14th International Workshop

on

Operations Research

OR in the Time of COVID-19

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Lecturers

Plenary speakers

M. Cottrell (France).
S. Dempe (Germany).
R. Guinovart (Cuba).
M. Lavielle (France).

Main speakers

D. Aussel (France)
J. Daduna (Germany)
J.Ch. Lamirel (France).
M. Olteanu(France)
J. Rynkiewicz.(France)
Ch. Tammer(Germany)

Timetable
Tuesday

9:00-10:00: Opening Address.

10:00-11:00: **Main Lecture**: Modelling the COVID 19 pandemic requires a model…but also data!Prof. Dr. Marc Lavielle (INRIA &EcolePolytechnique, Francia)

Chair: S. Allende

Session: Transmission models of the pandemic Covid 19

Chair: A. Marrero

Contributions

Time	Name	Title
11:20	Y. Fernández	A predictive model of R_0 number in SARCOV-2 times
11:00	M.A. Villalobos	Generalized logistic regression forecasting of population infected with COVID-19 in Latin America
11:40	D. Mencio	Model for representing the dynamics of the transmission of Covid19 including vaccination.

12:00-12:30 Break

Session: Probabilistic and Statistical Models

Chair V. Sistachs

Contributions

Hour	Name	Title
12:30	P.O. Juarez	A two-stage scrambling procedure:simple and stratified random sampling. An evaluation of COVID-19`s data in Mexico
12:50	Y. García	Estimating the causal impact at the population level of the vaccine candidate PCV7-T to short and medium term
13:10	C. Viada	Inflammation indexes as predictors of lung damage in recovered COVID-19 patients
13:30	A. Gata	Parameters Estimation for the Generalized Gaussian Distribution aimed to the Analysis of Electroencephalogram (EEG) Signals
13:50	K. Kamila	Data driven model selection for same-realization predictions in autoregressive processes

Session Text analysis

14:00-14:40: Main Lecture: A n low-computation cost technique for interpretable and sparse embedding in graphs, J. Ch. Lamirel

Chair: Alberto Fernández

Electronic Posters

Chair: J.Ch. Lamirel

Name	Title
D. Valdés	AutoML with memory: a Meta-learning method based on instances
H. Cañizares	AutoBrat: an active learning approach for a NLP corpus annotation tool
I. Alfonso	New criterion for the selection of the internal rank in the classification of texts via Nonnegative Matrix Factorizations

Wednesday

9:00-10:00: **Main Lecture**: Modeling COVID 19 pandemic in Cuba. Prof. Dr. R. Guinovart (Universidad de La Habana, Cuba)
Chair: A. Ruiz

Session: Deep learning
10:00-10:40 Main Lecture Differentiability in quadratic mean of deep networks, J. Rynkiewicz
Chair M. Cottrell
Contributions
Chair: J. Rynkiewicz

Hour	Name	Title
10:40	W. Gómez	Deep learning predictors for unreported customer perception variables extracted from client's reviews
11:00	R. Cruz	Deep learning approach for latent representation of the style of texts
11:20	J.P. Consuegra	Quantification of Biases and Equity in Machine Learning Algorithms and Data Corpus
11:40	L. Jiménez	Specular reflections removal in colposcopic images based on neural networks: Supervised training with no ground truth previous knowledge

12:00-12:30 Break

Session: Equilibrium problems
12:30-13:10 Main Lecture Existence Results for Product-Type Quasi-Variational Inequalities in Banach Space, D. Aussel
Chair G. Bouza

Contributions
Chair D. Aussel

Hour	Name	Title
13:10	T. Cong Lai Nguyen	Qualitative stability for parametrised Nash Games
13:30	D. Villamar	Game Theory Approaches of Government incentive for Green Transition in Transportation Sector in Ecuador
13:50	G. Bouza	Linear Multi-leader-disjoint-followers games with common constraints: an example
14:10	P. Garrido	Optimization model for the evaluation of energy tenders for the Panamanian market

Thursday

9:00-10:00: **Main Lecture: Bilevel optimization- from solution existence to first solution algorithmsProf. Dr. S. Dempe (TU University Freiberg, Germany):**
Chair: G. Bouza

Session: Mathematical Methods in the Economy
10:10:40: Main Lecture Changes in transport demand in global trade. What is the impact of COVID-19 pandemic? J. Daduna
Chair: G. Bouza
Contributions
Chair: M. Villalobos

Hour	Name	Title
10:40	Y. Vázquez	Research study on neuromarketing
11:00	J. Trejos	Study of the behavior of the Covid-19 disease: macroeconomic variables related to the number of tests
11:20	M. Gaitán	Variational calculus for identifying optimal economical growth
11:40	E. Rosas	Inflation, inflationary uncertainty and economic growth: empirical evidence with bi-variated Garch models for Brazil and México

12:00-12:30 Break
Session: Mathematical Methods in the Economy
Contributions
Chair C. Bouza

Hour	Name	Title
12:30	I. Caamal	Characterization of the coefficients and growth rates of orange production in Mexico
12:50	I. Caamal	Characterization of agricultural indicators of Persian lime production in the municipality of Martínez de la Torre, Veracruz, Mexico

Poster Session
13:10-14:00

Name	Title
D. González	The distribution of the basic basket in Cuban markets network: a first approach
F.E. Rosales	VISUAL NGAT, a tool to help in the decision making
W. Sariol	An approach to estimate the number of beds needed in the event of epidemics. Case Study: COVID-19 in Cuba
Y. Quintana	Modeling transportation services of travel agencies

Friday

9:00-10:00**: Main Lecture:** Self-organizing maps and fickle data Prof. Dr. M. Cottrell (Université Paris I, France)

Session: Clustering & Location Algorithms. Applications

10:00-10:40: Main Lecture Sparse clustering for mixed data using VIMPClust R-package , Madalina Olteanu

Chair M. Cottrell

Contributions

Chair M. Olteanu

Hour	Name	Title
10:40	G. Bouza	Discovering relations for forecasting the length of the hospitalization of COVID-19 patients: a first approach
11:00	M. González	Exploring data related with the hospital stay of Covid-19 patients using self-organized maps.
11:20	E. Estevanel	Automated selection of clustering algorithms
11:40	I. Jiménez	The capacitated dispersion problem

Hour	Name	Title
12:30	G. Gaviño	Master production plan for teaching in virtual education , for simulating productivity using the language "R".
12:50	J.F. Rodríguez	COVID-19 pandemic`s socio-educative implications. an opinion poll study of docents of Universidad Intercultural del Sureste de México

13:15: Closing Address