



ESPE

UNIVERSIDAD DE LAS FUERZAS ARMADAS
INNOVACIÓN PARA LA EXCELENCIA

XVIII

ESPE 2023

INTERNATIONAL CONGRESS
ON SCIENCE AND TECHNOLOGY

13 - 17 november

PROGRAM

OPENING SESSION

Monday, November 13 th

Auditorio del Centro de Investigaciones

Monday, November 13th

Auditorio del Centro de Investigaciones

SESSION 1 OPENING SESSION

07:00 - 08:00

Registration

08:00 - 09:30

Welcome to CIT 2023 – Opening Session

Auditorio de la Biblioteca

SESSION 2 - ACADEMIC KEYNOTE Chair: Ing. Freddy Tapia, Ph.D.

10:00 - 11:00

The Teaching-Learning Experience in MOOC supported by Learning Analytics and Multimodal Learning Analytics Approaches

Ruth Cobos Pérez Ph.D.
Universidad Autónoma de Madrid



SESSION 3 - Computer's Science Chair: Ing. Eleana Jerez Villota, Mgrtr.

11:00 - 11:15

Comparative evaluation of performance efficiency in terms of temporal behavior and resource utilization, according to the ISO/IEC-25010 model in a web application developed with angular, REACT.JS and VUE.JS
Angel Loja , Tania Maita

11:15 - 11:30

Prediction models of oral diseases: a systematic review of the literature
Mayra Alejandra Dávila Olivos, Félix Melchor Santos López

11:30 - 11:45

How personal knowledge graphs can contribute to precision nutrition?
Mauricio Espinoza-Mejía, Víctor Saquicela, Victoria Abril-Ulloa

11:45 - 12:00

Machine learning regressors in forecasting mechanical properties in advanced manufacturing processes
Germán Barrionuevo, Jorge Ramos-Grez, Francisco Montero

12:00 - 12:15

Interactive E-books in mathematics learning: a systematic mapping study
Santiago Jácome Guerrero, Marcelo Román, Norma Barreno, Lorena Parra Gavilanez

Auditorio de la Biblioteca

SESSION 4 - ACADEMIC KEYNOTE Chair: Ing. Juan Correa, Ph.D.

12:15 - 13:15

Robots Cuadrúpedos, percepción y estrategias de control
Christyan Mario Cruz Ulloa, Ph.D.
Universidad Politécnica de Madrid



SESSION 5: Energy Sciences and Mechanics Chair: Ing. Francisco Montero, Ph.D.

14:00 - 14:15

Quantification of decrease of droplets expelled from the human respiratory tract during expiratory activities when masks are used design and test of an omnidirectional robot for 3D printing
Paúl León Benítez, David Loza Matovelle, Luis Miguel Carrión, Santiago Castellanos Villa

14:15 - 14:30

Assessing carbon capture, transport and storage processes: a critical review
Brayan Tarazona, Jenny Quizena Fernandez, Nilson Castillo, Omar Lengerke Pérez

14:30 - 14:45

Experimental measurement of potential energy in stairways with hydraulic damping systems
Miguel Durán Sarmiento, Brayan Tarazona Romero, Nilson Castillo León, Javier Ascanio Vilabona

14:45 - 15:00

Solar energy conversion systems thermal management applying constructal theory: A comparative analysis
Francisco Montero, Wilson Navas, Alejandro Aljure

15:00 - 15:15

Analytical study of behavior of tubular elements reinforced with natural fibers under dynamic loads
Henry Iza Tobar, Shirley García, Inés Iváñez

15:15 - 15:30

Impacts of park-and-ride systems on vehicle emissions in intermediate cities: Case Ibarra - Ecuador
Zamir Mera, Fredy Rosero, Jairo Ortega, Ramiro Rosero, Stefan Hausberger

15:30 - 15:45

Review of biomass and biopolymers synthesized in Ecuador
Jessenia Estefanía Lopez Ortega, Romel David Carrera Tapia, Liseth Johana Chacón Molina, Jonathan Sayavedra Delgado, Freddy Julián Chipugsi Calero, Javier Fernando Culquí Tipán

Tuesday, November 14th

07:00 - 08:00

Registration

Salón 2000

SESSION 6 - ACADEMIC KEYNOTE
Chair: Mtr. Roger Castro

08:00 - 09:00

Objetivación de la realidad: Insumo necesario para la investigación cualitativa
Audín Gamboa, Ph.D.
Universidad Francisco de Paula Santander



SESSION 7: Human and Social Sciences
Chair: Mtr. Roger Castro

09:00 - 09:15

Burnout syndrome in physicians of the surgical hospitalization area of a second level hospital in the city of Guayaquil
Tania Jurado Llori, Ximena Cabrera Pulgarin, Kenny Escobar Segovia, Daniela Paz Barzola, Luis Duque Cordova

09:15 - 09:30

Burnout syndrome and its relationship to working schedule: A cross-sectional study among oilfield workers in the Ecuadorian Amazon region
Vinicio Gavilanes, Jenniffer Morales, Juan Piedra González, Raúl Gutiérrez Álvarez

09:30 - 09:45

Attitude levels towards multicultural education in primary school teachers from north Lima (Peru)
Selene Sánchez, Arleth Suárez, Milton González Macavilca

09:45 - 10:00

School motivation and academic performance in mathematics in primary school students from Pachacamac (Lima - Peru)
Ximena Pastor Apaza, Isaura Santiago, Milton González Macavilca

19:00 - 21:00

CONFERENCE DINNER
Place: Pim's Panecillo

Salón 2000



SESSION 8: Human and Social Sciences
Chair: Mtr. Roger Castro

10:30 - 10:45

Evaluating the profiles of preprofessional internship of two university programs in early childhood and elementary education
Carla Vasquez, Roberto Cotrina, Ivan Iraola Real, Elvis Gonzales, Estela Aguilar, Fernando Alvarado, Elva Mamani

10:45 - 11:00

News coverage in the social network Facebook: A systematic review in Scopus from 2018 to 2023
Edinson Enrique Díaz Vicente, Adriana Margarita Turriate Guzmán, Katherine Valeria Salazar Vegas

11:00 - 11:15

Predictors of academic satisfaction through activities with Turnitin
Olger Gutierrez Aguilar, Escarly Huarsaya Rodriguez, Victoria Torres de Manchego, Aleixandre Duche Pérez

11:15 - 11:30

Effect of the application of pedagogical tools for ethics training in the public accounting program of the Corporación Universitaria Minuto de Dios distance modality
María del Pilar Corredor García, Efrén Danilo Ariza Ruiz, Olga Lucía Carreño

11:30 - 11:45

The mediating effect of academic performance on Chat GPT satisfaction in university students
Olger Gutierrez Aguilar, Escarly Huarsaya Rodríguez, Aleixandre Duche Pérez

11:45 - 12:00

The community as a strategy for crime prevention. The experience of "Soñarte" sociocultural project
Olivia Romero Pacios, Yosnier Rojas Capote, Angie Fernández Lorenzo

12:00 - 12:15

Ecrif as a strategy to boost EFL students's speaking skills: An exploratory action research approach
Mónica Tamayo, Evelyn Almeida, Marjorie Pillaño

12:15 - 12:30

Implications of stakeholders on the quality and governance of university higher education: A critical analysis
Lorenzo Armijos Robles, Jaime Cadena Echeverría, Nelson García Osorio, Daniel Veloz Jimbo, Lesly Tipán Gualotuña

Wednesday, November 15th

07:00 - 08:00

Registration

Salón 2000

SESSION 9 - ACADEMIC KEYNOTE
Chair: Ing. Luis Simbaña, Ph.D.

08:00 - 09:00

Predicción de la quiebra empresarial en etapa temprana
Vera Gelashvili, Ph.D.
Universidad Rey Juan Carlos

09:00 - 10:00

La banca cooperativa en un entorno de finanzas sostenibles
Purificación Parrado, Ph.D.
Universidad de Jaén



**SESSION 10 - Administrative and Trade
Economic Sciences**
Chair: Ing. Luis Simbaña, Ph.D.

10:30 - 10:45

The adhocracy culture and its impact on innovation in manufacturing companies of the Quito Metropolitan District
Andrea Cervantes, Carlos Estrella Paredes, Cristina Uquillas,
Juanita García Aguilar

10:45 - 11:00

Human capital and per capita income in Ecuador
Germania Vayas Ortega, Ximena Morales Urrutia, Juan Pablo
Martínez Mesias, Karen Yucsin

11:00 - 11:15

Effect of the real wage on the basic family basket in Ecuador
Germania Vayas Ortega, Ximena Morales Urrutia, Diego
Marcelo Lara Haro, Dylan Chancay

11:15 - 11:30

Measurement of innovation capacity in manufacturing SMES
Maribel Maya Carrillo, Betzabé Maldonado, Valentina Ramos,
Maytte Mendoza Castillo, Liseth Cedeño

11:30 - 11:45

Evaluation of technical efficiency in segment 1 the savings and credit cooperatives in Ecuador, for the period 2016-2021
Wesley Fernando Ruiz Ortega, Danny Iván Zambrano Vera

Salón 2000



SESSION 11 - Basic Sciences
Chair: Ing. Sergio Castillo, Ph.D.

11:45 - 12:00

Reconstruction of the boundary condition of the convection-diffusion-reaction equation with automatic selection of the step length
Cristhian Troya, Geovanny Gordillo, Atal Vivas



SESSION 12 - Security and Defense
Chair: Lcdo. Edgar Arauz Mgtr.

12:00 - 12:15

Comparative study of abrasion resistance in cotton and meta-aramid fabrics for the production of safety garments
José Posso Pasquel, Valeria Chugá Chamorro, Elsa Mora
Muñoz, Willam Esparza Encalada

12:15 - 12:30

NATO/USAF standars in the FAC (by its spanish acronym), building interoperability from the Basic Flight Schools
Javier Enrique Montes Vélez

12:30 - 12:45

Cibersecurity and cyber defense in the light of new technologies in cyberspace
Zully Ximena Rojas Ortiz

SESSION 13 - ACADEMIC KEYNOTE
Chair: Ing. Luis Simbaña, Ph.D.

14:00 - 15:00

Factores críticos para emprender
Juan Gabriel Martínez, Ph.D.
Universidad Rey Juan Carlos

08:00 - 13:00

RESEARCH WORKSHOP
Place: Aula Magna

Thursday, November 16th

07:00 - 08:00

Registration

Salón 2000



SESSION 14 - Electrical, Electronics and Telecommunications
Chair: Ing. Fausto Granda, Ph.D.

08:00 - 08:15

A brief guide of the implementation of lean tools in the ecuadorian context
Paúl Ayala Taco, Joan Pasaca, Oswaldo Alexander Ibarra

08:15 - 08:30

Landstorfer antenna structure shaping based on parameterized parallel curves
Aldrin Reyes Narváez, Hernán Barba Molina

08:30 - 08:45

Network neutrality policies in 5G South American market
Roberto Triviño, Antonio Franco Crespo, Leonardo Ochoa Urrego

08:45 - 09:00

Solving the generation and transmission capacity expansion planning framework modeling the AC power flow problem and incorporating reactive compensation devices
Nicolás Solís Llanos, Víctor Hinojosa, Diego Ortiz Villalba

09:00 - 09:15

Antenna densification in non uniform linear and planar arrays
Fernando Lara, Daniel Altamirano, Jaime Cepeda, Felipe Grijalva

09:15 - 09:30

Greinacher rectifier evaluation for WIFI band energy harvesting
Javier Rojas, Nataly Valencia, David Atupaña, José Campos

SESSION 15 - ACADEMIC KEYNOTE
Chair: Lcdo. Wilmer Pozo, Ph.D.

11:00 - 12:00

Potencial uso de las microalgas y cianobacterias en actividades agropecuarias
Ing. Juan Cristóbal Ortiz Tirado, Ph. D.
Universidad de las Fuerzas Armadas - ESPE

18:00 - 20:00

TOURIST WALK

Salón 2000



SESSION 16 - Life Science and Agriculture
Chair: Lcdo. Wilmer Pozo, Ph.D.

12:00 - 12:15

Characterization of a bamboo cellulose-activated carbon filament and resin
Willam Esparza Encalada, Betty Alexandra Jaramillo Tituaña, Jenny Patricia Núñez Moreno, José Rafael Posso Pasquel

12:15 - 12:30

Phytoremediation of pharmaceutical mixtures using chrysopogon Zizanioides, a sustainable alternative for removing emerging contaminants from waste water
Miriam Checa Artos

12:30 - 12:45

Strenght and elongation analysis of a coconut fiber-based nonwoven with potential applications for geotextiles
Valeria Verónica Chugá Chamorro, Elvis Raúl Ramírez Encalada, José Rafael Posso Pasquel

12:45 - 13:00

Application of multicomponent nanoparticles synthesized with andean blackberry fruit extract (rubus glaucus) NPS (Ca, Fe, Mg-RG) for oyster mushrooms (pleurotus ostreatus)
Erika Murgueitio, Andrés Izquierdo, Theofilos Toulkeridis, Geovanna Arroyo Pardo, Sofía Yael Lucio Anaguano, Carina Stael

SESSION 17 - ACADEMIC KEYNOTE
Chair: Dra. Alicia Zavala

14:00 - 15:00

Aplicaciones potenciales de células madre mesenquimales en medicina regenerativa
Mabel Ávila Portillo, Ph.D.
Universidad de la Sabana



SESSION 18 - Medical Science
Chair: Dra. Alicia Zavala

16:00 - 16:15

Adjustable polycentric mechanism for external knee joint prosthesis based on the instantaneous center of rotation
Sebastián Hidrobo, Fernando Valencia, Luz Tobar

16:15 - 16:30

Manufacture of a custom-made AFO orthosis based on Abaca nonwoven comosite (musa textilis) and resin
Elsa Sulay Mora Muñoz, Tulia Nohemi Vaca Sierra, José Rafael Posso Pasquel, Juan Rivera Yépez

Friday, November 17th

07:00 - 08:00

Registration

Salón
2000

SESSION 19 - ACADEMIC KEYNOTE
Chair: Ms.C. Ginella Jácome

08:00 - 09:00

Conflict and post-conflict land administration
Dimo Todorovski, Ph.D.
Facultad ITC de University of Twente



SESSION 20 - Earth and Construction Sciences
Chair: Ing. Pablo Caiza, Ph.D.

09:00 - 09:15

Evaluation of the internal temperature and hours of thermal discomfort produced by sunshine: Study of a hot dry climate
Javier Ascanio, Brayan Tarazona, Nilson Castillo, Omar Lengerke Pérez

09:15 - 09:30

Proposal design of an autonomous photovoltaic plant on potentially liquefiable soil in the isolated rural community of agua fría, Ecuador
Carmén Morales, Ana Garbiela Haro, Leonardo Jiménez, Diego Arcos Avilés

09:30 - 09:45

Seismic design considerations for the installation of photovoltaic systems on falt reinforced concrete roofs: A case study in Ecuador
Melani Cano, Carlos Dávila, Ana Gabriela Haro, Emilia Motoasca, Diego Arcos Avilés

09:45 - 10:00

Vulnerability characteristics of wetlands in the paramo of Guaranda, Central Ecuador. Implications of long-term sustainability
Eva Enriqueta Gavilanes Betancourt, María Tránsito Vallejo Ilijama, Grey Irene Barragán Aroca, José Abelardo Paucar Camacho, Theofilos Toulkeridis

10:00 - 10:15

Climate variability and its effect on flood risk through dynamic modeling in the Quigushuaycu stream
David Carrera, Ximena Chamorro Quitama, Allison Chaquinga Toapanta, María José Correa Díaz, José Lara Taipicaña, Diego Vinuesa Buñay

Salón
2000

SESSION 21 - ACADEMIC KEYNOTE
Chair: Ing. Ana Gabriela Haro Ph.D.

10:30 - 11:30

Proposal for 2023 Seismic Hazard Model and Seismic Disaggregation Tool for Ecuador using Probabilistic Seismic Hazard Analysis
Patricio Palacios, Ms.C. y Carlos Celi, Ms.C.
Pontificia Universidad Católica del Ecuador

08:00 - 13:00

POSTERS COMPETITION
Place: Auditorio del Centro de Investigaciones

