The IACEE 19th World Conference

Continuing Engineering Education for a Sustainable Future

Conference Program

May 21–24, 2024
Comillas, Spain

Co-Chairs
Patricia Caratozzolo
Genaro Zavala

Institute for the Future of Education | Europe

IACEE

Tecnológico de Monterrey

PROGRAM AT A GLANCE

Tuesday, May 21, 2024

12:30   Workshops Registration and Welcome
Registration Desk

Workshop 1
Scaled Strategies for Sustainable Continuing Engineering Educational Programs
13:00 - 18:30
Presenters:
Anita Chawla (Engageli, USA)
Robert Prakash (Stanford Center for Professional Development, SCPD, USA)
Room 1

Workshop 2
Integrating Technology in Continuing Education: Designing Effective Classroom Activities
13:00 - 18:30
Presenters:
Patricia Caratozzolo (Tecnologico de Monterrey, Mexico)
Jorge Membrillo-Hernández (Tecnologico de Monterrey, Mexico)
Room 2

14:30   LUNCH
Place

15:30   Workshops continue
Room 1
Room 2

17:00   COFFEE BREAK
Place

17:30   Workshops Presentations
Room 1
Room 2

18:30   Workshops End
19:00   Bus from Seminario Comillas to Hotels
Dining Options: Attendees are encouraged to explore the various restaurant options available in the town of Comillas.

Wednesday, May 22, 2024

9:00   **Bus from hotels to Seminario Comillas**
9:30   **Arrival at Seminario Comillas**

10:00   **Welcome to the Conference by the Conference Chairs**
Patricia Caratozzolo (Tecnologico de Monterrey, Mexico) and Genaro Zavala (Tecnologico de Monterrey, Mexico)
Auditorium

10:15   **Plenary Session Keynote**
Creating the Lifetime College: Georgia Tech's Journey in Progress & Service
Keynote Speaker
Nelson Baker (Georgia Tech Lifetime Learning, USA)
Auditorium

11:15   **NETWORKING COFFEE BREAK**
Place

11:45   **Announcements (About IACEE, IACEE General Assembly, Awards Ceremony, Gala Dinner, etc.)**
Auditorium

12:00   **Plenary Session Panel**
Moderator
José Escamilla (Tecnologico de Monterrey, Mexico)
Panelists
Amy Moore (State University of New York at Buffalo, UB, USA)
Jorge Limón (Tecnologico de Monterrey, Mexico)
Auditorium

13:00   **NETWORKING COFFEE BREAK**
Place

13:15   **Parallel Sessions**
13:15 to 14:30

Session #1
Room 1

#		Session Introduction	Session #1 Chair
	13:15 13:20		Anikó Kálmán (Budapest University of Technology and Economics, Department of Technical Education, Hungary)
1	13:20 13:35	Tracing a decade's trends on skills (2011-2023): A review of four organizations	Anikó Kálmán (Budapest University of Technology and Economics, Department of Technical Education, Hungary)
2	13:35 13:50	Empowering Industry 5.0 Competencies and Skills: A Case Study in Teaching Automation for Manufacturing Skills	Erick Ramírez-Cedillo (Tecnologico de Monterrey, Mexico)
3	13:50 14:05	Industry support for education after COVID-19	Virgilio Vásquez López (Tecnologico de Monterrey, Mexico)

#	14:05 14:20	On-site Inspection: A Tool for Development of Auditing Skills in Engineering Students	Raúl Villareal Lara (Tecnologico de Monterrey, Mexico)
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	14:20 14:30	**Discussion led by the session chair**	

Session #2

Room 2

#	13:15 13:20	**Session Introduction**	**Session #2 Chair** Patricia Caratozzolo (Tecnologico de Monterrey, Mexico)
5	13:20 13:35	A Novel Taxonomy for Continuing Engineering Education	Patricia Caratozzolo (Tecnologico de Monterrey, Mexico)
6	13:35 13:50	Impacting student's learning by multidisciplinary teams	Jaime Díaz Sáenz (Tecnologico de Monterrey, Mexico)
7	13:50 14:05	Collaborative approach to re-skilling through quality-assurance of Organisational learning in Scotland	Christopher J M Smith (Glasgow Caledonian University, United Kingdom)
8	14:05 14:20	The Silent Language: Decoding Non-Verbal Communication in Industry 5.0	Dafne Anaid Jacques Pulgarin (Tecnologico de Monterrey, Mexico)
	14:20 14:30	**Discussion led by the session chair**	

14:30   LUNCH

Place

15:30   Parallel Sessions
15:30 to 16:45

Session #3

Room 1

#	15:30 15:35	**Session Introduction**	**Session #3 Chair** Guillermo M. Chans (Tecnologico de Monterrey, Mexico)
9	15:35 15:50	Enhancing Future Skills with Competency-Based Engineering (Continuous) Education	Guillermo M. Chans (Tecnologico de Monterrey, Mexico)
10	15:50 16:05	Developing the modern construction professional through a continuing education programme at the Centre for Advanced Timber Technology	Sarah Jayne Hitt (New Model Institute for Technology and Engineering, NMITE, United Kingdom)
11	16:05 16:20	Building a Sustainable Workforce Accelerator Through the Intersection of Higher Education, Industry, and Critical Thinking	Sherry Kollman and Patricia Sullivan (New Mexico State University, NMSU, USA)
12	16:20 16:35	Assessing Critical Thinking in Engineers Under the Current Growth of AI	Vicente Antonio Mirón (Tecnologico de Monterrey, Mexico)
	16:35 16:45	**Discussion led by the session chair**	

Session #4

Room 2

#		Session Introduction	Session #4 Chair
	15:30 15:35		Ellen Sjoer (The Hague University of Applied Sciences, Netherlands)
13	15:35 15:50	Characteristics of individual and collective agency in learning communities for the energy transition	Maaike Konings and Ellen Sjoer (The Hague University of Applied Sciences, Netherlands)
14	15:50 16:05	Upskilling and Reskilling for Sustainable Entrepreneurship: Green KAIT	Sonja Gögele (University of Applied Sciences FH JOANNEUM, Austria)
15	16:05 16:20	Navigating Digital Competence in Higher Education: Analyzing Instrument Design and Validation for Industry 5.0	Leonardo Glasserman (Tecnologico de Monterrey, Mexico)
16	16:20 16:35	The anxiety of engineering faculty in relationship to their required Continuing Education	Jesús Beltrán (Tecnologico de Monterrey, Mexico)
	16:35 16:45	Discussion led by the session chair	

16:45   SHORT BREAK

Place

17:00   Plenary Session Panel

Moderator

Ed Borbely (University of Wisconsin-Madison, USA)

Panelists

Chris LaBelle (Michigan University, UMICH, USA)

Hans-Ulrich Heiß (Technischen Universität Berlin, TU Berlin, Germany)

Tamer Atabarut (Bogazici University, Turkey)

Nora Sutton (University of Connecticut, UConn, USA)

Auditorium

18:30   Plenary Session Adjourns

19:00   WELCOME RECEPTION

El Aljibe (Basement)

21:00   Bus from Seminario Comillas to Hotels

Thursday 23, 2024

9:00 **Bus from hotels to Seminario Comillas**
9:30 **Arrival at Seminario Comillas**

10:00 **Plenary Session Keynote**
Engineering a Diverse and Sustainable Future: Progress and Challenges Towards the UN 2030 Agenda
Keynote Speaker
Rovani Sigamoney (UNESCO Office in Harare, Zimbabwe)
Auditorium

11:00 **Fellow and Special Recognition Awards Distribution**
Auditorium

11:15 **Official Photo and NETWORKING COFFEE BREAK**
Place

11:45 Parallel Sessions
11:45 to 13:00

Session #5
Room 1

#	11:45 11:50	**Session Introduction**	**Session #5 Chair** Claudia Camacho-Zúñiga (Tecnologico de Monterrey, Mexico)
25	11:50 12:05	Internationalization experience for the enhancement of continuing engineering education	Claudia Camacho-Zúñiga (Tecnologico de Monterrey, Mexico)
26	12:05 12:20	Fostering Lifelong Learning and Employability Through Capstone Project in Engineering Education	Juan de Dios Calderon Najera (Tecnologico de Monterrey, Mexico)
27	12:20 12:35	Development of transversal and disciplinary competencies in a challenge-based learning educational experience	Amy Moore and Sabrina Casucci (State University of New York at Buffalo, UB, USA)
28	12:35 12:50	Exploring Industry 5.0 Skills: a Comprehensive Taxonomy for IT Job Classification	Jorge Carlos Valverde Rebaza (Tecnologico de Monterrey, Mexico)
	12:50 13:00	**Discussion led by the session chair**	

Session#6
Room 2

#	11:45 11:50	**Session Introduction**	**Session #6 Chair** Danilo Valdes Ramirez (Tecnologico de Monterrey, Mexico)
29	11:50 12:05	Insights of STEM students' competencies: The case of Tecnologico de Monterrey	Danilo Valdes Ramirez (Tecnologico de Monterrey, Mexico)
30	12:05 12:20	Women in STEM: Leadership, Mentoring and Contributions to Continuing Education in Engineering	Frank Meléndez-Anzures (Tecnologico de Monterrey, Mexico)

31	12:20 12:35	The Role of HEI in upskilling & reskilling: Marble-Tech Project	Tamer Atabarut (Bogazici University, Turkey)
32	12:35 12:50	ENGINEERS 4 EUROPE	Dirk G. Bochar (Engineers Europe, Belgium)
	12:50 13:00	**Discussion led by the session chair**	

13:00   NETWORKING COFFEE BREAK
Place

13:15   General Assembly; State of the Association; New Council Election; Professional Societies Partnership Panel
Moderator
Soma Chakrabarti (IACEE, USA)
Panelists
Chris J.M. Smith (Glasgow Caledonian University, United Kingdom), Dirk Bochar (Engineers Europe, Belgium), and James Gazzard (University of Cambridge, United Kingdom)
Iglesia

14:30   LUNCH
Place

15:30   Parallel Sessions
15:30 to 16:45

Session #7
Room 1

#	15:30 15:35	Session Introduction	Session #7 Chair Valentina Rueda-Castro (Tecnologico de Monterrey, Mexico)
17	15:35 15:50	Combining two types of abilities assessment in engineering students: How biometrics enter the framework of Industry 5.0	Valentina Rueda-Castro (Tecnologico de Monterrey, Mexico)
18	15:50 16:05	Empowering Data Analytics Learning: Leveraging Advanced Large Language Models and Visualization Tools	Jorge Carlos Valverde Rebaza (Tecnologico de Monterrey, Mexico)
19	16:05 16:20	Operational Excellence for Engineering Professional Education: A Case Study	Joe Scherrer (Washington University in Saint Louis, USA)
20	16:20 16:35	Playing with Progress: Gamification as a Catalyst for Meeting Industry 5.0 Needs	Giomara Sevilla Campoverde (Tecnologico de Monterrey, Mexico)
	16:35 16:45	**Discussion led by the session chair**	

Session#8
Room 2

#	15:30 15:35	Session Introduction	Session #8 Chair José Daniel Azofeifa (Tecnologico de Monterrey, Mexico)

21	15:35 15:50	Who is solving the challenge? The use of ChatGPT in STEM Education	Jorge Membrillo-Hernández (Tecnologico de Monterrey, Mexico)
22	15:50 16:05	Global action learning for social impact: Preparing industry technical leaders of the future	Eric VandeVoorde
23	16:05 16:20	Empowering the Future Workforce: Transformative Technologies and Learning Approaches in Continuing Engineering Education	José Daniel Azofeifa (Tecnologico de Monterrey, Mexico)
24	16:20 16:35	Driving Equality: Advancing Women's Empowerment through Education in the Automotive Industry	Ana Zavala-Parrales (Tecnologico de Monterrey, Mexico)
	16:35 16:45	**Discussion led by the session chair**	

16:45   SHORT BREAK
Place

17:00   Plenary Session Keynote
Rethinking Higher Education: Universities as Lifelong Learning Engines
Keynote Speaker
José Escamilla (Tecnologico de Monterrey, Mexico)
Auditorium

18:00   Plenary Session Adjourns

18:15   Cultural Activity
Cantabria Chorus
Iglesia

19:30   BUSES TO GALA DINNER

20:00   GALA DINNER
Hotel ABBA Restaurant

22:00   Bus from Seminario Comillas to Hotels

Friday, May 24, 2024

9:00   **Bus from hotels to Seminario Comillas**
9:30   **Arrival at Seminario Comillas**

10:00   **Biedenbach and Glen Martin Awards Ceremony and Award Lectures**
10:00 to 11:15
Place

11:15   **NETWORKING COFFEE BREAK**
Place

11:45   **Parallel Session**
11:45 to 13:00

Session #9
Room 1

#		Session Introduction	Session #9 Chair Sonia Perez Suarez (Tecnologico de Monterrey, Mexico)
	11:45 11:50	Session Introduction	Session #9 Chair Sonia Perez Suarez (Tecnologico de Monterrey, Mexico)
33	11:50 12:05	Enhancing Professional Development: The Role of Professional Master's Programs in Continuing Education	Adriana Vargas-Martinez (Tecnologico de Monterrey, Mexico)
34	12:05 12:20	Are University Continuing Engineering Education Divisions and Industry Learning and Development Units Ready for Industry 5.0?	Soma Chakrabarti (IACEE, USA)
35	12:20 12:35	Digital tools and artificial intelligence applied to climate change education to address real problems	Emilio Clarke-Crespo (Tecnologico de Monterrey, Mexico)
36	12:35 12:50	Shaping Tomorrow's STEM Women Leaders: A Comparative Analysis of Current Educational Trends and Future Insights	Sonia Perez Suarez (Tecnologico de Monterrey, Mexico)
	12:50 13:00	**Discussion led by the session chair**	

13:00   **NETWORKING COFFEE BREAK**
Place

13:15   **PLENARY: Concluding Session on the Future of IACEE; Closing Remarks by the Conference Chairs and Organizers. Thank Yous**
Auditorium

14:30   **LUNCH**
Place

15:30   **Conference Ends**
16:00   **Optional Sightseeing Trip (Bus from Seminario Comillas to El Capricho)**

18:00   **Bus from El Capricho to Santander (Airport and Train Station)**