**KAIST NCS JOB DESCRIPTION**

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| Recruitment area  | Research(Post-Doc) | 분류체계 | Parent category  | Sub-category  | Sub sub-category | Sub sub-sub-category  |
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| Mission | ○ Korea Advanced Institute of Science and Technology (KAIST) Act - Educating outstanding talent proficient in theory and practice as required in the fields of science and technology for industrial development - Carrying out the nation’s mid- and long-term R&D, and basic and applied research to foster national competitiveness in science and technology - Providing comprehensive support to research conducted by other research centers and industries |
| KAIST’s major businesses  | ○ Education: Fostering creative talent, strengthening convergence education, nurturing global leaders in science and technology, strengthening human resource capacity○ Research: Support for development of outstanding research projects, acquisition of specialized researchers, advancement of entrepreneurial culture, creation of high value-added intellectual property rights, promotion of technology transfer/commercialization, and development of large-scale, leading projects ○ Cooperation: Creating a working environment to be at par with global standards, and multifaceted cooperation for global leadership ○ Administration: Provision of administrative and technical service for international students/faculty (Support for operation of a “Korean-English bilingual campus”) |
| Growth engines | ○ Vision: Global Value-Creative World-Leading University- Hub for Fostering Knowledge Creation and Global Convergence Talents- Center for the World-Leading New Knowledge and Technology)○ Five innovation initiatives: Innovation in education, research, technology commercialization, globalization and future strategies ○ 3C Leadership: Change, Communication, Care |
| Duties and responsibilities  | ○ Perform research and create knowledge as a post-doctoral researcher in the Department of Physics & Center for Lattice Defectronics at KAIST |
| Job performance details | \* To be determined within the following topics, considering the applicant's research experience and interest.○ Synthesis and characterization of transition metal oxide thin films, interfaces, superlattices ○ Investigation of emergent quantum properties in strongly correlated materials(Measurement/analysis of physical properties in low temperatures & high magnetic fields) ○ Exploration of nanoscale magnetic/ferroelectric/ferroelastic/multiferroic domain (wall) structures and low dimensional functional properties ○ Examination of topological defects and electron/ion transport (for fundamental knowledge and neuromorphic devices) |
| Knowledge required | Basic knowledge as a Ph.D. researcher in the field of condensed matter physics and materials science |
| Required skills | \* Experience with some of the techniques below is preferred, but not necessarily required.  ○ Synthesis and characterization of epitaxial oxide thin films  ○ Scanning probe microscopy for measurement of domain (wall) structure, conductivity, and electrochemical reaction   ○ Confocal Raman spectro-microscopy  ○ Synchrotron-based X-ray scattering or spectroscopy  ○ Measurement of quantum electron transport in extreme environments  ○ Transmission electron microscope  ○ Theoretical modeling and simulation |
| Attitude while performing duties  | ○ Compliance with research ethics  ○ Active attitude and willingness to challenge |
| Basic skills | Candidates and holders of Ph.D. degrees in science and engineering |
| Reference site | www.ncs.go.kr, [www.kaist.ac.kr](http://www.kaist.ac.kr), physics.kaist.ac.kr, oxide.kaist.ac.kr |