

Programa Oficial del 3er Life Science Congress 2025

Duración: 3 días | Presentaciones | Distribuidas en sesiones temáticas

Ponencias Magistrales



Prof. Boris Vinatzer

The potential of genomics to extend taxonomy from the species towards the individual
Virginia Tech University



Prof. Sheila Serrano Vicenti

Puntos de No Retorno Climáticos al 2025: Mecanismos y Principales Consecuencias en los sistemas biológicos en los Andes Tropicales
Universidad Politécnica Salesiana



Prof. Anibal Pauchard

Invasiones biológicas en un mundo incierto: a dos años del informe IPBES sobre especies invasoras
Universidad de Concepcion



Prof. Paco Noriega

Biodescubrimiento de moléculas antibióticas en plantas medicinales del Ecuador
Universidad Politécnica Salesiana



Prof. Esteban Ortiz

From Computational Modeling to the Patient: Applications of Medical Devices in Cardiovascular Biomechanics
Escuela Politécnica Nacional



Día 1 – Biotecnología y Biorremediación Ambiental

Sesión 1: Biorremediación y Fitorremediación (9:00–11:00)

Moderador sugerido: Dr. Lenin Ramirez

Hora	Autor	Título
09:00–09:45	Prof. Boris Vinatzer Virginia Tech	Charla Inaugural, The potential of genomics to extend taxonomy from the species towards the individual
09:50–10:10	Jennifer Orejuela	Experimental Evaluation of Native Amazonian Plants for Cadmium Phytoremediation in Tropical Soils
10:11–10:30	Luis Santillán	Influence of the phenological stages of Heliconia psittacorum on the removal of hydrocarbons from contaminated soils
10:31–10:50	Patricia Gutiérrez	Biodegradation potential of polietilen tereftalat (PET) using a Mucor sp. isolated from lignocellulosic waste
10:51- 11:10	Kevin Cedeño	Bioremediation of Heavy Metals Cadmium, Chromium, and Arsenic using Aspergillus spp. and Penicillium spp. Isolated from Marine Sediments of Puerto El Morro and Posorja

Coffe Break

Sesión 2: Microorganismos Aplicados y Biotransformación (11:30–13:30)

Moderador sugerido: Dra. Lisbeth Torres

Hora	Autor	Título
11:30–11:50	Tatiana García	Biotransformation of anti-inflammatory compounds by indigenous probiotic bacteria in fermented plant yuca, maushua, and tuna.
11:51–12:10	José Ballesteros	Next-Generation Bacteriophage Applications for the Control of Vibrio spp. in Pacific White Shrimp: A Bibliographic Analysis
12:11–12:30	Rolando Armas	Bacteriophage Protein Design by Single-Objective Evolutionary Algorithms



Evolutionary origin and demographic trajectory of tomato spotted wilt virus (*Orthotospovirus tomatomaculæ*)

Sesión 3: Bioextracción y Biomateriales (15:00–17:00)

Moderador sugerido: Dra. Sheila Serrano

Hora	Autor	Título
15:00–15:40	Paco Noriega Maestría de Investigación en Productos Farmacéuticos Naturales-UPS	Biodescubrimiento de moléculas antibióticas en plantas medicinales del Ecuador
15:41–16:00	Diana Mora	Bio-extraction of Hydroxyapatite for Tissue Regeneration
16:01–16:20	Brian Sandoval	Design Guidelines, Assembly, and Quantitative Validation of a Zero phase Angle Mueller Matrix Polarimeter for Biological Tissue Characterization
16:21–16:40	Alberto Cuenca	Biological evaluation of a <i>Vernonanthura patens</i> (Laritaco) extract and its encapsulation in chitosan nanoparticles.
16:41–17:00	Yulian Mosquera	Synthesis and Characterization of Electroconductive Scaffolds Based on Biopolymers for Peripheral Nerve Regeneration
17:01- 17:20	Paola Padilla	Osteogenic-Inducing Apatite/Agarose/Gelatin Hybrid Scaffolds Embedding Gold Nanoparticles



Día 2 – Bioinformática, IA Médica y Salud Computacional

Sesión 1: Deep Learning y Diagnóstico Biomédico (9:00–11:00)

Moderador sugerido: Dr. Diego Almeida

Hora	Autor	Título
09:00–09:40	Esteban Ortiz Escuela Politécnica Nacional	From Computational Modeling to the Patient: Applications of Medical Devices in Cardiovascular Biomechanics
09:40–10:00	Camila Usama	Modeling of cGMP Signaling Cascade Dynamics: Elucidating Dose-Response Relationships and Comparative Analysis of Regulatory Mechanisms
10:01–10:20	Brenda Guanulema	Comparison of U-Net and Attention U-Net models for segmentation of breast cancer tumors in mammograms
10:21–10:40	Surgit Rivadeneira	Multiclass Brain Tumor Classification with MRI: A Comparative Study of Deep Learning Approaches
10:41–11:00	Ernesto Moncayo	Web Application for Brain Tumor Detection: Multi-Model Classification and U-Net-Based Segmentation of Meningioma, Glioma, Pituitary Tumors, and Healthy Cases.

Coffe Break

Sesión 2: Señales y Neuroanálisis Computacional (11:30–13:30)

Moderador sugerido: Dr. Rodrigo Torres

Hora	Autor	Título
11:30–11:50	Joan Daniel Rivas Andrade	Pneumothorax Prediction in Chest X-Ray Images Using EfficientNet
11:51–12:10	Erick Iles	Lung sound classification from the ICBHI 2017 Challenge using ResNet50 and EfficientNetB0



12:11–12:30	Bryan Chulde	Evaluating Classification Models for Predicting Mental Disorder Diagnoses
12:31–12:50	Nayeli Bastidas	A Robust, Weighted Deep Learning Framework for the Classification of Early-Stage Neoplasia in Low-Prevalence Barrett’s Esophagus Endoscopy
12:51- 13:10	Ivan Cangas	Phenotypic Characterization of Normal EMG Signals Using Unsupervised Clustering and DWT-Based Features for Early Risk Stratification of Muscular Atrophy

SESIÓN DE POSTERS 14H30-15H30

Sesión 3: Aplicaciones Ómicas y Biología Computacional (15:30–17:00)

Moderador sugerido: Dr. Luis Andrade

Hora	Autor	Título
15:30–15:50	Hugo Chancay	Spatial transcriptomic analysis reveals novel tumor microenvironment architectures in breast cancer through integrated multi-dataset approach
15:51–16:10	William Lituma	An Integrated Computational Pipeline Identifies CNS-Penetrant, Multi-Target Xylaria Metabolites for GAE Therapy
16:11–16:30	Eduardo Arciniega	Entropy-Based Thermo – Mechanical Modeling of Fatigue for the Design and Durability Assessment of Biomedical Prostheses.
16:31–16:50	Santiago Salinas	Comprehensive System Assisted by Convolutional Neural Networks (CNN) for the Precise Diagnosis of Thyroid Conditions
16:51- 17:10	Brenda Guanulema	Comparison of U-Net and Attention U-Net models for segmentation of breast cancer tumors in mammograms

Día 3 – Ingeniería, Energía y Biodiversidad

Sesión 1: Energías Ambiente y Sostenibilidad (9:00–11:00)

Moderador sugerido: Dr. Lenin Ramirez

Hora	Autor	Título
09:00–09:40	Sheila Serrano Universidad Politécnica Salesiana	Puntos de No Retorno Climáticos al 2025: Mecanismos y Principales Consecuencias en los sistemas biológicos en los Andes Tropicales
09:41–10:00	Andrés Villarruel	Decentralized Green Hydrogen Systems for Fossil Fuel Displacement and Biodiversity Preservation in the Galapagos Islands
10:01–10:20	Juan Carlos Almachi	Computer-Vision-Based Synthesis of Hydraulic Curves for Pump-as-Turbine Design in Sustainable Micro-Hydropower
10:21- 10:40	Kevin Bustamante	Life Cycle Assessment of AI-Based Waste Sorting Systems as a Sustainable Alternative to Informal Recycling in Ecuador.
10:41- 11:00	Nathalia Alvear	Neural – Fuzzy Control and Actuator Simulation for an Adaptive Mechatronic Tool in Huacho Rozado Tillage
11:01- 11:20	Francis Yáñez	From Randomness to Energy: An Efficient Nonlinear Modelling Approach for High-Amplitude Resonators Analysis

Sesión 2: Ingeniería Biomédica y Materiales (11:30–13:00)

Moderador sugerido: Dr. Paulo Navas

Hora	Autor	Título
11:30–11:50	Patricio Riofrío	Mechanical, viscoelastic and compositional characterization of metallic filaments and 3D prints based on 316L stainless steel for biomedical applications.



11:51–12:10	Jaiber Albuja	Affordable 3D-Printed Hip Implants: Evaluating Strength and Accuracy of Metal-Filled FDM Components
12:11–12:30	Juan Larrea	Flexible Semiconductive Hard Carbon-Doped PVA/Sodium Alginate Hydrogel and Its Potential Biomedical Applications
12:31–12:50	Víctor Cabrera	Characterization of Fluid Behavior with Different Viscosities in Check Valves within SLA-Printed Microchannels for Potential Applications in Water Quality Assessment.

SESIÓN DE POSTERS 14H00-15H00

Sesión 3: Biodiversidad y Ecología Aplicada (15:00–17:00)

Moderador sugerido: Dr. Lenin Ramirez

Hora	Autor	Título
15:00–15:19	Catalina Quintana	Long-Term Tree Dynamics in a Western Dry Forest of Ecuador
15:19–15:39	Yannina Poblete	Haemosporidian Pressure Modulates Exploratory Behavior–Oxidative Stress Tradeoff in a Neotropical Bird.
15:39–15:59	Carolina Contreras	Seasonal Strategies of <i>Thylamys elegans</i> : Variations in Trophic Niche, Morphology, Gut Microbiota, and Oxidative Stress.
15:59–16:19	Grazia Trentini	Optimizing English for Specific Purposes (ESP) at Yachay Tech University: Bridging Language Proficiency with Technical Competence
16:20- 16:41	Ivan Armijo Carrera	Development of a web-based operational platform for signals processing of ultrasound recording of bat species in Ecuadorian Amazonia
16:41- 17h30	Aníbal Pauchard Universidad de Concepción	Invasiones biológicas en un mundo incierto: a dos años del informe IPBES sobre especies invasoras.
17h30- 18h30	Invitados	Reunión de trabajo, Académica-Gobierno de las Galápagos.