ICET-26 CONFERENCE WORKSHOP

MODELING & INTELLIGENT CONTROL OF CUBE SERVO INVERTED PENDULUM

Using Reinforcement Learning

Ghulam Ishaq Khan Institute (GIKI), Topi, Swabi, KPK

19 November 2026 | **9:30 AM – 12:30 PM**
3-Hour Hands-on Workshop

RESOURCE PERSONS

Dr. Dur-e-Zehra Baig
Associate Professor,
Faculty of Electrical Engineering (FEE), GIKI
Co-Instructor & Facilitator, GIKI

Engr. Basit Ali

Engr. Muhammad Adeel



QUANSER
Cube Servo Inverted Pendulum

WORKSHOP AGENDA & HIGHLIGHTS

System Identification
Cube Servo inverted-pendulum modeling & linear dynamics.

Benchmark Control
Linearization and Linear Quadratic Regulator (LQR) tuning.

Intelligent Control
Reinforcement learning formulation and policy learning.

Sim-to-Real Deployment
Practical safety constraints and live hardware demonstration.

REGISTRATION FEES

Professionals	PKR 12,000
3rd and 4th-Year UG	PKR 6,000
GIKI G/UG Students	Free

SCAN FOR REGISTRATION

Venue:
Control Lab, Ghulam Ishaq Khan Institute (GIKI),
Topi, Swabi, KPK

IEEE
Conference Affiliation:
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