

SCHEDULE

CONVENCIÓN SABER UH 2025

17th International Conference on Operations Research

May 19-23

9:15-12:15: **Pre-event course** *Course: Optimización para el Aprendizaje estadístico*, Diego Delle Donne, ESSEC Business School, Edificio Poey. Fac. Matemática y Computación

May 26~th

10:00 am: Opening of the Convention Saber UH, ..Karl Marx Theater

14:00-16:30 *Course: Statistics for insurance*, Patrice Bertail, Univ Paris Nanterre, France, Carlos Fernández, Telecom, France, Edificio Poey, Fac. Matemática y Computación. Aula de Francofonía

TUESDAY MAY 27th

Morning

9:00-9:40: Opening Session of 17th ICOR, Casa de la FEU.

9:40-10:00: Welcome Coffee, Casa de la FEU.

10:00-10:45: Plenary Lecture: *Bias in Statistical Learning (and IA): a review and a semiparametric calibration approach*. Patrice Bertail, Univ Paris- Nanterre, France, Laboratorio Computación, Introducer Marie Cottrell

10:45-12:30 Session Game Theory, Laboratorio Computación **Chair:**

Gemayqzel Bouza

Time	Speaker	Title
10:45-11:15	D. Aussel, Univ. Perpignan, France	Main Lecture: Computation of projected solution of equilibria: a proximal approach (online)
11:15-11:45	J. Tejada, Univ. Complutense de Madrid, Spain	Main Lecture: Interaction in network restricted games (online)
11:45-12:00	C. M. Manuel	A game theoretical fragmentation index for voting games
12:00-12:15	F. V. Suarez	A problem generator test for evaluating the quality of solutions to two-level optimization problem algorithms
12:15-12:30	L. M, Armijos	The coalitional Colomer-Martínez power measure for weighted majority games with a coalition structure. (online)

10:45-12:30 Session Probability & Statistics, Edificio Poey. Aula de Francofonía

Chair: Vivian Sistachs

Time	Speaker	Title
10:45-11:00	C. Fernández	Non-linear monotone models for general Harris recurrent Markov chains
11:00-11:15	R. Uranga	Testing equivalence of multiple proportions
11:15-11:30	C. E. Viada	Predictive probability for time to event outcomes in lung cancer patients treated with CIMAvaxEGF
11:30-11:45	E. Guerra	Customer satisfaction evaluation at Gran Caribe hotels in Havana
11:45-12:00	M. I. Gómez	Modelo de promoción turística sostenible a partir de la tecnología 4.0
12:00-12:15	D. A. Fornet	Predictive model for wind power generation in microgrids. Case of study: Cayo Carenas
12:15-12:30	R. S. Borges	Comparison of predictive models in machine learning for breast cancer prognosis

12:30 – 14:00 LUNCH BREAK

TUESDAY MAY 27th

Afternoon

14:00-15:00 Plenary Session on Uncertainty sets, Laboratorio Computación

Chair Rosa M. Criollo

Beyond the [0,1] interval: impact and prospects of over-, under-, and off-range uncertain sets, Florentin Smarandache, Univ of New Mexico, USA (on line)

Advances in the Mathematical Treatment of Indeterminacy: The Neutrosophic Perspective, Maykel Yelandy Leyva Vázquez, Univ. of Guayaquil, Ecuador (on line)

15:00- 15:15: Coffee Break, Basement Room CAFE

15:15-16:30 Session Novel & advanced PhD students, Laboratorio Computación.

Chair: Gemayzel Bouza (Coordinator of the PhD Program Mathematics Sciences and Computer Sciences)

Time	Speaker	Title
15:00- 15:15	J Estrada	Modelling sterile mosquito releases in a heterogeneous 2D terrain
15:15- 15:30	J. Sarria	Bifurcations in twinkling patterns for the Lengyel-Epstein reaction-diffusion model
15:30- 15:45	A. Lopez	Bijjective or ergodic 1-Lipschitz functions in terms of their coordinate functions over the p-adic integers for p prime, $p \neq 2^n$
15:45-16:00	A. Mesa	Brain mapping through entropy analysis (online)
16:00-16:15	F. S. Naranjo	High order local linearization methods for solving initial value problem of no small dimension

15:15- 16:30 Course: New methods based on Large Language Models vs Statistical Methods for NLP and explainable AI: Focusing on comparison and evaluation for topic modeling and embedding tasks, Jean Charles Lamirel, Univ Strasbourg, SYNALP-LORIA, Aula de Francofonía.

WEDNESDAY MAY 28th

Morning

9:00-9:45: Plenary Lecture: *Mathematical Optimization makes Machine Learning more transparent and fairer*, Emilio Carrizosa Universidad de Sevilla, Spain, (online)

Introducer: Sira Allende, Laboratorio Computación

9:45-10:00: Coffee Break, Room CAFÉ

10:00-12:00 Session Optimization, Laboratorio Computación

Chair: Ridelio Miranda

Time	Speaker	Title
10:00-10:30	C. Tammer, Martin-Luther-Univ Halle-Wittenberg, Germany	Main Lecture: Necessary conditions for approximate solutions of vector and set optimization problems with variable domination structure
10:30-10:45	D. Delle Donne	An incremental exact algorithm for the hyper-rectangular clustering problem with axis-parallel clusters
10:45-11:00	G. Bouza	On Scholtes regularization for solving bilevel problems via KKT approach
11:00-11:15	R. Miranda	Mathematical modeling for the optimal design of a hybrid electrical microgrid in Cayo Cayo Carenas, Cienfuegos.
11:15-11:30	R. Ortiz	Multi-objective optimization for personalized tourist route design
11:30-11:45	A. Sierra	TrajBERT Model for completing trajectories in data of mobile phones

11:45-12:15 Poster Session Design of heuristic Algorithms, Laboratorio Computación

Chair: Ridelio Miranda

Speaker	Title
K. M. Ortega	Proposals for Large Neighborhood Search in Vehicle Routing Problems
D. L. Perez	Propuesta para encontrar el sistema de ecuaciones diferenciales lineales respecto a los parámetros que mejor ajuste un conjunto de datos para sistemas compartimentales
A. Monzón	System for Identifying Suitable Constraints

10:00-12:30 Course: *Statistics for insurance*, Patrice Bertail, Univ Paris Nanterre, France, Carlos Fernández, Telecom, France, Edificio Poey, Fac. Matemática y Computación. Aula de Francofonía

12:30 – 14:00 LUNCH BREAK

WEDNESDAY MAY 27th

Afternoon

14:00-14:45 Plenary Lecture: *Automatic text processing by machine learning: stance detection in document collections and biases conveyed by LLMs.* *Christine Largeron Université Jean Monnet, France,*
Introducer: Lucina García , Laboratorio Computación

14:45-15:00 Coffee Break *Room CAFÉ*

Computation Sciences & Applications 1, Laboratorio Computación

Chair: Lucina García

Time	Speaker	Title
15:00-15:15	C. Álvarez	BotaniQ: A step toward the informatization of the scientific literature on Cuba's flora.
15:15-15:30	V. M. Cardentey	A platform for medicinal bioactive compounds discovery: Cuban plants biodiversity for disease treatment
15:30-15:45	P. E. Lantigua	Attacks on the Arithmetic of Cryptographic Protection of Elliptic Curves

15:45-16:15: Poster Session On studies of medical images, Laboratorio Computación

Chair: Marta L. Baguer

Speaker	Title
L. D. González	Stability analysis of linear differential equation systems in FLUX population movement models: A numerical approach
A. Noris	Explicabilidad en Inteligencia Artificial: Métodos y Aplicaciones en Imágenes Médicas y Dermatológicas
D. Abad	Detection of Melanomes by automatic extraction of characteristics using DINOv2
N. Suarez	Numerical study of a construction method for unidimensional pattern-adapted wavelets

15:00-16:30 Course: *Statistics for insurance,* *Patrice Bertail, Univ Paris Nanterre, France, Carlos Fernández, Telecom, France,* Edificio Poey, Fac. Matemática y Computación. Aula de Francofonía

THURSDAY MAY 29th Morning

9:00-9:45: Plenary Lecture: *Extended Comparison of Topic Modeling Approaches: Language-Based vs. Word-Based Methods*, Jean-Charles Lamirel. Univ Strasbourg, SYNALP-LORIA, Laboratorio Computación

Introducer: Marta Lourdes Baguer

9:45-10:00 Coffee Break Room CAFÉ

10:00-12:15 Session Computation Sciences & Applications 2, Laboratorio Computación

Chair : Victoria Hernández Mederos

Title	Speaker	Title
10:00-10:30	Z. Shen , Chinese Academy of Sciences, China	Main Lecture: Safe-ReR: State-wise Safe Reinforcement Learning with Reachability Estimation based Representation
10:30-10:45	R. A. Gómez	An approximation to the language of all satisfiable boolean formulas, using range concatenation grammars
10:45-11:00	D. Sánchez	The intern words method, a new scrabble move generation algorithm
11:00-11:15	R. García	Code Similarity Classification in C#

11:15-12:15 Session Numerical Analysis & algorithms, Laboratorio Computación

Chair: Victoria Hernández Mederos

Time	Speaker	Title
11:15- 11:30	V. Hernández	Isogeometric approach to study the heating induced by ultrasound in biological tissues
11:30- 11:45	L. Barrera	Multipatch parametrization of the physical domain for solving a radiation problem with isogeometric analysis
11:45- 12:00	S. Albizu	Isogeometric Analysis applied to numerical solution of Westervelt 1D equation
12:00-12:15	M. L. Baguer	DermaUH: Digital ecosystem for dermatology

10:00- 10:30 Session Studies on Environment & social problems, Aula de Francofonía

Chair: Vivian Sistachs

Time	Speaker	Title
10:00-10:30	B.A. Wickstrom, Univ. Andrassy, Hungary	Main Lecture: The dynamics of climate change and global warming
10:00-10:15	V. Sistachs	Hurricane behavior in Cuba through statistical methods, 2000-2024 using tkhurs v1.1 software
10:15-10:30	J. Fortune	Spatial distribution according job-groups in Cuba's municipalities
10:30-10:45	J.F. García	Relationship between personal characteristics of women artisans in rural areas of Tabasco, Mexico and entrepreneurship and innovation

10:45-12:30 **RIDECA SESSION: (C. Bouza in Memoriam)**, Aula Francofonia

Chair: José Félix García

Presentation of RIDECA book 2025, Agustin Santiago, Jose M. Sautto, eds

On C. Bouza's Legacy

Future of RIDECA

12:30 – 14:00 LUNCH BREAK

THURSDAY MAY 29th

Afternoon

14:00-14:45 Plenary Lecture: *Unlocking Neural Complexity: the Role of Mathematics in Neuroscience Research*, Eduardo Martínez Montes, Centro Neurociencias, Cuba, Laboratorio Computación.

Chair. Lídice Galán

14:45-15:00 Coffee break, Room CAFÉ

15:00-15:45: Session Mathematical models on Neurosciences, Laboratorio Computación.

Chair. E. Martínez

Time	Speaker	Title
15:00- 15:15	E. Garea	From Deep Learning to Bayesian Models: an interpretable approach for the Alzheimer Progression in scenarios with few data
15:15- 15:30	S. León	Multimodal integration of cognitive and morphometric data for diagnosing the progression of Alzheimer illness
15:30-15:45	C. Viada	Predictive probability for binary outcomes in Ataxia patients treated with NeuroEPO plus

15:00-16:30 Course: *Statistics for insurance*, Patrice Bertail, Univ Paris Nanterre, France, Carlos Fernández, Telecom, France, Edificio Poey, Fac. Matemática y Computación. Aula de Francofonía

FRIDAY MAY 30th

Morning

9:30-11:15: Session Applications to control of health problems I, Laboratorio Computación

Chair: A. Seuc Ho

Times	Speaker	Title
9:30-10:00	A. Seuc Ho, INHEM, Cuba	Main Lecture: Mortality attributable to diabetes in Cuba
10:00-10:15	Y. Garcia	Attributable Burden to high blood pressure on cardiovascular disease mortality, Cuba 2019
10:15-10:30	K. Alfonso,	Suicide Burden in Cuba 2001-2021 (online)

10:30-10:45 Coffee Break Room CAFÉ

10:45-11:45: Session Applications to control of health problems II, Laboratorio Computación

Chair: Aymee Marrero

Time	Speaker	Title
10:45-11:15	R. Guinovart, Univ. Havana	Main Lecture: Multipopulation mathematical modeling of vaccination campaign of COVID-19 in Cuba
11:15-11:30	J.L. Leiva	Application for the study of infectious-contagious diseases from a microsimulation model based on agents
11:30-11:45	D. Jorge	Modeling polyandry in mosquito populations

11:45-13:00 Session Applications on Composite Materials & industrial process Laboratorio Computación

Chair: Raúl Guinovart

Time	Speaker	Title
11:45-12:00	L.M. Sixto	Homogenization, effective coefficients, and exact relationships in thermo-magneto-electro-elastic composite materials
12:00-12:15	C.A. Núñez	<u>Asintotic homogeneization in problems of unidimensional elasticity</u>
12:15-12:30	J. Arzola	Optimization of the temperature for obtaining sintetic combustible using plastic residuos
12:30-12:45	J. C. Borrero	Making decision under multiple criteria for designing bioreactors using vinaza-cachaza
12:45-13:00	J. Arzola	A combinatorial approach for optimizing transportation system: a multi-objective decision-making framework

9:30-12:30 Course: New methods based on Large Language Models vs Statistical Methods for NLP and explainable AI: Focusing on comparison and evaluation for topic modeling and embedding tasks
Jean-Charles Lamirel. Université de Strasbourg, SYNALP-LORIA, Aula de francofonía

9:00-12:30 Session: Taller Analítica de Negocios para el Desarrollo empresarial (en español) Casa de la FEU

Poder y uso de la información en la empresa, Dra. Lucina García (UH, Cuba) y MSc. Frank E. Acosta (UH, Cuba), MSc. Carlos Arce, (UH, Cuba)

Las Decisiones y su riesgo. Dr. Diego Della Donne, (ESSEC Bussines School, Francia) y Dr. Gemayqzel Bouza (UH, Cuba)

Sistemas empresariales & consultoría, Dr. Fidel Ullin Montejo, (Universidad Autónoma de Tabasco, Mexico), PDL 999+ (Cuba)

Pausa para café

Nexo Universidad-Empresa: experiencias en Latinoamérica Dr. José F. García, (Universidad Autónoma de Tabasco, México), Dr José M. Sautto (Universidad Autónoma de Guerrero, Mexico), MSc. Melba I Gómez (Fundación .Libertadores, Colombia)

Formación profesional Dra. Sira Allende (UH. Cuba), Dr. Marie Cottrell (SAMM, Paris1, Cuba), Dr. Juan Tejada (Universidad Complutense de Madrid, Esp.)

Espacio Networking & brindis

13:00-13:45 ICOR's Closing Plenary Lecture: Stochastic modeling of bistable systems driven by multiplicative white noise Zochil González Arenas, ICIMAF, Univ do Estado do Rio de Janeiro, Cubq-Brazil, Laboratorio Computación

Introducer: Raaul Guinovart