





2025 Sixth International Conference on Advances in Computational Tools for Engineering Applications (ACTEA)

Wednesday, September 24, 2025					
Time (Beirut)	Engineering Conference Room	Friends Hall	Abou Khater		
8:30 a.m 9:30 a.m.	1	<u>Registration</u> (Center - Exam Hall 1)		
9:30 a.m10:30 a.m.		<u>Opening Ceremony</u>			
10:30 a.m11:30 a.m.		Keynote#1: <u>Prof. Charbel Farhat,</u>			
11:30 a.m12:00 p.m.	<u>(</u>	Coffee Break / Tour of the Exhibition	on Area		
12:00 p.m 2:00 p.m.		S11(A): <u>Hardware</u> <u>System/Prototype/IoT/Safety</u>	S11(B): Control & Automation		
2:00 p.m 3:30 p.m.	<u>Lunch Break</u> (Campus Restaurant)				
3:30 p.m 4:30 p.m.		Keynote#2: <u>Dr. Antonino Iannuzzo</u>			
4:30 p.m 5:00 p.m.	Coffee Break / Tour of the Exhibition Area				
5:00 p.m 7:00 p.m.	S12(A): <i>Biomedical &</i> <i>Health</i>		S12(B): <u>Energy & Environment</u>		
Thursday, September 25, 2025					
9:00 a.m10:30 a.m.	<u>Registration</u> (Center - Exam Hall 1)				
10:30 a.m11:00 a.m.	Coffee Break / Tour of the Exhibition Area				
11:00 a.m12:00 p.m.		Keynote#3: <u>Prof. Elie Hachem</u>			
12:30 p.m 2:00 p.m.	<u>Lunch Break</u> (Campus Restaurant)				
2:00 p.m 4:00 p.m.	S21(A): <u>Al/ML/DL,</u> <u>NN/CNN/Fuzzy-Logic</u>		S21(B): <u>Renewable Energy,</u> <u>Energy Harvesting, Energy</u> <u>Saving</u>		

4:00 p.m 4:30 p.m.	Coffee Break / Tour of the Exhibition Area				
4:30 p.m 6:00 p.m.	S22(A): <u>Radar/Wireless/5G</u> / <u>Antenna/Signal-Process</u>		S22(B): <u>HVAC, Transportation</u> <u>and Urbanism, Petroleum</u> <u>Engineering</u>		
7:30 p.m11:00 p.m.		<u>Gala Dinner</u>			
Friday, September 26, 2025					
9:00 a.m 6:00 p.m.		<u>Touristic Visit</u>			

Wednesday, September 24

Wednesday, September 24, 8:30 a.m. - 9:30 a.m. (Asia/Beirut)

Registration Room: Conference Business Center - Exam Hall 1

Wednesday, September 24, 9:30 a.m. - 10:30 a.m. (Asia/Beirut)

O.S: Opening Ceremony

Room: Friends Hall

Wednesday, September 24, 10:30 a.m. - 11:30 a.m. (Asia/Beirut)

Keynote#1: Prof. Charbel Farhat,

A Probabilistic, Physics-Based Framework for Robust Digital Twin Development

Room: Friends Hall

Chair: Charbel Bou-Mosleh (Notre Dame University-Louaize, Lebanon)

A digital twin is commonly defined as a dynamic, virtual replica of a physical asset, process, or system. Unlike static models or disconnected simulations, it is continuously updated through real-time data streams-often originating from sensors and other monitoring sources—enabling the twin to evolve in tandem with its physical counterpart. This live integration supports advanced monitoring, analysis, prediction, and, most importantly, decision-making and optimization throughout the lifecycle of the physical system.

Constructing such technology typically requires combining artificial intelligence, machine learning, and software analytics with physics-based modeling, thereby creating adaptive simulation models that remain synchronized with reality. Early digital twins often focused on combining data analytics with model-based prediction of selected quantities of interest (Qols). This lecture will critically examine whether a limited set of Qols can reliably capture the true state of a newly designed and deployed platform.

While the "Digital" side of digital twins is widely understood, the "Twin" presents greater challenges, among them the risk of misrepresenting the physical system. To mitigate this, Prof. Farhat introduces a methodology based on adaptable, stochastic, computationally tractable, low-dimensional yet high-fidelity physics-based models rooted in partial differential equations. This framework incorporates strategies for quantifying model-form uncertainty through a multi-component probabilistic approach, alongside projection-based model reduction and machine learning, yielding stochastic physics-based models capable of self-adaptation through sensor data assimilation and real-time operation. Applications are highlighted through case studies in aerospace, including:

- 1. Aircraft vibration assessment
- 2. UAV autonomous landing
- 3. Condition-based aircraft maintenance
- 4. In-cockpit prediction of aerodynamic loads. Together, these examples illustrate how probabilistic, physicsdriven digital twins can provide robust, real-time insights-transforming the way complex aerospace systems are designed, monitored, and operated.

Wednesday, September 24, 11:30 a.m. - 12:00 p.m. (Asia/Beirut)

CB1: Coffee Break / Tour of the Exhibition Area

Room: Conference Business Center - Exam Hall 1

Wednesday, September 24, 12:00 p.m. - 2:00 p.m. (Asia/Beirut)

S11(A): Hardware System/Prototype/IoT/Safety



Room: Friends Hall

Chairs: Mustapha Hamad (Notre Dame University-Louaize, Lebanon), Ramzi A. Jaber (Notre Dame

University, Lebanon)

BinGo - A Smart Waste Management System

Anis Zebiane, Carla Abou Ismail and Firas Dimashki (Notre Dame University-Louaize, Lebanon); Nadine Bou Dargham (Notre Dame University-Louaize, Lebanon); Mustapha Hamad (Notre Dame University-Louaize, Lebanon); Abdallah Kassem (Notre Dame University-Louaize, Lebanon)

Rapid Adjustment Conveyor Guide Rail Solution for Industrial Production Lines

Karim Abdel Karim, Jad Chalhoub and Rami Koussa (Notre Dame University-Louaize, Lebanon); Ilige Hage (Notre Dame University-Louaize, Lebanon)

E-Portal: A Smart Computer Vision System for Face Detection and Recognition in Residential **Buildings**

Sarah Rashidi (Lebanese University, Lebanon); Hussein Hazimeh (Lebanese University, Lebanon & Al Maaref University, Lebanon); Hassan Harb (American University of the Middle East, Kuwait); Hamza Rachidi (American University of Beirut, Lebanon); Perla Imad (Lebanese American University, Lebanon)

Proposed a Ternary Inverter and a Ternary Decoder Using CNTFET

Ramzi A. Jaber, Chady El Moucary and Abdallah Kassem (Notre Dame University-Louaize, Lebanon); Ali Massoud Haidar and Hiba S Bazzi (Beirut Arab University, Lebanon)

Simulating a Drone Data Breach: Legal and Technical Incident Response Guided by NIST 800-61

Ezzeddine Abou Zahr and Sara Jalloul (Arab Open University, Lebanon); Nader Bakir (Beirut Arab University, Lebanon); Khouloud Samrouth (Lebanese University, Lebanon)

A Lightweight Zabbix-Based Monitoring and Management System Using Raspberry Pi for Hybrid **Networks**

Hadi Slim, Ali Kalakech and Majd Ghareeb (Lebanese International University, Lebanon); Ali Bazzi (Lebanese International University, Lebanon & LIU, Lebanon)

S11(B): Control & Automation



Room: Abou Khater

Chairs: Roy Abi Zeid Daou (Université La Sagesse, Lebanon), Ilige Hage (Notre Dame University-Louaize, Lebanon)

Evaluation of a GAN-Based Method for Anomaly Detection in Open RAN Based on Experimental 5G Data

Ali Issa (Université du Québec en Abitibi-Témiscamingue, Canada); Nahi Kandil (Université du Québec en Abitibi-Temiscamingue, Canada); Nadir Hakem (Université du Québec en Abitibi Témiscamingue, Canada); Paul Fortier (Laval University, Canada); Abdelwahab Hamou Lhadj (Concordia University, Canada)

Detection of Multiple Sclerosis Based on MRI Images Using a Low-Power Analog Integrated Artificial Neural Networks

Vassilis Alimisis (National Technical University of Athens, Greece); Mohamad Marwan Al Sidani and Rita Younes (Université La Sagesse, Lebanon); Konstantinos Cheliotis (National Technical University of Athens, Greece); Paul Peter Sotiriadis (Johns Hopkins University EPP & Sotecko Electronics LLC, USA); Jalal Possik (Catholic University of Lille, France); Charles Yaacoub (Université Catholique de Lille, France); Roy Abi Zeid Daou (Université La Sagesse, Lebanon)

CRONE Active Suspension: Application to the All-Electric Vehicle

Fouad Farah (Université La Sagesse, Lebanon); Xavier Moreau (University of Bordeaux I, France); Roy Abi Zeid Daou (Université La Sagesse, Lebanon)

Driver Drowsiness Detection Using CNN

Maya Abdullah Ghezzawi (AUST, Lebanon); Pio Jighalian (American University of Science and Technology, Lebanon); Sarah Khalil (American University of Science & Technology (AUST), Lebanon); Gaby H Abou Haidar (American University of Science and Technology, Lebanon); Michel Owayjan (American University of Science & Technology, Lebanon & IREENA - Nantes University, France); Roger Achkar (Antonine University, Lebanon)

1-D Virtual Simulation - A Revolution in EV

Adarsh Ravi (Tata Elxsi, India)

Exploring Distance Metrics for Early RUL Estimation: A Liquid Neural Network Approach

Haidar Damen and Sara Abou Chaar (American University of Science & Technology (AUST), Lebanon); Michel Owayjan (American University of Science & Technology, Lebanon & IREENA -Nantes University, France); Gaby H Abou Haidar (American University of Science and Technology, Lebanon); Roger Achkar (Antonine University, Lebanon)

Wednesday, September 24, 2:00 p.m. - 3:30 p.m. (Asia/Beirut)

Lunch Break

Room: Campus Restaurant

Wednesday, September 24, 3:30 p.m. - 4:30 p.m. (Asia/Beirut)

Keynote#2: Dr. Antonino lannuzzo



Bridging Centuries: Reimagining Ancient Masonry Logic Through Digital Technologies for Sustainable Construction

Room: Engineering Conference Room

Chair: Talal Salem (Notre Dame University-Louaize, Lebanon)

Unreinforced Masonry (URM) structures represent one of the most ancient and inherently sustainable forms of construction, deeply embedded in the cultural and architectural heritage of many civilizations. Preserving and adaptively reusing these structures not only strengthens the identity of our built environment but also contributes to sustainability by reducing both the ecological footprint of the construction sector and the consumption of undeveloped land.

Recent advances in computational modelling and digital technologies now enable accurate, large-scale structural assessments that are compatible with the time and budget constraints of modern engineering practice. These tools allow for more precise, non-invasive, and less conservative interventions, avoiding overdesign and unnecessary modifications.

In this keynote, Dr. lannuzzo will present a comprehensive framework of computational tools developed in collaboration with leading researchers for the analysis of masonry structures. Special emphasis will be placed on the integration of artificial intelligence and vision-based systems for real-time structural assessment. While these tools serve heritage conservation, they are also reinterpreted to inspire new masonry-informed design, merging historical logic with contemporary sustainability.

A featured case study will explore the design and analysis of an innovative stereotomic floor system, conceived using the geometric principles of historical vaulted architecture, yet reimagined through cutting-edge digital technologies to serve the needs of modern sustainable construction.

Wednesday, September 24, 4:30 p.m. - 5:00 p.m. (Asia/Beirut)

CB2: Coffee Break / Tour of the Exhibition Area

Room: Conference Business Center - Exam Hall 1

Wednesday, September 24, 5:00 p.m. - 7:00 p.m. (Asia/Beirut)

S12(A): Biomedical & Health



Room: Engineering Conference Room

Chairs: Charbel Bou-Mosleh (Notre Dame University-Louaize, Lebanon), Atef Harb (Notre Dame University, Lebanon)

The Effect of Blood Hemodynamics on the Design of a Medical Braided Stent: a One Way Fluid-Structure Interaction Study

Elie Khoury and Mark Nasr (Notre Dame University-Louaize, Lebanon); Josephine Abboud (Notre Dame University-Louaize, Lebanon); Charbel Bou-Mosleh (Notre Dame University-Louaize, Lebanon)

Al-Powered Navigation Assistance for the Visually Impaired

Mohamad Hajj-Hassan (Lebanese International University, Lebanon); Ali H Cherry (International University of Beirut, Lebanon); Houssein Hajj Hassan (Al Maaref University, Lebanon); Ali Ibrahim (LIU, Lebanon); Mariam Chmaisseni and Fatima Tabikh (Lebanese International University, Lebanon)

Enhanching ECG Arrhytmia Classification via Stacked Ensemble Learning: A Machine Learning Approach

Ni Kadek Bintang Bintang Listia Listia, Tito Waluyo Purboyo and Dziban Naufal (Telkom University, Indonesia)

SoniWear: a Wearable Device for the Hearing-Impaired

Razan Bou Karroum and Sana Safadi (Notre Dame University-Louaize, Lebanon); Nadine Bou Dargham (Notre Dame University-Louaize, Lebanon); Mustapha Hamad (Notre Dame University-Louaize, Lebanon)

Computational and Statistical Tools in Fatty Acid Profiling of Goat Milk: A Systematic Review and

Simona Sawan and Lea Diab (Notre Dame University-Louaize, Lebanon); Nathalie Hayeck (Lebanese American University, Lebanon); Pauline Y. Aad (Notre Dame University-Louaize, Lebanon)

Vulnerabilities of a Medical and Scientific Based RAG System

Jean Serhan (Kansas University, USA); Bechara Nehme (USEK, Lebanon)

S12(B): Energy & Environment



Room: Abou Khater

Chairs: Elias Feghali (Notre Dame University, Lebanon), Gérard-Philippe Zéhil (Notre Dame

University-Louaize, Lebanon)

Aerodynamic Optimization of a Helical Vertical Axis Wind Turbine Using Trapezoidal Vortex Generators

Peter Mouaikel (Auburn University, USA); Albert El Haddad (Multilane, Lebanon); Patrick Eid (Auburn University, USA); Charbel Bou-Mosleh (Notre Dame University-Louaize, Lebanon)

Unsupervised Anomaly Detection in Water Distribution Networks Using One-Class SVM Christine Saab and Gérard-Philippe Zéhil (Notre Dame University-Louaize, Lebanon)

Feature Selection and Optimization for Water Quality Index Design in the Rachiine River Christine Saab and Gérard-Philippe Zéhil (Notre Dame University-Louaize, Lebanon)

Optimizing an HVAC System with Al Integration and Phase Change Materials for Sustainable Energy **Performance**

Ahmad Takash (International University of Beirut, Lebanon); Assadour Khanjian (Lebanese International University & International University of Beirut, Lebanon); Razan Oussama El Kassar (Nantes Universite, Lebanon & Lebanese International University, Lebanon); Jalal Faraj (LIU, Lebanon); Mohamad S Hammoud (Lebanese International University (LIU), Lebanon); Mahmoud Khaled (Lebanese International University, Lebanon); Ahmad Mahmoud Madani, Sr (Lebanese International University, Lebanon & LIU, Lebanon); Hassan Mohammad Ezzeddine (Lebanese International University, Lebanon)

Cradle-to-Grave Life Cycle Assessment of a Commercial Rooftop PV System with Complete BOS in West Africa: ReCiPe-Based LCA Using OpenLCA

Razan Oussama El Kassar (Nantes Universite, Lebanon & Lebanese International University, Lebanon); Ahmad Takash (International University of Beirut, Lebanon); Elissa EL Rassy (Nantes Université, Lebanon); Mohamad S Hammoud (Lebanese International University (LIU), Lebanon); Xavier Py (Laboratoire de Thermique et Energie de Nantes, Université, France); Ahmad El Saleh (GP Stellar Cl, Cote d'Ivoire)

Physics Informed Neural Networks to Solve the 2-D Heat Diffusion Equation

Hassan Ozeir and Ali Bazzi (American University of Science & Technology (AUST), Lebanon); Michel Owayjan (American University of Science & Technology, Lebanon & IREENA - Nantes University, France); Rida Nuwayhid (American University of Science & Technology, Lebanon)

Thursday, September 25

Thursday, September 25, 9:00 a.m. - 10:30 a.m. (Asia/Beirut)

Registration Room: Conference Business Center - Exam Hall 1

Thursday, September 25, 10:30 a.m. - 11:00 a.m. (Asia/Beirut)

Coffee Break / Tour of the Exhibition Area

Room: Conference Business Center - Exam Hall 1

Thursday, September 25, 11:00 a.m. - 12:00 p.m. (Asia/Beirut)

Keynote#3: Prof. Elie Hachem



Digital Twin-Empowered Prediction and Optimization of Vascular Treatments via Space-Time GNNs and High-Fidelity Simulation

Room: Friends Hall

Chair: Rachid Klaimi (Notre Dame University-Louaize, Lebanon)

The integration of high-fidelity simulation with artificial intelligence is unlocking transformative applications in patient-specific medicine. In this lecture, Prof. Hachem presents a cutting-edge computational framework that combines fluid-structure interaction modeling with space-time Graph Neural Networks (GNNs) to build real-time digital twins for cardiovascular treatment planning.

The talk outlines the development of a robust simulation platform that couples blood flow dynamics, vessel wall mechanics, and device interactions with refined temporal resolution. This physics-driven approach is then augmented using space-time GNNs trained to predict transient mechanical and hemodynamic behaviors across diverse patient anatomies.

Applications are demonstrated in two critical clinical scenarios:

- 1. Intracranial aneurysm risk assessment, where digital twins provide real-time insights for intervention planning.
- 2. Heart failure management, featuring optimization of ventricular assist device (VAD) configurations using Alinformed, patient-specific models.

These case studies show how Al-augmented simulation pipelines are revolutionizing both engineering efficiency and clinical decision-making. The methodology aligns with ACTEA's mission by showcasing how advanced computational tools can reduce cost, improve precision, and enhance the adaptability of engineering systems in both industrial and biomedical contexts.

Thursday, September 25, 12:30 p.m. - 2:00 p.m. (Asia/Beirut)

Lunch Break, Room: Campus Restaurant

Thursday, September 25, 2:00 p.m. - 4:00 p.m. (Asia/Beirut)

S21(A): Al/ML/DL/NN/CNN/Fuzzy-Logic



Room: Engineering Conference Room

Chairs: Ayoub Alsarhan (Hashemite University, Jordan), Nadine Bou Dargham (Notre Dame University-Louaize, Lebanon)

Image Metadata Analysis and Categorization with Al

Kamil Aref Badereldine (Lebanese International University, Lebanon); Nancy Boughannam (University of Haute Alsace, France); Mahmoud Samad (Lebanese International University, Lebanon)

Fuzzy Logic-Based Control Strategy for Five-Phase Asynchronous Machines

Ala Eddine Kaddour Amraoui (Universite du Quebec en Abitibi-Temiscaminque, Canada); Fouad Slaoui-Hasnaoui (Université du Québec en Abitibi-Témiscamingue, Canada); Semaan Georges (Notre Dame University-Louaize, Lebanon)

Kidney Disease Detection and Classification Based on CT Scan Images Using Deep Learning Souheir Ali Shreif and Omar Fadi Nassif (Lebanese International University, Lebanon); Mahmoud K. Madi (LIU, Lebanon)

Fine-Tuned Multi-Model Al Assistance System: A Case Study on LIU

Ali Hammoud, Lara Mohti, Ali Kalakech and Majd Ghareeb (Lebanese International University, Lebanon); Ali Bazzi (Lebanese International University, Lebanon & LIU, Lebanon)

Optimal Prediction of Breakdown Voltage Using Neural Network

Hadi Mahmoud Mahmoudi (Universite du Quebec en Abitibi-Temiscamingue, Canada); Fouad Slaoui-Hasnaoui (Université du Québec en Abitibi-Témiscamingue, Canada); Semaan Georges (Notre Dame University-Louaize, Lebanon)

Intelligent Phishing Detection Using Deep Neural Networks

Ayoub Alsarhan (Hashemite University, Jordan); Mohammad Aljaidi (Zarga University, Jordan); Mahmoud Aljamal (Irbid National University, Jordan); Dimah Al-Fraihat (ISRA University, Jordan); Qais Al-Na'amneh (Applied Science Private University, Jordan)

S21(B): Renewable Energy, Energy Harvesting, Energy Saving

Room: Abou Khater

Chairs: Semaan Georges (Notre Dame University-Louaize, Lebanon), Rachid Klaimi (Notre Dame University-Louaize, Lebanon)

Techno-Economic Analysis of Electric Boiler Integration for Direct Steam Generation in Ethylene **Plants**

Rachid Klaimi, Emanuel Rizk and Nora Aoun (Notre Dame University-Louaize, Lebanon); Sabla Y. Alnouri (Qatar University, Qatar); Joavan D. Jovanovic and Mirko Stijepovic (University of Belgrade, Serbia)

Smart Management of Organic Waste Using a Hybrid Waste-to-Energy and Photovoltaic System Habiba Ahmed (University of Wollongong in Dubai, United Arab Emirates); Mohamad Nassereddine (University of Woolongog in Dubai, United Arab Emirates)

Maintaining Positive Pressure and Effective Heat Dissipation in a Powerhouse Using COMSOL **Multiphysics**

Karim Y. Kabalan (American University of Beirut, Lebanon); Mohamad Nassereddine (University of Woolongog in Dubai, United Arab Emirates); Mervat Madi (American University of Dubai, United Arab Emirates); Gabriel Kanaan (Etaone, Lebanon)

Evaluation of a Power Management Strategy for Autonomous Cyber-Physical Systems with Real-Time Constraints

Hussein El Ghor (Lebanese University-IUT Saida, Lebanon); Maryline Chetto (Universite de Nantes CNRS & LS2N Lab, France); Mohammad Elghor (University of Nantes, France)

Integrative Sustainable Computational and Simulation Design for the Passive Restoration of Existing Historic Building Structures

Sary A Malak, Juliet Bolger, Taylor Craig and Maxwell Leyland (Endicott College, USA)

Electricity Regulatory Authority Roles in Addressing Lebanon's Electrical Network Crises Under the IR4.0

Mohamad Nassereddine (University of Woolongog in Dubai, United Arab Emirates)

Thursday, September 25, 4:00 p.m. - 4:30 p.m. (Asia/Beirut)

Coffee Break / Tour of the Exhibition Area, Room: Conference Business Center - Exam Hall 1

Thursday, September 25, 4:30 p.m. - 6:00 p.m. (Asia/Beirut)

S22(A): Radar/Wireless/5G/Antenna/Signal-Process



Room: Engineering Conference Room

Chairs: Mohamad A. Aoude (Lebanese University, Lebanon), Elias Nassar (Notre Dame University-Louaize, Lebanon)

DT-ECO: Digital Twin-Empowered Coverage Optimization for Indoor Wireless Networks

Hussein Hijazi (Universite du Quebec en Abitibi-Temiscamingue (UQAT), Canada); Zoheb Hassan (Université Laval, Canada); Nahi Kandil (Université du Québec en Abitibi-Temiscamingue, Canada); Nadir Hakem (Université du Québec en Abitibi Témiscamingue, Canada); Paul Fortier (Laval University, Canada)

Hardening 5G Network Registration: An Analysis of ECIES Profiles and SHNIP

Mohamad A. Aoude (Lebanese University, Lebanon)

Robust Constraint Extended Kalman Filter (RCEKF) for Parameter Estimation of Parallel **Bicomponent Chirp Signals**

Walid Kaakour (Lebanese International University (LIU), Lebanon); Ali Bazzi (Lebanese International University, Lebanon & LIU, Lebanon)

A Dipole Antenna Backed by a Corner Reflector for UWB Applications

Samer Shazbek and Elias Nassar (Notre Dame University, Lebanon)

Sustainability Evaluation of Construction Materials: A Multi-Dimensional Radar

Clara Akiki (Notre Dame University-Louaize, Lebanon); George J Nasr (Notre Dame University-Louaize, Lebanon)

S22(B): HVAC, Transportation and Urbanism, Petroleum Engineering



Room: Abou Khater

Chairs: George J Nasr (Notre Dame University-Louaize, Lebanon), Talal Salem (Notre Dame University-Louaize, Lebanon)

Investigating the Use of Computational Tools for HCM Method in Lebanese Urban Intersection Design

Talal Salem (Notre Dame University-Louaize, Lebanon); Richard El Haddad, Ali Abdulla and Joanna Asfour (Notre Dame University-Louaize, Lebanon); Elie Chakar (Notre Dame University-Louaize, Lebanon)

Twin4Build in Action: Al-Powered Digital Twins Advancing Building Decarbonization with Key Findings and Lessons Learned

Muhyiddine Jradi (University of Southern Denmark, Denmark)

Design of a Low-Cost Lab-Scale Fluidized Bed Apparatus

Maria Assi (Notre Dame University-Louaize, Lebanon); Joey Abi Rizk and Luna Tahan (Notre Dame University-Louaize, Lebanon); Elias Feghali (Notre Dame University, Lebanon)

Leveraging Computer Tools for Enhanced Bottom-Up Road Safety Regulations: Insights from Lebanon

Norma Nasreddeen (Notre Dame University-Louaize, Lebanon); George J Nasr (Notre Dame University, Louaize, Lebanon); Talal Salem (Notre Dame University-Louaize, Lebanon)

Leak Detection in Steel Pipelines a Software for Mapping Thermal Anomalies and Ascertaining Pipeline Integrity

Antoine Kanaan (Notre Dame University-Louaize, Canada); George J Nasr (Notre Dame University-Louaize, Lebanon)

Thursday, September 25, 7:30 a.m. - 11:00 a.m. (Asia/Beirut)

Gala Dinner

Friday, September 26

Friday, September 26, 9:00 a.m. - 6:00 p.m. (Asia/Beirut)

Touristic Visit