



3<sup>rd</sup> International Conference on Unmanned Vehicle Systems  
Intelligent Systems for Industrial Challenges

## CONFERENCE TECHNICAL PROGRAM

9-11 Feb 2026

Sultan Qaboos University  
Muscat, Oman



#UVSOman  
@UVSOman



Conference website: <http://uvsc.com>



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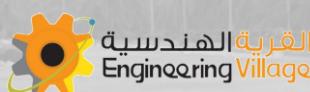
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## Collaborators



**3<sup>rd</sup> International Conference on Unmanned Vehicle Systems**  
**Intelligent Systems for Industrial Challenges**

**9-11 Feb 2026**  
Sultan Qaboos University  
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The range of targeted topics is very broad, but priority is given to subjects on real world applications; including: research, industry, business, and education. The Technical Program Committee is inviting proposals for paper presentations, demonstrations, and poster contributions on topic relevant to UVS.



## Conference Tracks:



**Technological Advances in Unmanned Vehicle Systems and Robotics**



**Data Analytics, Cybersecurity, and System Resilience**



**Intelligent Navigation, Control, and Decision-Making**



**Education and Training of Unmanned Vehicle Systems (UVS) and Robotics**



**Applications and Use-Cases of UVS and Robotics in Industry and the Public Sector**



**Regulatory, Ethical, and Societal Implications**



**Integration with IoT, Smart Cities, and Urban Mobility**



**Challenges and Future Trends in UVS and Robotics**



### 3<sup>rd</sup> International Conference on Unmanned Vehicle Systems Intelligent Systems for Industrial Challenges

## Conference - Day 2

Tuesday, 10th February 2026  
Conference & Exhibition Halls, SQU

08:00 - 08:45	Registration
08:45 - 08:50	Recitation of Holy Quran
08:50 - 09:00	Welcome Address by the Dean
09:00 - 09:10	Opening Remarks by the Chair, Organizing Committee
09:10 - 09:30	Announcement of Design Competition Winners
09:30 - 10:00	Opening of Exhibition
10:00 - 10:30	Tea/Coffee Break

### Keynote I

Chair: Prof Hadj Bourdoucen

10:30 - 11:15 (35 min + 10 min Q&A)	<b>The Changing Cybersecurity Requirements in the Autonomous Era: When Can We Expect Level 5 Autonomy?</b> <b>Presenter:</b> Dr. Hans C. Mumm <i>Leader in Emerging and Disruptive Technologies; Former Division Chief for Cybersecurity, Office of the Director of National Intelligence (ODNI), USA</i>
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### Industry Applications I — Aerial Robotics for Inspection, Monitoring, and Environmental Assurance

11:20 – 12:35

Chair: Dr. Alya Al-Hashim

11:20 - 11:35 (10 min + 05 min Q&A)	<b>Industry Application (PDO)</b> <b>Enhancing Powerline Inspection Through Multi-Sensor Drone Technology at PDO.</b> <b>Presenter:</b> Naseer Al-Bulushi
11:35 - 11:50 (10 min + 05 min Q&A)	<b>Industry Application (OQGN)</b> <b>AI-Assisted BVLOS Drone for Right-of-Way Inspection</b> <b>Presenter:</b> Nuha Al-Badi, Hiba Al Shuaibi
11:50 - 12:05 (10 min + 05 min Q&A)	<b>Industry Application (OLNG)</b> <b>Tackling Methane in Flight: Drone Technology Experience in Methane Management</b> <b>Presenter:</b> Firdouse Al Barwani
12:05 - 12:20 (10 min + 05 min Q&A)	<b>Industry Application (NAMA / OETC)</b> <b>Aerial Inspection for Overhead Transmission Lines</b> <b>Presenter:</b> Sulaiman Al Shuaibi
12:20 - 12:35 (10 min + 05 min Q&A)	<b>Industry Application (Vale Oman)</b> <b>Confined Space Inspection Using Drone Technology</b> <b>Presenters:</b> Adnan Al Sheidi, Ali Khamis Al Kharusi, and Mohammed Al Balushi



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## Conference - Day 2 [Cont.]

Tuesday, 10th February 2026  
Conference & Exhibition Halls, SQU

### Invited Talk I

Chair: Dr. Nasr Al Hinai

12:35 - 13:05

(25 min + 05 min Q&A)

**The Future of Defense: Advances and Trends in Military Drone Technology**

**Presenter:** Prof. Muhammet Deveci

*Turkish Naval Academy (National Defense University), Turkey*

13:05 - 14:15

### Lunch Break

14:20 - 16:00

#### Parallel Session # 1

Chair: Dr. Nasra al-Maskari

#### Parallel Session # 2

Chair: Dr. Riadh Zaier

14:20 - 14:40

(15 min + 05 min Q&A)

**Design and Implementation of a Hybrid Fuel Cell-Battery-Supercapacitor System for the Long-Endurance Stork UAV**

Tedjani Mesbahi, Thomas Pavot, Renaud Kiefer, Edouard Laroche (France)

**Prescribed Performance Cooperative Design for the UAV-UGV System: Vision-based Guidance Control Approach**

Jawhar Ghommam (Oman), Ibrahim Naimi (Oman), Saif-sinan Al-Abduljaleel Saif (Canada), Maarouf Saad (Canada)

14:40 - 15:00

(15 min + 05 min Q&A)

**Early Exiting U-Net for Efficient Processing on UAVs: A Case Study in Environmental Monitoring**

Luca Sartori Boni, Mohamed Moursi, Norbert Wehn, Bilal Hammoud (Germany)

**Resilient Reconfiguration and Fault-Tolerant Cooperative Control of MAS under Permanent Link Failures within a Hybrid-Systems Framework**

Estrada Jonathan (France), Mohamed Djemai (France), Bernardino Castillo-Toledo (Mexico), Michael Defoort (France)

15:00 - 15:20

(15 min + 05 min Q&A)

**A Robust Model-Based Corrector Iterative Learning Control for Mecanum Robots: Comparative Analysis of Adaptive Architectures**

Nayan Banik (USA), Jawhar Ghommam (Oman), Mohammad habibur Rahman (USA)

**Sustainable Flight Path Optimization for UAVs in Variable Environments**

Keerthana Perumal (Oman)

15:20 - 15:40

(15 min + 05 min Q&A)

**Design Methodology and Aerodynamic Validation of an In-House 3D-Printed Fixed-Wing UAV Using XFLR5 and CFD Simulation**

Hamed Al Subhi, Nasra Al-Maskari (Oman)

**Drone-based Estimation of Chlorophyll-a in Reservoirs: A Cubist-based Ensemble Model**

Soheil Ghasemnezhad (Iran), Mohammad Reza Nikoo (Oman), Mahmoud Mashal (Iran), Malik Al-Wardy (Oman)

15:40 - 16:00

(15 min + 5 min Q&A)

**Experimental Validation of Finite-Time Robust Control for Autonomous Vehicles using Qcar**

Younes Lahiouel (Canada), Yassine Kali (Canada), Maarouf Saad (Canada), Baptiste Bancel (Canada), Jawhar Ghommam (Oman).

**AI-Enabled Unmanned Vehicle Systems for Transforming Healthcare Delivery: Strategic Applications and Roadmap for Oman's Public Health System**

Anas Ansari (Taiwan), Abdullah Ansari (Oman), Khalifa Al Jabri (Oman), Jing-Ming Guo (Taiwan), Abdul Rahman Ansari (India), H.E. Khodke (India)



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## Conference - Day 3

Wednesday, 11th of February 2026  
Conference & Exhibition Halls, SQU

### Keynote II

Chair: Dr. Said Al-Abri

**08:30 – 09:15**

(35 min + 10 min Q&A)

### Design, Control, and Applications of Bioinspired Drones

Presenter: Prof. Dario Floreano

Director, Laboratory of Intelligent Systems

École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

### Invited Talk II

Chair: Prof. Lazhar Kheriji

**09:20 - 9:50**

(25 min + 5 min Q&A)

### From Import to Innovation: Localizing UAV Development in Oman

Presenter: Engr. Majid Al-Hinai

CEO of Sinan Advanced Industries, Oman

**10:00 - 10:30**

### Tea/Coffee Break

**10:30 – 10:45**

### Industry Applications II Chair: Dr. Rashid Al-Hajri

Autonomous Systems for Safety, Inspection, and Operations

**10:30 - 10:45**

(10 min + 5 min Q&A)

#### Industry Application (SOHAR Port & Freezone): Underwater Inspection of Marine Assets Using ROVs

Presenter: Musaab Al-Maqbali

**10:45 - 11:00**

(10 min + 5 min Q&A)

#### Industry Application (OQGN): Tethered Drone for Emergency Response

Presenter: Nuha Al-Badi

**11:15 - 11:30**

(10 min + 5 min Q&A)

#### Industry Application (PDO): Validating Robots for Routine Assurance Tasks in PDO

Presenter: Issam Alnaiimi

**11:30 - 11:45**

(10 min + 5 min Q&A)

#### Industry Application (Sohar Aluminium): Intelligent Navigation, Control, and Decision-Making through IVMS and Driver Fatigue Management Systems

Presenter: Muktesh SARPOTDAR

**11:45 - 12:00**

(10 min + 5 min Q&A)

#### Industry Application (ESBAAR): Automating Oil and Gas Operations using Autonomous Drone Stations

Presenter: Eng. Mohamed Al Hinai

**12:00 – 13:00**

### Parallel Session # 3

Chair: Dr. Ibrahim Al-Naimi

### Parallel Session # 4

Chair: Dr. Majid Al-Maharbi

**12:00 – 12:20**

(15 min + 5 min Q&A)

#### DookFlight: A Drone Simulator Platform for Studying Advanced Controllers

Navid Nasiri (Oman), Morteza Mohammadzaheri (Oman)

Transportation of the future: the idea behind the integration of alternative energy sources and autonomous systems

Agnes Csizsár-Kocsis (Hungary), János Varga (Hungary)

**12:20 – 12:40**

(15 min + 5 min Q&A)

#### Reliability Analysis of Aeronautical Structures: A Stochastic Approach to Periodic Structures

Mohamed Guedri (Tunisia)

#### Integrated UAV-based Mapping and Cloud-Based System for Digital Twin Creation of Historical Sites: A Case Study of Mutrah Fort

Mohammed Eldiasty (Oman), Alya Al-Hashim (Oman)

**12:40 – 13:00**

(15 min + 5 min Q&A)

#### Practical PID Tuning for Quadcopter

#### Stability: Experimental Results

Aybak Ahmad (Jordan), Sereen N Alzu'bi (Jordan), Tarek A. Tutunji (Jordan)



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#### Conference - Day 3 [Cont.]

Wednesday, 11th of February 2026

Conference & Exhibition Halls, SQU

13:00 – 14:10

Lunch Break

#### Invited Talk III

Chair: Dr. Mansur Celebi

14:10 – 14:40

(25 min + 5 min Q&A)

#### From Vision to Impact: Building AI and Drone Capabilities at the EIVS Lab

Presenter: Dr. Ahmed Al-Maashri

*Head, Department of Electrical & Computer Engineering  
Sultan Qaboos University, Oman*

14:40 – 16:00

#### Parallel Session # 5

Chair: Dr. Majdi Mansouri

#### Parallel Session # 6

Chair: Dr. Jawhar Ghommam

##### Auto Road Inspector: Road Damage Recognition and Reporting System

##### YOLO-Powered UAV Imaging for Precise Detection of Fungal Infections in Palm Trees

14:40- 15:00

(15 min + 5 min Q&A)

Wahaj Hoti (Oman), Asma Ismail Al Balushi (Oman), Ruba Said Al Humaidi (Oman), Ragavesh Dhandapani (Oman)

Omer Eldirdiry (Oman), Mawadda Khalifa Alwardi (Oman), Alhasan Hilal Alshekaili (Oman), Hamza Abdullah Alismaili (Oman), Alwaleed Aldahmani (Oman)

##### Real-Time Fault Detection and Reconstruction for Autonomous Vehicles: A KPCA Digital Twin Approach

##### Drone Thermal Cameras System for Accurate Temperature Measurements in Oil Fields Using AI

15:00 – 15:20

(15 min + 5 min Q&A)

Romdhane Nasri (Tunisia), Majdi Mansouri (Oman), Zouhaier Affi (Tunisia), Vicenç Puig (France)

Salim Almamari (Oman), Moudafer Alwahibi, (Oman), Abdullah Alshehhi (Oman), Ahmed Tabook (Oman), Ahmed Al Maashri (Oman), Hadj Bourdoucen (Oman)

##### Stable Fault-Tolerant Control for Autonomous Vehicles: Model Predictive Control with Digital Twin Integration

##### Assessment of Drone Imagery for Water Quality Estimation in Wadi Dayqah Reservoir

15:20 – 15:40

(15 min + 5 min Q&A)

Romdhane Nasri (Tunisia), Majdi Mansouri (Oman), Zouhaier Affi (Tunisia), Vicenç Puig (France)

Sadegh Nehi (Iran), Mohammad Reza Nikoo (Oman), Malik Al-Wardy (Oman), Sadegh Vanda (Iran), R. Kerachian (Iran), Navid Nasiri (Oman)

##### Machine Learning-Based Fault Classification for KPCA Digital Twin Model Predictive Control in Autonomous Vehicles

##### Traffic congestion prediction using vehicle trajectories from Drone and combined Graph Attention and Temporal Convolutional Network

15:40 – 16:00

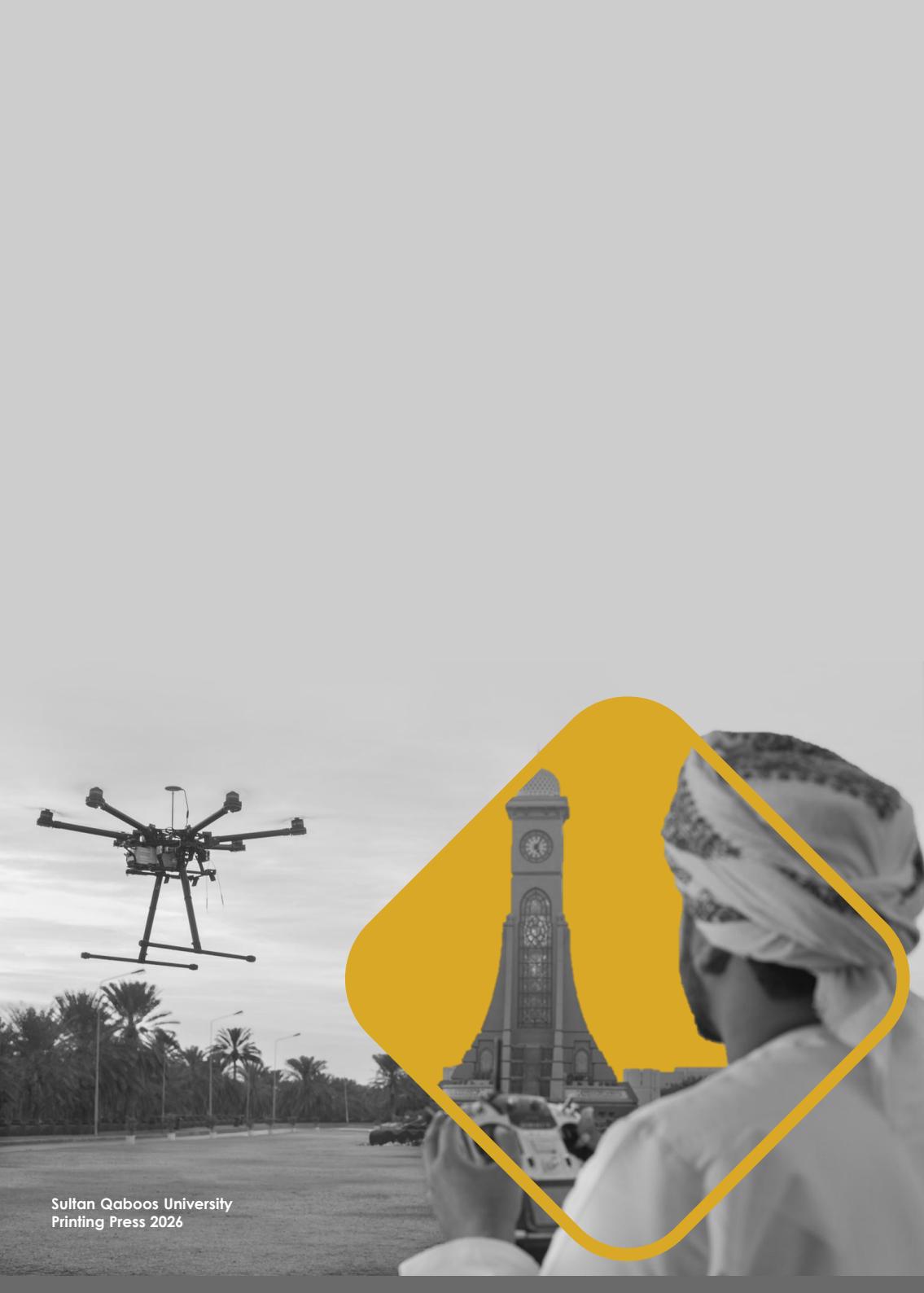
(15 min + 5 min Q&A)

Romdhane Nasri (Tunisia), Majdi Mansouri (Oman), Zouhaier Affi (Tunisia), Vicenç Puig (France)

Hana Gharrad (France), Nesrine Ouled Abdallah

#### Conference Banquet

Wednesday, 11<sup>th</sup> of February 2026  
Novotel Muscat Airport



Sultan Qaboos University  
Printing Press 2026