7th edition of the International Conference in Software Engineering Research and Innovation (CONISOFT’19)

Universidad Nacional Autónoma de México (UNAM)
October 23rd-25th
Mexico City
Event location maps
Event location maps
Wednesday 23rd

09:30 – 10:30  
Opening Ceremony

10:30 – 11:30  
- Dr. Alain Abran

For all types and sizes of software projects, within the very small to the very large organizations, development effort must be estimated: it is a universal problem and it will not disappear.

Which software estimation techniques can your trust and which ones are mere ‘placebos’ based on ‘fake science’?

12:00 – 13:00  
Microsoft Conference: Digital Transformation: Education, AI and more
- Enrique Perezyera
  CEO Microsoft México

13:30 – 15:00  
Panel: Academy and Software industry: Are we on the same page?
- Moderator: Héctor G. Pérez González
  M.C. Lourdes Sánchez Guerrero
  (Asociación Nacional de Instituciones de Educación en Tecnologías de Información)
  Alejandra Vasquez Carbajal
  (Universidad Abierta y a Distancia de México)
Companies and institutions have become data accumulators, they store large amounts of them, but what do they do with all this information? How useful are the data we store? When do we get them?
What context did they have? Who protects them? Who is the owner?

10:30 – 11:30

**Keynote: How to survive 25 years developing software.**

- María Julia Orozco Mendoza, Ultrasist

In Mexico there are 4.2 million economic units, of which 99.8% are considered small and medium enterprises (SMEs) and that contribute 52% of the Gross Domestic Product (GDP) of the country.

However, it is estimated that 70% of SMEs close in less than 5 years. How, three graduates of the Faculty of Sciences of the UNAM, managed to consolidate a software development company?

12:00 – 13:00

**Tutorial: Classifying feelings: Social network analysis for Mayor of Guayaquil 2019**

- W. Gustavo Cevallos

Full Stack Software Developer / Enthusiast for Artificial Intelligence / AI Saturdays Mentor / GitHub Campus Expert

We will talk about the status of the candidates of Alcadia de Guayaquil in social networks, the process to create an Artificial Intelligence project. It will also explain how knowledge transfer between neural networks was used to classify feelings and analysis results.

13:30 – 15:00

**Panel: How to make a software company and not die trying**

- Moderator: Norberto Ortigoza (Bunsan)
Friday 25th

09:30 – 10:30

**Keynote: Technical debt and architecture**
- Humberto Cervantes Maceda
  Universidad Autónoma Metropolitana
  Iztapalapa
  We will see what the categories of architectural technical debt are and I will also present a tool that allows identifying and sizing architectural technical debt. I will discuss my experiences of using this tool in the industry and, finally, I will present some ideas for future work in relation to this topic

10:30 – 11:30

**Keynote: Goodbye requirements analysis. Hello business needs detection for the promotion of Digital Transformation**
- I.S.C. José David Garnica García
We will see why the mentality should be changed at the time of performing the analysis of project requirements. A way to determine the needs of the business in the generation of an innovative solution is presented, which allows developing successful projects to promote digital transformation in companies, trying to meet the commitments dates and progressive deliverables.

12:00 – 13:00

**Keynote: Professional and personal development of the Software Engineer**

- Ken Bauer

Computing Science Department at the Tecnológico de Monterrey Guadalajara Campus

"Engineers have professional careers that we hope are long, varied and common to various work environments. That is why they must take responsibility for their professional development in their own hands."

13:30 – 14:30

**Aruba Conference: Network Application with Aruba**

Marco Tena
System Engineering Manager. Aruba México
Orlando Valle Figueroa
CTO. White Carrot

15:00 – 16:00

**Closing Ceremony**
Thursday 24th

10:00 – 14:00

Workshop: Signal and image processing with MATLAB

- Carlos Tapia
  Application Engineer
  What is MATLAB? / The workflow of technical computing / Data types in MATLAB / Data import into MATLAB / Filtering and analysis of an EEG signal / Import images and video in MATLAB / Work with DICOM files / Machine learning / Grouping, Classification and Regression with MATLAB / Example: motion detection / Computer vision / Classification of parasite type in blood images

Capacity: 50

14:30 – 17:00

Papers Track 7: Processes, Methodologies and Tools/Procesos, Metodologías y Herramientas

- 14:30 Arquitectura de un módulo de maquetado desarrollado en JavaFx que complementa un Generador de Aplicaciones Enriquecidas
  Yasmin Rosales, Beatriz Alejandra Olivares Zepahua, Ignacio Lopez-Martinez, Celia Romero and Luis Angel Reyes
  (Instituto Tecnológico de Orizaba)
- **15:00 Gamificación para la Mejora de Procesos en Ingeniería de Software: Un estudio exploratorio**
  Erika E. Briceño, Raúl A. Aguilar, Julio C. Díaz and Juan P. Ucán
  (UADY)

- **15:30 Marco metodológico para el desarrollo de software basado en el modelo CMMI-DEV y metodologías ágiles para la MiPyME en México**
  Emma Yesenia Rivera Ruiz, Zinthia Moreno Ruiz and José Martín Gutiérrez Arriaga
  (Instituto Tecnológico Superior de Ciudad Hidalgo)

- **16:00 Expresiones Regulares para el Tratamiento de la Privacidad en Navegadores Web**
  Donovan Riaño, Guillermo Molero-Castillo, Alejandro Velázquez-Mena and Everardo Bárcenas
  (Facultad de Ingeniería,UNAM)
Friday 25th

12:30 – 15:00


- **12:30 When Software Engineering meets Cybersecurity at the classroom**
  Hugo Gonzalez and Rafael Llamas-Contreras
  (Universidad Politécnica de San Luis Potosí)

- **13:00 Análisis Comparativo de la Complejidad Cognitiva de la Gestión de Proyecto en el Desarrollo de Software en la ISO/IEC 29110-5-1-2 y la Guía de Gestión de Proyectos del PMI**
  Edinson Damian and Abraham Davila
  (Universidad Nacional Pedro Ruiz Gallo, Perú. Pontificia Universidad Católica del Perú.)

- **13:30 What is Programming? Putting all together, Part II –The Cognitive Skills associated**
  Reyes Juárez-Ramírez, Samantha Jiménez and Verónica Tapia-Ibarra
Exploring Software Design Skills of Students in different Stages of their Curriculum

Hector G. Perez-Gonzalez, Alberto Nunez-Varela, César Guerra-García, Francisco E Martinez-Pérez, Froylan E. Hernandez-Castro, Ken Bauer, Reyes Juárez-Ramírez and Francisco Torres-Reyes

A satisfiability algorithm for the mu-calculus for trees with Presburger constraints

Yensen Limón, Everardo Barcenas, Guillermo Molero, Edgard Benítez-Guerrero and Alejandro Velázquez-Mena
**Wednesday 23th**

**12:00 – 15:00**

**Workshop: Reflecting on the Code of Ethics and Professional Conduct of the ACM**

- Dra. Hanna Oktaba

  Know the ACM Code of Ethics and Professional Conduct and relate it to real cases and the consequences of non-compliance

  Capacity: 50

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**Thursday 24th**

**12:30 – 15:00**

**Papers Track 9: Trends III: Human aspects’ assessment and treatment in Software Systems/Evaluación y tratamiento de los aspectos humanos en Sistemas Software.**

- **12:30 Nighttime Depression Episodes Classification using a Formal Method: KDD**

  Julieta G. Rodríguez-Ruiz, Carlos Eric Galván Tejada, Sodel Vázquez Reyes, Jorge I. Galván-Tejada and Hamurabi Gamboa Rosales

  (Universidad Autónoma de Zacatecas, ITESM)
- **13:00** Hacia una guía de diseño para APIs Web con un enfoque en la usabilidad
  Maribel Tello-Rodríguez, Jorge Octavio Ocharán-Hernández and Juan Carlos Pérez-Arriaga
  (Universidad Veracruzana)

- **13:30** Estimación del esfuerzo de proyectos de software con algoritmos de aprendizaje de máquinas
  Jesús Iván Saavedra Martínez, María Guadalupe Elena Ibarguengoitia González and Gibran Fuentes Pineda
  (Facultad de Ciencias, UNAM, Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, UNAM)

- **14:00** Hacia una metodología para el diseño de contratos inteligentes
  Carlos Omar Solís Osorio, Humberto Cervantes Maceda and Elizabeth Pérez Cortés
  (Universidad Autónoma Metropolitana)

- **14:30** Earned Scope Management: Scope Performance Evaluation for
Friday 25th
12:30 – 15:00

Papers Track 4: Formal Methods in Software Engineering /Métodos formales en la Ingeniería de Software.

- 12:30 Sequence Diagrams Tailored for Software Design used to Build a Carpooling Management System
  Maria Del Carmen Gómez-Fuentes and Jorge Cervantes-Ojeda
  (Universidad Autónoma Metropolitana)

- 13:00 Application of User Interface Transition Diagrams in the Construction of a Software System: A Case Study
  Maria Del Carmen Gómez-Fuentes and Jorge Cervantes-Ojeda
  (Universidad Autónoma Metropolitana)
Aula Magna

- **13:30** Replaneación de proyectos ágiles de software usando técnicas de optimización
  Victor Hugo Escandon Bailon, Humberto Cervantes Maceda and Abel García Nájera
  (Universidad Autónoma Metropolitana)

- **14:00** Software Engineering Needs in the North of Sinaloa Employing the Cluster Analysis
  Edgar Omar Pérez Contreras, Alan Ramírez-Noriega, Juan Francisco Figueroa Pérez and Yobani Martínez Ramírez
  (Universidad Autónoma de Sinaloa)

- **14:30** Evaluation of Ontologies based on experts knowledge
  María Del Carmen Rodríguez Apodaca, Alan Ramírez-Noriega, Yobani Martínez-Ramírez, Ana María Hernández Ruiz and Teresa Galaviz Alejos
  (Universidad Autónoma de Sinaloa)
Wednesday 23th
12:30 – 15:00

Papers Track 1: Requirements Engineering/Ingeniería de Requerimientos.

- **12:30** A Novel Approach for Software Requirement Prioritization
  Muhammad Shah Jahan, Farooque Azam, Muhammad Waseem Anwar, Anam Amjad and Kashif Ayub
  (National University of Sciences and Technology, Islamabad, Pakistan)

- **13:00** A Novel Approach for Software Requirement Prioritization Based Upon Non-Functional Requirements
  Kashif Ayub, Farooque Azam, Muhammad Waseem Anwar, Anam Amjad and Muhammad Shah Jahan
  (National University of Sciences and Technology, Islamabad, Pakistan)

- **13:30** Evaluating the software quality non-functional requirement through a fuzzy logic-based model based on the ISO/IEC 25000 (SQuaRE) standard
  Francisco Valdés-Souto, Alberto S. Núñez-Varela and Héctor G. Pérez-González
  (Science Faculty National Autonomous University of Mexico (UNAM),)
15:30 – 18:00

Papers Track 3: Empirical Software Engineering / Ingeniería de Software Empírico

- 15:30 Quality Metrics in Software Design: A Systematic Review
  Esmeralda Hernandez Gonzalez, Angel Sanchez Garcia, Karen Cortes Verdin and Juan Carlos Pérez Ariaga
  (Universidad Veracruzana)
- **16:00** A Taxonomy for Complexity Estimation in Agile Methodologies: A Systematic Literature Review
  Mayra Durán, Reyes Juárez-Ramírez, Samantha Jiménez and Claudia Tona
  (Facultad de Ciencias Químicas e Ingeniería Universidad Autónoma de Baja California)

- **16:30** Towards a Set of Factors to Identify the Success in Scrum Project Delivery: A Systematic Literature Review
  Claudia Tona, Reyes Juárez-Ramírez, Samantha Jiménez, Mayra Durán and César Guerra-García
  (Universidad Autónoma de Baja California)

- **17:00** Towards an Efficient Log Data Protection in Software Systems through Data Minimization and Anonymization
  Andres Omar Portillo Dominguez and Vanessa Ayala-Rivera
  (University College Dublin)

- **17:30** Diseño de herramienta para el estudio de niveles de depresión a través de la detección de emociones universales aplicando técnicas de cómputo afectivo y minería de datos
Thursday 24th

11:30 – 14:00

Papers Track 5: Construction of Software Systems for Health Sciences and Industry/
Contrucción de Sistemas Software para la Salud y la Industria.

- 11:30 A Quality Framework for Evaluating Grammatical Structure of User Stories to Improve External Quality
  Samantha Jiménez and Reyes Juárez Ramírez
  ( Autonomous University of Baja California)

- 12:00 Performance evaluation of Leap Motion, Myo, and Space Navigator devices for 2D and 3D interactions
  Luis Gerardo De la Fraga and Axel Salazar Ordoñez
  (Cinvestav. Computer Science Department)
- 12:30 Método de Calificación de Atributos de Calidad en Productos Software Médico Regulado Usando Proceso Analítico Jerárquico y Rubrica de Evaluación
  Jonathan Venegas Sandoval and Francisco Javier Álvarez Rodríguez
  (Universidad Juárez Autónoma de Tabasco, Universidad Autónoma de Aguascalientes)

- 13:00 Automotive Ignition through a Face Recognition System: AutoTISow Framework Innovation
  Jorge Aguilar, Jesus Juarez and Carlos Fernandez
  (UPAEP, CEDIG, UTM)

- 13:30 Geographic Information System on the Web for recording georeferenced information transport system at the Universidad de los Llanos
  Laura Cristina Cespedes Bastos, Cristian Eduardo Gonzalez Alba, Cesar Augusto Diaz Celis and Angel Alfonso Cruz Roa
  (Universidad de los Llanos, Colombia)

- **14:30** Traduciendo Requisitos de Seguridad desde una Arquitectura Empresarial hacia un Modelo de Proceso de Negocio Seguro
  Angelica Caro, Alfonso Rodríguez, Luis San-Martin and Ignacio Velasquez
  (Universidad del Bio Bio, Chile)

- **15:00** A study and experimental assessment of the cognitive weight, base of the cognitive metrics
  Alberto Nunez-Varela, Hector G. Perez-Gonzalez, Francisco E Martinez-Pérez and Daniela Esqueda-Contreras
  (Facultad de Ingeniería, Universidad Autónoma de San Luis Potosi)

- **15:30** Quality attributes in patterns related to the microservice architecture: a Systematic Literature Review
  José A. Valdivia, Xavier Limón and Karen Cortes-Verdin
  (Universidad Veracruzana)
Towards an Architectural Design Framework for Data Management in Industry 4.0
Eduardo A. Hinojosa-Palafox, Oscar M. Rodríguez-Eliás, José A. Hoyo-Montaño and Jesús H. Pacheco-Ramírez
(Tecnológico Nacional de México, Instituto Tecnológico de Hermosillo)

Prototipo de interfaz humano-computadora controlada a través de gestos faciales
Fernando Reynoso, María Abud, Silvestre Peláez, Lisbeth Rodríguez and Ulises Juárez
(Instituto Tecnológico de Orizaba)

Friday 25th

12:30 – 15:00


- 12:30 Resource Description Framework and Friend Of A Friend-Based Web and Mobile Applications Prototype in an Education Environment
Mario Ricardo Perez Hernandez, Luis Angel Reyes Hernandez, Celia Romero Torres, Gustavo Pelaez Camarena and Beatriz Alejandra Olivares Zepahua
- **13:00** Hacia la Definición de una Arquitectura Empresarial Municipal de Referencia: Una experiencia en Chile
  Daniela Gallegos Baeza, Angélica Caro and Alfonso Rodríguez
  (Universidad del Bío-Bío, Chile)

- **13:30** Hacia una propuesta de heurísticas de usabilidad para pruebas de HCl y de UX para niños con discapacidad auditiva: caso de studio
  Gerardo Cruz-González, Carlos-A. Fernández-y-Fernández and Felipe Trujillo-Romero
  (Universidad Tecnológica de la Mixteca, Universidad de Guanajuato)

- **14:00** Aplicando OCL para la verificación de la especificación de un prototipo de vehículo autónomo
  Sandra Estefanía Martínez, Carlos A. Fernandez-y-Fernandez, Erik Ramos and Jorge Aguilar Cisneros
  (Universidad Tecnológica de la Mixteca, Universidad Popular Autónoma del Estado de Puebla)
Thursday 24th

08:30 – 09:00 Attendees Registration

09:00 – 09:10 Welcome CNMES

09:10 – 10:00 Conference: Early Sizing of Software Requirements: ‘Finger in the air’ or ‘Engineering’ techniques?
- Dr. Alain Abran
  Adjunct Professor - Ecole de Technologie Superieure (ETS) - University of Québec (Canada), Department of Software Engineering & Information Technology, Co-creator COSMIC Method, COSMIC Chairman

10:10 – 11:00 Conference: COSMIC in Mexico, retrospective 10 years after the first certificate
- Dr. Francisco Valdés Souto, Facultad de Ciencias UNAM

11:10 – 12:00 Conference: Presentation of MENSURA tool, NOT just estimates!
- Ing. Jorge Andrés Aguilar
  SPINGERE Commercial Director

12:10 – 13:00 Conference: Agile & COSMIC a good integration!
- Dr. Sylvie Trudel
  Université du Quebéc a Montreal (UQAM), Treasurer in the COSMIC Group
<table>
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<th>Time</th>
<th>Session</th>
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| 13:10 – 14:00 | Conference: Model validation of fixed cost projects using COSMIC  
- Dr. Francisco Valdés Souto, Facultad de Ciencias UNAM  
  Specialist in Measurement and Estimation of Projects, SPINGERE. |
| 15:00 – 15:50 | Conference: Case of Industry Success: Implementation of the SAO based on COSMIC in a Government Entity and Benefits obtained in a second cycle  
- Mtro. Fernando Solares Valdés  
  General Director of Information Technology, National Hydrocarbons Commission |
| 16:00 – 16:50 | Conference: Experiences in the implementation of the 1st Measurement and Estimation Center in Mexico: COPPEL  
- Mtro. Ricardo Ernesto Cárdenas Estrada  
  COPPEL Software Measurement Center Manager |
| 17:00 – 17:50 | Conference: COSMIC application for validation of perspective estimates from a software factory  
- Ing. Iván Hernández  
  General Manager Appwhere Software Factory |
| 18:00 – 18:20 | CNMES Closure |

**Advanced Engineering Center CNMES Schedule**
iOS Development Lab

Thursday 24th
09:00 – 13:00

Workshop: Visual Thought as a communication tool to boost software development
- Carlo Gilmar Padilla Santana
  Aimed at people involved in any activity related to software development interested in knowing and learning tools to enhance communication and learning
  Capacity: 25

Friday 25th
10:30 – 14:30

Workshop: MENSURA tool; More than estimates!
- Dr. Francisco Valdes
  Workshop focused on explaining application and benefit of the use of the MENSURA tool in measurement, estimation and quantitative management of software projects
  Capacity: 25
Wednesday 23th

10:30 – 14:30

Workshop: Firebase Functions & Firestore Overview
- Luis E. Jimenez
  The highlight when using Firebase Functions as well as Cloud Firestore, in addition to the advantages of a database such as Firestore
  Capacity: 25

15:00 – 18:00

Workshop: Software Estimation with COSMIC
- Dr. Francisco Valdes
  Workshop focused on explaining the application of the COSMIC methodology to perform software estimation. A practical example will be made for the explanation of the methodology
  Capacity: 25

18:00 – 19:30

REDMIS Session

Thursday 24th

09:00 – 12:00

Workshop: Using Design Thinking in Requirements Engineering
- Dr. Sodel Vazquez
  Use design thinking in the first stage of the life cycle of software development,
requirements engineering. Through a process for the practical and creative resolution of the problem to be solved.

Capacity: 25

16:00 – 17:30

**Workshop: Introduction to TensorFlow**

- W. Gustavo Cevallos

To create our first neural network with TensorFlow 2.0, we will talk about what a neural network is and we will see how problems of everyday life can be applied to artificial intelligence

Capacity: 25

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**Friday 25th**

14:00 – 15:00

**Workshop: Social Datamining for decision making**

- Dr. Edgar Gonzalo Cossio Franco

Twitter, Facebook and Instagram analysis sentiment analysis application

Capacity: 25