

Reimagining Engineering - Toward the next generation of Engineering Education, merging technologies in a connected world

SUNDAY, March 12, 2023

09:00AM - 10:30AM

Track 3

ONLINE oral presentations livestream on zoom Track 3

Session Manager: will be assigned soon



ONLINE English & Spanish Workshop #1

Chair: Mario Chong



Learning experiences for educational leadership and innovation in engineering education (Paper # 727)

Argentina 11:00AM	Austria 03:00PM	Bolivia 10:00AM	Brazil 11:00AM	Chile 11:00AM
China 10:00PM	Ecuador 09:00AM	Greece 04:00PM	Guatemala 08:00AM	Hong_Kong 10:00PM
India 07:30PM	Indonesia 09:00PM	Ireland 02:00PM	Israel 04:00PM	Malaysia 10:00PM
Mexico(CT) 08:00AM	Mexico(PT) 07:00AM	Namibia 04:00PM	Nigeria 03:00PM	Panama 09:00AM
Peru 09:00AM	Portugal 02:00PM	Puerto_Rico 10:00AM	Spain(CET) 03:00PM	Spain(WET) 02:00PM
UK 02:00PM	USA(CT) 08:00AM	USA(ET) 10:00AM	USA(PT) 07:00AM	

Local Time	Presentation	Speaker Time
09:00AM		UK 02:00PM

Speakers: David Ernesto Salinas-Navarro, Agatha Clarice Da Silva-Ovando, Mario Chong

Authors: David Ernesto Salinas-Navarro, Agatha Clarice Da Silva-Ovando, Mario Chong

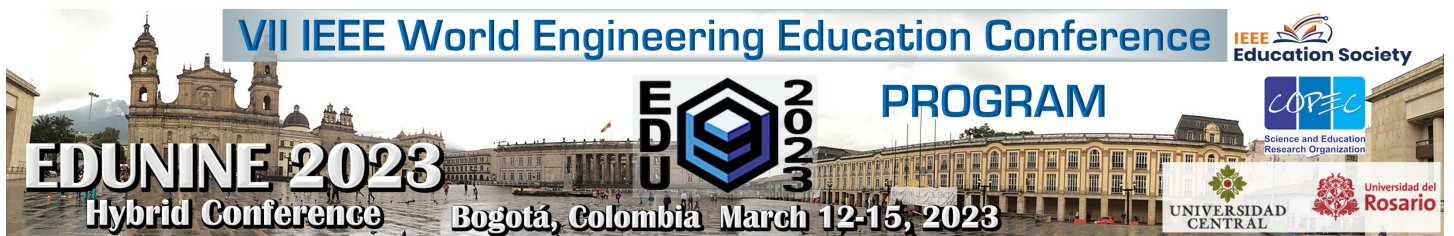
Abstract: *Higher education requires responding to contemporary challenges and future trends that face humanity by equipping students with new skills that allow for their personal and professional development. Therefore, universities should promote educational leadership and innovation to enrich learning experiences with novel methods and approaches that advance the education they provide. This workshop offers a framework for reflecting upon and identifying those aspects that can help to (re) shape learning experiences in these terms. Participants will conduct discussions about their views on current challenges, learning experiences, educational leadership, and innovation, and find alternatives to advance engineering education in delivering high-impact value to students, organizations, and societies in general.*

Resume: **A. DAVID ERNESTO SALINAS-NAVARRO**

Dr. David Ernesto Salinas-Navarro holds a BSc degree in Aeronautical Engineering from Instituto Politécnico Nacional, Mexico; an MBA from Tecnológico de Monterrey, Mexico; and a Ph.D. degree in Business/Management Systems from the University of Lincoln, UK. He is a Senior Teaching Fellow at the Operations and Information Management Department, Aston Business School, UK. He worked at Tecnológico de Monterrey as an Associate Professor in Industrial Engineering and Regional Head of Department. He is the author of one book on management systems and papers in supply chains and logistics, lean systems, and industrial engineering education. His research work explores the footprint of logistics and supply chains on the sustainability of cities and communities. Dr. Salinas-Navarro is a fellow of the MIT SCALE Network Latin America, coordinating the Education Innovation initiative. He also directs initiatives such as the Healthcare Engineering Management Lab, the Lean Thinking Learning Space (LTLS), the Social Lab for Sustainable Logistics (SLSL), and the Community Resilience and Sustainability Education Lab (CoRSEL) to enrich Industrial Engineering and Operations Management education. His innovative work has obtained funds from the NOVUS initiative at Tecnológico de Monterrey and the Silver Award for Presence Teaching and Learning at the 2019 QS Reimagine Education competition.

B. AGATHA CLARICE DA SILVA-OVANDO

Agatha da Silva is an Associate Professor and Director of the Center of Logistics



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Operations at the Universidad Privada Boliviana (UPB) in Bolivia. She is currently a candidate to obtain a Doctorate in Logistics and Supply Chain Management from the Universidad de la Sabana, Colombia. She has a Graduate Certificate in Logistics and Supply Chain Management from the Massachusetts Institute of Technology; a Master's in Product Design Management from Bournemouth University, UK; and a Master's in Business Administration from the UPB. Her research is focused on food supply chains, last-mile logistics, and innovation in education for logistics.

C. MARIO CHONG

Full-time professor and researcher at Universidad del Pacífico. He holds a Ph.D. in Business Management from Universidad Nacional Mayor de San Marcos; a Master's in Industrial Engineering, a Master's in Systems Engineering, and an Industrial Engineer Degree from Universidad de Lima. He has a certification in Supply Chain Management from the Massachusetts Institute of Technology (MIT). He has experience developing research projects in business such as business strategy, supply chain, operations, global business, agribusiness, and rural associativity. He is the Director of the Peruvian Association of Professionals in Logistics (APPROLOG). He has been associate dean of business engineering, coordinator of special projects, corporate and international program development director, and academic director of the Master Program in Business Administration (MBA), Global Business, Agribusiness, and Food and Supply Chain Management at Universidad del Pacífico.

Agenda: A. Part 1 – Presentation (10 minutes)

Workshop opening:

- Welcome
- Speakers and participants' presentations
- Workshop agenda.

B. Part 2 – Introduction (20 minutes)

Definition of workshop purpose in terms of:

- Problem statement
- Aim
- Objectives
- Expected results
- Questions and answers.

C. Part 3 – Exploring meanings of educational leadership and innovation (30 minutes)

Unveiling participants' understanding of educational leadership and innovation in terms of:

- Surveying participants' views and perspectives on educational leadership and innovation
- Discussion of survey results.

D. Part 4 – Educational leadership and innovation initiatives and actions (20 minutes)

Exploration and discussion of participants' current initiatives and actions for educational leadership and innovation, paying attention to:

- Current challenges and future trends
- Accreditation requirements and learning evaluation
- Educational technologies and resources
- Educational strategies
- Educational models and value chains
- Impact and outreach.

E. Part 5 – Conclusions (20 minutes)

Debrief of results concerning:

- Contributions

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- Findings and future work
- Session closure.

The workshop will last 90 minutes and will be conducted according to the agenda

10:30AM - 2:30PM

Track

Hybrid interaction livestream on zoom Track

Session Manager: will be assigned soon



Break

2:30PM - 4:30PM

Track 3

ONLINE oral presentations livestream on zoom Track 3

Session Manager: will be assigned soon



ONLINE Spanish Workshop #2

Chair: Mario Chong

Data Analytics with Python for Decision-Making in Organizations (Paper # 735)



Argentina 04:30PM	Austria 08:30PM	Bolivia 03:30PM	Brazil 04:30PM	Chile 04:30PM
China 13 Mar, 03:30AM	Ecuador 02:30PM	Greece 09:30PM	Guatemala 01:30PM	Hong_Kong 13 Mar, 03:30AM
India 13 Mar, 01:00AM	Indonesia 13 Mar, 02:30AM	Ireland 07:30PM	Israel 09:30PM	Malaysia 13 Mar, 03:30AM
Mexico(CT) 01:30PM	Mexico(PT) 12:30PM	Namibia 09:30PM	Nigeria 08:30PM	Panama 02:30PM
Peru 02:30PM	Portugal 07:30PM	Puerto_Rico 03:30PM	Spain(CET) 08:30PM	Spain(WET) 07:30PM
UK 07:30PM	USA(CT) 01:30PM	USA(ET) 03:30PM	USA(PT) 12:30PM	

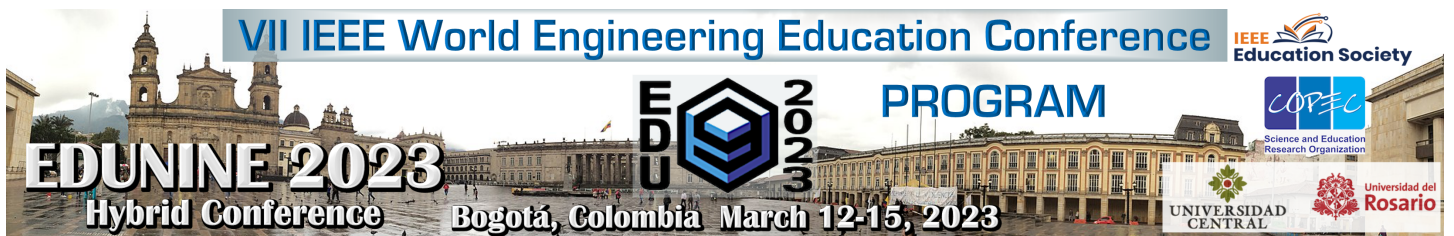
Local Time	Presentation	Speaker Time
2:30PM		Colombia 02:30PM

Speakers: Rafael Renteria, Ana Luna, David Herrera, Karla Triana, Mario Chong, Faustino Aranda, Rocio Elias

Authors: Rafael Renteria, Ana Luna, David Herrera, Karla Triana, Mario Chong, Faustino Aranda, Rocio Elias

Abstract: *We live in a digital cultural revolution in our changing environment. Communities push communities to a continuous improvement process with new technologies and look forward to facilitating real-time decision-making. Python programming language is one of the most used tools to achieve these goals. This workshop contributes to its learning for data analysis. Expert professionals from one of the world's most relevant technology providers, Huawei Enterprise Company, will contribute with their experience in data analysis technologies. In the first part of this workshop, we will present the fundamentals, treatment, and data analysis; then, we will show some valuable tools to optimize the visualization of results. Finally, we will share some general concepts of deep learning and machine learning to improve performance and accuracy in predicting results.*

Resume: **A. RAFAEL RICARDO RENTERÍA RAMOS**
Industrial Engineer, Doctor in Economic Sciences, specializing in demography and population dynamics modeling, full-time professor at the Universidad Nacional Abierta de Colombia, and researcher in related topics in Data Sciences, Machine Learning, Bioinformatics, and Biostatistics. Postdoctoral in network analysis and statistical methods



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applied to health. Coordinator of the Scient metrics Observatory of the UNAD. He has developed several models from the complexity sciences for the technology watch processes in different organizations.

B. KARLA NATHALIA TRIANA ORTIZ

Full-time professor and researcher at Universidad Nacional Abierta de Colombia. She holds a Master's, Specialization, and a degree in International Business and Management. With five years of experience as a professor of several courses for the Industrial Engineering program in innovation, entrepreneurship, and business administration topics.

C. ANA EUGENIA LUNA

Associate Dean of Business Engineering and full-time professor and researcher at Universidad del Pacífico, Academic Department of Engineering, Lima, Peru. She holds a Ph.D. and a degree in Physical Sciences from the University of Buenos Aires (UBA-Argentina). In her research field, she worked in the Solid Lasers Division at DEILAP, CONICET. Within the area of Photonics, she was dedicated to modeling the structural color generation in one of the beetle species endemic to southern Argentina and Chile, using genetic algorithms. She also worked as a professor at the University of Buenos Aires, teaching several courses in the area of Higher Laboratories in the Department of Physics of the Faculty of Exact and Natural Sciences. She is current an adhering researcher at the Universidad Nacional Mayor de San Marcos (Lima-Peru).

D. MARIO CHONG

Full-time professor and researcher at Universidad del Pacífico. He holds a Ph.D. in Business Management from Universidad Nacional Mayor de San Marcos, a Master's in Industrial Engineering and a Master's in Systems Engineering, and an Industrial Engineer Degree from Universidad de Lima. He has a certification in Supply Chain Management from the Massachusetts Institute of Technology (MIT). He has experience developing research projects related to business, such as business strategy, supply chain, operations, global business, agribusiness, and rural associativity.

E. ROCIO ELIAS ROBLES

LATAM Smart MKT Manager with over four years of experience in marketing, social media management, and branding for Huawei. Responsible for planning and executing different community activities such as technical training, live webinars, and free talks about Huawei technology solutions for different economic sectors.

F. DANNY ZAVID HERRERA

Electronic and Telecommunications Engineer with experience in datacom networks and infrastructure solutions, currently channel ops manager supporting Huawei Ecosystem partners in developing Huawei Enterprise Business in Colombia Market.

G. FAUSTINO ARANDA ARZALUZ

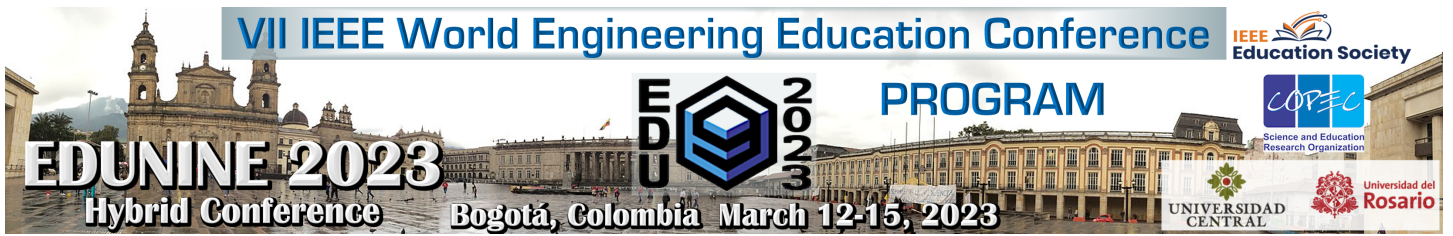
Cloud Solutions Director of the Huawei Cloud business department in Mexico faustino.aranda@huawei.com. He has more than 15 years of experience in the technology industry with deep experience in Cloud projects, focusing on helping customers achieve their business goals. Faustino has been part of the Cloud team since January 2017, developing innovative architectures and leading essential projects.

Agenda: A. First block – Presentation (20 minutes)

- Welcome
- Speakers and participants' presentation
- Workshop agenda
- Understanding the relevance of data for decision-making processes.

B. Second block – Data Analytics Fundamentals (40 minutes)

- Python Language Basics
- Python in Data Science.



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C. Third block – Data adjustment treatment (40 minutes)

- Handling data with Python
- Representation of data in Data Frames
- Data Cleanup from Python
- Descriptive Statistics Application with Python
- Descriptive graphics displays
- Regression (linear, polynomial).

D. Fourth block - Deep Learning and Machine Learning in Huawei (30 minutes)

- Deep Learning solutions
- Machine Learning solutions
- Huawei Data Analytics Technologies and Certifications.

The workshop will last 90 minutes and will be conducted according to the agenda