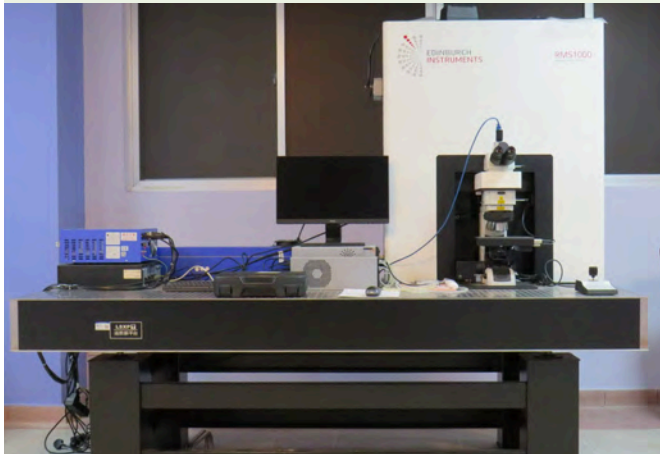
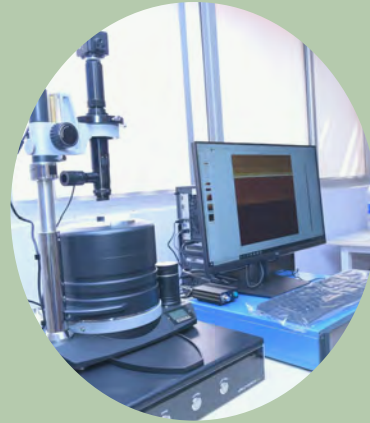


## ABOUT THE HIGH-TECH RESEARCH LABORATORY

The High-Tech Research Laboratory at the University of Azad Jammu & Kashmir (UJK) is a state-of-the-art facility dedicated to pioneering material characterization, thin-film analysis, and nano-scale investigations. We provide high-precision experimental capabilities to support innovative research across Materials Science, Nanotechnology, and Applied Physics.



**High-Tech Research Laboratory  
King Abdullah Campus  
University of Azad Jammu &  
Kashmir (UJK) Muzaffarabad,  
Azad Jammu and Kashmir,  
Pakistan  
Contact: +92 582 296 2314  
Email: physics@uajk.edu.pk**



## OUR MISSION

Empowering innovation through precision analysis, supporting Pakistan's national strategic priorities in semiconductor development.

### CORE CAPABILITIES (BEST FOR HEXAGONAL ICONS)

**Surface Morphology:** Atomic-scale imaging with HR-TEM and FESEM.

**Chemical Analysis:** Precision elemental profiling via XPS and ICP-MS.

**Structural Characterization:** Advanced phase identification using XRD.

**Optical Profiling:** High-resolution Raman and PL Spectroscopy.

**Thin Film Metrology:** Accurate thickness and multi-layer analysis.



## HIGH-TECH RESEARCH LABORATORY

**ADVANCING THE FRONTIERS OF  
NANOTECHNOLOGY &  
MICROELECTRONICS**

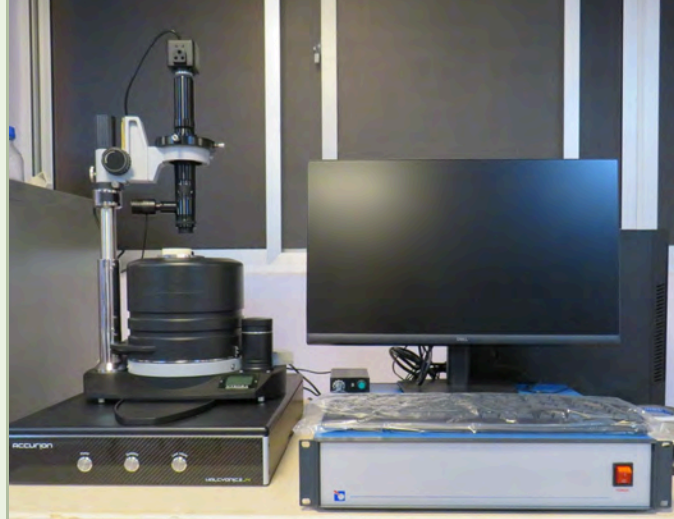


***State-of-the-art  
characterization and  
research facilities at the  
University of Azad  
Jammu & Kashmir.***

[WWW.UAJK.EDU.PK](http://WWW.UAJK.EDU.PK)

## WHY PARTNER WITH US?

- **Strategic Impact:** Funded by the Saudi Fund for Development (SFD).
- **Versatility:** Solutions for solid, powder, and liquid samples.
- **Expertise:** Supporting research in Materials Science, Nanotechnology, and Applied Physics.
- **Accessibility:** Open for academic, industrial, and government collaborations.



## KEY EQUIPMENT HIGHLIGHTS

### Instrument with Primary Functions

- **JEM-2100 HR-TEM:** Atomic-resolution imaging (200 kV)
- **JSM-IT800 FESEM:** 800,000x magnification surface analysis
- **JPS-9030 XPS:** Chemical state & surface composition
- **Smart-Lab SE XRD:** Automated crystal structure analysis
- **NTEGRA Prima AFM:** 3D topography and MFM/EFM modes
- **RMS1000 Raman:** UV-Vis-NIR chemical mapping

## ALIGNED WITH NATIONAL PRIORITIES

Our facilities are strictly aligned with Pakistan's National Strategic Priorities in Semiconductor and Microelectronics Development. We contribute to the national vision of technological self-reliance by cultivating a skilled workforce and supporting the growth of the domestic semiconductor industry.



**COLLABORATION MATTERS.  
LET'S ADVANCE THE FRONTIERS OF  
SCIENCE TOGETHER.**