



# 17th Conference on Optimization and Information Systems

Ecole supérieure en Sciences et  
Technologies de l'Informatique  
et du Numérique (ESTIN)



June 1<sup>st</sup>-3<sup>rd</sup>, 2025



Bejaia, Amizour  
(Algeria)

CONFERENCE  
PROGRAM

Edition ESTIN 2025



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<https://cosi.isima.fr/cosi2025/>



## Conference program

Sunday, 1 <sup>st</sup> of June, 2025		
08:30 – 09:00	Welcome and registration	
09:00 – 09:30	Opening ceremony	
09:30 – 10:30	<b>Keynote 1: A Neuro-Symbolic Explainer for Rare Events</b> <b>Prof. Joao GAMA</b> (University of Porto, Portugal) <b>Session chairperson: Prof. Boualem BENATALLAH</b>	
10:30 – 11:00	Coffee break	
11:00 – 12:30	<b>Session 1 : Session chairperson : Prof. Mohand Tahar KECHADI</b> <ul style="list-style-type: none"> <li><b>Opening paper presentation (20 min + 10 min Q&amp;A):</b>  <b>Paper 63: From Data to Behavior: Artificial Intelligence-driven Insights for Sustainable Energy Management</b>  <b>Laldja ZIANI</b></li> <li><b>Presentation of accepted posters (3 min per poster): 10 posters</b></li> </ul>	
12:30 – 14:00	Lunch break	
14:00 – 15:00	<b>Keynote 2: A Critical View of the Contribution of Alpha Fold in Light of the Nobel Prize in Chemistry</b> <b>Prof. Alexandre G. DE BREVERN</b> (University of Paris, France) <b>Session chairperson: Prof. Farouk TOUMANI</b>	
15:00 – 15:30	Coffee break	
15:30 – 17:00	<b>Session 2: Artificial Intelligence</b> <b>Session chairperson:</b> <b>Prof. Mouhamed AHMED NACER</b>	<b>Session 3: Operational Research</b> (Online session) <b>Session chairperson: Prof. Hachem SLIMANI</b>
	<b>Location: Auditorium</b> <b>Paper 6: A Hybrid Approach based on Predictive Models for Handling Missing Data; Ali KHEBIZI.</b>	<b>Location: Video-conferencing room</b> <b>Paper 2: Scheduling Mixed Deteriorating Jobs on a Single Machine for Makespan Minimization; Abdesselam KALI</b>

	<p><b>Paper 39:</b> Tree-based Models for Early Sepsis Prediction using Intensive Care Unit Dataset: A Comparative Evaluation with Minimal Feature Engineering; <b>Hadj Ali ELMERAHI</b></p> <p><b>Paper 67:</b> Transformer-Based Anomaly Detection with Explainable AI (XAI) applied for Algerian Energy Management; <b>Dalil HADJOUT</b></p> <p><b>Paper 48:</b> Behavioral Authentication System Using Random Forest for Intelligent Transportation System; <b>Kahina ZIZI</b></p>	<p><b>Paper 5:</b> Adapting a Scatter Search Algorithm for the Positive Influence Dominating Set Problem; <b>Yamina BEKHTI</b></p> <p><b>Paper 29:</b> Differential Evolution Algorithm for Job Shop Scheduling Problem under Uncertainty; <b>Sara BOUGUESSA</b></p> <p><b>Paper 82:</b> Q-PUFAuth: Quantum-Resistant PUF-Based Authentication and Key Agreement for Secure Smart Grids; <b>Sarra ARAAR</b></p>
17:00 – 18:00	<p><b>Round table</b>  <b>Steering Committee: the next editions of COSI</b>  <b>Location: Hotel</b></p>	

Monday, 2 <sup>nd</sup> of June, 2025		
08:30 – 09:30	<b>Keynote 3: Cybersecurity and Artificial Intelligence: The New Frontier of Cyber Defense</b> <b>Prof. Kamel ADI</b> (University of Quebec in Outaouais, Canada)  <b>Session chairperson: Prof. Lakhdar SAIS</b>	
09:30 – 10:30	<b>Session 4 : 2<sup>nd</sup> &amp; 3<sup>rd</sup> best papers</b> <b>Session chairperson: Prof. Lhouari NOURINE</b>  <b>Location : Auditorium</b>  <b>Paper 31:</b> Cybersecurity Investment Challenges: Analyzing Standard Security Measures Through Portfolio Optimization; <b>Chahrazad ADICHE</b>  <b>Paper 81 :</b> DziriEmoBERT: a Pre-trained Large Language Model for Emotions Analysis in Algerian Dialect; <b>Amel ZIANI</b>	
10:30 – 11:30	<b>Coffee break &amp; Poster session</b>	
11:30 – 13:00	<b>Session 5: Operational Research</b>  <b>Session chairperson: Prof. Mohammed Said RADJEF</b>	<b>Session 6 : Cybersecurity &amp; Big Data</b>  <b>Session chairperson: Prof. Youssef ELMIR</b>
	<b>Location : Auditorium</b>  <b>Paper 16 :</b> Blocking and no-wait job shop scheduling problem with unit processing time; <b>Zineb LISSIOUED</b>  <b>Paper 84 :</b> Solving systems of Hölder equations and inequations using the shubert-piyavskii global optimization algorithm; <b>Houria BEKRI</b>  <b>Paper 85 :</b> S-aloha PCA and S-aloha mechanisms: Analytical modeling and comparison; <b>Lynda ALKAMA</b>  <b>Paper 66 :</b> Optimization Algorithms for Optimal Time Control in a Coupled Tank System; <b>Idir SELLAM</b>	<b>Location : Thesis defense room</b>  <b>Paper 61 :</b> Adaptive Reputation Update for Dynamic Malicious Vehicle Detection in Vehicular Ad Hoc Networks; <b>Lamia HAMZA</b>  <b>Paper 35 :</b> An Optimized Lookup Process for New Overlay P2P Network Based on Structured Graphs for Group Communication; <b>Abdelhalim HACINI</b>  <b>Paper 19 :</b> Nature-Inspired IoT Data Preprocessing: Handling Missing and Outlier Values; <b>Omar LARBI</b>  <b>Paper 50 :</b> Efficient Image Encryption and Transmission for Resource-Constrained Environments; <b>Karima AMARA</b>

13:00 – 14:00	<b>Lunch break</b>	
14:00 – 15:00	<b>Keynote 4 : <i>Big Data, AI, and Agriculture</i></b> <b>Prof. Mohand Tahar KECHADI</b> (University College Dublin, Ireland) <b>Session chairperson: Prof. Alexandre De BREVERN</b>	
15:00 – 15:30	<b>Coffee break</b>	
15:30 – 17:00	<b>Parallel Sessions 7 &amp; 8</b>	
	<b>Session 7: Operational Research</b> <b>Session chairperson:</b> <b>Prof. Oriolo GIANPAOLO</b>	<b>Session 8: AI and AI Applications</b> (Online session) <b>Session chairperson: Prof. Faiçal AZOUAOU</b>
	<b>Location: Auditorium</b> <b>Paper 10:</b> Cycles in triangularly connected quasi claw free graphs; <b>Zineb BENMEZIANE</b> <b>Paper 27:</b> On the maximum weight convex problem for some geometric graph-convexities; <b>Michel HABIB</b> <b>Paper 43:</b> A new method for construction optimal triangular solution for some bin packing problems; <b>Ali DJEBID</b> <b>Paper 87:</b> A linear-time algorithm for a maximum edge biclique problem in a bipartite distance hereditary graph; <b>Djamel TALEM</b>	<b>Location: Video-conferencing room</b> <b>Paper 11:</b> Emerging Technologies for Autism Support in Algeria: Current Advances and Future Directions; <b>Saida KICHOU</b> <b>Paper 64:</b> Advanced Spatio-Temporal Deep Learning Model for Wheat Yield Prediction in Digital Agriculture; <b>Zakaria SLIMI</b> <b>Paper 32:</b> U-Mamba Approach for Skin Segmentation in High-Resolution Magnetic Resonance Imaging; <b>Rachida ZEGOUR</b> <b>Paper 59:</b> Deep Learning-Based Time-to-Flashover Prediction in Outdoor Insulators; <b>Khaled SHABAN</b>

Tuesday, 3 <sup>rd</sup> of June, 2025		
08:30 – 09:30	<b>Keynote 5:</b> <i>Models for Deadlock Avoidance in Railways: A Combinatorial Optimization Approach</i> <b>Prof. Gianpaolo ORIOLO</b> (University of Rome, Italy) <b>Session chairperson: Prof. Mourad BAIYOU</b>	
09:30 – 10:30	<b>Parallel Sessions 9 &amp; 10</b>  <b>Session 9: AI and Big Data</b> <b>Session chairperson:</b> <b>Prof. Joao GAMA</b>	<b>Session 10: Operational research and optimization</b> <b>Session chairperson:</b> <b>Prof. Hamid KHERBACHI</b>
	<b>Location: Auditorium</b>  <b>Paper 13:</b> Enhancing Fake News Detection in Arabic: The Global Arabic Fake News Dataset; <b>Amine MAMMASSE</b>  <b>Paper 86:</b> Advanced Analytics for Predictive Maintenance: A Case Study Using BERTopic and Bayesian Modeling; <b>Narima ALKAMA</b>	<b>Location: Thesis defense room</b>  <b>Paper 60:</b> Theoretical Model for Analyzing the Links Between Nutritional and Organoleptic Standards, Food Adulteration Strategies, and Food Safety; <b>Nacim NAIT MOHAND</b>  <b>Paper 23:</b> Some results on restrained 2-domination in graphs; <b>Ahmed BOUCHOU</b>
10:30 – 11:00	Coffee break	
11:00– 12:00	Closing Ceremony	
12:00 – 13:00	Lunch break	
13:00 – 17:00	Excursion	

# Acknowledgements

The conference chairs extend their deepest gratitude to all the sponsors for their generous support, which was instrumental in making this event possible. We are also profoundly grateful to the members of the scientific and organizing committees, the dedicated volunteers, and all participants for their hard work, enthusiasm, and invaluable contributions.

Our sincere thanks go to the distinguished speakers and panelists for sharing their expertise and insights, enriching the discussions and making this conference a truly memorable experience.

Finally, we thank each and every attendee for being part of this event. We hope you find the sessions inspiring and enlightening, and we wish you a rewarding and enjoyable conference.

