

# The Future of Health & Advanced Engineering in Space

10-11 November, 2025

Powered by Alfaisal University

SPACE  
LEAD25  
Conference

جامعة الفيصل  
Alfaisal University



# SPACE LEAD25

Conference

Under the Esteemed Patronage of

**HRH Prince Turki Al-Faisal bin Abdulaziz Al Saud**

Chairman of the Board of Directors — King Faisal Center for Research & Islamic Studies





SCHOOL OF SCIENCE  
&  
GENERAL STUDIES

UNIVERSITY OF AL-QADISIYAH

كلية  
الدراسات العامة

جامعة القادسية

SPACE  
LEAD25  
Conference



# SAUDI ARABIA'S FIRST UNIVERSITY-LED SPACE CONFERENCE

Where Insight meets Innovation... Research meets Talent... Ideas meet Opportunity...



**700**  
Attendees



**47**  
Nationalities



**21**  
Countries



# ALIGNED WITH VISION 2030 PILLARS

A platform reflecting national priorities in science, technology, & innovation.



# A CONVERGENCE OF DISCIPLINES



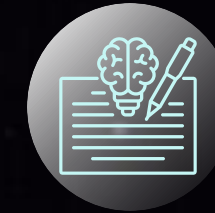
**35+**

**Cross-Disciplinary  
Topics**



**7+**

**Health, Scientific &  
Engineering Fields**



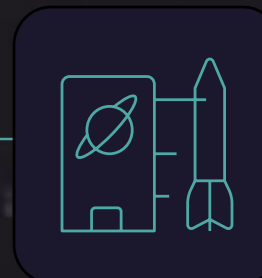
**5**

**Integrated Emerging  
Technologies**

## **Human Health Off-Planet**



- Space health & physiology
- Microgravity bioscience, Astronaut medicine
- Space radiation & protection
- Biotech for extreme environments



## **Space & Advanced Engineering**

- Aerospace & mission systems
- Satellite & earth observation
- GN&C & autonomous robotics
- AI & geospatial modeling
- Space infrastructure & economy

# WORLD-CLASS EXPERTISE

Space Lead '25 brought together global scientists, engineers, physicians, innovators, and policymakers shaping the future of space, health, and advanced engineering.

SPACE  
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presented by

Dr. Charles Elachi  
Professor, Electrical Engineering and Planetary Science, Caltech  
JPL Director 2001-2016  
Joint KACST/Caltech Center for Excellence for Earth and Space Science (CE2S2)



50+

Speakers, Panelists,  
& Moderators

38

Institutions Represented  
by Speakers

5

Sectors of  
Expertise



جامعة الملك فهد للبترول والمعادن  
King Fahd University of Petroleum & Minerals



جامعة الفيصل  
Alfaisal University



مستشفى الملك فيصل  
التخصصي ومركز الأبحاث  
King Faisal Specialist  
Hospital & Research Centre



KACST  
مدينة الملك عبدالعزيز  
للعلوم والتقنية



Caltech

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Conference

# PROGRAM HIGHLIGHTS

## Expertise Featured



**Keynote - Advances and Opportunities in Earth and Space Exploration**

**Prof. Charles Elachi**

Steering Committee Member

Professor Emeritus at Caltech, Former President — JPL



**Keynote - How Space Affects Disease and Benefits to Health on Earth: Insights from the Saudi Space RNA Experiments**

**Dr. Khaled Abu Khabar**

Principal Scientist - King Faisal Specialist Hospital & Research Center, KFSHRC



**From Cellular Twins to Digital Twins: iPS Cell-based Platforms for Multi-Environment Biomedical Discovery**

**Prof. Haruhisa Inoue**

Professor, Center for iPS Cell Research and Application (CiRA) - Kyoto University



**New Space, New Opportunities: KFUPM's Role in the Saudi Space Ecosystem**

**Dr. Ayman Abdallah**

Director, Interdisciplinary Research Center for Aviation & Space Exploration - KFUPM

# PROGRAM HIGHLIGHTS

## Expertise Featured



**The Future of Space in Saudi Arabia (Vision 2030) Panel**



**Advancing Space Missions: Innovation in Formation Flying and GN&C Systems Panel**



**The Investors Panel**



**Engineering Solutions for Space Health Panel**

# POWERED THROUGH PARTNERSHIP

A collaboration that unified Saudi Arabia's leading scientific, technological, and research institutions with global space pioneers.

8

National Ecosystem  
Entities Engaged

Sponsor



6

Global Space &  
Science Institutions  
Participating

Digital Enabler



12

Cross-Sector  
Collaborations  
Activated

Strategic Partner



مستشفى الملك فيصل  
التخصصي ومركز الأبحاث  
King Faisal Specialist  
Hospital & Research Centre



21

Joint Research  
& Innovation  
Touchpoints

Organizer

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# PARTNERSHIP HIGHLIGHTS: BY BOEING



## Innovation and the Business of Space Panel

**Mr. Eric Nelson**, Vice President, Business Development & Strategy for Space, Intelligence, & Weapon Systems - Boeing Defense, Space, & Security  
**Mr. Aubrey Stewart**, Director, Business Development & SLS Advanced Development - Boeing Exploration Systems

Moderator: **Dr. Zaina Alhejin**, Head of Communication - Boeing



## Keynote - Building Talent for Space

**Mr. John Shannon**

Vice President, Exploration Systems - Boeing Defense, Space & Security

## Impact

- Boeing represented the largest industry presence at Space Lead '25
- Delivered global-standard engineering insights through keynote + panel
- Elevated academia-industry collaboration across engineering tracks
- 200+** students engaged through Boeing's on-site exhibition & demonstrations

# INNOVATION SHOWCASE



Sponsor



# EMPOWERING THE NEXT GENERATION OF SAUDI SPACE TALENTS

A platform where students engaged directly with world-leading scientists, engineers, and policymakers, accelerating national capability for future space leadership.



**340+**

Students engaged across sessions & activations



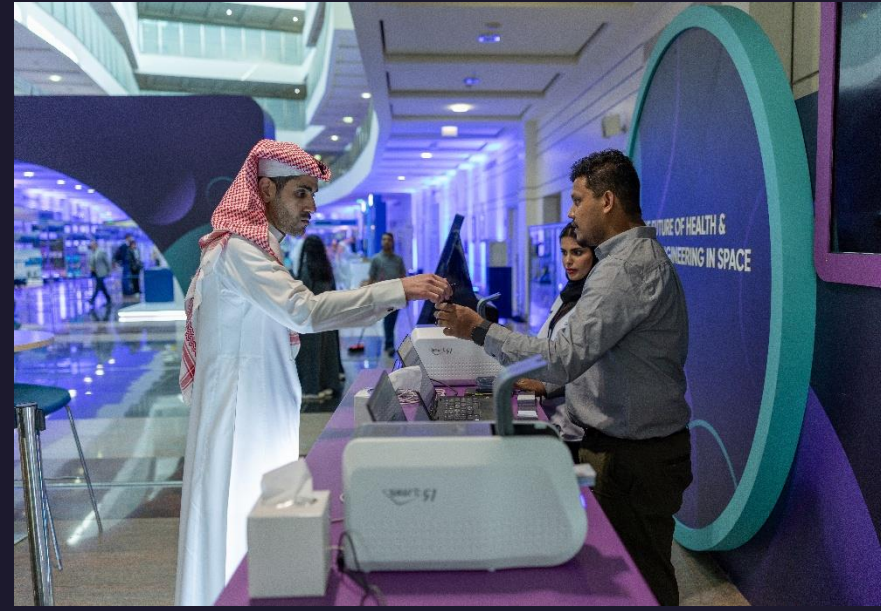
**200+**

Students reached at the Boeing Innovation Showcase



**50+**

Student research abstracts



# SPACE LEAD '25 HACKATHON

Innovation in Action — Students Designing the Future of Space

## The Challenge

- Students tackled real-world space & engineering problems:

- AI-driven satellite data analysis
- Predictive models for Earth observation
- Biomedical simulations for off-planet health
- Designing sustainable lunar habitats

**24+** Industry experts, including mentors from space, tech, AI, & engineering sectors, guided teams.



**180**

Students; Engineering,  
Medicine, Business



**60**

Project  
Posters



**32**

Interdisciplinary  
Teams

# SPACE LEAD '25 HACKATHON

## Best Poster per track

### Best Poster Medicine

Space Imagery  
Therapy

### Best Poster Engineering

HopeLens -  
AI/AR Medical  
Support for  
Astronauts

## Best Interdisciplinary Poster

### Interdisciplinary 1

Production and  
Sustainability of  
Pharmaceutical  
Drugs in Space  
and Microgravity  
Environments

### Interdisciplinary 2

SkyChain

## Prototype Award

Rocket  
Model Solid  
Fuel

(E) for Sustainable Space Propulsion  
Advisors : Dr. Mutasem Shehadeh



Best Feasibility Award – 2

Members : Aljwharah Khalid Basfar, Reem Fahad  
Alsulaiman, Jna Turki Abualshamat, Layan Wisam Senjab  
Title : Design And Integration Of A Thermal Ventilation  
System For The MX-1 Capsule  
Advisors : Eng. Muhammad Anis Qasim



# SPACE LEAD '25 HACKATHON

## Innovation Award

### Medicine

Integration of a Rotating Detonation Rocket Engine (RDRE) for Sustainable Space Propulsion

### Engineering

Hybrid Supercapacitor and Battery ESS for DC Microgrids

## Feasibility Award

### Medicine

Adaptive Landing Gear System for VTOL Drones in Harsh and Extraterrestrial Environments

### Engineering

Design And Integration Of A Thermal Ventilation System For The MX-1 Capsule

Advisors : Dr. Akef Obeidat



# Media Reach



**25**  
Media Outlets  
Published



**700,000**  
Total Media  
Reach



For all media visit  
[Space lead](#)



# Social Media



**300+**

Posts



**5k**

Video Views



**600k**

Impressions



**9.8%**

Engagement Rate



