

NCS-Based KAIST Job Description – Research position

| Recruitment area | Research position | Classification system | Parent category | Sub-category | Sub sub-category | Sub sub-sub-category |
|-----------------------------|--|-----------------------|-----------------|-----------------------|--------------------------------|--|
| | | | 16. Material | 02. Ceramic materials | 01. Fine ceramic manufacturing | 01. Electrical and electronic material manufacturing |
| | | | 15. Mechanical | 01. Mechanical design | 02. Mechanical design | 03. Structural Analysis Design |
| Mission | <ul style="list-style-type: none"> ○ Korea Advanced Institute of Science and Technology (KAIST) Act <ul style="list-style-type: none"> - 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 | <ul style="list-style-type: none"> ○ 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 | <ul style="list-style-type: none"> ○ Vision: Global Value-Creative World-Leading University <ul style="list-style-type: none"> - 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 | <ul style="list-style-type: none"> ○ Development of the active materials for IPMC actuators ○ Development of electrode materials and polymer electrolyte for energy storage devices ○ Design of triboelectric nanogenerator ○ Mechanical application of 3D phononic topological insulator | | | | | |
| Job performance details | <ul style="list-style-type: none"> ○ Synthesis of the active materials for ionic soft actuator and analysis of electrochemical properties ○ Synthesis and electrochemical measurement of electrode materials for energy storage devices ○ Structural design and physical/chemical analysis of triboelectric nanogenerator ○ Design and construction of 3D phononic topological insulator | | | | | |
| Knowledge required | <ul style="list-style-type: none"> ○ Material Science, Electrochemical Engineering, Chemical Engineering ○ Electromagnetism, Dynamics ○ Acoustic, Elastics, Solid State Physics | | | | | |

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| Required skills | <ul style="list-style-type: none">○ Ability to synthesize and design for the active materials○ Material characterizations with XRD, XPS, SEM, TEM○ Advanced electrochemical analysis○ Signal processing, Numerical analysis, Mechanical design○ Control and measurement of the mechanical wave |
| Attitude while performing duties | <ul style="list-style-type: none">○ Creative and challenged, Logical○ Positive○ High responsibility○ High mutual cooperation |
| Basic skills | ○ Communication, Flexibility, Work ethics, Interpersonal skill |
| Reference site | www.ncs.go.kr , www.kaist.ac.kr |