SDIEM'26

SCIENTIFIC DAY OF THE DEPARTMENT OF INDUSTRIAL ENGINEERING AND MAINTENANCE

DOCTORAL SESSION

Program Booklet

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Date : june 21, 2026 | ENSTA – DERGANA Campus (Algiers, Algeria)

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FOREWORD

This program booklet presents the final classification and scheduling of the doctoral communications for the SDIEM'26 Doctoral Sessions. A total of 17 communications were received by the Scientific Committee. Based on the thematic content, keywords, and research objectives, each communication was assigned to one of three parallel sessions:

SESSION - INDUSTRIAL ENGINEERING

Manufacturing, production scheduling, predictive maintenance, supply chain design, and operations research.

SESSION - SYSTEMS ENGINEERING

Cyber-physical systems, digital twins, multi-sensor integration, autonomous robotics, and cross-domain decision-making.

SESSION - TRANSPORTATION ENGINEERING

Vehicle routing, multimodal transport, road safety, driver behaviour, intelligent transport systems, and urban mobility.

The program is designed to ensure thematic coherence, a balanced number of presentations, and a logical scientific progression within each session.

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COMMUNICATION CLASSIFICATION TABLE

N°	Presenter	Title
		SESSION - INDUSTRIAL ENGINEERING
1	**MESSEKHER Salah Eddine**	Reliability-Aware Multimodal Reconstruction of the MATWI Dataset for Tool Wear Prediction under Strict Leave-One-Tool-Out Validation.
2	**BENZINE Fatima Khadija**	Evaluating Time Series Foundation Models for Remaining Useful Life Prediction: A Comparative Study of Chronos-1 and Chronos-2
3	**KEBBAS Salah**	Prognostics and Health Management for Industrial Systems using Artificial Intelligence Techniques
4	**AMRAOUI Taher**	Machine Learning-Based Electrical Fault detection and classification
5	**AGGUINI Chafik**	On the Design of a Multi-Product Closed-Loop Supply Chain for Used Lubricating Oil Re-Refining: A Bi-Objective MOILP Model Solved by the ε-Constraint Method
		SESSION - SYSTEMS ENGINEERING
6	**KESSIRA Issam**	A Low-Code Architecture for Rapid Prototyping of VR-Enabled Industrial Digital Twins
7	**CHELGHOUM Amina**	Towards a Digital Twin Framework for Autonomous Pipeline Inspection Robots
8	**BAKHOUCHE Souheyla**	Component Dependencies in Multi-Component System Maintenance: A Systematic Review
9	**FAID Nacéra**	Contribution to the Optimization of Intelligent Maintenance Strategies for Industrial Systems: A 2018-2025 review
		SESSION - TRANSPORTATION ENGINEERING
10	**KERRI Rayane**	A Route-First Cluster-Second Metaheuristic for the VRPSPD
11	**AKHAM Louiza**	Integration of a shared transport system and a public transit network
12	**TALBI Tayeb**	Conception d'une chaine logistique de blé dans la perspective de concessions agricoles au sud algérien
13	**BECHIHI Salah Eddine**	Toward a Danger-Weighted Evaluation Framework for Dangerous Goods Transportation Accident Prediction: A Systematic Review and a Novel Metric (DW-F1)
14	**BENDJEDOU Boudissa**	Implementation of a system for monitoring and improving the quality of driver training to reduce road accidents in Algeria
15	**TICEMBAL Ikram**	Towards Dynamic and Efficient Parking Space Management: A Topological Invariance Approach

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DETAILED PROGRAM

SESSION - INDUSTRIAL ENGINEERING

SESSION - SYSTEMS ENGINEERING

SESSION - TRANSPORTATION ENGINEERING

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SESSION – INDUSTRIAL ENGINEERING

Time: 12:30 – 14:00

Room : AMPHI C

Session Chairs : Pr GHOMARI Leila et Dr. DJELLOUL Imane

All presentations are allocated 10 minutes.

Chairs are kindly requested to enforce time limits to ensure a smooth transition between speakers.

TIME	PRESENTER	TITLE
12:30 – 12:40	MESSEKHER Salah Eddine	Reliability-Aware Multimodal Reconstruction of the MATWI Dataset for Tool Wear Prediction under Strict Leave-One-Tool-Out Validation.
12:40 – 12:50	BENZINE Fatima Khadija	Evaluating Time Series Foundation Models for Remaining Useful Life Prediction: A Comparative Study of Chronos-1 and Chronos-2
12:50 – 13:00	KEBBAS Salah	Prognostics and Health Management for Industrial Systems using Artificial Intelligence Techniques
13:00 – 13:10	AMRAOUI Taher	Machine Learning-Based Electrical Fault detection and classification
13:10 – 13:20	AGGUINI Chafik	On the Design of a Multi-Product Closed-Loop Supply Chain for Used Lubricating Oil Re-Refining: A Bi-Objective MOILP Model Solved by the ε-Constraint Method
13:20 – 13:30		

13h20 - General Discussion / Q&A

Open floor for cross-cutting questions and synthesis of the presentations.

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SCIENTIFIC DAY OF THE DEPARTMENT OF INDUSTRIAL ENGINEERING AND MAINTENANCE

SESSION – SYSTEMS ENGINEERING

Time: 12:30 – 14:00

Room: AMPHI D

Session Chairs : Pr KERROUCHI Slimane et Dr. MERADI Samir

All presentations are allocated 10 minutes.

Chairs are kindly requested to enforce time limits to ensure a smooth transition between speakers.

TIME	PRESENTER	TITLE
12:30 – 12:40	KESSIRA Issam	A Low-Code Architecture for Rapid Prototyping of VR-Enabled Industrial Digital Twins
12:40 – 12:50	CHELGHOUM Amina	Towards a Digital Twin Framework for Autonomous Pipeline Inspection Robots
12:50 – 13:00	BAKHOUCHE Souheyla	Component Dependencies in Multi-Component System Maintenance: A Systematic Review
13:00 – 13:10	FAID Nacéra	Contribution to the Optimization of Intelligent Maintenance Strategies for Industrial Systems: A 2018-2025 review
13:10 – 13:20		
13:20 – 13:30		

13h10 - General Discussion / Q&A

Open floor for cross-cutting questions and synthesis of the presentations.

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SESSION – TRANSPORTATION ENGINEERING

Time: 12:30 – 14:00

Room: AMPHI E

Session Chairs : Dr. TABTI Amina et Dr. ANNAD Oussama

All presentations are allocated 10 minutes.

Chairs are kindly requested to enforce time limits to ensure a smooth transition between speakers.

TIME	PRESENTER	TITLE
12:30 – 12:40	KERRI Rayane	A Route-First Cluster-Second Metaheuristic for the VRPSPD
12:40 – 12:50	AKHAM Louiza	Integration of a shared transport system and a public transit network
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13h30 - General Discussion / Q&A

Open floor for cross-cutting questions and synthesis of the presentations.

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