

MDOA 2026

7th International Conference on
Multidisciplinary Design Optimization
and Applications

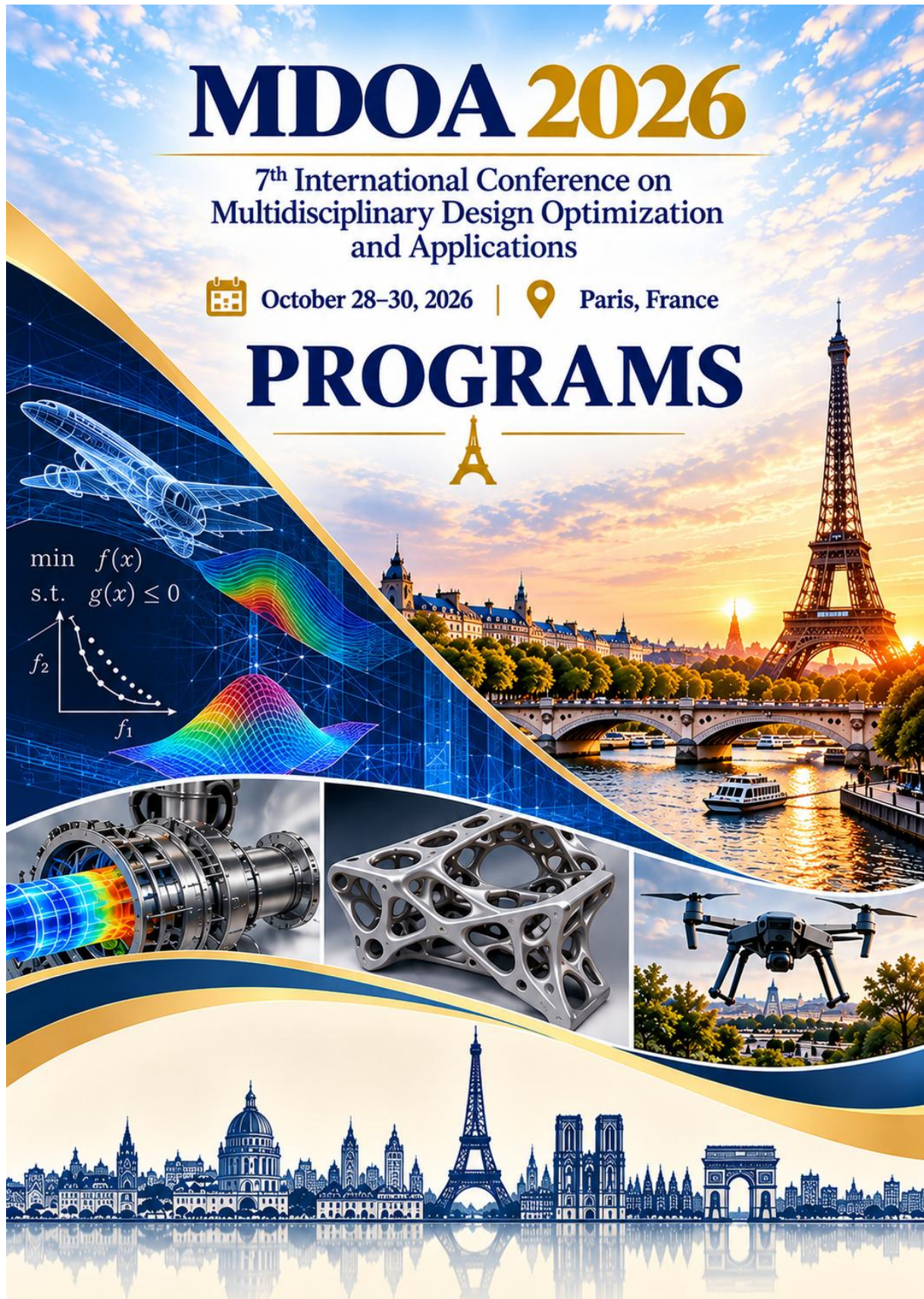


October 28–30, 2026



Paris, France

PROGRAMS



Welcome Message from the Organizing Committee

7th International Conference on Multidisciplinary Design Optimization and Applications (MDOA 2026)

October 28–30, 2026 | Paris, France

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the **7th International Conference on Multidisciplinary Design Optimization and Applications (MDOA 2026)**, taking place in Paris, France, from October 28 to 30, 2026. The MDOA conference series has a long and meaningful history, beginning in 2007 with its first edition in Besançon, France. Since its inception, MDOA has served as an international platform bringing together researchers, academics, engineers, and industrial experts to exchange knowledge, share innovative ideas, and explore advances in multidisciplinary design optimization and its applications.

Over the years, the conference has evolved alongside major scientific and technological developments, expanding its scope to address emerging challenges in computational mechanics, structural optimization, advanced materials, artificial intelligence, machine learning, digital twins, and sustainable engineering design. This multidisciplinary approach remains at the heart of MDOA's mission: fostering collaboration across scientific disciplines and promoting innovative solutions to complex engineering problems.

The 2026 edition represents another important milestone in this journey. Hosted in the historic and inspiring city of Paris, MDOA 2026 offers an excellent opportunity to strengthen international scientific cooperation, establish new research partnerships, and encourage meaningful exchanges between experienced researchers and the next generation of scientists and engineers.

We are particularly pleased to welcome distinguished keynote speakers, contributing authors, and participants from different countries and institutions. Their expertise, scientific contributions, and active engagement are essential to the success and continued development of this conference series.

We would like to express our sincere gratitude to the Scientific Committee, reviewers, keynote speakers, institutional partners, sponsors, and all members of the Organizing Committee for their dedication and invaluable support. Special thanks are also extended to all authors and participants whose contributions make MDOA 2026 a vibrant forum for scientific exchange.

We sincerely hope that MDOA 2026 will inspire new ideas, stimulate fruitful collaborations, and contribute to advancing multidisciplinary optimization research worldwide.

We wish you an enjoyable, productive, and memorable conference in Paris.

With our warmest regards,

**The Organizing Committee
MDOA 2026**

MDOA 2026

7th International Conference on
Multidisciplinary Design Optimization
and Applications

October 28–30, 2026 | Paris, France

COMMITTEES

Chairs, organizing committee, scientific advisory board, and journal/editorial committee.



CHAIRMEN

Name	Affiliation
Prof. David BASSIR	UTBM, ENS–Paris-Saclay, France
Prof. Weihong ZHANG	NWPU & Chinese Academy of Sciences, China



ORGANIZING COMMITTEE

Name	Affiliation
Prof. Marc Dahan	AFCS&T, France
Prof. Ming Jun Zhang	DGUT – CNAM, France
Prof. Joseph Zarka	MZ, France
Assoc. Prof. Hai Canh Vu	University of Technology of Compiègne, France
Assoc. Prof. Osman Salem	Université Paris Cité – Centre Borelli, CNRS UMR 9010, France
Jiahui Xiang	Université Paris Cité – Centre Borelli, CNRS UMR 9010, France
Abdelnahun SENOUSSAOUI	Université Paris Cité – Centre Borelli, CNRS UMR 9010, France



SCIENTIFIC ADVISORY BOARD

Name	Affiliation
Prof. Rachid Bennacer	ENS - University Paris Saclay, France
Prof. Abel Cherouat	University of Technology of Troyes, France
Prof. Abdelkhalak El Hami	Insa Rouen, Normandy University, France
Prof. Juri Majak	Tallinn University of Technology, Estonia
Prof. Kristo Karjust	Tallinn University of Technology, Estonia
Prof. Kalyanmoy Deb	University of Alabama, USA
Prof. Jean Francois Deu	CNAM, Paris
Prof. Nadhir Lebaal	University of Technology of Belfort Montbéliard, France
Prof. Bao Hua Guo	Henan Polytechnic University, China
Prof. Zapico Valle J.L.	University of Oviedo, Spain
Prof. Sofiane Sahli	Normandie University, France
Prof. Patrice Salzenstein	CNRS, FEMTO-ST, France
Prof. Guessasma Sofiane	INRAE-Nantes, France
Prof. Mohammad Talha	IIT Mandi, India
Assist. Prof. Angelos A. Amanatiadis	Democritus University of Thrace (DUTH), Greece
Prof. Pierre Dahoo	Paris-Saclay University, France
Prof. Zhanpeng Jin	South China University of Technology, Guangzhou, China
Assoc. Prof. Yang Gao	South China University of Technology, Guangzhou, China
Assoc. Prof. Xiuheng Wang	South China University of Technology, Guangzhou, China



JOURNAL AND EDITORIAL COMMITTEE

Name	Affiliation
Prof. David Bassir	UTBM, ENS–Paris-Saclay, France
Assoc. Prof. Hai Canh Vu	University of Technology of Compiègne, France
Prof. Guessasma Sofiane	INRAE-Nantes, France
Prof. Juri Majak	Tallinn University of Technology, Estonia



MDOA 2026

7th International Conference on
Multidisciplinary Design Optimization
and Applications

October 28–30, 2026 | Paris, France



How to Reach the Conference Venue Information for Participants



Conference Venue

Saint-Germain-des-Prés Campus (BU Saint-Germain-des-Prés)

45 Rue des Saints-Pères
75006 Paris, France

Located in the heart of Paris, in the Saint-Germain-des-Prés district, on the Left Bank of the Seine.



By Metro

- Line **4** – Saint-Germain-des-Prés
Approximately 5 minutes' walk.
- Line **12** – Rue du Bac
Approximately 4–5 minutes' walk.
- Line **10** – Mabillon
Approximately 7 minutes' walk.



By Bus

- Line **39** **95** – Stop at Jacob
Approximately 1–2 minutes' walk.
- Line **63** **87** – Stop at Saint-Germain-des-Prés
Approximately 4–5 minutes' walk.
- Line **86** – Also serves the Saint-Germain-des-Prés area.



By RER

- RER **B** or **C** – Get off at Saint-Michel, then continue by walking or metro.
- RER **E** or **C** – Get off at Musée d'Orsay, then continue by walking or public transportation.



By Car or Taxi

- Enter the address: **45 Rue des Saints-Pères, 75006 Paris** into your navigation system.
- Public parking facilities are available in the surrounding Saint-Germain-des-Prés area.
- Parking spaces may be limited, so **public transportation is strongly recommended**.



Venue Entrance

- Enter the campus at 45 Rue des Saints-Pères.
- To reach the **Saint-Germain-des-Prés University Library (Bâtiment Jacob)**, cross the main entrance hall and continue into the courtyard.
- The library is located on the left, on the ground floor.



Conference website
<https://www.mdoa2026.org/>



Paris public transportation
<https://www.ratp.fr/>



Interactive map
[View on Google Maps](#)



See you in Paris

MDOA 2026
Organizing Committee

MDOA 2026

7th International Conference on
Multidisciplinary Design Optimization
and Applications

GALA DINNER

AT

LE PROCOPE

PARIS
DEPUIS 1686

The Oldest Café in Paris

A Historic and Unique Venue
in the Heart of Saint-Germain-des-Prés



Thursday
29 October 2026
19:00 – 22:30



Le Procope

13, rue de l'Ancienne Comédie
75006 Paris, France



A Unique Historic Venue

Founded in 1686, Le Procope is the oldest café in Paris, a legendary place frequented by writers, philosophers and great personalities.



LOCATION



HOW TO REACH



METRO

Nearest station: Odéon

4 10

5 minutes walk (400 m)

Exit: Place de l'Odéon, then walk along Rue de l'Ancienne Comédie.



BUS

Lines 63, 70, 86, 87, 96

Stop: Saint-Germain-des-Prés

5 minutes walk

63

70

86

87

96



TAXI / RIDE-HAILING

Address to give the driver:

Le Procope

13, rue de l'Ancienne Comédie
75006 Paris

Located in the Saint-Germain-des-Prés district,
close to Odéon and the Luxembourg Gardens.





**7th International Conference on
Multidisciplinary Design Optimization and
Applications (MDOA 2026)**
October 28th-30th, 2026
Paris, France
<https://www.mdoa2026.org/>

PROGRAM

Wednesday, October 28th

14:00-18:00	REGISTRATAION
--------------------	----------------------

Thursday, October 29th

9:00 - 9:15	WELCOME CEREMONY
9:15 - 9:55	Keynote lecture 1 : Prof. Jaafar GABER <i>University of Technology of Belfort Montbeliard, France</i> Title : Approaches to implementing programmable matter: development of reusable and resettable programmable devices Location : Hall Claude Bernard (4th Floor)/ Online channel 1

9:55 - 10:25	Group Photo & Coffee break
--------------	---------------------------------------

10:25 - 11:00	Keynote lecture 2 : Dr. Mathieu BALESDENT <i>Director of Research : ONERA – The French Aerospace Lab, France</i> Title: Multiphysics system analysis and optimization under uncertainty Location : Hall Claude Bernard (4th Floor)/ Online channel 1
---------------	--

11:00-12:15	Session B1 Room : Mendel B (Floor 1) / Online channel 3 Chairman : Joseph ZARKA
11:00-11:15	Casting Constrained Optimization of Post-tensioned Concrete Slab with Stay in place 3D Printed Formwork <i>Edosa Tesema and Oded Amir</i>
11:15-11:30	Computational Design Strategies for Auxetic Metamaterials: From Topology Optimization to AI-Based Design <i>Intan Mahardika, Abel Cherouat, David Bassir, Kasturi Borah and Mohammad Talha</i>
11:30-11:45	Topology optimization of PEMFC channels using a deshomogenization method <i>Luca Gorini and Sébastien Kawka</i>
11:45-12:00	The Stiffness-ductility trade-off in bio-based PA11-kraft lignin composites: from microstructural tomography to predictive finite element modeling

	<i>Meriem Bouchetara, Jaianth Vijayakumar, Sofiane Belhabib, Ahmed Koubaa, Martin Beauregard, Mustapha Nouri, Mahfoud Tahlaiti, Sofiane Guessasma</i>
12:00 -12:15	A MATLAB-ANSYS Framework for Multi-Objective Optimization of a Submerged Marine Propeller using NSGKSO <i>Fatima Daqaq, Rabii El Maani, Zineb Tabbakh and Siham Ouhimmou</i>

12:15 –14:00	LUNCH
---------------------	--------------

14:00 - 14:30	Keynote lecture 3 : Dr. Hichame MAANANE <i>Vice President IEEE (Section 8)</i> Title: Next-Generation Industrial AI: Architecting Safe, Autonomous, and Self-Healing Systems <i>Location : Hall Claude Bernard (4th Floor)/ Online channel 1</i>
---------------	--

14:30-16:00	Session B2 Room : Mendel B (Floor 1) / Online channel 3 Chairman : Dr. Patrice SALZENSTEIN
14:30 – 14:45	Dynamic Courier Positioning and Demand Coverage with Heterogeneous Vehicles <i>Mohammadamin Tavasoli and Roberto Baldacci</i>
14:45 – 15:00	Integrated Container Retrieval and Repair Scheduling with Stack-Dependent Availability and Heterogeneous Repair Networks <i>Parham Rezaei Baghbadorani</i>
15:00 – 15:15	Development and Validation of Vat Photopolymerization-Manufactured Alumina Cutting Tools for Stainless Steel Turning <i>Alejandro Méndez-Pérez, Alberto Merino-Castro, Pablo Rodríguez-González and Ana Isabel Fernández-Ábia</i>
15:15 – 15:30	Prediction of Elasticity Properties of Textile Material Using Artificial Neural Networks <i>Mohamed Ajerd Azeggagh, Adnane Azzouzi and Sofiane Guessasma</i>
15:30 – 15:45	An Engineering-Informed Trustworthy AI Framework for Predicting Concrete Compressive and Splitting Tensile Strength from Ultrasonic Pulse Velocity (UPV) Measurements with Explainability, Uncertainty Quantification, and Applicability-Domain Assessment <i>Ahmed N. Elbelacy, Saeed Elbelacy and Andrew Gouda</i>
15:45 – 16:00	CFD Based surrogate modelling of low Reynolds number UAV wings <i>Junjuan YAO, Davdi BASSIR, jean Francois DEU</i>

16:00-16:30	Coffee break
-------------	--------------

16:30-17:45	Session B3 Room : Mendel B (Floor 1) / Online channel 3 Chairman : Prof. Abdelkhalek ELHAMI
16:30-16:45	Robust Optimization of Optical and Photonic Metrology Systems through Uncertainty Evaluation and International Intercomparison Frameworks <i>Patrice Salzenstein, David Bassir</i>
16:45 -17:00	Optimization Strategies for High-Stability Quartz Oscillators: A Review of Modeling, Artificial Intelligence and Advanced Control Approaches <i>Patrice Salzenstein and Frédéric Lefebvre</i>
17:00- 17:15	A Hybrid CFD–GMDH Framework for Predicting Wind-Induced Pressure on Buildings <i>Soufiane Elouardi, Bouchaib Radi, David Bassir and Abdelkhalek Elhami</i>
17:15 -17:30	Task-Based Parallel Framework for Non-Intrusive Global–Local Enriched GFEM <i>Túlio Marques, Ramon Silva and Felício Barros</i>
17:30 -17:45	Topology Optimized Tunable Metamaterial for Mechanical Wave Attenuation <i>Mohammad Mehdi Mahjoub, Francisco Gomez Silva, Javier Crespo Miguel, and Ramon Zaera Polo</i>

19:00-21:00	Gala Event
-------------	------------

Friday, October 30

09:00–10:15	Session B4 Room : Mendel B (Floor 1) / Online channel 3 Chairman : Prof. David BASSIR
09:00–09:15	Optimization of Urban Low-altitude Logistics Path Based on Improved A* Algorithm <i>Yixuan Cao and Chengming Zhu</i>
09:15–09:30	Multi-Objective Coordinated Optimization of Rail-Bus Timetables Considering Microscopic Transfer Dispersion Fluctuations <i>Haole Bai, Chengming Zhu and Hanbo Wei</i>
09:30–09:45	Research on deterioration mechanism and numerical simulation of tunnel surrounding rock under hydrochemical damage <i>Ruixin Niu</i>

09:45–10:00	Effects of Hard-Shoulder Opening Prompt Modality on Driving Behavior in Mixed Traffic with Automated Vehicles <i>Peiping Zhao, Shaohua Wang, Xinzheng Wang, Yu Wang, Fangyi Chen, Baohua Guo</i>
10:00–10:15	Asymmetry of Left and Right Lane-Changing Behavior on Highways: A Study Based on the HighD Dataset <i>Xinyu He and Kefeng Wang</i>

10:30 – 10:45	Coffee break
---------------	---------------------

10:45–12:00	Session B5 Room : Mendel B (Floor 1) / Online channel 3 Chairman : Prof. Pierre DAHOO
10:45–11:00	Multimodal Fusion Network for Road detection Fusing Camera, Lidar and Ego-Pose <i>Anthony Sigama, Baohua Guo, James Chakwizira and Tendayi Gondo</i>
11:00–11:15	A Compact Yet Effective Morphological and Wavelet-Energy Feature Vector for ECG Heartbeat Classification <i>Ouafae El Melhaoui, Redouane Mghaiouini, Hassan Naanani and Samir Elouaham</i>
11:15–11:30	Malware Families as Dynamical Systems: Why Drift Detection Outperforms Feature-Space Forecasting <i>Noor Muhannad Ahmed</i>
11:30–11:45	Bayesian Network-Based Multi-Source Error Analysis Method for Planetary Gear Transmission Systems <i>Fei Wan, Xi Lu, Jianrun Zhang and Beibei Sun</i>
11:45–12:00	Numerical Investigation of Triply Periodic Minimal Surface Lattices for Shock-Absorbing Protective Textile Applications <i>Alaeddine Zereg, Nadhir Lebaal, Mohammed Rouhi and Sofiane Guessasma</i>

12:30 –14:00	LUNCH
--------------	--------------

19:30 -21:00	PARIS BOAT TRIP
--------------	------------------------

Online Access Links

Use the channel indicated for your session in the conference program. Click a meeting link below to join.

Channel / Platform	Meeting link
Online Channel 1 Zoom	Join Online Channel 1
Online Channel 2 Microsoft Teams	Join Online Channel 2
Online Channel 3 Microsoft Teams	Join Online Channel 3

Important: Meeting passcodes will be sent to registered participants by email before the conference.

Instructions for Online Participants

All program times are in Paris local time (CET, UTC+1).

- Please join your assigned online channel at least **10 minutes before** your scheduled session.
- Use your full name as your display name.
- Keep your microphone muted when not speaking.
- Presenters should test their microphone, camera, and screen-sharing functionality before their presentation.
- Please follow the instructions provided by the session chair.