

Ghanim Alotaibi Curriculum Vitae



Mission: To contribute on the expansion of human civilization into outer space

“Man, the cutting edge of terrestrial life, has no rational alternative but to expand the environmental and resource base beyond Earth. Global Development, therefore, must be based on an open-world concept and include both the development of extraterrestrial resources and the wiser management of our terrestrial resources. This is the extraterrestrial imperative. Its central goal is the preservation of civilization.” By Krafft Ehricke

Education:

- 1- Currently, PhD candidate part time – The University of Strathclyde in Glasgow. Thesis topic: Thermal Management for a Space Solar Power Satellite based on the ALPHA Concept”
- 2- Master’s degree (September 2013 – April 2017) in Solar Energy Systems from Freiburg University – Germany.
Master Thesis topic: Analysis and Optimization of a 6-Source Sun Simulator for Large Area Multi-Junction Cells
- 3- BSc Mechanical Engineering (September 2003 – June 2009) from Kuwait University
- 4- Graduate Certificate in Astronomy (Online from September 2011 – April 2013)
- 5- Diploma in Space Sciences (Space Studies Program 2010) – International Space University – Strasbourg.
- 6- Graduate Certificate in Space Sciences (Online January 2020 – January 2022) from Kepler Space Institute – Florida. Topics involve the following:
 - Commercializing Advanced Concepts
 - Energy Requirements from Space Settlements
 - Human Factors in Space
- 7- Currently enrolled in an online master program at Kepler Space Institute.

Work Experience:

- 1- Currently, **Founder & CEO Advance Space Civilization Initiative (Limited Liability Company)**:
 - Communicating the Overview Effect for the Public in Kuwait using Virtual Reality
 - Research the effect of Spirituality and the feeling of awe when viewing the earth from space (Cosma Hypothesis)
 - Space Based Solar Power

- Analog Missions and Arts
- 2- Well Surveillance Engineer – Kuwait Oil Company (Full Time Job, October 2009 – October 2015)**
 - Surface well Testing and Slickline Operations Monitoring
 - Contract Holder and Contractor inspector
 - Tickets and Invoices
- 3- Senior Mechanical Engineer – Kuwait University (Full Time Job, July 2019 – June 2022):**
 - This job was the first Full Time space job in Kuwait.
 - Proposal writing of a CubeSat project for space Capacity building in Kuwait.
 - Lecturing Undergraduate students on Orbital Mechanics and space Mission Design and Analysis.
 - Proposing and leading the scientific objective of KuwaitSat-1. The scientific objective is to use the onboard camera as a gyroscope.
 - Designing a space - capacity building program for Kuwait university students.
 - Coordinating activities with commercial providers.
- 4- Academic Assistant at the International Space University – Space Studies Program (SSP 22)**
 - Invitation letters and thank you letters for program lecturers
 - Assigning TAs to workshops and lectures
 - Managing surveys and final report.
- 5- High School level Physics Teacher (Part Time Job) at the Public Authority for Applied Sciences – Kuwait**

Volunteering Positions:

Current positions:

- 1- Project Manager at the Moon Village – Participation of Emerging Space Countries (MV – PESC) (2020 – Current):**
 - Mentoring local teams from 12 countries to draft a roadmap on how to involve the local team country in Moon activities.
- 2- Co-Chair “Towards the Young Generations” Committee at the Space Renaissance International (SRI) (January 2022 – Current):**
 - Support preparing lectures about Utopias in Space.
 - Mentoring a workshop in Kuwait about the philosophy and the vision of SRI.

Previous Positions

- 3- American Society for Heating Refrigerating and Air-conditioning Engineers (ASHRAE) students branch president (2008 – 2009).**
 - Organizing conferences and students activities.
- 4- Kuwait National Point of Contact for the Space Generation Advisory Council (SGAC) (2008 – 2010).**

- Activities involving the United Nations the Committee of the Peaceful Use of Outer Affairs to establish a space agency in Kuwait
- Public space outreach activities including lectures about the ISS, Apollo Program and Astrobiology
- 5- Active member at the Kuwait Society for Engineers (2009 – 2010).**
 - Organizing team member for the World Federation Engineering Organization (WFEO)
 - Organizing exhibitions for graduate engineering students.
- 6- Founder and president of Kuwait Chapter of the Students for the Exploration and Development of Space (SEDS) (2009 – 2011).**
 - Outreach activities to establish a space agency in Kuwait
 - Lecturing about space projects (ISS, Apollo Program and Astrobiology)
 - First Space course in Kuwait.
- 7- Active member in the organizing Committee for the Space Generation Congress (SGC 2010).**
 - Delegate coordinator
 - Preparing Delegates Statistics
- 8- Middle East Regional Coordinator and member in the executive committee of the Space Generation Advisory Council (SGAC) (2018 – 2021):**
 - Increasing the numbers of SGAC members in the Middle East
 - Mentoring NPoCs from the Middle East
 - Organizing the first Middle East Space Generation workshop

Other space activities:

- **First Analog Astronaut in GCC countries:**
I performed a 2 weeks mission at the Mars Desert Research Station (MDRS in 2019). My role was the crew astronomer in which I was performing a citizen science project on observing variable stars.
- **Analog Astronaut at the MDRS (2020):**
I performed my second analog mission at the MDRS. I supported the application of the first female from Kuwait to be analog astronaut.
- **Analog Astronaut at the Analog Astronaut Training Center – Poland (AATC 2021):**
I performed my third analog mission as a communication officer
- **Analog Missions and Arts (2022):**
I organized the first analog mission in the world that focuses on arts as a primary objective. This analog mission was also the first All-Kuwaitis mission. This involved the first space arts exhibition in Kuwait.
- **Analog Mission Control Observer (2022):**
I was an MCC observer at the AATC for two analog missions.
- **Spirituality (Islam) and Cosma Hypothesis:**

This project is supervised by Prof. Frank White, the author of the Overview effect. The aim is to communicate the overview effect and identify the relationships between the spirituality and Cosma.

- **Virtual Reality and the Overview Effect:**

This is a for – profit project as part of the Kuwait Space Initiative Company. The aim is to communicate the overview effect to the public in Kuwait using virtual reality.

- **Risk Assessment for a thermal management system:**

The project aims to evaluate several thermal management alternatives for a solar power generator based on the SPS-ALPHA concept.

Non – Space Projects:

- 1- Portable Garage design and implementation.
- 2- Simple External Combustion Engine powered by a solar hear source.
- 3- Women Rights activism

Software:

1- Free Flyer Software:

- The calculation of the Passing times and duration of KuwaitSat-1 over Kuwait and how long it enters earth shadow.
- Supporting students using Free Flyer Software

2- Python 3:

- Using Python Code during my master thesis to optimize filters combination to boost the solar irradiance intensity given standards nonuniformity for a solar simulator.
- Using Kernels like spk along with SPICE by NASA operated in a virtual environment to calculate earth's position and velocity vectors.

3- Matlab:

- Basic University projects solving engineering and numerical methods problems

4- AstroImageJ:

- Obtaining the photometry data of variable stars.
- Subtracting and dividing dark current, bias noise and flat field of an astronomical image.

5- Engineering Equation Solver (EES):

- Solving thermodynamics problems

6- PVsyst:

The calculation of energy requirement and power needs for buildings.

Awards:

- 1- Space Generation Leadership Award
- 2- NASA Astrobiology Institute scholarship to attend the Space Generation Conference and the International Astronautical Congress.
- 3- Award of Appreciation by the Mechanical engineering department – Kuwait University
- 4- Award of Appreciation from the Kuwait Society of Engineers.

5- Black Belt Six Sigma Lean

Languages skills:

- 1- Arabic – Native tongue
- 2- English – Fluent
- 3- French – Basic Knowledge
- 4- German – Basic Knowledge

Interesting topics:

- 1- Ancient civilizations and history.
- 2- Women Rights and gender equality.
- 3- Cultures and arts.

List of Publications

Journal of Space Philosophy:

[JSP-Spr-2021-15 Alotaibi-Final.pdf \(keplerspaceinstitute.com\)](#) A Moon Consortium to Mitigate Climate Change

[JSP-Fall-2021-15 Alotaibi-Final.pdf \(keplerspaceinstitute.com\)](#) Lunar Surface Based Wireless Power Transmission Solar system Locations Assessment.

[JSP-Spr-2022-12 Alotaibi-Final.pdf \(keplerspaceinstitute.com\)](#) Regulations for Space Based Solar Power as a Key for Innovation

Conference Papers:

IAC-09	Discussing Expanding Kuwait's Activities in Space Sciences and Industry	accepted	IAC-09.E2.3.6
IAC-16	Space Outreach Activities in Middle East, One Step Forward	accepted	IAC-16,E1,5,8,x32091
IAC-19	realizing the moon village: participation of emerging space countries	accepted	IAC-19,E3,2,7,x50590
IAC-19	Kuwait University CubeSat-1	accepted	IAC-19,E1,4,8,x50682
IAC-20	Roadmap for a Non-Space Faring Country to Join the Moon Village	accepted	IAC-20,D4,2,8,x57188
IAC-20	Progress and Updates for the first KuwaitSat-1	accepted	IAC-20,B4,9-GTS.5,5,x59274
GLEX-2021	Moon Consortium for Climate Change Mitigation	accepted	GLEX-2021,1,1,11,x62707
IAC-21	Emerging-Space Countries and the Future of Space Exploration	accepted	IAC-21,D3,IP,3,x65706

IAC-22	Emerging Space Countries and the Future of Lunar Exploration	accepted	IAC-22,D4,2,3,x70153
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