



**EDUCACIÓN**  
SECRETARÍA DE EDUCACIÓN PÚBLICA



TECNOLÓGICO  
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**TIJUANA INSTITUTE OF TECHNOLOGY**  
**IEEE - Computational Intelligence Society Mexico-Chapter**  
**In cooperation with HAFSA Association**



**International Seminar on Computational Intelligence**  
**ISCI'2022 TECHNICAL PROGRAM AT GLANCE**

**23 -25 August 2022**

<b>August 23, 2022</b>	
10:45 - 11:00	<b>Opening Ceremony</b>
11:00 - 12:00	<b>Plenary Speech</b> , Prof. Vincenzo Piuri, Università degli Studi di Milano, Italy, <b>Artificial Intelligence in Cloud/Fog/Edge Computing and Internet-of-Things</b>
12:00 - 13:00	<b>Plenary Speech</b> , Prof. Janusz Kacprzyk, Polish Academy of Sciences, Warsaw, Poland, <b>Systems design using fuzzy optimization: a de novo programming approach</b>
13:00 - 14:00	SESSION 1 Neural Networks I, Chair: Patricia Melin co-chair: Daniela Sanchez 13:00-13:15 Martha Ramirez, Patricia Melin, <b>A decision-making approach based on multiple neural networks for clustering and prediction of time series</b> 13:15-13:30 Oscar Montiel, Daniel Lopez, Miguel Lopez, Moises Sanchez, <b>Quantvolutional Neural Network LeNet5 applied to MNIST</b> 13:30-13:45 Yutzil Poma, Patricia Melin, <b>A new selection and class prediction using type-1 fuzzy logic applied to a convolutional neural network</b> 13:45-14:00 Alexis Campos, Patricia Melin, Daniela Sánchez, <b>Convolutional neural networks for detection and correct use of face mask</b>
14:00 - 16:00	LUNCH
16:00 - 17:00	SESSION 2 Optimization I, Chair: Mario Garcia, co-chair: Cinthia Peraza 16:00-16:15 Hector Carreon-Ortiz, Fevrier Valdez, Oscar Castillo, <b>A New Continuous Mycorrhiza Optimization Nature-Inspired Algorithm</b> 16:15-16:30 J. C. Felix-Saul, Mario García Valdez, <b>Recovering from population extinction in the Life Cycle algorithm</b> 16:30-16:45 Juan de Anda-Suárez, Felipe J. Flores-Calva, Daniel Jimenez-Mendoza, <b>Evolutionary Gaussian Gradient: A new optimization algorithm for the electromechanical design of gravitational batteries</b> 16:45-17:00 Rocío Salinas Guerra, Efrén Mezura Montes, <b>An Evolutionary Bilevel Optimization Approach for Neuroevolution</b>
17:00 - 18:00	SESSION 3 Fuzzy Logic, Chair: Oscar Castillo, co-chair: Ivette Miramontes 17:00-17:15 Alejandra Mancilla, Oscar Castillo, Mario García-Valdez, <b>Optimization of Fuzzy Controllers using Distributed Bioinspired Methods with Random Parameters</b> 17:15-17:30 Oscar Carvajal, Patricia Melin, Ivette Miramontes, German Prado-Arechiga, <b>Optimal design of a general type 2 classifier for pulse levels using the Coronavirus herd immunity optimizer</b> 17:30-17:45 Ian A. Ruiz, Mario García-Valdez, Oscar Castillo, <b>Building Heat Transfer Simulator for Single-Zone Hydronic System Fuzzy Controller Design</b> 17:45-18:00 Maribel Guerrero, Fevrier Valdez, Oscar Castillo, <b>Comparison of the effect of parameter adaptation in the bio-inspired Cuckoo search algorithm using Type-2 Fuzzy Logic</b>

<b>August 24, 2022</b>	
11:00 - 12:00	<b>Plenary Speech</b> , Prof. Radu-Emil Precup, Politehnica University of Timisoara, Romania, <b>Evolving Takagi-Sugeno-Kang Fuzzy Models and Applications</b>
12:00 - 13:00	SESSION 4 Neural Networks II, Chair: Martin Carpio, co-chair: Claudia Gonzalez 12:00-12:15 Leonardo Velazquez-Ruiz, Graciela Ramirez-Alonso, Fernando Gaxiola, Javier Camarillo, Daniel Espinobarro, Alain Manzo-Martinez, <b>Approximation of Physicochemical Properties based on a Message Passing Neural Network Approach</b> 12:15-12:30 Juan Carlos Benjamín Somohano Murrieta, Héctor Gabriel Acosta Mesa, Efrén Mezura Montes, <b>GradCAM integration in the evolutionary design of Dense Convolutional Networks for medical images classification</b> 12:30-12:45 Sergio Varela-Santos, Patricia Melin, <b>Optimization of Neural Network models with the Black Widow Optimizer (BWO) in Medical Image Diagnosis</b> 12:45-13:00 Cesar Torres, Claudia I. Gonzalez, Gabriela E. Martinez, <b>Fuzzy convolutional layer in deep neural networks for feature extraction</b>
13:00 – 14:00	SESSION 5 Optimization II Chair: Jorge Soria-Alcaraz, co-chair: Martha Ochoa 13:00-13:15 Octavio Ramos-Figueroa, Marcela Quiroz-Castellanos, <b>Efficient Heuristic Strategies for the Parallel-Machine Scheduling Problem with Unrelated Machines and Makespan Minimization</b> 13:15-13:30 Lucio Amézquita, Oscar Castillo, José Soria, Prometeo Cortes-Antonio, <b>Study on the effect of chaotic maps in the formation of new universes in the MVO algorithm</b> 13:30-13:45 Hernández Pablo, Gómez-Santillán Claudia, Rangel-Valdez Nelson, Balderas-Jaramillo Fausto, <b>Interactive evolution framework for multi-objective optimization under conditions of imprecision and uncertainty</b> 13:45-14:00 David Bolaños-Rojas, Jorge A. Soria-Alcaraz, Andrés Espinal, Marco A. Sotelo-Figueroa, <b>Performance comparative of surrogate models as fitness functions for metaheuristic algorithms</b>
14:00 - 16:00	LUNCH
16:00 - 17:00	SESSION 6 Optimization III Chair: Chair: Hector Fraire, co-chair: Gloria Leticia Amador 16:00-16:15 Jessica González-San-Martín, Laura Cruz-Reyes, Bernabé Dorronsoro, Marcela Quiróz-Castellanos, Héctor Fraire, Nelson Rangel-Valdez, Claudia Gómez-Santillán, <b>Comparative study of heuristics for the One-dimensional Bin Packing Problem</b> 16:15-16:30 Miguel Ángel García-Morales, Héctor Joaquín Fraire-Huacuja, José Alfredo Brambila-Hernández, Juan Frausto-Solís, Laura Cruz-Reyes, Claudia Guadalupe Gómez-Santillán and Juan Martín Carpio-Valadez, <b>Particle Swarm Optimization Algorithm with Improved Opposition Based Learning (IOBL-PSO) to Solve Continuous Problems</b> 16:30-16:45 Guadalupe Carmona-Arroyo, Marcela Quiroz-Castellanos, <b>An experimental study of the Grouping Genetic Algorithm for Variable Decomposition in Large-scale Constrained Optimization Problems</b> 16:45-17:00 Olga J. Morales, Diego Tristán Rodríguez, Rubén Garrido, Efrén Mezura, <b>Tuning of an Active Disturbance Rejection Controller using a Particle Swarm Optimization algorithm</b>
17:00 - 18:00	<b>Plenary Speech</b> , Prof. Baoding Liu, Tsinghua University, Beijing, China, <b>Uncertainty Theory</b>
<b>August 25, 2022</b>	
11:00 - 12:00	<b>Plenary Speech</b> , Prof. Ajith Abraham, MIR Labs, Washington USA, <b>Evolving Function Approximation Systems: Challenges, Perspective and Applications</b>
12:00 - 13:00	SESSION 7 Optimization IV Chair: Laura Cruz, co-chair: Martha Pulido 12:00-12:15 Norberto Castillo–García, Paula Hernández–Hernández and Laura Cruz–Reyes, <b>Ant Colony Hyperheuristic Approach for the One–Dimensional Bin Packing Problem</b>

	<p>12:15-12:30 E.M. Sánchez Márquez, M. Ornelas-Rodríguez, H. J. Puga-Soberanes, Ricardo Pérez, Martín Carpio, <b>EDA Experimental Proposal with Mallows Distribution applied to the Mixed No-idle Permutation Flowshop Scheduling Problem</b></p> <p>12:30-12:45 José Alfredo Brambila-Hernández, Héctor Joaquín Fraire-Huacuja, Miguel Ángel García-Morales, <b>Experimental Evaluation of Adaptive Operators Selection Methods for the Dynamic Multiobjective Evolutionary Algorithm Based on Decomposition (DMOEA/D</b></p> <p>12:45-13:00 LORENA ROCIO ROSAS SOLORZANO, CLAUDIA GUADALUPE GOMEZ SANTILLAN, NELSON RANGEL VALDEZ, LAURA CRUZ REYES, <b>MULTI-OBJECTIVE OPTIMIZATION THROUGH COEVOLUTION AND OUTRANKING METHODS WITH UNCERTAINTY MANAGEMENT</b></p>
13:00 – 14:00	<p>SESSION 8 Fuzzy Logic and Genetic Algorithms, Chair: Fevrier Valdez, Cinthia Peraza</p> <p>13:00-13:15 Stephanie Amador-Larrea, Marcela Quiroz-Castellanos, Guillermo-de-Jesús Hoyos-Rivera, <b>A new high performance crossover operator for the Grouping Genetic Algorithm with Controlled Gene Transmission</b></p> <p>13:15-13:30 José Fernando Padrón-Tristán, Laura Cruz-Reyes, Rafael Alejandro Espín-Andrade, Carlos Eric Llorente-Peralta, Claudia Gómez-Santillán, <b>Application of Compensatory Fuzzy Logic in Diabetes Problem Using Pima Indians dataset</b></p> <p>13:30-13:45 Oscar Fernández-Solano, Norma Angélica Zavaleta-García, Marcela Quiroz-Castellanos, Hector Gabriel Acosta-Mesa, Efen Mezura-Montes, <b>A Grouping Genetic Algorithm for RGB-image segmentation</b></p> <p>13:45-14:00 Carlos Eric Llorente-Peralta, Laura Cruz-Reyes, Rafael Alejandro Espín-Andrade, José Fernando Padrón-Tristán, <b>Archimedean Compensatory Fuzzy Logic for Data Analytics: some case studies</b></p>
14:00 - 16:00	LUNCH
16:00 - 17:30	<p>SESSION 9 Hybrid Intelligent Systems, Chair: Hector Puga, co-chair: Diana Bravo</p> <p>16:00-16:15 Victor D. Cruz, Jesus A. Rodriguez, Luis T. Aguilar, Roger Miranda-Colorado, <b>Trajectory Tracking Control of Wheeled Mobile Robots Using Neural Networks and Robust Control Techniques</b></p> <p>16:15-16:30 Lucero Ortiz-Aguilar, Sergio Rodriguez-Miranda, Fernando Mendoza-Vazquez, M. Benitez and Natanael Zapata-Gonzalez, <b>A comparison between selection operators heuristics of perturbation in CSP</b></p> <p>16:30-16:45 VALENTÍN CALZADA-LEDESMA, ANDRÉS ESPINAL, <b>AUTOMATIC CHARACTERIZATION OF TIME SERIES USING METAHEURISTIC ALGORITHMS FOR EPIDEMICS SPREAD ANALYSIS</b></p> <p>16:45-17:00 José Ángel Villarreal-Hernández, María Lucila Morales-Rodríguez, Nelson Rangel-Valdez, <b>Towards computational forecast supported by negotiating software agents</b></p> <p>17:00-17:15 Francisco J. Pedroza-Castro, Alfonso Rojas- Domínguez, Martín Carpio, Manuel Ornelas-Rodríguez, Héctor Puga, <b>Automated Machine Learning to improve LSTM to forecasting stock markets using metaheuristics</b></p> <p>17:15-17:30 Oscar Montiel, Ulises Orozco-Rosas, Alfredo Arteaga, Oscar Castillo, <b>N-Queens problem solution using the Grover's algorithm</b></p>
17:30 - 18:30	<b>Plenary Speech</b> , Prof. Grigori Sidorov, CIC-IPN, Mexico City, Mexico, <b>Solving computational linguistics problems with deep learning and machine learning</b>

Note: Schedule is in Standard Pacific Time.

