

【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 1】

Area of recruitment	Analytical Science of isotope geochemistry or in-situ micro-mineral analysis				
Academic major	Geological Sciences, Earth and Environmental Sciences, and related major	Job position	Research Scientist	Locations	Ochang
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Analytical service and collaborative research support using isotope geochemistry equipment or in-situ micro-mineral analysis instruments□ Development of new analytical methods based on research equipment and achievement of outstanding results in analytical science□ Monitoring and maintenance of advanced research instruments□ Planning and execution of domestic and international collaborative research and R&D projects				
Capacity and ability	<ul style="list-style-type: none">□ Advanced analysis in isotope geochemistry and in-situ micro-mineral analysis, and characterization of Earth, environmental, and planetary samples□ Research planning related to Earth and planetary sciences utilizing analytical science□ Operation and management of advanced research equipment				
Required knowledge	<ul style="list-style-type: none">□ Specialized knowledge in isotope geochemistry and in-situ analysis of micro-minerals□ Expertise in sample preparation for Earth and planetary materials□ Understanding of hardware and software for operating equipments of isotope geochemistry or in-situ micro-mineral analysis□ Problem-solving ability in basic and applied sciences using isotope geochemistry data, especially in Earth and environmental science				
Required skills	<ul style="list-style-type: none">□ Analytical science techniques for isotope geochemistry and in-situ micro-mineral analysis□ Analytical technologies for Earth, environmental, and planetary samples				
Attitude in performing duties	<ul style="list-style-type: none">□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS)- The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

※ The above duties are the main duties that the applicant will perform upon employment after being selected as the successful applicant, and the applicant may perform duties other than the main job duties and the place of work may also be changed.

【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 2】

Area of recruitment	Semiconductors and Power Semiconductors: Surface Analysis Research on Advanced Materials including Surface Modification				
Academic major	Physics, Chemistry, Materials Science, Engineering, and related major	Job position	Research Scientist	Locations	Busan
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Conducting joint research and development on semiconductor and power semiconductor materials and devices□ Characterization of materials and devices using advanced analytical equipment□ Surface modification research utilizing ion beam technology□ Planning and management of R&D projects related to the above fields				
Capacity and ability	<ul style="list-style-type: none">□ Device property research on advanced materials, including semiconductors, power semiconductors, surface modification, and materials for extreme environments□ Defect control in semiconductors and power semiconductors, and applied research utilizing advanced surface analytical science□ Planning and development of R&D projects in the above-mentioned fields				
Required knowledge	<ul style="list-style-type: none">□ Expertise in materials science, including semiconductors, power semiconductors, surface modification, and materials for extreme environments□ Specialized knowledge in the fabrication of semiconductor and power semiconductor materials and devices, including bandgap engineering□ Proficiency in operating surface analysis equipment based on X-ray and ion beam technologies				
Required skills	<ul style="list-style-type: none">□ Fabrication and application technologies for advanced material-based devices, including semiconductors, power semiconductors, surface-modified materials, and materials for extreme environments□ Applied analytical science techniques for advanced materials and device characterization				
Attitude in performing duties	<ul style="list-style-type: none">□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS)<ul style="list-style-type: none">- The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

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【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 3】

Area of recruitment	Synchrotron accelerator development – Control / Diganostics				
Academic major	Computer science, Control & Instrumentation, Accelerator engineering, and related major	Job position	Research Scientist	Locations	Ochang, Pohang
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Design, building, and maintenance of Korea-4GSR control system□ Development, manufacturing, test, and maintenance of Korea-4GSR diagnostics□ Management of control/diagnostics				
Capacity and ability	<ul style="list-style-type: none">□ Accelerator control system design□ Control programming (with machine/high-level languages, e.g., C++, Python)□ Digital signal processing□ (Preferred) Accelerator beam dynamics (coursework or experience)□ (Preferred) EPICS-based accelerator control system development and operation experience□ (Preferred) Electron beam diagnostic device development and operation experience□ (Preferred) Electrical and control circuit design and analysis capability□ (Preferred) AI & machine learning related technologies				
Required knowledge	<ul style="list-style-type: none">□ Accelerator beam dynamics□ Programming language (machine/high-level languages)□ Understanding of major accelerator devices (electromagnets/MPS, RF system, vacuum system, beam diagnostics, etc.)□ Digital/analog signal precessing and analysis				
Required skills	<ul style="list-style-type: none">□ EPICS IOC development skills and Linux-based programming skills□ Electromagnetic field finite element simulation (CST, COMSOL) and high-frequency signal processing skills				
Attitude in performing duties	<ul style="list-style-type: none">□ Accurate work processing attitude and efficient work performance ability□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS)- The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

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【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 4】

Area of recruitment	Synchrotron accelerator development – Vacuum				
Academic major	Mechanical Engineering, Physics, Chemistry, Control & Instrumentation, and related major	Job position	Research Scientist	Locations	Ochang, Pohang
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Design (layout planning and simulation), construction, operation, and R&D of Korea-4GSR□ Performance evaluation of ultra-high vacuum systems (accelerator vacuum chambers and beamline PTL)□ Management of vacuum system				
Capacity and ability	<ul style="list-style-type: none">□ Understanding of accelerator vacuum characteristics (storage ring, booster, linac, and beamline PTL)□ Vacuum-related R&D capability (papers, english presentations)□ (Preferred) Vacuum device design and drawing creation using CAD□ (Preferred) Proficiency in structural/thermal analysis codes□ (Preferred) Experience with vacuum-related simulations (e.g., Molflow+, Synrad)□ (Preferred) Control instrumentation design				
Required knowledge	<ul style="list-style-type: none">□ Gas behavior in (ultra) high vacuum (continuum and particle-based)□ Mechanical and structural analysis□ Basic knowledge of electromagnetics, control engineering, and photon optics□ Preferred Majors: Mechanical Engineering, Physics□ Other Applicable Majors: Chemistry, Electrical Engineering, Electronics and software				
Required skills	<ul style="list-style-type: none">□ Proficiency in simulation codes□ Ability to use CAD/CAM□ Basic knowledge of hardware/software for control applications				
Attitude in performing duties	<ul style="list-style-type: none">□ Accurate work processing attitude and efficient work performance ability□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS)- The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

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【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 5】

Area of recruitment	Synchrotron accelerator development – Magnet Power Supply				
Academic major	Electrical Engineering, Power electronics, and related major	Job position	Research Scientist	Locations	Ochang, Pohang
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Research and development of Korea-4GSR magnet power supplies (AC&DC)□ Establishment, operation, maintenance, and performance improvement of Korea-4GSR power supply system□ Management of magnet power supply				
Capacity and ability	<ul style="list-style-type: none">□ (Preferred) Completion of training in Power Engineering, Electrical Engineering, Circuit Theroy, Power Electronics, or Control and Instrumentation, or equivalent education in similar subjects□ (Preferred) Experience in PCB design and firmware control□ (Preferred) Experience with or understanding of particle accelerator devices□ (Preferred) Experience in development and operation of high-precision, high-voltage power supply systems				
Required knowledge	<ul style="list-style-type: none">□ Power electronics□ Circuit design□ Control theory□ Instrumentation and interface□ Electromagnetism and accelerator beam dynamics				
Required skills	<ul style="list-style-type: none">□ High-precision/high-voltage power supply system topology design skills□ Power supply Gate Driver, Analog/Digital Controller, and Protection circuit design skills□ High-precision/high-voltage precise measurement and performance evaluation skills				
Attitude in performing duties	<ul style="list-style-type: none">□ Accurate work processing attitude and efficient work performance ability□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS) - The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

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【Job Description for Research Scientist(Full-time) Recruitment for 2025 – 6】

Area of recruitment	Synchrotron X-ray Science – Soft X-ray Nanoscopy				
Academic major	Physics, Chemistry, Material Science and related major		Job position	Research Scientist	Locations Ochang, Pohang
NCS category	Main Category	Category		Sub-Category	
	A separate analysis was performed to prepare the following contents as the NCS has not developed job categories corresponding to the job duties				
KBSI mission	<ul style="list-style-type: none">□ Conducting R&D on research facilities & equipment and analytical S&T, and joint research and support for promoting basic science, the foundation of the national science and technology development				
KBSI main functions	<ul style="list-style-type: none">□ Research support and joint research through the development and operation of cutting-edge large-scale research equipment□ Development of analytical technology and equipment through analytical science research□ In charge of general management of national research facilities and equipment□ Fostering research equipment experts and creative future talent				
General requirements	Age and gender	Not specified			
Educational requirements	Academic Background	Doctoral degree			
Required job duties	<ul style="list-style-type: none">□ Research and development of soft x-ray analysis technique□ Development of Soft x-ray nanoscopy beamline and instrumentation (Korea-4GSR construction project)□ Application research utilizing with soft x-ray measurements in synchrotron facility				
Capacity and ability	<ul style="list-style-type: none">□ Ability and understanding of soft x-ray experimental techniques in synchrotron facility□ Ability for development and operation of soft x-ray beamline and end-station□ Ability for collaborative R&D and international collaboration				
Required knowledge	<ul style="list-style-type: none">□ Knowledge of soft x-ray nanoscopy beamline and focusing optics□ Experimental system and methodology of soft x-ray nanoscopy technique□ Vacuum instrumentation and detector for soft x-ray beamline				
Required skills	<ul style="list-style-type: none">□ Data acquisition and analysis for soft x-ray measurements□ Device for sample transfer, positioning and temperature control□ Vacuum chamber, system and spectrometer for soft x-ray measurements				
Attitude in performing duties	<ul style="list-style-type: none">□ Proactive, responsible, and diligent attitude to solve a problem□ An exploratory attitude towards new knowledge and skills□ Positive and active communication attitude□ Efforts oriented towards teamwork				
Reference websites	<ul style="list-style-type: none">□ www.ncs.go.kr (except for the undeveloped jobs in NCS)<ul style="list-style-type: none">- The above job description was prepared through a separate analysis.□ http://www.kbsi.re.kr (KBSI website)□ https://kbsi.recruiter.co.kr (KBSI application site)				

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