

5th International Conference on Ontologies and Knowledge Graphs

ICOKG 2026 | Official Conference Program

September 23, 24, and 25, 2026 · Faculty of Computer Science, BUAP · Puebla, Mexico

Wednesday, September 23, 2026

09:00 – 09:30 Registration and Welcome Reception

09:30 – 10:00 ICOKG 2026 Opening Ceremony

Presidium and Organizing Committee: Dra. Mireya Tovar Vidal, M.I. María del Consuelo Molina García, Dra. Maricela Claudia Bravo Contreras, Dr. Juan Pablo Padilla Martínez, Mtro. Carlos Armando Ríos Acevedo.

Session Chair: M.C. Karina Rosales López

KEYNOTE ADDRESS

10:00 – 11:00 | **IN-PERSON**

“Depression Detection in Digital Content: A Methodological Journey Through Topics, Emotions, and Symptoms”

Dr. Manuel Montes y Gómez

Language Technologies Laboratory, National Institute of Astrophysics, Optics and Electronics (INAOE), Mexico

Session Chair: Dr. José Alejandro Reyes Ortiz

11:00 – 11:20 Coffee Break / Networking

Session: Natural Language Processing and Health

Session Chair: Dr. José Alejandro Reyes Ortiz

11:20 – 11:40 Impact of Linguistic Enrichment on the Clustering of Scientific Abstracts

SPRINGER **IN-PERSON**

Aarón Álvarez Gómez, Maricela Bravo, Gabriela Alejandra García Robledo, Jose Alejandro Reyes Ortiz, and Josué Padilla Cuevas

11:40 – 12:00 Detection of depression and anxiety using feature selection

SPRINGER **IN-PERSON**

Erick Barrios González, Mireya Tovar Vidal, and María Teresa Torrijos Muñoz

12:00 – 12:20 Knowledge Graph Construction for Explainable Clinical Decision Support in Non-Communicable Diseases Using Large Language Models at Patient-Level

SPRINGER **IN-PERSON**

Augusto Javier Reyes Delgado, Isaac Machorro Cano, Giner Alor Hernández, Oscar Báez Sentíes, José Oscar Olmedo Aguirre, and José Luis Sánchez Cervantes

12:20 – 12:40 Clasificación automática de reportes mamográficos en español basada en BI-RADS mediante aprendizaje automático

NATIONAL **IN-PERSON**

Luis Enrique Álvarez Segura, José Alejandro Reyes Ortiz y Josué Padilla Cuevas

12:40 – 13:00 Break

Session: Data Mining, Predictive Models, and Graphs**Session Chair:** *M.C. Jaime Alejandro Romero Sierra***13:00 – 13:20 Analysis of Video Game Reviews Using Negation-Aware Preprocessing and Class Balancing****SPRINGER** **IN-PERSON**

Diego De Ramón Tadeo and Maya Carrillo Ruiz

13:20 – 13:40 Deployment of a Web-Based Expert System Using a Multilayer Perceptron for the Early Prediction of Chronic Kidney Disease**SPRINGER** **IN-PERSON**

Alan Marcial and Mireya Tovar Vidal

13:40 – 14:00 Temporal Knowledge Extraction from Cardiorespiratory Signals: A GRU Autoencoder Approach for Anomaly Detection**SPRINGER** **IN-PERSON**

Daniel Marcelo González Arriaga, Carlos Leopoldo Carreón Díaz De León, Jaime Alejandro Romero Sierra, and Juan Carlos Conde Ramírez

14:00 – 14:20 Caracterización Dinámica de la Confiabilidad de Clientes para la Agregación en Aprendizaje Federado**NATIONAL** **IN-PERSON**

Samantha Acosta Ruiz, Mireya Tovar Vidal, and José Alejandro Reyes Ortiz

Thursday, September 24, 2026

08:30 – 9:00 Registration Desk Open

KEYNOTE ADDRESS

09:00 – 10:00 | **VIRTUAL**

“Reconciling DL, SWRL, SPARQL, and SHACL: A Discussion on Reasoning, Rule Inference, Querying, and Validation in Semantic Web Practice”

Dra. Maricela Claudia Bravo Contreras

Universidad Autónoma Metropolitana, Azcapotzalco (UAM-A), Mexico

Session Chair: *Dra. María Auxilio Medina Nieto*

Session: Ontologies and Knowledge Representation

Session Chair: *Dr. José Alejandro Reyes Ortiz*

10:00 – 10:20 MeXcalOnto: An Ontology for Representing the Mexican Standard NOM-199-SCFI-2017 for Wines and Spirits

SPRINGER **IN-PERSON**

Cecilia Reyes-Peña, Laurette Hernández Toquiantzi, Joaquín Guzmán Morán, Ángel Mauricio Sánchez Maldonado, Emmanuel Cuatecontzi Vázquez, and Ricardo Ramos-Aguilar

10:20 – 10:40 LoboSearch: toward fair teaching evaluation through ontologies and knowledge graphs

SPRINGER **IN-PERSON**

Nadia Morales Torres, Claudia Hernández Martínez, Juan Carlos Conde Ramírez, Jaime Alejandro Romero Sierra, and Carlos Leopoldo Carreón Díaz de León

10:40 – 11:00 Onto4cyberbullying: an ontology of the cyberbullying domain built using open datasets

SPRINGER **IN-PERSON**

María Auxilio Medina Nieto, Eduardo López Domínguez, and Yesenia Hernández Velázquez

11:00 – 11:20 *Coffee Break / Networking*

Session: Semantic Systems and Decentralized Web

Session Chair: *Dra. María Auxilio Medina Nieto*

11:20 – 11:40 Sistema clínico basado en otologías para la gestión de recetas médicas

NATIONAL **IN-PERSON**

Imanol Romero Blanco

11:40 – 12:00 Gestión descentralizada de expedientes médicos mediante Solid y web semántica en México: arquitectura y validación inicial del control de acceso

NATIONAL **IN-PERSON**

Montserrat Lázaro Salinas and Julio Hernández

12:00 – 12:20 Generative Artificial Intelligence-Assisted Assessment of Learning in Completely Randomized Design for Inferential Statistics among Higher Education Students

SPRINGER **IN-PERSON**

María Teresa Torrijos Muñoz, María Patricia Torrijos Muñoz, Carlos García Franchini, and Carlos Leopoldo Carreón Díaz de León

12:20 – 12:40 **SisGest Industrial: A Domain Schema for Industrial Control and Materials Management with Web-Based Visual Access**

SPRINGER **VIRTUAL**

Andrik I. Reyna Castrejón

12:40 – 13:00 *Break*

Session: Data Warehousing and Geospatial Modeling (Virtual Session)

Session Chair: *Dr. Daniel Marcelo González Arriaga*

13:00 – 13:20 **A Dimensional Data Warehouse for Geospatial Monitoring of Municipal Public Works, with an Evolution Path Toward a Lakehouse Architecture**

SPRINGER **VIRTUAL**

Uriel González Casiano, Marco Tulio Maldonado Mejía, and Gabriel Hurtado Avilés

13:20 – 13:40 **Territorial Information Retrieval from Heterogeneous Open Data through the Construction of a Data Warehouse for Water Management in Mexico City**

SPRINGER **VIRTUAL**

Eduardo Uriel Velázquez Arrieta, Omar Fernando Pulido Morales, Emilio García López, Clara Aide Hernández Martínez, and Gabriel Hurtado Avilés

Friday, September 25, 2026

09:00 – 10:00 Registration Desk Open

Session: Optimization and Deep Learning in Signals and Computer Vision

Session Chair: Dra. María Teresa Torrijos Muñoz

10:00 – 10:20 Fine-Tuning Hyperparameter Optimization in Convolutional Neural Networks Using the Jaya Algorithm for Mineral Classification

SPRINGER **IN-PERSON**

Aaron Ramírez Martínez, Maya Carrillo Ruiz, and Pedro García Juárez

10:20 – 10:40 Analyzing the Graphs that Model the DNA Codeword Design Problem

SPRINGER **IN-PERSON**

Sonia Navarro Flores and Carlos Guillén Galván

10:40 – 11:00 Reinforcement Learning for Improving the Visual Coherence of Grad-CAM Explanations in Convolutional Neural Networks

SPRINGER **IN-PERSON**

Mario Córdova Calva, Jesús García Ramírez, Daniel Sánchez Ruiz, and Lauro Reyes Cocoletzi

11:00 – 11:20 Coffee Break / Networking

Session: Artificial Intelligence and Clinical Data Mining

Session Chair: M.C. Juan Carlos Conde Ramírez

11:20 – 11:40 Modelo de Predicción en la enfermedad de Cáncer de Mama en el Aprendizaje Automático

NATIONAL **IN-PERSON**

Jenifer Vázquez Castro, Mireya Tovar Vidal, Daniel Marcelo González Arriaga, and Carlos Leopoldo Carreón Díaz de León

11:40 – 12:00 Dynamic Parameter CNN-Based Identification of the Upper Limb for Monitoring Biomechanical Changes Associated with Diabetes Mellitus

SPRINGER **IN-PERSON**

Carlos Leopoldo Carreón Díaz de León, Daniel Marcelo González Arriaga, Juan Carlos Conde Ramírez, and Jaime Alejandro Romero Sierra

12:00 – 12:20 Desarrollo de Algoritmos de Aprendizaje Supervisado para detección del riesgo de hipertensión

NATIONAL **VIRTUAL**

Johan Sierra López, Mireya Tovar Vidal, María Teresa Torrijos Muñoz, and Jaime Alejandro Romero Sierra

12:20 – 12:40 Minería de datos aplicada al análisis de hipertensión arterial y factores de riesgo cardiovascular

NATIONAL **VIRTUAL**

Luis Martínez, José Alejandro Reyes Ortiz, Josué Padilla Cuevas, and Gabriela Alejandra García Robledo

12:40 – 13:00 Coffee Break / Networking

KEYNOTE ADDRESS

13:00 – 14:00

VIRTUAL

“The Shortest Path Between Two Ideas: From Dijkstra and Digital Maps to Energy Landscapes in Materials Discovery”**Dr. Aldo H. Romero***Physics Department, West Virginia University, Morgantown, USA***Session Chair:** *Dr. Carlos Leopoldo Carreón Díaz de León***14:00 – 14:30 Closing and Award Ceremony****Chairs:** Dra. Mireya Tovar Vidal and Dr. José Alejandro Reyes Ortiz · ICOKG 2026 Steering Committee