

Dr. Rehan Mahmood

Space Systems Leader | Satellite Communications Specialist | CubeSat and Technical Program Director

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Missions, projects, and media

20+ Years Satellite engineering and technical leadership	Director / PI Lab, program, and team leadership Academic + Industry Execution across institutions and company work	CubeSat to Lunar Portfolio from ICUBE-1 to ICUBE-Q
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Executive Summary

Space systems leader with more than 20 years of experience across satellite communications, CubeSat programs, engineering education, laboratory development, and technical management. Brings a rare blend of mission-oriented engineering, program leadership, commercial feasibility support, and applied training capability. Experience covers link budgeting, frequency coordination, systems engineering, laboratory build-out, technical proposal development, and multidisciplinary team leadership. Well suited to senior roles in satellite operators, space programs, engineering innovation units, technical training organizations, or aerospace and satcom companies expanding capability in the Gulf.

Core Technical and Leadership Strengths

Satellite communications and wireless systems
Systems engineering and technical program delivery
Lab establishment, equipment roadmaps, and procurement
Graduate-level engineering training and team mentoring

CubeSat, small-satellite, and mission capability programs
Frequency coordination and link-budget development
Technical proposal writing and feasibility studies
Cross-functional leadership across research, operations, and education

Selected Impact Highlights

- Director and PI of SSTRL, established through USD 750k in competitive funding; responsible for strategy, staffing, infrastructure, procurement, and technical execution.
- Led teams of more than 30 researchers and staff in satellite engineering and laboratory development programs.
- Contributed to high-visibility programs including ICUBE-1, SSS-2A, ICUBE-N, ICUBE-Q, and ICUBE-CSAT.
- Provides commercial satellite-engineering support as Chief Technology Officer of Space Systems Pvt. Ltd., including feasibility studies, technical proposals, link budgets, and frequency coordination.
- Brings international exposure through graduate education in the United Kingdom and China, and recent visiting consultancy in Oman.

Professional Experience

Director and Principal Investigator

Small Satellite Technology & Research Lab, Institute of Space Technology

Mar 2020 - Present

Islamabad, Pakistan

- Lead lab strategy, program execution, hiring, technical coordination, procurement, and capability development for satellite and space-technology initiatives.
- Oversee multidisciplinary teams, infrastructure build-out, and execution of institutional and externally funded projects.

Chief Technology Officer

Space Systems Pvt. Ltd.

2015 - Present

Pakistan

- Lead technical proposals, feasibility assessments, systems engineering support, link budgeting, and frequency coordination for space-related projects.
- Support applied delivery and commercialization-oriented work in CubeSat and satellite engineering services.

Associate Professor

Institute of Space Technology

Dec 2021 - Present

Islamabad, Pakistan

- Teach satellite and communication engineering courses while mentoring postgraduate and undergraduate project teams.

- Translate mission experience into technical training, workforce development, and project-based engineering education.

Assistant Professor / Lecturer / Assistant Manager
Institute of Space Technology

Sep 2002 - Nov 2021
Islamabad, Pakistan

- Built deep institutional experience across technical delivery, teaching, laboratory development, and satellite-related collaboration.

Visiting Consultant
Sultan Qaboos University

Sep 2024 - Jan 2025
Muscat, Oman

- Taught undergraduate engineering courses and supported CubeSat laboratory establishment.

Mission and Program Portfolio

ICUBE-1	Pakistan's first university CubeSat; feasibility, development support, technical management, and satellite systems work.
SSS-2A	3U CubeSat under APSCO collaboration; link budgeting and frequency coordination contribution.
ICUBE-N	National CubeSat of Pakistan; leadership contribution in project and program development.
ICUBE-Q	Lunar CubeSat integrated with Chang'e-6; contribution to mission-oriented program execution.
ICUBE-CSAT	Classroom Satellite initiative for hands-on engineering training and capability building.

Education

PhD, Satellite Engineering
Beihang University

2014 - 2018
China

MSc, Satellite Communications
University of Surrey

2005 - 2006
United Kingdom

Awarded the Cable & Wireless prize for best overall performance in the school.

BSc, Electrical Engineering
University of Engineering and Technology, Taxila

1998 - 2002
Pakistan

Additional Professional Value

Experienced in executive workshops, hands-on technical training, curriculum design, engineering lab development, and collaboration with national and international partners including APSCO-linked programs and academic collaborators. Holds an Amateur Radio License and has supported outreach and STEM capacity-building activities alongside mission work.