and Biomechanical Evaluation of the use of Computers, Tablets and Smart Phones by Children. A pilot study. (ID.129)	Holman Ospina Mateus, Sonia Contreras Ortiz, Benilda Niño Prada and Keyla Tilbe Ayola.
Modelo para la parametrización de trayectoria de tobillo en plano sagital, durante la marcha. (ID. 314)	Maria Barbara Calva Yañez, Fernando Calderon Romero, Eric Santiago Valentin, Edgar Alfredo Portilla Flores and Paola Andrea Niño Suarez.
Analyzing Multiple Accelerometer Configurations to Detect Falls and Motion. (ID. 73)	Jose David Lopez, Camilo Ocampo, Angela Sucerquia and Jesus Francisco Vargas Bonilla.
Analysis of the alignment angles and flexion angle in women with patellofemoral pain syndrome. (ID. 288)	Nilson FabianDiaz-Martinez, Juan Diego Pulgarin-Giraldo, Luz Elena Vinasco-Isaza and Wilfredo Agredo.
Pesquisa e Simulação de Esforços em uma Mandíbula Humana. (ID. 189)	Dempsy Silva, Renato Bortholin and Jonas de Cavalho.
Avaliação da distribuição do centro de massa em idosos. (ID. 355)	L. Lazzareschi, S. R.M.S. Boschi, A.R.F. Silva , A.V. Morais, S.C.M. Rodrigues, H. M. Neto, T. Scardovelli, A.P. Silva
CINARTRO: Clinical Tool to Assess Knee Kinematics by Videofluoroscopy (ID. 56)	Williams Olivera, Marcio Rodríguez, Dario Santos and Franco Simini.
A Low-Cost Methodology for Biomechanical Analysis of Martial Arts Using Videography and Accelerometers. (ID 172)	Jaqueline Guadalupe Vejar Robles, Roberto Pedro Duarte Zamorano and Arturo Vega Gonzalez.



**Oral Rehab: INGENIERÍA DE LA REHABILITACIÓN Y PRÓTESIS**

*Viernes /Sexta-feira / Friday 28, 09:00 a 12:00*

*Lugar / place: Sede Jardín UNAB D31*

<b>TITULO</b>	<b>AUTORES</b>
Prototype of rehabilitation to regain strength in the thumb, index and middle fingers when has occurred an injury median nerve. (ID. 80)	Jessica Ferreira, Catherine Moreno and Angie Ramirez.
Motion Monitor To Measure Progress Of Rehabilitation In People With Conditions Motor Hand. (ID. 147)	Bárbara Milena Puello Villamizar, Edwin Santamaría Sánchez, Francy Juliana Van Strahlen Peña and Ricardo Andrés Díaz Suárez.
Diseño De Chasis Y Elementos De Apoyo Postural Graduables Para Una Silla De Ruedas Pediátrica. (ID. 112)	Yolanda Torres Pérez and Carlos Andres Caballero Reyes.
Dinamômetro Eletrônico Para Medição Da Força Em Pacientes Com Mobilidade Reduzida. (ID.328)	Geraldo Canuto, Terigi Augusto Scardovelli, Sílvia Regina Matos Da Silva Bochi, Rodrigo Álvaro Brandão Lopes Martins and Alessandro Pereira Da Silva.
Diseño y construcción de una prótesis transtibial de bajo costo con movilidad en los planos sagital y frontal. (ID. 130)	Walter Romero, Oscar Navas and Diego Villegas.
Desarrollo de una prótesis biomecánica de mano, controlada por electromiografía y con realimentación háptica al usuario. (ID. 253)	Javier Rojo and Togo Arredondo.
Diseño De Un Prototipo Para Protesis De Mano Robotica. (ID.	Ferlein Gonzalez Pérez, Eliana Liceth Cano Sarmiento,

290)	Kimberly Cristina Sánchez Torres, Julieth Camila Cubides Bernal, Edison Santiago Cifuentes Rico and Ingrid Mercedes Cruz Bernal.
Optimal design of a mechanism for foot guiding. (ID.312)	P. A. Niño Suarez, F. Calderón-Romero, M. B. Calva-Yañez, E. A. Portilla-Flores and O. A. Avilés-Sánchez
SIRUMED©, software for wheelchair selection. A preliminary report. (ID. 267)	Jorge Letechipia and Abel Arredondo.

### ***Oral ModSim: MODELADO Y SIMULACIÓN***

*Viernes /Sexta-feira / Friday 28, 09:00 a 12:00*

*Lugar / place: Sede Jardín UNAB D24*

<b>TITULO</b>	<b>AUTORES</b>
Improved Particle Swarm Optimization algorithm applied to rigid registration in medical images. (ID. 69)	Ramiro Isa Jara, Francisco Buchelly Imbachi, Gustavo Meschino and Virginia Ballarin.
Three Dimensional Reconstruction and Airflow Simulation in a Realistic Model of the Human Respiratory Airways. (ID. 221)	Any Estefany Ruiz Duque and Jenny Kateryne Aristizábal Nieto.
A human gait temporal parameters calculation algorithm. (ID 115)	Pablo Eduardo Caicedo Rodríguez, Carlos Felipe Rengifo Rodas and Luís Eduardo Rodríguez Cheu.
Análisis por Elementos Finitos de los cuernos meniscales usando un modelo de material isotropo-hiperelástico reforzado con fibras	Andrés Benavides, Octavio González, Diego Villegas and M. Martínez.

largas. (ID. 149)	
Mathematical Modeling of Human Eye Affected by Increased Intraocular Pressure as a tool for the Prevention of Glaucoma. (ID. 244)	Eduardo Pinos, Rocio Alvarez, Sebastian Torres, Carlos Chacon, William Ipanaque and Luis Serpa-Andrade.
Time-course reconstruction of neural activity for a source-based noninvasive brain computer interface. (ID. 141)	Pablo Andrés Muñoz Gutiérrez and Eduardo Giraldo.
Biomechanical analysis of a cranial Patient Specific Implant on the interface with the bone using the finite element method. (ID. 170)	Julián Mateo Díaz, Andrés Gonzalez Estrada and Clara Isabel López Gualdrón.
Cardiac dynamic assessment through of entropy's proportions and probability. (ID. 65)	Javier Rodriguez, Leonardo Ramirez, Signed Prieto and Catalina Correa.

### **Oral ProSig: PROCESAMIENTO DE SEÑALES**

*Viernes /Sexta-feira / Friday 28, 9:00 a 12:00*

*Lugar / place: Sede Jardín UNAB D32*

<b>TITULO</b>	<b>AUTORES</b>
Cardiovagal Reflex Blood Pressure Set Point Determination by Spontaneous Time Domain Analysis. (ID. 131)	Juan Carlos Perfetto and Graciela Aurora Ruiz.
Optimization of spectral analysis of electrophysiological recordings of the subthalamic nucleus in Parkinson's disease: A retrospective study. (ID. 122)	Sarah Elena Valderrama Hincapié, Alher Mauricio Hernández, Frank Sánchez, Sebastián Roldán, William Hutchison and Adriana López.
Análisis Electroacustico Pulmonar Ambulatorio. (ID. 245)	Rodney E Reyna R., Carlos H. González, Zugely Medrano and

	Adriana M. Bellido.
Reconocimiento de Emociones utilizando la Transformada Wavelet Estacionaria en señales EEG multicanal. (ID 336)	Gustavo Mejía Quiros, Alejandro Gómez Montoya and Lucia Quintero Montoya.
Detección De Eventos En El EEG Aplicando Filtros Adaptivos. (ID. 196)	Agustina Garces Correa, Orosco Lorena, Pablo F Diez and Eric Laciár Leber.
Interfaz Cerebro Computadora basada en potenciales evocados: evaluación de la fatiga visual debida a la estimulación. (ID. 197)	Pablo Diez, Lorena Orosco, Agustina Garces, Eric Laciár and Vicente Mut.
Complejidad Grafo-analítica de Señales Acústicas Pulmonares. (ID. 205)	Carlos Gonzalez O, Adriana M. Bellido R. and Rodney Reina R.
SVM Clustering Applied to Remove Ocular Artifacts from Electroencephalography. (ID. 214)	Jesús Peña Rodríguez, Daniel Alfonso Sierra Bueno and Carlos Arturo Conde Cotes.

### ***Oral BioRob: CONTROL, SISTEMAS NO LINEALES Y BIO-RÓBOTICA***

*Viernes /Sexta-feira / Friday 28, 14:30 a 16:30*

*Lugar / place: Auditorio Mayor Carlos Gómez Albarracín*

<b><i>TITULO</i></b>	<b><i>AUTORES</i></b>
A novel actimeter for postural control analysis: a pilot essay. (ID. 279)	Maira Ranciaro, Mary Anne Oliveira, Percy Nohama and Guilherme Nogueira Neto.
Linear and non-linear methods for analysis Center Pressure and its application in Diabetic Peripheral Neuropathy. (ID. 310)	Daissy Carola Toloza Cano and Martha Lucía Zequera Díaz.

Sudden Cardiac Death Prediction Based On a Nonlinear Estimation. (ID. 202)	Robert David Urda Benitez and Andrés Felipe Orozco Duque.
Analysis of the stability control of motors used in biomechanical prostheses. (ID. 239)	Carlos Alvarez Picaza, María Inés Pisarello and Jorge Emilio Monzón.
Nonlinear estimators of human movement in biomechanical signals: Comparison between Extended Kalman Filter and Unscented Kalman Filter. (ID. 211)	Mauro Callejas Cuervo, Manuel Andrés Velez Guerrero and Andrea Catherine Alarcon Aldana.
Robotic kinematics applied to human biomechanic. (ID. 137)	John Faber Archila Diaz, Ingrid Lorena Argote Pedraza, Jessica Natalia Archila Diaz, Renato Botholin, Ricardo Rubín and Mario Luiz Tronco.

**Oral TeleMed: TELEMEDICINA Y CUIDADO DE LA SALUD**

*Viernes /Sexta-feira / Friday 28, 14:30 a 16:30*

*Lugar / place: Auditorio de Ingeniería Alberto Rey Mariño*

<b>TITULO</b>	<b>AUTORES</b>
Real-Time processing of DVI signals on a FPGA as a Telemedicine modular solution. (ID. 111)	Giovanni Francisco Manotas Rodríguez, Leonardo Andres Rodríguez Salazar and Jose Manuel Velandía Rojas.
Medical Device by Health Care Facility Interoperability in Alarm Management. (ID. 87)	Jorge Loureiro and Renato Garcia.
Prototipo de tele operación empleando las interfaces hápticas Novint Falcon. (ID 259)	Daniel Fernando Montero, Miller Kadid Paez and Sergio Salinas.

Análisis de un sistema de Tele-asistencia en los campos petroleros en el Oriente de Colombia. (ID. 341)	Luz Dary Gonzalez Gonzalez and John Alexander Munoz Montenegro
Delphicare 4.0: Sistema de Biotelemedicina en la Web. (ID. 188)	René Díaz, Rafaela Villalpando, Juan Hinojo, Gerardo Ramírez and Luis Retana.
. Desarrollo de una Propuesta Metodológica de Homologación de Perfiles IHE para procesos de alarmas de Dispositivos Médicos asociados al cuidado del paciente. (ID. 192)	Jessica Krema and Cesar Galindo.

### **Oral Proclm: VISUALIZACIÓN Y PROCESAMIENTO DE IMÁGENES**

*Viernes /Sexta-feira / Friday 28, 14:30 a 16:30*

*Lugar / place: Auditorio Menor Alberto Gómez Gómez*

<b>TITULO</b>	<b>TITULO</b>
Inmersión Progresiva en Cerebro Virtual: Visualización 3D para la Educación. (ID. 303)	Carlos Javier Latorre Rojas and Jorge Reynolds.
New technique for determining age of coastal skates from Argentinian sea by digital image processing analysis: A preliminary study. (ID. 98)	Paula Cristini, Juan Ignacio Pastore, Santiago Barbini, Josefina Ballarre, David Sabadín and Agustina Bouchet.
Optical microscopy and autofluorescence recognition of oocysts Toxoplasma gondii and Cryptosporidium parvum. (ID. 114)	Francy Alejandra Alba Patiño and Laura Viviana Baker León.
Automatic tracking of flagellar rotation of bacteria. (ID. 81)	Francisco Javier Buchelly Imbachí, Andrea Pedetta, Juan Ignacio Pastore, Maria Karina Herrera Seitz and Virginia

	Laura Ballarin.
<p>Detección de Artefactos de Movimiento en Imágenes de Resonancia Magnética Cerebral Usando Descomposición Matricial. (ID. 54)</p>	<p>Diana Rojas, Nicolas Laiton, Jennifer Salguero and Nelson Velasco.</p>
<p>Analysis of the Improvement on Textural Information in Human Iris Recognition. (ID. 154)</p>	<p>Eduardo Garea Llano, Mireya Saraí García-Vázquez, Luis Miguel Zamudio-Fuentes, Juan Miguel Colores Vargas and Alejandro Álvaro Ramírez-Acosta.</p>

**Oral EduTec: TECNOLOGÍA; EDUCACIÓN E INNOVACIÓN**

*Viernes /Sexta-feira / Friday 28, 14:30 a 16:30*

*Lugar / place: Sede Jardín UNAB D11*

<b>TITULO</b>	<b>AUTORES</b>
<p>Electrometers Calibration at the SSDL of CNEA. (ID. 11)</p>	<p>Matias Ezequiel Vallejos and Amalia Stefanic.</p>
<p>Proposta de metodologia para avaliação do processo de trabalho na atenção básica em saúde pela engenharia clínica através do Lean Healthcare e LOB. (ID. 266)</p>	<p>Miguel Negreiros and Bruno Pires Bastos.</p>
<p>Programs in Biomedical Engineering Education: How to Improve it. (ID. 331)</p>	<p>Guillermo Avendaño and Antonio Rienzo.</p>
<p>Identifying The Needs In The Integration Of Disciplines In The Hospital Infrastructure Management In Colombia. (ID. 173)</p>	<p>Manuel Madroñal Ortiz, Beatriz J. Galeano Upegui, Nelson J. Escobar Mora, Lina M. Parra Cruz and Isabel C. Ríos Cuartas.</p>

Responsabilidades e riscos sobre exames realizados por laboratório associado à saúde: legislação, normas e ferramentas para a melhoria da qualidade da engenharia clínica. (ID. 252)	Denise De Conti, Kleber Stelmasuk and Miguel Antonio Sovierzoski.
Proposta de Modelo de Indicadores de Produtividade e Qualidade Aplicável na Gestão Hospitalar de Laboratório Universitário de Análises Clínicas. (ID. 249)	Heitor Hermeson De Carvalho Rodrigues, Denise De Conti and Miguel Antonio Sovierzoski.

<b>Oral FisMed: FÍSICA MÉDICA Y MEDICINA NUCLEAR</b>	
<i>Viernes /Sexta-feira / Friday 28, 14:30 a 16:10</i>	
<i>Lugar / place: Sede Jardín UNAB D31</i>	
<b>TITULO</b>	<b>AUTORES</b>
Rat spinal cord transection injury progression: an MRI study. (ID. 338)	Miguel Flores, Juan Carlos Axayacatl Morales, Hermelinda Salgado and Emilio Sacristán.
Mechanic Characterization of a Breast Phantom. (ID. 203)	Daniel Triana Camacho, Karen L Cristiano Rodriguez, J. C. Gutiérrez and David Miranda
Efectos de los osteoblastos en monocapa bajo estímulos con campos eléctricos. (ID. 134)	Sindy Alejandra Bitrigo Prieto, Juan Jairo Vaca G and Diego Alexander Garzón A.
Parameters estimation applied to quality in Computed Radiology using basic phantom. (ID. 311)	Mónica Narváez, Nahuel Jesús Díaz Giunta, Juan Pablo Graffigna, Adrián Gusberti, María Eugenia Gómez and Raúl Romo.



Quantificação da doença de Alzheimer em imagens PET. (ID. 340)

Andrade D. L. L. S., Fernandes G. B. M., Maia F. F. M., Alves Filho M.

**Oral VTopic: TOPICOS VARIOS**

*Viernes /Sexta-feira / Friday 28, 14:30 a 16:30*

*Lugar / place: Sede Jardín UNAB D24*

**TITULO**

**AUTORES**

Multichannel Planar Microelectrode Platform for Recording Extracellular Field Potentials. (ID.278)

Juan Camilo Franco Mesa, Mario Andrés Portela Gaviria and Henry Andrade-Cacedo.

A risk-based integrated management for patient safety and quality in healthcare services. (ID. 36)

Rosalba Roque González, Rosa Mayelin Guerra Bretaña, Yariza Chaveco Salabarría, Karla Fernanda Ortiz Jaya and Oscar Vera Cabezas.

Physical and Chemical Corneal Emulation (ID. 145)

Ricardo Jaramillo Díaz, Angel Valentin Molina Mojica, Hermann Dávila Torres and Luis Javier Martinez Guerrero.

Propuesta de diseño de un flujo de trabajo para la atención de alarmas de ventiladores mecánicos. (ID. 216)

Yeisy Osorio and Cesar Galindo.

Heart Models in 3D Print. (ID. 228)

Jorge Reynolds and Nasdly Dalyin Diaz Castaño.

Test Bench to Validate Audio CODEC Kit as EIT Complex Voltage Measurement Circuit. (ID. 58)

Martin Arregui, Luis Eduardo Santos and Franco Simini.

**Post: POSTERS**

*Presentes todos los días /Présente todos os días / Present every day*

*Lugar / place: UNAB*

<b>TITULO</b>	<b>AUTORES</b>
A Simple Physical Model of Human Gait Using Principles of Kinematics and BTS GAITLAB. (ID. 133)	Carlos Andrés Collazos Morales.
Fonocardiografía Selectiva Estructural Comunicación Previa. (ID. 222)	Jorge Reynolds, María Lucia Arango Cortés and Nasdly Dalyin Diaz Castaño.
Playful Technology's Prototype for Rehabilitation of Upper Limb in Children and Adolescents. (ID. 77)	Fabian E. Pinchao, Carolina Pimentel and Lady C. Rodriguez.
Diseño Y Construcción De Una Órtesis De Apoyo Para Personas Con Lesiones Menores En Miembro Inferior Debajo De Rodilla. (ID. 116)	Fabian Quijano and Diego F. Villegas.
Educative ECG platform for undergraduate courses in BME. (ID. 169)	Armando Salomón Hernández Delgado, Arturo Vega González and Juan Manuel Gómez González.
Brain-Machine Interface applied in a lower limb orthosis. (ID. 153)	Sánchez Velarde Emmanuel Salvador, Rico Ascensión Itzamna Omar, Sotelo-de Ávila Alejandro Artemio, Sánchez González Rodrigo, Ramírez Sotelo María Guadalupe, Cabrera Llanos Agustín Ignacio.
Rehabilitation Equipment For Rotator Cuff Injuries Shoulder. (ID. 31)	Horderlin Robles, Valentin Molina and Hedrick Robles.

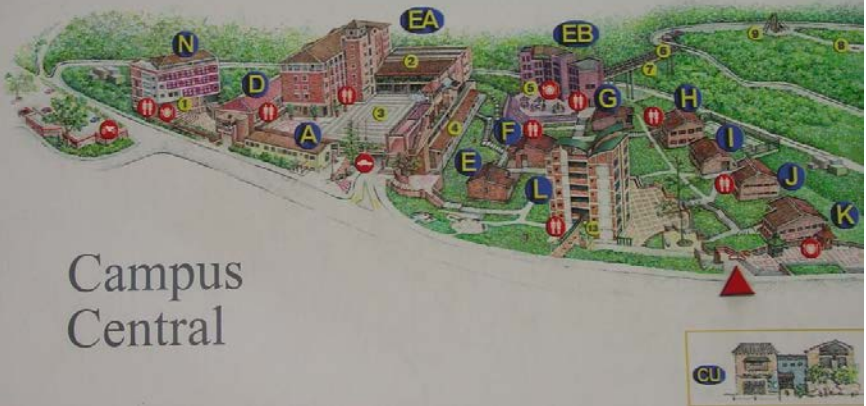
<p>Protótipo para Monitoramento Remoto do Percentual de Oxigênio para Concentrador Portátil em Oxigenoterapia Domiciliar. (ID. 247)</p>	<p>Bruno Pires, Luigi Misturini, Lorenzo Dias, Priscila Avelar and Renato Garcia.</p>
<p>Prediction of Critical Air Quality Events Using Support Vector Machines and Particle Swarm Optimization. (ID. 264)</p>	<p>Juan Camilo Zapata, Yina Rojas, Diana Alexandra Orrego Metaute and Juan Pablo Murillo Escobar.</p>
<p>Analysis of a Nurse Call System Implementation using a WSN. (ID. 277)</p>	<p>Rubén Zapatán, Eduardo Armijos, Luis Serpa and Eduardo Pinos.</p>
<p>Estudio preliminar de la entropía modificada obtenida de la electromiografía superficial multicanal del músculo tibial anterior en pacientes neuropáticos. (ID. 179)</p>	<p>Carlos Arturo Carrasco Henao, Martha Lucía Zequera Díaz, Pedro Raul Vizcaya Guarín and Gustavo Hernando Castro González.</p>
<p>Anthropometry measurement, kinematic and kinetic bipedal gait. (ID. 213)</p>	<p>William Cuzco, Francisco De Jesús Illescas, Eduardo Pinos and Luis Serpa Andrade.</p>
<p>Semi-automated Biological Target Volume Segmentation for a Pediatric Non-Hodgkin Lymphoma (NHL) using FDG-PET/CT Images. (ID. 258)</p>	<p>Helman Amaya, Valentin Molina, Luis Javier Martinez, Miguel Vera, Yoleidy Huerfano, Leidy Sandoval and Carmen Amelia de Los Reyes Victoria.</p>
<p>Procesamiento de señales de electrooculografía por medio de Redes Neuronales Artificiales con posible uso en el movimiento de sillas de ruedas. (ID. 300)</p>	<p>Walter Marin, Julian Garcia, Jorge Neira and William Moscoso.</p>
<p>Motor Imagery BCI System with Visual Feedback: Design and Preliminary Evaluation.</p>	<p>Lucía Carolina Carrere and Carolina Tabernig.</p>

(ID. 309)	
Análisis de presiones en la interfaz encaje-muñón en prótesis BK en encajes obtenidos mediante metodologías manos libres o hands-off: un estudio de caso. (ID. 61)	Andrés Torres.
Análisis de los Servicios de Telemedicina en el Sector Público Chileno (Analysis of Telemedicine Services in the Chilean Public Sector). (ID. 53)	Antonio Rienzo and Guillermo Avendaño.
Instrumenting an system for objective measurement of tinnitus in patients from Central Military Hospital in Bogotá, Colombia. (ID. 67)	Horderlin Robles, Valentin Molina and Wilson Angulo.
Design Of An Exoskeleton For Hand Rehabilitation In Stroke Patients. (ID. 151)	Christian Florez Galvis, Carlos Jhoan Aguilar, Diego Fernando Villegas, Isabel Gomez, Adriana Jacome and Jorge Quintero.
Identificación de células metaplásicas de la mucosa gástrica utilizando técnicas de procesamiento digital de imágenes. (ID. 270)	Miguel Antonio Delgado Sánchez, Marino Hernán Tobar Pérez, Jairo Alfonso Vásquez López, Rubiel Vargas Cañas and Harold Jofre Bolaños.
Upper-Limb Kinematics During Feeding and Drinking. (ID. 271)	Sergio Parra, Juan Manuel Gomez Gonzalez, A. Irais Quintero-Ortega, Laura Castellano, Birzabith Mendoza-Novelo, José Jorge Delgado-García, Mayra Cuéllar-Cruz and Arturo Vega-González.
Acquisition of Lower Limb Joint Variables by an Inertial Card System.	C. Ramos, C. A. Collazos and A. Maldonado

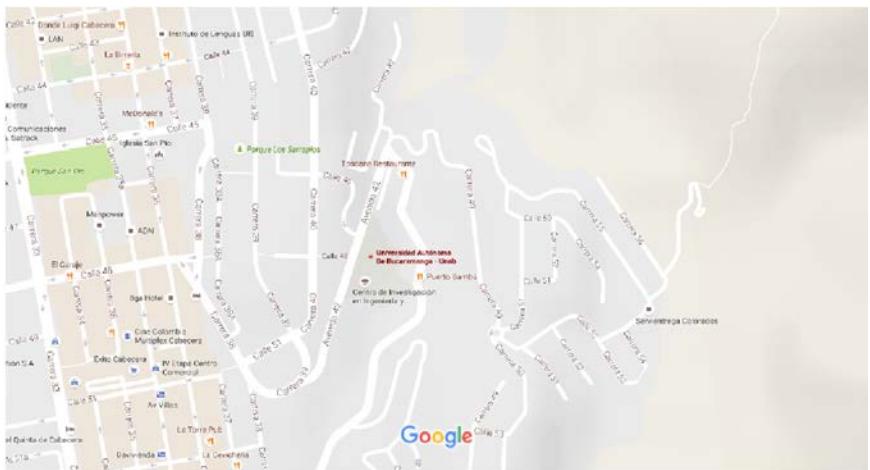
(ID. 152)	
Protein network related to unfavorable prognosis in Acute Myeloid Leukemia. (ID. 90)	Luisa Fernanda Restrepo Rodríguez and Sarah Rothlisberger Booth.
Determinación Dinámica de Segmentos Vocálicos Basada en Métodos Estadísticos. (ID. 220)	Paola Bustamante, Natalia Lopez Celani, Maria Elisa Perez and Olga Lucia Quintero Montoya.
Modeling Transient Otoacoustic Emissions in children with hearing impairment. (ID. 84)	Yulenia Torné-Cabrera, Leidy Mabel Alvero Gonzalez and Eduardo Martínez-Montes.
Auditory Brainstem Responses with AEP_AUDIX system using an optimized broadband chirp stimulus. (ID. 89)	Leidy Mabel Alvero Gonzalez, Jose Antonio Gaya Vazquez, Chedi Miret Fernandez, Ernesto Velarde Reyes, Alejandro Torres Fortuny, Eduardo Eimil Suarez, Yulenia Torne Cabrera and Eduardo Martinez Montes.
Sistema de medición del Ángulo Q Basado en Visión Artificial para la detección de trastornos Patelofemorales. (ID. 223)	Fernando Jorge Muñoz Zapata, Natalia Martina López Celani, Luis Eduardo Romero and Ricardo Manilov.
A CT-based and mechanobiologic model for the simulation of rotation of tibia deformities during patient's immobilization treatment. (ID. 184)	Raide A González-Carbonell, Armando Ortiz Prado, Victor H Jacobo-Armendáriz, Yosbel A Cisneros-Hidalgo and Lázaro Morales-Acosta.
Desarrollo Tecnológico Mediante Computación Ubicua e Internet de las Cosas IOT Aplicado en las Discapacidades Múltiples. (ID. 140)	Andy A Cusatti M.



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