



INTERNATIONAL WEEK OF RESEARCH, DEVELOPMENT AND INNOVATION - SIIDI 2017
Bucaramanga 2-6 October 2017

DAY ONE: MONDAY 2 OCTOBER 2017

| HOUR | JUAN PABLO II AUDITORIUM |
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| 8:00 - 9:00 | Registration at SIIDI 2017 - International Week Of Research, Development and Innovation |
| 9:00 - 10:00 | Welcome Meeting |
| 10:00 - 10:20 | COFFEE BREAK |
| 10:20 - 10:40 | Communication: Fuzzy Controller for Solar Tracker of a Degree of Freedom Applied to Photovoltaic Generators; Authors: Rafael Augusto Núñez Rodríguez; Elkin Itamar Velasco Sánchez; Edisson Andrés Rojas Quevedo |
| 10:40 - 11:00 | Communication: Estimation Of Energy Efficiency In Solar Photovoltaic Panels Considering Environmental Variables; Authors: Edwin Francisco Forero; Raúl Martínez |
| 11:00 - 12:00 | INTERNATIONAL CONFERENCE Speaker: Dr. Ing. Rogerio Gomes De Oliveira; Topic: Design, Test And Applications For A Novel Type Of Chemisorption Chiller Driven By Low Grade Heat |
| 12:00 - 14:00 | LUNCH BREAK |
| 14:00 - 14:20 | Communication: Piezoelectric Transducer Design for Electric Power Generation; Authors: Edwin Forero; Óscar G; C. Torres |
| 14:20 - 15:20 | NATIONAL CONFERENCE Speaker: Dr. Gail Gutierrez Ramirez; Topic: High Potential of Solar Adsorption for Producing Ice in La Guajira Colombia |
| 15:20 - 15:40 | COFFEE BREAK |
| 15:40 - 16:00 | Communication: Experimental Application Of Heat Pumps Incorporating PCM Materials; Authors: Francisco Ernesto Moreno García; Byron Medina Delgado |
| 16:00 - 16:20 | Communication: Comparative study of the performance of two impulse turbines; Authors: Emil Hernandez Arroyo |
| 16:20 - 16:40 | Communication: Residual Biomass Gasification On A Small Scale And Its Thermal Utilization For The Grains Drying In Coffee Farms; Authors: Franklin Patiño; Jair Orosco Martínez |
| 16:40 - 17:00 | Communication: Improvement Of A Cutting Flower Tool By Using Ergonomic Design; Authors: Jenny Rodríguez; Fernanda Maradei; Javier Martínez |
| 17:00 - 18:00 | CULTURAL EVENT |

SIIDI 2017

International Week of Research, Development and Innovation
Bucaramanga, Colombia
October 2 - 6, 2017



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Bucaramanga 2-6 October 2017

DAY TWO: TUESDAY 3 OCTOBER 2017

| HOOR | JUAN PABLO II AUDITORIUM |
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| 8:00 - 8:20 | Communication: Ergonomic Device To Harvest Castilla Blackberry; Authors: Paula Franco; Fernanda Maradei; Javier Castellanos |
| 8:20 - 8:40 | Communication: Mechanical Characterization Of Reinforced Composite Materials With Fique Fibers; Authors: Rolando Guzmán López; Sergio Gómez; Gladis Aparicio; Giovanni Medina |
| 8:40 - 9:00 | Communication: Study Of Flame Extinction Limits for Natural Gas and LPG in Colombia Using Simulation Software; Authors: Carlos Alirio Díaz González; Mariana Camacho Portillo |
| 9:00 - 10:00 | INTERNATIONAL CONFERENCE Speaker: Professor Dr. Ing. Da-Wen Sun; Topic: Development of Novel Food Processing Technologies for Enhancing Process Efficiency and Food Quality |
| 10:00 - 10:20 | COFFEE BREAK |
| 10:20 - 10:40 | Communication: Characterization Of Three Different Solid Residues As Energy Resources For Pyrolysis; Authors: Felipe Campuzano; Cristian Ortíz, Mariluz Betancur; Juan Daniel Martínez |
| 10:40 - 11:00 | Communication: Exergoeconomics Analysis of the Pilot Plant Laboratory of Universidad Autónoma de Bucaramanga; Authors: Carlos Alirio Díaz González; Cristian Fabián Jaimes Saavedra |
| 11:00 - 12:00 | NATIONAL CONFERENCE Speaker: Dr. Hader Vladimir Martínez; Topic: Nonferrous alloys metal matrix composites |
| 12:00 - 14:00 | LUNCH BREAK |
| 14:00 - 14:20 | Communication: Analytical Performance Study Of Diesel Engines Powered With Hydrotreated Bio-Oil; Authors: Gabriel Fernando García Sánchez; Jorge Luis Chacón Velasco; Arlex Chaves Guerrero; Andrés Felipe López García |
| 14:20 - 15:20 | NATIONAL CONFERENCE Speaker: Dr. Diana Sinuco; Topic: Fine or Flavor Cocoa: Flavor Chemistry Approach |
| 15:20 - 15:40 | COFFEE BREAK |
| 15:40 - 16:00 | Communication: Synthesis Of Li-Ion Fiber Batteries By Electrospun Li-Fe-P/PAN based Nanofibers As Cathode Materials; Authors: Maria Alexandra Cortés López; Nicolás Castaño Villa; Hader Vladimir Martínez Tejada; Esteban García |
| 16:00 - 16:20 | Communication: Analysis of the Dynamic Vibration of a Bio-Composite of Fique Vs. a Composite of Glass Fiber; Authors: Sergio Gómez Suarez; Bladimir Ramon Valencia; Rolando Guzmán López; Gilberto Fontecha Dulcey |
| 16:20 - 16:40 | Communication: Possibilities Of Rice Husk Ash To Be Used As Reinforcing Filler In The Polymer Industry; Authors: Natalia Cardona Uribe; Cindy Arenas Echeverri; Mariluz Betancur Vélez; Leyla Jaramillo; Juan Daniel Martínez Ángel |
| 16:40 - 17:00 | Communication: Level Control Of A Conic Tank System Employing PID Controllers; Authors: Luis Angel; Jairo Viola |
| 17:00 - 18:00 | CULTURAL EVENT |



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DAY THREE: WEDNESDAY 4 OCTOBER 2017

| HOUR | JUAN PABLO II AUDITORIUM |
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| 8:00 - 8:20 | Communication: Factors to guarantee the traceability in the measurement of 3D surface roughness parameters by optical methods, Authors: Carlos Julio Cortes; Fabian A. Herreño; Indy Zoraima Araque |
| 8:20 - 8:40 | Communication: Comparison Between Two Structural Systems With And Without Damping At Their Supports; Authors: Luisa Fernanda Perico Valdés; Gustavo A. Ospina |
| 8:40 - 9:00 | Communication: Moisture diffusion modelling during convective drying of feijoa (Acca Sellowiana Berg) by the finite volume method; Authors: Adriana María Castro Sánchez; Edgar Yesid Mayorga Lancheros; Fabián Leonardo Moreno Moreno |
| 9:00 - 10:00 | INTERNATIONAL CONFERENCE Speaker: Prof. Dr. Ing. Arun Mujumdar; Topic: Innovation and R&D Challenges in Drying Technologies |
| 10:00 - 10:20 | COFFEE BREAK |
| 10:20 - 10:40 | Communication: Thin-Layer Drying Characteristics And Modelling Of Instant Coffee Solution; Authors: Apolinar Picado; Rafael Gamero; Ronald Solís |
| 10:40 - 11:00 | Communication: Drying Process Of Yacon As A Potential Food Product For International Commercialization; Authors: Silvia María Castellanos; Diana Cristina Sinuco León; Alimar Benitez; Sandra Patricia Cuervo Andrade |
| 11:00 - 12:00 | NATIONAL CONFERENCE Speaker: Dr. Henry Alexander Váquiro; Topic: Regression and sensitivity analysis of mass and heat diffusion equations applied to drying modeling |
| 12:00 - 14:00 | LUNCH BREAK |
| 14:00 - 14:20 | Communication: Effects of the HTST process on drying Uchuva - Physalis Peruviana Authors: Juan Hilario Martínez Pinilla; Héctor Alfonso Castebianco; Carolina María Sánchez Sáenz |
| 14:20 - 15:20 | NATIONAL CONFERENCE Speaker: Dr. Sonia Lucía Rincón Prat; Topic: Biomass-based Energy Systems |
| 15:20 - 15:40 | COFFEE BREAK |
| 15:40 - 16:00 | Communication: Energy And Exergy Analyses Of Thin-Layer Drying Of Pineapple (Ananas Comosus L.) Slices; Authors: Apolinar Picado; Rafael Gamero; Steve Alfaro |
| 16:00 - 16:20 | Communication: Adaption of the Cumulated Thermal Load for the Investigation of the Quality of Dried Agricultural Products ; Authors: Katrin Jödicke; Saskia Arendt, Werner Hofacker; Wolfgang Speckle |
| 16:20 - 16:40 | Communication: Automation Of The Drying Process For Producing Compost From Biosolids Authors: José Alexander Ruiz Nieto; Juan Sebastián Rodríguez Villanueva; Santiago Santana Vallejo; Jennifer Paola Corredor Gómez |
| 16:40 - 17:00 | Communication: Optimization Of The Drying Process By Spray For The Obtaining Of Coconut Powder (Cocos Nucifera L) Enriched With Calcium And Vitamins C, D3 And E; Authors: Juan Carlos Lucas Aguirre; Germán Antonio Giraldo Giraldo; Misael Rodríguez Cortéz |
| 17:00 - 17:20 | Communication: System for Microclimate Monitoring in Vertical Farm; Authors: Laura Daniela Araujo; Luis Eduardo Bautista; Fernanda Maradei |
| 17:00 - 18:00 | WELCOME COCKTAIL |



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DAY FOUR: THURSDAY 5 OCTOBER 2017

| HOUR | JUAN PABLO II AUDITORIUM |
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| 8:00 - 8:20 | Communication: Web Information System For The Management Of Automated Systems; Authors: Ariel Rene Carreño Olejua; Felipe Alejandro Aguirre Santos; Urbano Eliécer Gómez Prada |
| 8:20 - 8:40 | Communication: Phytoextraction Of Cadmium Present In Contaminated Soils Using Species Chrysopogon Zizanioides And Heliconia Psittacorum; Authors: C.Santoyo; M. Kopytko; C. Leal; J. Vecino |
| 8:40 - 9:00 | Communication: Implementation Of A Logistic Regression Model For The Detection Of Unfit Tahiti Lemons For The Export Process; Authors: Javier Bautista; Claudia Rueda |
| 9:00 - 10:00 | NATIONAL CONFERENCE Speaker: Dr. Carlos Julio Cortés; Topic: Biomechanical Engineering: Advances in Mechanical Engineering applied to solve Medical Problems |
| 10:00 - 10:20 | COFFEE BREAK |
| 10:20 - 10:40 | Communication: System For Domestic Irrigation Of Plants And Monitoring Of Variables Based On Concept Of The Internet Of Things - Iot; Authors: Edwin Córdoba Tuta; Alfonso Santos Jaimes |
| 10:40 - 11:00 | Communication: Drying of Tobacco Leaves in a Solar Tunnel Dryer; Authors: Breiner Isidro Argotta Hernández; Armando Alonso Galvis |
| 11:00 - 12:00 | INTERNATIONAL CONFERENCE Speaker: Prof. Dr. Ing. Raghu Echempati; Topic: Finite Element Modeling And Analysis With Real Life Applications To Structural, Laser Bending And Friction Stir Welding |
| 12:00 - 14:00 | LUNCH BREAK |
| 14:00 - 14:20 | Communication: Morphological and Dimensional Synthesis of Parallel Manipulator with Linear Actuators; Authors: Carlos Andres Mesa Montoya; Hector Fabio Quintero Riaza; Joanni Medina Chaverría; Marlon Jhair Herrera López |
| 14:20 - 15:20 | NATIONAL CONFERENCE Speaker: Dr. Jhon Jairo Padilla; Topic: Information and Telecommunications Technologies applied to Smart Farming |
| 15:20 - 15:40 | COFFEE BREAK |
| 15:40 - 16:00 | Communication: Modelling and Optimization of Essential Amino Acids Effects on Productive Performance in second-cycle hens; Authors: Walter Morales Suárez; Iván Ospina Rojas; Jhon J. Méndez; Henry A. Váquiro |
| 16:00 - 16:20 | Communication: Simple System For High-Temperature Pressure Measurement In A Fluidized Bed Gasifier; Authors: Diana Carolina Guío Pérez; Liceth Fernanda Bolaños Barbosa; Miguel Eduardo Rodríguez Zambrano; Sonia Lucia Rincón Prat |
| 16:20 - 16:40 | Communication: From Fique and Coconut Fibers to Nonwovens Bonding by Needle Punching and Chemical Methods; Authors: Adriana Restrepo-Osorio; Marllory Isaza Ruiz; Catalina Álvarez-López; Rolando Guzmán-López; Patricia Fernández-Morales |
| 16:40 - 17:00 | Communication: Web Information System for Process Monitoring in the Framework of the PAAIS Proyect: SIPA; Authors: Andrés Felipe Jerez Prada; Ariel René Carreño Oléjua; Urbano Eliécer Gómez Prada |
| 17:00 - 17:20 | Communication: Modelling Of Drying Kinetics Of Pineapple Slices By Reaction Engineering Approach (REA); Authors: Francisco Canelo; Apolinar Picado; Rafael Gamero |
| 17:20 - 17:40 | Communication: Characterization of Yacon (Smallanthus Sonchifolia) in the Dryer Process and Viability of Merchadizing; Authors: Mario Alberto Escobar; Carolina Maria Sanchez; Andrés Pinto Morales; Andrés Felipe Cadavid |
| 17:40 - 18:00 | Communication: Thermo Ultrasonic Pretreatment To Reduce Guava Freeze-Drying Process Time While Inhibiting Enzymatic Browning; Authors: Carlos Eduardo Orrego; Catalina Álvarez Campuzano; Doménica Vallejo Chávez; Natalia Andrea Salazar Camacho |
| 18:00 - 19:00 | CULTURAL EVENT |



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FINAL DAY: FRIDAY 6 OCTOBER 2017

| HOUR | JUAN PABLO II AUDITORIUM |
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| 8:00 - 8:20 | Communication: Fractal Analysis of the Data Series of Carbon Bonds; Authors: Alejandro Acevedo Amorocho; Dúwang Alexis Prada Marín; Alexander Reátiga Villamizar; Helio Armando Fernández Aranda; Karoll Yessenia Arcila Boada |
| 8:20 - 8:40 | Communication: Crutches With Shock Absorbers; Authors: Alveiro Nieves Caicedo |
| 8:40 - 9:00 | Communication: Simulation Of Thermodynamic Efficiency Of Several Prototypes Of The Stirling Engine For Operation With Different Sources Of Renewable Energy In Colombia; Authors: Jorge Dueñas; Daniel Varela; Daniel Contreras; Mauricio Bustamante |
| 9:00 - 10:00 | NATIONAL CONFERENCE Speaker: Dr. David A. Pertuz C.; Topic: Fatigue Integrity in Agro-Industrial Machinery |
| 10:00 - 10:20 | COFFEE BREAK |
| 10:20 - 10:40 | Communication: Review of the cocoa fermentation process; Authors: Handel Andrés Martínez, Manuel Antonio Marquez, Jorge Guillermo Diaz, Deisy Carolina Paez, Juan Fernando Jojoa, Luis Javier Lopez, Carlos Mudvi |
| 10:40 - 11:00 | Communication: Standardized Metrology to Create, Translate and Simulate Linear Automatization Industrial Process Using Digital Sensor; Authors: Juan Carlos Villamizar Rincón |
| 11:00 - 12:00 | INTERNATIONAL CONFERENCE Speaker: Prof. Dr. Oliver Hensel Topic: Agricultural Machines are Getting Intelligent |
| 12:00 - 14:00 | LUNCH BREAK |
| 14:00 - 14:20 | Communication: Construction Of A Direct Heat Transfer System; Authors: Diego Sierra; Emil Hernández; Juan Felipe Rincón; Brayam Darío Santamaría; Andrés Felipe Suárez; Deivert Farick Blanco |
| 14:20 -15:20 | NATIONAL CONFERENCE Speaker: Dr. Paolo Andrea Moreno; Topic: From Waste to a Green Construction Material: Application of Agro-Waste and Recycled Materials for the Development of Sustainable Construction Materials |
| 15:20 - 15:40 | COFFEE BREAK |
| 15:40 - 16:00 | Communication: Identification of a Mathematical Model for Dynamics of a Forearm-Like Platform with PAM Actuators in Flexion and Extension Movements; Authors: Hugo Celedón; Carlos Andrés Torres Pinzón; Jaime Vitola; Maribel Anaya; Diego Alexander Tibaduiza |
| 16:00 - 16:20 | Communication: Voltage Regulation of a Stand-Alone DC-Bus Distribution System using Renewable Energy Sources; Authors: Carlos Andrés Torres Pinzón; Carlos Javier Mojica Casallas; Edwin Forero; Jhon Erik Navarrete Gómez; Jairo Cuellar |
| 16:20 - 16:40 | Communication: Improvement Of The Mobility Of The Population In Condition Of Disability, Temporary Or Permanent, Within The UPB Bucaramanga; Authors: Rubén José Acevedo Gelvez; Fabián Eduardo Duran Martínez; Juan Manuel Arguello Espinosa |
| 16:40 - 17:00 | Communication: Goodbye Soil in the Crops; Authors: David Mauricio Silva Fernández; Harold Murcia Hernandez; Jennifer Paola Corredor Gomez; Juan Nicolás Guevara Orozco |
| 17:00 - 17:20 | Communication: Position Regulation of a Forearm-Like Platform Using Sliding-Mode Control Approach; Authors: Hugo Celedón; Carlos Andrés Torres Pinzón; Jaime Vitola; Maribel Anaya; Diego Alexander Tibaduiza |
| 17:00 - 18:00 | CULTURAL EVENT |