CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

8:30AM - 6:00PM

IN PERSON On Site Registration

8:30AM - 8:45AM

HYBRID Opening Session

Chair: Alejandro Adorjan Olivera

Argentina 08:30AM	Australia 09:30PM	Bolivia 07:30AM	Brazil 08:30AM	Canada 04:30AM
Chile 08:30AM	China 07:30PM	Colombia 06:30AM	Costa_Rica 05:30AM	Ecuador 06:30AM
Germany 12:30PM	Greece 01:30PM	Guatemala 05:30AM	Indonesia 06:30PM	Ireland 11:30AM
Israel 01:30PM	Mexico 05:30AM	Peru 06:30AM	Philippines 07:30PM	Portugal 11:30AM
Senegal 11:30AM	Spain 12:30PM	Singapore 07:30PM	Sweden 12:30PM	Trinidad_Tobago 07:30AM
Tunisia 12:30PM	United_Kingdom 11:30AM	USA-CDT 07:30AM	USA-PDT 04:30AM	USA-EDT 08:30AM
USA-MDT 05:30AM	USA-HST 01:30AM			

Presented by Claudio R. Brito, Eduardo Mangarelli, Melany M. Ciampi

Welcome ceremony and official opening of the IX World Engineering Education Conference (EDUNINE2025) in Montevideo and online worldwide.

Session duration: 15 minutes. Join us on time!

CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

8:45AM - 9:00AM

IN PERSON English Plenary #1

Chair: Claudio R. Brito

Education in the Age of Generative AI: Embracing Digital Transformation

(Paper # 918)

Argentina 08:45AM	Australia 09:45PM	Bolivia 07:45AM	Brazil 08:45AM	Canada 04:45AM
Chile 08:45AM	China 07:45PM	Colombia 06:45AM	Costa_Rica 05:45AM	Ecuador 06:45AM
Germany 12:45PM	Greece 01:45PM	Guatemala 05:45AM	Indonesia 06:45PM	Ireland 11:45AM
Israel 01:45PM	Mexico 05:45AM	Peru 06:45AM	Philippines 07:45PM	Portugal 11:45AM
Senegal 11:45AM	Spain 12:45PM	Singapore 07:45PM	Sweden 12:45PM	Trinidad_Tobago 07:45AM
Tunisia 12:45PM	United_Kingdom 11:45AM	USA-CDT 07:45AM	USA-PDT 04:45AM	USA-EDT 08:45AM
USA-MDT 05:45AM	USA-HST 01:45AM			

May be the main challenge of using AI in education is ensuring that its use does not compromise the originality or credibility of the research. In addition, there is a risk that excessive use of AI could lead to ethical issues, such as plagiarism, obvious inaccuracies, or a general dilution of the intellectual contribution. In an effort to mitigate these risks, institutions should provide additional guidelines on the ethical use of AI and promote best practices among researchers.AI has the potential to enrich academic research by increasing productivity, improving communication, and in some ways making research more available. The key element will be the ethical responsibility by the scientists and researchers in the use of AI as a helper more than a science producer. As any other disruptive technology available the human beings will certainly take the best of AI as it has happening along the history of new technologies

Authored by
Melany C. Ciampi, Claudio R. Brito, Maria Feldgen, Osvaldo Clua

Presented by

Keynote Speaker: Melany M. Ciampi

MELANY M. CIAMPI (M'82-SM'09) is Full Professor of Electrical and Computer Engineering. Currently is the Rector of International Institute of Education (IIE), President of World Organization on System Engineering and Information Technology (WCSEIT), President of Safety Health and Environment Research Organization (SHERO), President of World Organization on Communication and Arts (WCCA) and Vice-President of Science and Education Research Organization (COPEC). Dr Ciampi is PhD, Dr. rer. nat. habil. and Eta-kappa-nu. She is very involved in the activities of the IEEE Education Society, serving in different positions: member of the Board of Governors (2002-2023) and of the Strategic Planning Committee (2009-2023), President of Brazilian Chapter (2002-2004), Chair of the Intersociety Cooperation Committee (2009-2021), Secretary for three terms (2016-2017) (2018-2019) (2020-2021) and Vice President for Conferences and Workshops (2022-2023). She received the IEEE Edwin C. Jones Jr. Meritorious Service Award 2011, ASEE/IEEE Ronald J. Schmitz Outstanding Service Award 2016, IEEE 2024 Distinguished Member Award, IEEE Meritorious Service Award 2018, IEEE Outstanding Recognition Award 2022, IEEE Unmatched Dedication Award 2023 and IEEE Leadership in Conference Organization Award 2024.

Session duration: 15 minutes. Join us on time!

CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

9:00AM - 10:30AM

IN PERSON Spanish Plenary #2

Chair: Alejandro Adorjan Olivera

Enhancing Engineering Education: Integrating Generative AI Tools (Paper # 1066)

Argentina 09:00AM	Australia 10:00PM	Bolivia 08:00AM	Brazil 09:00AM	Canada 05:00AM
Chile 09:00AM	China 08:00PM	Colombia 07:00AM	Costa_Rica 06:00AM	Ecuador 07:00AM
Germany 01:00PM	Greece 02:00PM	Guatemala 06:00AM	Indonesia 07:00PM	Ireland 12:00PM
Israel 02:00PM	Mexico 06:00AM	Peru 07:00AM	Philippines 08:00PM	Portugal 12:00PM
Senegal 12:00PM	Spain 01:00PM	Singapore 08:00PM	Sweden 01:00PM	Trinidad_Tobago 08:00AM
Tunisia 01:00PM	United_Kingdom 12:00PM	USA-CDT 08:00AM	USA-PDT 05:00AM	USA-EDT 09:00AM
USA-MDT 06:00AM	USA-HST 02:00AM			

Generative Artificial Intelligence and Large Language Models are reshaping the way we produce, refine, and engage with information. This plenary focuses on the implications of these technologies, specifically in engineering education, highlighting both the general educational benefits and the unique demands of adapting established engineering practices to leverage Artificial Intelligence (AI) effectively. We discuss practical strategies for classroom and laboratory integration, illustrate how software engineering workflows must accommodate AI-generated code, and underscore the importance of equipping future engineers with the essential technical and ethical competencies. Finally, we address the broad challenge of envisioning how industry and academic disciplines may evolve in response to AI, so that institutions can proactively provide learners with the skills and knowledge needed for the professions of tomorrow.

Authored by
Eduardo Mangarelli

Presented by

Eduardo Mangarelli

EDUARDO MANGARELLI is the Dean of the Facultad de Ingeniería at Universidad ORT Uruguay and a Partner in several technology ventures. He was Senior Director of Innovation and Engineering at Microsoft. He serves as Chairman of the Board at Endeavor Uruguay, and Board Member of the Technological Laboratory of Uruguay (LATU). He actively promotes high-impact entrepreneurship by fostering an environment conducive to startup acceleration and technological advancement. He is also engaged in diverse Boards of innovative ventures, including Tryolabs, Intermedia, and IC Ventures, integrating expertise in AI, fintech, and software development. He has been a faculty member and project advisor for more than two decades. Additionally, he is a Professor of Innovation and Technology Strategies and Leadership at Universidad ORT Uruguay, recognized with distinctions such as the Teaching Excellence Award from the Faculty of Engineering of Universidad ORT Uruguay. His work continues to influence business ecosystems in Latin America and beyond, driving digital transformation, educational outreach, and business growth. Through his dedication to innovation and leadership, he champions the cultivation of professionals committed to social advancement and technological excellence, reflecting his unwavering commitment to technology, education, and entrepreneurship

Session duration: 90 minutes. Join us on time!

CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

10:30AM - 11:00PM

HYBRID Coffee Break

Argentina 10:30AM	Australia 11:30PM	Bolivia 09:30AM	Brazil 10:30AM	Canada 06:30AM
Chile 10:30AM	China 09:30PM	Colombia 08:30AM	Costa_Rica 07:30AM	Ecuador 08:30AM
Germany 02:30PM	Greece 03:30PM	Guatemala 07:30AM	Indonesia 08:30PM	Ireland 01:30PM
Israel 03:30PM	Mexico 07:30AM	Peru 08:30AM	Philippines 09:30PM	Portugal 01:30PM
Senegal 01:30PM	Spain 02:30PM	Singapore 09:30PM	Sweden 02:30PM	Trinidad_Tobago 09:30AM
Tunisia 02:30PM	United_Kingdom 01:30PM	USA-CDT 09:30AM	USA-PDT 06:30AM	USA-EDT 10:30AM
USA-MDT 07:30AM	USA-HST 03:30AM			

Duration: 30 minutes. Join us on time!

CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

11:00AM - 12:30pM

HYBRID English Panel #1

Moderators: Melany M. Ciampi, Martin Llamas Nistal

Shaping the Future of Technology and Education: Insights from IEEE Societies on AI's Impact on Engineering and Professional Life

Argentina 11:00AM	Australia 25 Mar, 12:00AM	Bolivia 10:00AM	Brazil 11:00AM	Canada 07:00AM
Chile 11:00AM	China 10:00PM	Colombia 09:00AM	Costa_Rica 08:00AM	Ecuador 09:00AM
Germany 03:00PM	Greece 04:00PM	Guatemala 08:00AM	Indonesia 09:00PM	Ireland 02:00PM
Israel 04:00PM	Mexico 08:00AM	Peru 09:00AM	Philippines 10:00PM	Portugal 02:00PM
Senegal 02:00PM	Spain 03:00PM	Singapore 10:00PM	Sweden 03:00PM	Trinidad_Tobago 10:00AM
Tunisia 03:00PM	United_Kingdom 02:00PM	USA-CDT 10:00AM	USA-PDT 07:00AM	USA-EDT 11:00AM
USA-MDT 08:00AM	USA-HST 04:00AM			

IEEE members across diverse technological fields provide a global perspective on the rapid advancements shaping our industries and education. Each IEEE society is committed to addressing the challenges, evolving needs, and innovations within their respective disciplines. With deep insight into industry demands and educational gaps, these societies drive continuous professional development and shape the future of engineering education.

This discussion brings together seven IEEE societies within Division 6, including the IEEE Education Society, to explore AI's profound impact on their respective fields. Panelists will examine the changes, challenges, and opportunities AI presents, while the Education Society will specifically focus on how AI is transforming teaching, learning, and curricular development to better prepare future professionals.

By bridging industry and education—two sides of the same coin—this panel offers a comprehensive, global perspective on AI's role in shaping the future of technology and engineering education. Join us for a dynamic discussion on AI's transformative role in technology and education, and how we can collectively navigate this evolving landscape.

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Education in the Age of Generative AI: Embracing Digital Transformation

Presented by

Arnold Pears: President of IEEE Education Society (EDS)

ARNOLD PEARS BSc (Hons) 1986, PhD 1994, La Trobe Uni., Melbourne, Australia., is Professor and Head of the Department of Learning in Engineering Sciences, KTH Royal Institute of Technology, Stockholm, Sweden. Professor of Computer Science Education at Uppsala University (2017-2023). A highly experienced academic with tertiary education and leadership experience in Australia, France and Sweden, Dr. Pears academic leadership includes two terms in the Uppsala University Academic Senate, serving as Programme Director IT Engineering Uppsala Univ., and providing expert disciplinary education research guidance to TUR the pedagogical advisory council of the Faculty of Technology and Natural Sciences. His contributions to educational innovation and management include multiple terms on the Boards of Studies (TUN and NUN) of Uppsala University (2010-2016), and a term as Head of Education of the Department of Information Technology. Currently he coordinates KTH's participation in 3 Swedish Research Council funded graduate schools, and leads research projects funded by the Swedish government, EU and NordPlus. Publications include 6 book chapters, 40 journal articles and more than 150 refereed conference papers. Citations: 3479, H-index: 28, Google Scholar 11/March/2025.

Milos Manic: President of IEEE Industrial Electronics Society (IES)

Milos Manic is a Professor with the Computer Science Department and Director of VCU Cybersecurity Center at Virginia Commonwealth University. He is an IEEE IES President (2024-2025), after serving in multiple IES officer positions, IEEE Fellow (for contributions to machine learning based cybersecurity in critical infrastructures), recipient of IEEE IES 2019 Anthony J. Hornfeck Service Award, 2012 J. David Irwin Early Career Award, 2017 IEM Best Paper Award, associate editor of IEEE Transactions on Industrial Informatics, IEEE Open Journal of Industrial Electronics Society, and IEEE IES Senior Life AdCom member. He served as AE of Trans. on Industrial Electronics, was a founding chair of IEEE IES Technical Committee on Resilience and Security in Industry, and was a General Chair of IEEE ICIT 2023, IEEE HSI 2019, and IEEE IECON 2018 (record breaking, over 1,100 participants).

John Allen
President of IEEE Product Safety Engineering Society (PSES)

Jason Rupe
President of IEEE Reliability Society (RLS)

Suzane Lane
President of IEEE Professional Communication Society (PCS)

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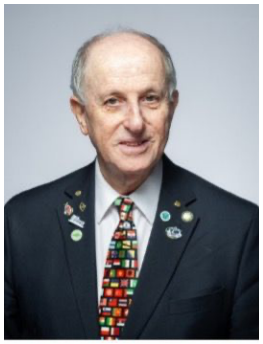
Education in the Age of Generative AI: Embracing Digital Transformation



Luiz Kun: Past President of IEEE Society on Social Implications of Technology (SSIT)

Luis Kun, IEEE Life Fellow, Fellow of the American Institute for Medical and Biological Engineering, the International Academy of Medical and Biological Engineering, and the International Union for Physical and Engineering Sciences in Medicine, the 2023 and 2024 IEEE President for the Society on Social Implications of Technology and a Distinguished Emeritus Professor of National Security (CHDS/NDU). He works at the intersection of biomedical engineering with healthcare, public health, IT and National Security. He is the founding Editor in Chief of Springer's Journal of Health and Technology 2010-2020. He spent 14 years at IBM and was the Director of Medical Systems Technology at Cedars Sinai Medical Center. He formulated the IT vision and was the lead staff for High Performance Computers and Communications program and Telehealth.

Gustavo Giannattasio: Education Vice-president of IEEE Technology and Engineering Management Society (TEMS)

GUSTAVO GIANNATTASIO, Engineer at UDELAR Uruguay, specialization on telecommunications, Postgraduate on Digital Techniques at Phillips International Institute Eindhoven Holland. MBA with honors by the Catholic University UCUDAL Uruguay. Project Management Professional certified by PMI Institute USA. Education positions at UDELAR Institute of Electro, UCUDAL University Digital and routing courses, ORT University Courses on CISCO Certification. Professional activity in ANTEL public Telecom provider at the Engineering department, CONATEL S.A as Manager of the Presales and TIC Projects, Cisco Certified CCNA and CCDA design manager and in Arnaldo C. Castro as Consultant on Smart Cities projects and Data Centers. Member of IEEE with Senior Life member grade, IEEE Region Latin America past Director, IEEE Communications Society Uruguay President, Member of the following IEEE Board of Governors: Future Directions, Technology and Engineering Management, Smart Cities, IEEE Communications Society Chapter Uruguay President. Member of the following IEEE Committees: AI Coalition, P7100 standard on environmental impacts of AI, P2784 Standard on Smart Cities planning, MGA TCOES Societies Oversight, MGA Industry Engagement Committee.

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MONDAY, March 24, 2025

IEEE INDUSTRIAL ELECTRONICS SOCIETY (IES)

The IEEE Industrial Electronics Society (IES) through its members encompasses a diverse range of technical activities devoted to the application of electronics and electrical sciences for the enhancement of industrial and manufacturing processes. These technical activities address the latest developments in intelligent and computer control systems, robotics, factory communications and automation, flexible manufacturing, data acquisition and signal processing, vision systems, and power electronics. The Field of Interest of the IES shall be confined to the theory and applications of electronics, controls, communications, instrumentation, and computational intelligence to industrial and manufacturing systems and processes.

IEEE EDUCATION SOCIETY (EDS)

The IEEE Education Society (EdSoc) was founded in 1957 and is one of the oldest technical societies in the IEEE. It is a worldwide community of professionals dedicated to ensuring high-quality education in science and engineering. The mission of the IEEE Education Society is to be an international organization that promotes, advances, and disseminates state-of-the-art scientific information and resources related to the Society's field of interest and provides professional development opportunities for academic and industry professionals.

IEEE PRODUCT SAFETY ENGINEERING SOCIETY (PSES)

The IEEE Product Safety Engineering Society (PSES) focuses on the theory, design, development and practical implementation of product safety engineering methodologies and techniques for equipment and devices. This includes the study and application of analysis, techniques, construction topologies, testing methodologies, conformity assessments and hazard evaluations. The IEEE Product Safety Engineering Society addresses safety engineering for equipment and devices used in the scientific, engineering, industrial, commercial, and residential arenas. It allows engineers and other technical professionals an opportunity to discuss and disseminate technical information, to enhance professional skills, and to provide outreach to engineers, students and others with an interest in the field.

IEEE TECHNOLOGY AND ENGINEERING MANAGEMENT SOCIETY (TEMS)

TEMS Values. Help IEEE members to maintain essential engineering management skills. Support the leadership career path of IEEE members. Foster active knowledge transfer between the academic and practicing communities. The Field of Interest of the TEMS encompasses the management sciences and practices required for defining, implementing, and managing engineering and technology. Specific topics of interest include, but are not limited to: technology policy development, assessment, and transfer; research; product design and development; manufacturing operations; innovation and entrepreneurship; program and project management; strategy; education and training; organizational development and human behavior; transitioning to management; and the socioeconomic impact of engineering and technology management.

IEEE RELIABILITY SOCIETY (RLS)

The IEEE Reliability Society (RLS) is focused on the broad aspects of reliability. We are concerned with attaining and sustaining these design attributes throughout the total life cycle. We have the management, resources, and administrative and technical structures to develop and to provide technical information via publications, training, conferences, and technical library (IEEE Xplore) data to both our members and to the Specialty Engineering community. In its role of providing reliability aspects of Specialty Engineering resources, the RLS disciplines span all design engineering fields, providing knowledge and expertise to incorporate reliability-specific attributes into the design of systems / products / devices / processes.

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IEEE PROFESSIONAL COMMUNICATION SOCIETY (PCS)

The IEEE Professional Communication Society's (PCS) Field of Interest includes the study, preparation, production, delivery, use, improvement, and promotion of human communication in all media in engineering and other technical and professional environments. The Mission is to foster a community dedicated to understanding and promoting effective communication in engineering, scientific, and other technical environments.

IEEE SOCIETY ON SOCIAL IMPLICATIONS OF TECHNOLOGY (SSIT)

The IEEE Society on Social Implications of Technology (SSIT) is a multi-disciplinary and interdisciplinary society or engineers, policy makers, entrepreneurs, philosophers, researchers, social scientists, technologists, and polymaths to collaborate, exchange experiences, and discuss the social implications of technology.

Session duration: 90 minutes. Join us on time!

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

12:30PM - 2:30PM

HYBRID Lunch Time

Argentina 12:30PM	Australia 25 Mar, 01:30AM	Bolivia 11:30AM	Brazil 12:30PM	Canada 08:30AM
Chile 12:30PM	China 11:30PM	Colombia 10:30AM	Costa_Rica 09:30AM	Ecuador 10:30AM
Germany 04:30PM	Greece 05:30PM	Guatemala 09:30AM	Indonesia 10:30PM	Ireland 03:30PM
Israel 05:30PM	Mexico 09:30AM	Peru 10:30AM	Philippines 11:30PM	Portugal 03:30PM
Senegal 03:30PM	Spain 04:30PM	Singapore 11:30PM	Sweden 04:30PM	Trinidad_Tobago 11:30AM
Tunisia 04:30PM	United_Kingdom 03:30PM	USA-CDT 11:30AM	USA-PDT 08:30AM	USA-EDT 12:30PM
USA-MDT 09:30AM	USA-HST 05:30AM			

Duration: 120 minutes

12:30PM - 1:30PM

HYBRID Photo Session

Chair: Alejandro Adorjan Olivera

Argentina 12:30PM	Australia 25 Mar, 01:30AM	Bolivia 11:30AM	Brazil 12:30PM	Canada 08:30AM
Chile 12:30PM	China 11:30PM	Colombia 10:30AM	Costa_Rica 09:30AM	Ecuador 10:30AM
Germany 04:30PM	Greece 05:30PM	Guatemala 09:30AM	Indonesia 10:30PM	Ireland 03:30PM
Israel 05:30PM	Mexico 09:30AM	Peru 10:30AM	Philippines 11:30PM	Portugal 03:30PM
Senegal 03:30PM	Spain 04:30PM	Singapore 11:30PM	Sweden 04:30PM	Trinidad_Tobago 11:30AM
Tunisia 04:30PM	United_Kingdom 03:30PM	USA-CDT 11:30AM	USA-PDT 08:30AM	USA-EDT 12:30PM
USA-MDT 09:30AM	USA-HST 05:30AM			

We are delighted to invite you to a group photo session with all EDUNINE participants, both in person and virtually!

Duration: 60 minutes

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

2:30PM - 4:00AM

IN PERSON Spanish Plenary #3

Chair: Maria Feldgen

The Construction of "Local Theory" in the Technology Development Process with Social Impact (Paper # 1065)

Argentina 02:30PM	Australia 25 Mar, 03:30AM	Bolivia 01:30PM	Brazil 02:30PM	Canada 10:30AM
Chile 02:30PM	China 25 Mar, 01:30AM	Colombia 12:30PM	Costa_Rica 11:30AM	Ecuador 12:30PM
Germany 06:30PM	Greece 07:30PM	Guatemala 11:30AM	Indonesia 25 Mar, 12:30AM	Ireland 05:30PM
Israel 07:30PM	Mexico 11:30AM	Peru 12:30PM	Philippines 25 Mar, 01:30AM	Portugal 05:30PM
Senegal 05:30PM	Spain 06:30PM	Singapore 25 Mar, 01:30AM	Sweden 06:30PM	Trinidad_Tobago 01:30PM
Tunisia 06:30PM	United_Kingdom 05:30PM	USA-CDT 01:30PM	USA-PDT 10:30AM	USA-EDT 02:30PM
USA-MDT 11:30AM	USA-HST 07:30AM			

Frequently, questions such as the following arise: how is knowledge about technological development produced? Which is the new knowledge given to the world by technological advancement? The production of knowledge is inherent to the activity of scientific-technological research. Doing research, development and innovation means contributing to the creation of theory, formulating objectives based on it, and analyzing its results so they contribute to understanding the studied issues and their solutions. This work claims that, in the process of developing technology, the Theoretical Framework arises from the integration of a Reference Framework with Local Theory. The identity characteristics of each of these elements are analyzed and the process of creating cognitive innovations goes hand in hand with the development of new technology and it supports technological development with possibilities of effective social impact, which necessarily implies the production of specific knowledge.

Authored by
Roberto Giordano Lerena, Armando Fernández Guillermet

Presented by **Roberto Giordano Lerena**

ROBERTO GIORDANO LERENA is a graduate in software engineering, a postgraduate in technology and innovation management and a doctoral student in science and technology. Professor and Dean of the Faculty of Engineering of FASTA University and Professor of the Faculty of Engineering of National University of Mar del Plata, Mar del Plata, Argentina. This article is part of his doctoral thesis on the evaluation of technological development projects, directed by the second author.

Session duration: 90 minutes. Join us on time!

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

4:00AM - 4:30PM

HYBRID Coffee Break

Argentina 04:00AM	Australia 05:00PM	Bolivia 03:00AM	Brazil 04:00AM	Canada 12:00AM
Chile 04:00AM	China 03:00PM	Colombia 02:00AM	Costa_Rica 01:00AM	Ecuador 02:00AM
Germany 08:00AM	Greece 09:00AM	Guatemala 01:00AM	Indonesia 02:00PM	Ireland 07:00AM
Israel 09:00AM	Mexico 01:00AM	Peru 02:00AM	Philippines 03:00PM	Portugal 07:00AM
Senegal 07:00AM	Spain 08:00AM	Singapore 03:00PM	Sweden 08:00AM	Trinidad_Tobago 03:00AM
Tunisia 08:00AM	United_Kingdom 07:00AM	USA-CDT 03:00AM	USA-PDT 12:00AM	USA-EDT 04:00AM
USA-MDT 01:00AM	USA-HST 23 Mar, 09:00PM			

Duration: 30 minutes. Join us on time!

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

4:30PM - 6:00PM

IN PERSON English Technical Session #1

Chair: Agatha Clarice da Silva Ovando

Technical Session

Argentina 04:30PM	Australia 25 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 25 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 25 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 25 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 25 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

Local Time	Presentation

4:30PM **Presented by** **Genaro Zavala**

Title: **Academic Commitment in STEM: The Role of Socio-cognitive Factors (Paper # 958)**

Autored by Maria Elena Truyol, Monica Quezada-Espinoza, Christian S. Grijalva-Quiñonez, Genaro Zavala, Angeles Dominguez

Abstract *This study examines how expectancy-value mediates the effects of sense of belonging and self-efficacy on academic performance among STEM students. Using a quantitative approach with a cross-sectional survey design, data were collected from 337 students at an Engineering School in Chile. Path analysis results indicate that self-efficacy and sense of belonging directly influence academic commitment, with expectancy-value acting as a significant but moderately impactful mediator. Notably, sense of belonging has a more substantial effect on academic commitment than self-efficacy, highlighting the importance of creating inclusive and supportive environments to enhance student retention in STEM. The practical implications suggest that strengthening self-efficacy and sense of belonging through pedagogical strategies such as collaborative learning and including mentors could be key to reducing dropout rates and increasing student success in these fields.*

Presentation time 15 minutos and 5 minutes for Q&A

04:50PM **Presented by** **Deolinda Maria Lopes Dias Rasteiro, Maria de Lurdes Vasconcelos Babo e Silva**

Title: **Work in Progress: MATH-DIGGER: Unlocking Mathematical Competencies through Digital Escape Rooms in HEIs (Paper # 972)**

Autored by Carla M.A Pinto, Jorge M.P. Mendonça, Lurdes Babo, Deolinda M. L. Dias Rasteiro, Cristina Caridade, Konstantinos Petridis, Christos D. Nikolopoulos, Eva Ulbrich, MaxWhere Solutions

Abstract *Mathematics plays a critical role in many academic programs, yet recent studies reveal a decline in undergraduates' proficiency in traditional areas like symbolic calculations. A German study revealed that students struggled with such tasks but excelled in competencies like reasoning, modeling, and using various representations. This suggests that curriculum reforms focusing on these process skills may be effective, even as traditional skills decline. Digital escape rooms present a promising approach to enhance both content knowledge and process competencies by challenging students to solve puzzles and tasks within a time limit. Their strength lies in engaging studentswhile aligning gameplay with educational goals, offering an innovative and interactive*

CONFERENCE PROGRAM

Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

method. In this paper, we outline the mathematical competencies that underpin the use of a digital escape room in a Mathematics. We will discuss the implementation process, describe the specific tasks designed, and highlight the core competencies expected as learning outcomes.

Presentation time 15 minutos and 5 minutes for Q&A

05:10PM **Presented by** **Agatha Clarice da Silva-Ovando**

Title: **Implementing Challenge-Based Learning Experiences Articulated with a Social Focus: Impact and Lessons Learned (Paper # 988)**

Autored by Agatha Clarice da Silva Ovando, Branko Fernández Rojas, Luis Enrique Veizaga Manrique

Abstract *This article discusses the implementation of challenge-based learning experiences (CBL) that integrate management and engineering disciplines, with a focus on solving problems with a social background. It highlights how this methodology not only facilitates the application and evaluation of knowledge acquired in the courses, but also promotes the development of soft skills and social awareness. By setting clear goals with a social focus, the teacher guides students to face real challenges. The article presents the results of the implementation of three challenges in different subjects in a university in Bolivia. Likewise, the challenges faced during implementation are identified and practical recommendations are offered based on the lessons learned to improve the effectiveness of these experiences, benefiting both students and their environment.*

Presentation time 15 minutos and 5 minutes for Q&A

05:30PM **Presented by** **Agatha Clarice da Silva-Ovando**

Title: **Promoting Gender Equality in STEM Professional Programs: Initiatives, Challenges, and Outcomes. (Paper # 1003)**

Autored by Agatha da Silva-Ovando, Nausheen Bibi Jaffur, Pratima Khadoo, Zviemurwi Johnny Chihambakwe, Ricardo E. Bianchi

Abstract *Gender disparities in STEM fields remain a significant challenge, with women often underrepresented in technical courses due to factors such as accessibility and the male-dominated nature of these fields. Collaborative education offers a way to address these issues by creating more flexible, accessible learning environments. This paper explores initiatives from the Explore Energy Digital Academy (EEDA) and examines the challenges of implementing strategies to promote gender equality. Findings suggest that collaborative efforts, like those in the EEDA, can significantly reduce gender disparities by leveraging collective expertise and resources from multiple Erasmus+ projects. These initiatives offer a scalable model for creating gender-sensitive learning environments and promoting equitable access to STEM education for underrepresented groups. The paper demonstrates how joint efforts across diverse institutions can drive systemic change, encouraging other frameworks to adopt similar approaches to address gender imbalances in professional and technical education.*

Presentation time 15 minutos and 5 minutes for Q&A

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

4:30PM - 6:00PM

IN PERSON Spanish Technical Session #2

Chairs: Juan Pablo Franco Rubio, Ines Friss de Kereki

Technical Session

Argentina 04:30PM	Australia 25 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 25 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 25 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 25 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 25 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

Local Time	Presentation

4:30PM **Presented by** **Jorge Ortega Moody**

Title: **Work in Progress Assessment of the Querétaro Beca Embajadores Summer Program and Implications for Self-Efficacy and Interest in Graduate School (Paper # 930)**

Autored by Wilson González-Espada, Jorge Ortega-Moody, Neftalí Villanueva Pérez, Nilesh Joshi, Miescha Bycura

Abstract *STEM-interested Latino students often experience significant push factors leading to attrition and college departures. Effective summer interventions can enhance their graduation rates and self-efficacy. This paper presents ongoing work to describe the key features and assessment of a 10-day residential summer enrichment opportunity designed by a faculty team at Morehead State University. The researchers applied a mixed methods approach to collect assessment data, mediated by locally designed pre and postsurveys. Participants reported increased self-efficacy and motivation to complete their undergraduate studies and pursue graduate studies. For the workshops, most pre and postsurvey content scores by objective showed significant improvements, as measured by effect size and Hake gain statistics. Detailed inferential statistics and thematic analyses of qualitative data are planned to identify best practices and improvement areas.*

Presentation time 15 minutos and 5 minutes for Q&A

04:50PM **Presented by** **José Manuel Nieto Jalil**

Title: **The impact of GPT, experiential learning, and reinforcement methods on complex problem solving (Paper # 953)**

Autored by José Manuel Nieto Jalil, Adrián Isrrael Tec Chim, Diego Seuret Jimenez, Juan Manuel Martínez Huerta

Abstract *This study, conducted in the Differential Equations Analysis course (MA1033) at XX, applied supervised learning, reinforcement learning, and experiential learning methods, along with the GPT model, to solve a complex Bungee Jumping problem. Engineering students developed mathematical models using differential equations, evaluated safety aspects, reviewed real-world cases, and validated results using GPT. The quasi-experimental design, involving an experimental group and two control groups, showed the experimental group achieved an average final grade increase of 11.4% and 9.6% compared to control groups. In this second implementation, students also*

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MONDAY, March 24, 2025

developed argumentative texts, enhancing critical thinking and communication skills. This methodology fostered problem-solving and transversal competencies such as collaboration and critical evaluation of technologies, moving beyond rote memorization. The integration of GPT and innovative learning methods significantly improved academic performance and motivation, emphasizing AI's transformative potential in preparing students to tackle complex challenges with a practical and interdisciplinary approach.

Presentation time 15 minutos and 5 minutes for Q&A

05:10PM **Presented by** **José Manuel Nieto Jalil**

Title: **Developing transversal skills through Industry-Integrated learning: A novel approach (Paper # 954)**

Autored by José Manuel Nieto Jalil, Diego Seuret Jimenez, Adrián Isrrael Tec Chim, Ulises Ojeda Sánchez, Andrei Solórzano Pérez

Abstract *This article presents the outcomes of an innovative project implemented for the first time at Tecnológico de Monterrey, in collaboration between the School of Engineering and Science and the School of Business, in partnership with Labopat. The initiative involved second-semester students in two multidisciplinary courses: F1015B Application of Thermodynamics in Engineering Systems and EM1001B Ideation and Prototyping. A quasi-experimental design compared two pedagogical approaches: one based on multidisciplinary collaboration with the industry, and the other using a traditional academic framework. This experience allowed students to apply theoretical knowledge to real-world contexts, developing transversal competencies such as problem-solving, critical thinking, and interdisciplinary collaboration. These skills were measured throughout the project, simulating professional challenges. The results highlight the value of academic-industry partnerships, enhancing learning while addressing real operational issues.*

Presentation time 15 minutos and 5 minutes for Q&A

05:30PM **Presented by** **Juan Pablo Franco Rubio**

Title: **Developing Social and Occupational Inclusion Strategies for People with Disabilities: A Skills Development and Continuous Learning Approach at Centro de Esperanza Young (Paper # 1039)**

Autored by Juan Pablo Franco Rubio, Juan Eduardo Poggio Machado, Antonella Mérica Silva, Jesús David Martínez Velandia, Nolan Sanche Tovar

Abstract *The Centro de Esperanza Young, a non-profit organization in Uruguay, promotes the social and occupational inclusion of people with disabilities through workshops in gardening, baking, carpentry, and blacksmithing, developing skills for their integration. In partnership with the Technological University of Uruguay (UTEC), the "Raíces de Esperanza" project was implemented to improve the center's logistical production processes. Using a "learning organization" approach, the center views beneficiaries as active contributors to value creation. Inspired by international collaborations, the center has refined its model by diversifying workshops according to the beneficiaries' skills and needs. Additionally, the integration of analog data visualization and gamification enhances engagement, enabling beneficiaries to understand their progress intuitively, which boosts their motivation and supports continuous learning.*

Presentation time 15 minutos and 5 minutes for Q&A

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

4:30PM - 6:00PM

ONLINE English Technical Session #3

Chair: Claudio R. Brito

Technical Session

Argentina 04:30PM	Australia 25 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 25 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 25 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 25 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 25 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

Local Time	Presentation	Speaker Time

4:30PM **Presented by** **Shahin Vassigh** **USA-EDT 04:30PM**

Title: **Work in Progress: VR-based Robotics Training for AEC Industry (Paper # 964)**

Autored by Biayna Bogosian, Shahin Vassigh, Bhavleen Kaur Narula, Seth Corrigan, Giancarlo Perez, Mohammadreza Akbari Lor, Bhanu Vodinepally, Tisa Islam Erana, Mark Alan Finlayson, Shu-Ching Chen

Abstract *This paper introduces the Intelligent Learning Platform for Robotics Operations (IL-PRO), a Virtual Reality (VR) system designed to enhance robotics training in the Architecture, Engineering, and Construction (AEC) industry. IL-PRO addresses the growing need for effective training methods as the AEC sector adopts robotic automation. The system integrates VR technology with game-assisted learning, combining online multimedia lessons for theory with immersive VR tasks for practical skills. Developed iteratively using Design-Based Research principles, IL-PRO incorporates realistic robot simulations and progressive task complexity. The VR environment, built in Unity, aims to enhance engagement, motor coordination, and spatial awareness in robotics training. While future goals include AI-driven personalized instruction, this work-in-progress focuses on VR curriculum development and implementation. The paper concludes by discussing future directions, including curriculum expansion and cross-institutional adoption, to establish new benchmarks in innovative robotics education for the AEC industry.*

Presentation time 15 minutos and 5 minutes for Q&A

04:50PM **Presented by** **Iris Vaneza Caycho Ñuflo** **Peru 02:50PM**

Title: **Latin American Universities and Networks adapting Robots Arms for Design and Architecture (Paper # 1030)**

Autored by Pablo C Herrera, Macarena Valenzuela-Zubiaur, Vaneza Caycho, Pedro Arteaga

Abstract *Adapting emerging technologies is a key factor for innovation in engineering, technology and computing education. Tradition considers that Latin America seeks technological responses in the rest of the world to its own challenges. However, Latin America offers opposite responses to this*

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statement. Thus, we analyze the implementation of robot arms in architecture schools, driven by Latin American collaborative networks with an emphasis on solutions originating from the challenges of their context. We mapped infrastructure, roles, models, and characteristics of 23 industrial robotic arms located in 15 architecture schools in five Latin American countries installed since 2013, identifying uses in design, fabrication, construction and/or operations. This analysis of experiences would promote global alliances, understanding what the region offers or does not offer, from its networks and universities. The results show a map for Latin American schools that aspire to integrate or seek new uses for robots in design and construction education.

Presentation time 15 minutos and 5 minutes for Q&A

05:10PM **Presented by** **Eric Peterson, Shahin Vassigh** **USA-HST 10:10AM**

Title: **Work in Progress: Developing an AI-Enhanced Immersive Curriculum for Environmental Robotics (Paper # 1034)**

Autored by Eric Peterson, Biayna Bogosian, Shahin Vassigh, Gregory Murad-Reis, Agoritsa Polyzou, Bhavleen Kaur Narula

Abstract *Abstract— A convergence of technology advancements including spatial computing, augmented reality (AR), and artificial intelligence (AI) can now support the personalization of learning environments and dynamically respond to learner performance data with personalized feedback. Augmented Learning for Environmental Robotics (ALERT), leverages advances in technology to research, develop, and test an augmented reality-enhanced (AR) curriculum for learning how to develop and use robotic environmental monitoring tools for collecting data on environmentally sensitive construction sites. With this project, our research team aims to develop the ALERT curriculum as an immersive learning environment, implement automation processes that dynamically adjust to learner performance, and address a pressing problem in the construction sector with recent advances in small robotics and remote sensing.*

Presentation time 15 minutos and 5 minutes for Q&A

EDUNINE 2025
IX IEEE WORLD ENGINEERING EDUCATION CONFERENCE

Montevideo, Uruguay – 23-26 March 2025

IEEE Education Society | COPEC Science and Education Research Organization | ORT UNIVERSIDAD ORT Uruguay

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Education in the Age of Generative AI: Embracing Digital Transformation

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4:30PM - 6:00PM

ONLINE Spanish Technical Session #4

Chair: Osvaldo Clua

Technical Session

Argentina 04:30PM	Australia 25 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 25 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 25 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 25 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 25 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

Local Time	Presentation	Speaker Time

4:30PM **Presented by** **Eduardo Guillermo Pinos Vélez** **Ecuador 02:30PM**

Title: **Ethical Reflections on Bioethics, Bioengineering, and Roboethics: Navigating the Crossroads of Science and Morality (Paper # 1007)**

Autored by Eduardo Pinos-Velez, Adriana Martinez-Muñoz, Dennys Baez-Sanchez

Abstract *Technological breakthroughs in bioengineering and AI raise increasingly complex moral questions. This paper explores the overlapping domains of bioethics, bioengineering, and roboethics to address urgent ethical challenges arising at the intersection of science and morality. We investigate how advancements in genetic modification, organ regeneration, and advanced prosthetics reshape understandings of human identity, enhancement, and equity. We also consider the ethical implications of deploying AI-driven robots in healthcare, education, and the military, spotlighting responsibility, privacy, and human oversight. By examining these concerns, we underscore the need for a robust ethical framework that fosters responsible innovation and respects human dignity. Our goal is to ensure that technological progress elevates overall well-being, while safeguarding autonomy and fairness. Ultimately, this paper provides practical guidance for harmonizing rapid scientific advancements with enduring moral principles in diverse societal contexts, laying the groundwork for a future that respects both technological prowess and fosters deeply fundamental human values.*

Presentation time 15 minutos and 5 minutes for Q&A

04:50PM **Presented by** **Juan Gabino Díaz Martínez** **Mexico 01:50PM**

Title: **Work in Progress. Problem-based learning in final-grade students of engineering: An implementation case (Paper # 1009)**

Autored by Diego-Armando Franco-Cruz, Irandi Gutiérrez-Carmona, Juan-Gabino Díaz-Martínez, Eusebio Eduardo Hernandez

Abstract *Universities and professors should ensure that finalgrade students possess reusable and professional-useable knowledge, problem-solving skills, and the ability to enhance their knowledge. In this paper, we present the case for the implementation of problem-based learning (PBL) for students in the last term of the mechatronics engineering program at Tecnologico de Monterrey*

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on the campus in Tampico. In the proposed teaching strategy, students define the challenge to be addressed and the final deliveries; an implementation case is presented with the evaluation of a group of employers, graduated students, and professors to validate the student work and achievement.

Presentation time 15 minutos and 5 minutes for Q&A

05:10PM Presented by Juan Gabino Díaz Martínez **Mexico 02:10PM**

Title: **Enhancing Engineering Education through Flipped Learning and Collaborative Coaching: An Empirical Study on AI and Robotics Project Development in Higher Education (Paper # 1025)**

Autored by Erick Manuel López Ortiz, Maximiliano Acosta Martínez, Antonio Maximiliano Hernández Salazar, Irandi Gutiérrez-Carmona, Juan-Gabino Díaz-Martínez, Roberto Gómez Tobías, Eusebio Eduardo Hernandez

Abstract *This paper examines the impact of a flipped learning approach combined with collaborative coaching as a transformative strategy for skill development in engineering education. Involving 10 undergraduate students divided into an experimental group and a control group, the study focuses on enhancing competencies in AI and robotics. The experimental group, tasked with developing an algorithm for object manipulation and classification using MATLAB and computer vision techniques, participated in the "RoboCup ARM Challenge 2024" with support from collaborative coaching, while the control group received traditional instruction. Comprehensive rubrics were used to evaluate theoretical understanding, technical skills, teamwork, and problem-solving. Statistical analysis revealed that the experimental group achieved significantly higher scores across all competencies, with their first-place success in the international competition further affirming the effectiveness of this approach. The findings underscore the potential of integrating flipped learning and collaborative coaching to prepare students for realworld engineering challenges.*

Presentation time 15 minutos and 5 minutes for Q&A

05:30PM Presented by Hector R. Amado-Salvatierra **Guatemala 02:30PM**

Title: **Enhancing Conference Engagement: Implementing an AI-Powered Educational Chatbot as a Support Assistant for Interactive Learning and Participation (Paper # 1033)**

Autored by Miguel Morales-Chan, Hector R. Amado-Salvatierra, Rocael Hernandez-Rizzardini, Byron Linares Román

Abstract *This paper presents the development and implementation of an educational chatbot assistant for an academic conference focused on education. Leveraging advancements in AI, the chatbot was contextualized with real conference data, including the agenda, speaker details, session summaries, and FAQs. Attendees could engage directly with the chatbot to receive relevant insights and were prompted with follow-up questions to encourage deeper participation, effectively enhancing interaction with presenters. This approach mirrors a flipped-classroom experience, where AI-driven tools maximize engagement and prepare attendees for active participation. The experience highlights the evolving potential of chatbots to support personalized, interactive experiences in educational events, demonstrating*

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their application beyond traditional rule-based systems toward adaptable, data-informed assistance.

Presentation time 15 minutos and 5 minutes for Q&A

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4:30PM - 6:00PM

ONLINE Spanish Technical Session #5

Chair: Jimy Frank Oblitas Cruz

Technical Session

Argentina 04:30PM	Australia 25 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 25 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 25 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 25 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 25 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

Local Time	Presentation	Speaker Time

4:30PM **Presented by** **Jeimy J. Cano M.** **Colombia 02:30PM**

Title: **Diflexive didactic: The challenge of nesting and situating learning in the student's experience (Paper # 933)**

Autored by Jeimy Cano

Abstract *In a context of rapid change and constant transformation, the processes of learning, unlearning, and relearning present ongoing challenges in professional training across all disciplines. In this regard, diflexive didactics offers a unique teaching approach that integrates exploring (curiosity to question), proposing (contributing to improvement), and applying (practicing to learn). This method fosters psychologically safe spaces where students can critically examine their prior knowledge. Guided by the professor's deliberate agenda and aligned with students' interests, these spaces serve as hubs for collective learning and the creation of new distinctions. The implementation of this approach in graduate courses on security and control topics during 2023 and the first semester of 2024 highlights opportunities, challenges, and outcomes, offering actionable insights for both students and educators.*

Presentation time 15 minutos and 5 minutes for Q&A

04:50PM **Presented by** **Jimy Frank Oblitas Cruz** **Peru 02:50PM**

Title: **Classification of university teacher performance using machine learning (Paper # 946)**

Autored by Jimy Frank Oblitas Cruz

Abstract *This work aimed to determine and propose a teacher classification methodology based on criteria evaluated by students using a methodology based on Machine Learning. For this purpose, 114 classes of the Faculty of Engineering underwent evaluation, where Academic Satisfaction (SA) and Net Promoter Score (NPS) surveys were administered to 3,532 students. In the unsupervised analysis, 4 clusters were determined based on the k-means algorithm with an R2 of 0.88, which showed relationships between the criteria evaluated by the students. Finally, using a supervised algorithm, such as the K-Nearest Neighbors Classification, the model was adjusted to 3 scales, with which the proposed teacher classification was*

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constructed. These results allow us to propose 3 teacher scales focusing on a continuous improvement process.

Presentation time 15 minutos and 5 minutes for Q&A

05:10PM **Presented by** **Jimy Frank Oblitas Cruz** **Peru 03:10PM**

Title: **Impact of Peruvian corporate universities: A systems dynamics approach (Paper # 949)**

Autored by Jaime Zarate Aguilar, Rocio Quiliano Terreros, Jimy Oblitas Cruz

Abstract *This academic paper aims to analyze the impact of corporate universities on Peruvian universities from 2000 to 2018. Likewise, it raises a debate on how necessary private for-profit universities are in a growth scenario that includes academic quality. The largest increase in private universities occurred between 2008 and 2012: a period in which they increased from 59 to 89. This corresponded to the start of academic activities of 25 corporate universities and five associative universities. These for-profit higher education institutions have acquired special relevance worldwide in recent years, mainly in our country. Finally, this thesis proposes a simulation system that allows for recreating a scenario without the rules that originated the development and rise of corporate universities.*

Presentation time 15 minutos and 5 minutes for Q&A

05:30PM **Presented by** **Adrián Isrrael Tec Chim** **Mexico 02:30PM**

Title: **Disruptive online learning in engineering: Enhancing education with mobile sensors and Physics toolbox (Paper # 963)**

Autored by Adrián Isrrael Tec Chim, José Manuel Nieto Jalil, Diego Seuret Jimenez, Juan Manuel Martínez Huerta

Abstract *The shift to remote education has posed significant challenges in engineering education, especially in courses requiring deep comprehension of complex dynamic systems. This study examines a disruptive pedagogical strategy implemented in the "Modeling in Engineering through Dynamic Systems" course (MA1035) at XX. Utilizing smartphone sensors and the Physics Toolbox Sensor Suite, students in both a control group (traditional theoretical methods) and an experimental group (empirical experiments with mobile sensors) engaged in dynamic analysis. Experiments such as tuned mass dampers and vehicle suspensions were conducted in real-time, deepening the understanding of differential equations. Results showed the experimental group demonstrated substantial improvement in learning outcomes, participation, and cognitive engagement compared to the control group. Additionally, students developed key technical skills, including data acquisition and critical analysis, enhancing their employability. The integration of gamification and industrial challenges further enriched the learning process, fostering transversal competencies such as problem-solving and scientific thinking.*

Presentation time 15 minutos and 5 minutes for Q&A

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Education in the Age of Generative AI: Embracing Digital Transformation

MONDAY, March 24, 2025

8:00PM - 10:00PM

HYBRID Welcome Cocktail Party

Chair: Alejandro Adorjan Olivera

Argentina 08:00PM	Australia 25 Mar, 09:00AM	Bolivia 07:00PM	Brazil 08:00PM	Canada 04:00PM
Chile 08:00PM	China 25 Mar, 07:00AM	Colombia 06:00PM	Costa_Rica 05:00PM	Ecuador 06:00PM
Germany 25 Mar, 12:00AM	Greece 25 Mar, 01:00AM	Guatemala 05:00PM	Indonesia 25 Mar, 06:00AM	Ireland 11:00PM
Israel 25 Mar, 01:00AM	Mexico 05:00PM	Peru 06:00PM	Philippines 25 Mar, 07:00AM	Portugal 11:00PM
Senegal 11:00PM	Spain 25 Mar, 12:00AM	Singapore 25 Mar, 07:00AM	Sweden 25 Mar, 12:00AM	Trinidad_Tobago 07:00PM
Tunisia 25 Mar, 12:00AM	United_Kingdom 11:00PM	USA-CDT 07:00PM	USA-PDT 04:00PM	USA-EDT 08:00PM
USA-MDT 05:00PM	USA-HST 01:00PM			

All participants are warmly invited to join us for the 'Cocktail Party'—a wonderful opportunity to connect with colleagues, network, and forge new friendships in a delightful cultural setting.