

PIEAS Establishes a State-of-the-Art Cyber Physical Systems Laboratory

The CPS lab was inaugurated by DG PINSTECH Dr. Qamar-ul-Haq on October 3, 2022 along with Rector PIEAS, Dr. Nasir Majid Mirza. Prof. Dr. Ghulam Mustafa, Dean Research, Dr. Naem Iqbal and Prof. Dr. Hanif Durad played a key role in the development of this laboratory with an active support of Rector Office.

A key technology of the fourth industrial revolution (termed Industry 4.0) is Cyber Physical Systems (CPS). CPS integrate computation, communication, and control to accomplish complex automation tasks. The objective of the CPS lab is the development of methodology for the analysis and design of cyber physical systems. Due to their connection with the cyber space, recent years have seen a steady rise in the number of cyber-attacks on industrial cyber physical systems. Another objective of the lab is to study the impact of cyber-attacks on industrial control systems and development of their protection mechanisms.

CPS laboratory facilities include a Supervisory Control and Data Acquisition (SCADA) testbed, a Distributed Control System (DCS) testbed, and several Programmable Logic Control (PLC) testbeds. These testbeds can be used to acquire hands-on training experience by students and industry professionals. They can also be used for laboratory-based security evaluations for production systems.

