Ghanim Alotaibi, bio & publications

Ghanim Alotaibi	Ghanim Alotaibi is a mechanical engineer (Kuwait University) with a master's degree in Solar Energy Systems from Freiburg University and a PhD candidate at the University of Strathclyde, Glasgow, working on the thermal management of a Space Solar Power Satellite based on the SPS-ALPHA concept. After six years as a well surveillance engineer at Kuwait Oil Company, he held the first full-time space job in Kuwait at Kuwait University, where he proposed and led the scientific objective of KuwaitSat-1, the country's first satellite, launched in January 2023. He was the first analog astronaut from the Gulf countries (Mars Desert Research Station, 2019) and organized the first analog mission focused on the arts. Former Middle East Regional Coordinator of the Space Generation Advisory Council, he is project manager of Moon Village - Participation of Emerging Space Countries and founder of the Advance Space Civilization Initiative. At Space Renaissance International he is Director of Young Generations Engagement and co-chair of the Target Young Generations Committee of the Space Renaissance Academy.



Education

- PhD candidate (part time), University of Strathclyde, Glasgow - thesis: "Thermal Management for a Space Solar Power Satellite based on the ALPHA Concept"
- 2013-2017 - Master's degree in Solar Energy Systems, Freiburg University, Germany - thesis: "Analysis and Optimization of a 6-Source Sun Simulator for Large Area Multi-Junction Cells"
- 2003-2009 - BSc in Mechanical Engineering, Kuwait University
- 2011-2013 - Graduate Certificate in Astronomy (online)
- 2010 - Diploma in Space Sciences, Space Studies Program, International Space University, Strasbourg
- 2020-2022 - Graduate Certificate in Space Sciences, Kepler Space Institute, Florida (commercializing advanced concepts, energy requirements for space settlements, human factors in space); currently enrolled in its online master program

Professional history (in brief)

- 2009-2015 - Well Surveillance Engineer, Kuwait Oil Company: surface well testing and slickline operations monitoring, contract holder and contractor inspector
- 2019-2022 - Senior Mechanical Engineer, Kuwait University (the first full-time space job in Kuwait): CubeSat proposal for space capacity building, lectures on orbital mechanics and space mission design, scientific objective of KuwaitSat-1 (the onboard camera used as a gyroscope), a space capacity-building programme for students
- 2022 - Academic Assistant, International Space University, Space Studies Program (SSP22)
- High school physics teacher (part time), Public Authority for Applied Sciences, Kuwait
- Founder and CEO, Advance Space Civilization Initiative: communicating the Overview Effect to the public in Kuwait with virtual reality, research on spirituality and the Overview Effect (Cosma hypothesis), space-based solar power, analog missions and arts

Space Renaissance International

- Director of Young Generations Engagement (elected at the 4th World Congress, July 2026)
- Co-chair of the Target Young Generations Committee of the Space Renaissance Academy (since January 2022): lectures on utopias in space, a workshop in Kuwait on the philosophy and vision of SRI
- Speaker in the Space Renaissance Academy Webinar Series: "Space Based Solar Power and the New Paradigm of the Space Industry" (SRIC4 #07, December 2025)

Other volunteering positions

- 2020-today - Project Manager, Moon Village - Participation of Emerging Space Countries (MV-PESC): mentoring local teams from 12 countries on roadmaps to join Moon activities
- 2018-2021 - Middle East Regional Coordinator and member of the executive committee, Space Generation Advisory Council (SGAC); organizer of the first Middle East Space Generation workshop

- 2008-2010 - Kuwait National Point of Contact, SGAC: activities with the UN COPUOS and outreach for a space agency in Kuwait
- 2009-2011 - Founder and president of the Kuwait chapter of Students for the Exploration and Development of Space (SEDS): the first space course in Kuwait
- 2010 - Organizing committee of the Space Generation Congress (SGC 2010)
- 2009-2010 - Kuwait Society of Engineers; 2008-2009 - president of the ASHRAE student branch, Kuwait University

Analog missions and space projects

- 2019 - First analog astronaut from the Gulf countries: two-week mission at the Mars Desert Research Station (MDRS) as crew astronomer, citizen science on variable stars
- 2020 - Second analog mission at the MDRS; supported the first Kuwaiti woman analog astronaut
- 2021 - Third analog mission, as communication officer, Analog Astronaut Training Center (AATC), Poland
- 2022 - Organizer of the first analog mission focused on the arts, also the first all-Kuwaiti mission, with the first space art exhibition in Kuwait; mission control observer at the AATC for two missions
- Spirituality and the Overview Effect (Cosma hypothesis), supervised by Prof. Frank White
- Risk assessment of thermal management alternatives for a solar power generator based on SPS-ALPHA

Papers

- Adriano V. Autino, Alberto Cavallo, Amalie Sinclair, Bernard Foing, Dennis O'Brien, Ghanim Alotaibi, et Al - "A SRI position paper on the key critical factors towards 2030", February 2024
- "Emerging Space Countries and the Future of Lunar Exploration", IAC-22,D4,2,3,x70153, 2022
- "Regulations for Space Based Solar Power as a Key for Innovation", Journal of Space Philosophy, Spring 2022
- "Lunar Surface Based Wireless Power Transmission: Solar System Locations Assessment", Journal of Space Philosophy, Fall 2021
- "Emerging-Space Countries and the Future of Space Exploration", IAC-21,D3,IP,3,x65706, 2021
- "A Moon Consortium to Mitigate Climate Change", Journal of Space Philosophy, Spring 2021; "Moon Consortium for Climate Change Mitigation", GLEX-2021,1,1,11,x62707
- "Roadmap for a Non-Space Faring Country to Join the Moon Village", IAC-20,D4,2,8,x57188, 2020
- "Progress and Updates for the first KuwaitSat-1", IAC-20,B4,9-GTS.5,5,x59274, 2020
- "Realizing the Moon Village: Participation of Emerging Space Countries", IAC-19,E3,2,7,x50590, 2019
- "Kuwait University CubeSat-1", IAC-19,E1,4,8,x50682, 2019
- "Space Outreach Activities in Middle East, One Step Forward", IAC-16,E1,5,8,x32091, 2016
- "Discussing Expanding Kuwait's Activities in Space Sciences and Industry", IAC-09.E2.3.6, 2009

Awards

- Space Generation Leadership Award
- NASA Astrobiology Institute scholarship to attend the Space Generation Congress and the International Astronautical Congress
- Awards of appreciation from the Mechanical Engineering Department, Kuwait University, and from the Kuwait Society of Engineers
- Lean Six Sigma Black Belt

Skills and languages

- Software: FreeFlyer (KuwaitSat-1 passes and eclipses), Python (solar simulator optimization, NASA SPICE kernels), Matlab, AstroImageJ (variable star photometry), EES, PVsyst
- Languages: Arabic (native), English (fluent), French and German (basic)

Webinar "Space Based Solar Power and the New Paradigm of the Space Industry" (SRIC4 #07)