

Job Description ①

Workplace	Center for Van der Waals Quantum Solids (POHANG, POSTECH)	Job category (level)	Postdoctoral research associate	Area of hiring	Research
Work duties	<ul style="list-style-type: none"> o Low-dimensional quantum material-based devices o Low-temperature electron transport / Low-temperature quantum 				
Main business of IBS	<ul style="list-style-type: none"> o Founded under the Special Act on Establishment of and Support for International Science and Business Belt, the Institute for Basic Science (IBS) conducts fundamental research in the fields of basic science, contributing to developing and delivering scientific knowledge and innovative technology, as well as nurturing the next generation of scientists. - Basic science research - Interdisciplinary basic science research in science and technology - Convergence between basic science and humanities, social science and culture and arts - Policy research for setting the direction of basic science research - Programs for establishing and utilizing research facilities and equipment - Management, transfer, utilization and commercialization of research outcomes 				
Research area of the Center	<ul style="list-style-type: none"> o Thin film epitaxy or 2D epitaxy (MBE, MOCVD, ALD) o Electronic or photonic device physics o Laser spectroscopy/nano optics/near-field optics/ultrafast laser spectroscopy o Scanning probe microscopy (STM and AFM in ultra-high vacuum) 				
Duties and responsibilities	<ul style="list-style-type: none"> o Fabrication and characterization of electronic devices based on low-dimensional van der Waals quantum materials o Investigation of low-temperature electron transport phenomena using a helium cryostat 				
Knowledge required	<ul style="list-style-type: none"> o Research experience with van der Waals materials o Experience in fabricating electronic and optical devices based on novel materials and analyzing their physical properties using advanced measurement techniques o In-depth understanding of electronic behaviors in low-dimensional material systems o Proficiency in atomic-level high-resolution imaging and structural analysis using transmission electron microscopy 				
Competencies required	<ul style="list-style-type: none"> o Skills in paper writing, Problem-solving ability, Effective communication skills, English communication skills for smooth communication with foreign research personnel 				
Attitude required	<ul style="list-style-type: none"> o Communication through cooperation o rational thinking and action for solving problems o Consistent Integrity 				
Basic Job Skills	<ul style="list-style-type: none"> o Communication Skills, Numerical Skills, Problem-Solving Skills, Interpersonal Skills, Information Literacy, Organizational Understanding, Professional Ethics 				
Qualification	<ul style="list-style-type: none"> o Degree: Ph.D. degree in the related field of Recruitment Area (obtained within recent 5 years or to be obtained within 3 months from the expected start date(March 16, 2025)) o Preference: Experiment in related fields preferred 				
Screening	<ul style="list-style-type: none"> o Stage 1: Document screening → Stage 2: Interview 				

※ This job description states the major work duties of the hiring area. Work duties that are not stated here may need to be performed.

Job Description ②

Workplace	Center for Van der Waals Quantum Solids (POHANG, POSTECH)	Job category (level)	Postdoctoral research associate	Area of hiring	Research
Work duties	<ul style="list-style-type: none"> o Transmission electron microscopy (TEM) measurement o Exploring the microscopic structures and properties of low-dimensional quantum materials 				
Main business of IBS	<p>o Founded under the Special Act on Establishment of and Support for International Science and Business Belt, the Institute for Basic Science (IBS) conducts fundamental research in the fields of basic science, contributing to developing and delivering scientific knowledge and innovative technology, as well as nurturing the next generation of scientists.</p> <ul style="list-style-type: none"> - Basic science research - Interdisciplinary basic science research in science and technology - Convergence between basic science and humanities, social science and culture and arts - Policy research for setting the direction of basic science research - Programs for establishing and utilizing research facilities and equipment - Management, transfer, utilization and commercialization of research outcomes 				
Research area of the Center	<ul style="list-style-type: none"> o Thin film epitaxy or 2D epitaxy (MBE, MOCVD, ALD) o Electronic or photonic device physics o Laser spectroscopy/nano optics/near-field optics/ultrafast laser spectroscopy o Scanning probe microscopy (STM and AFM in ultra-high vacuum) 				
Duties and responsibilities	<ul style="list-style-type: none"> o Transmission electron microscopy (TEM) measurements for analyzing the structure and properties of low-dimensional quantum materials 				
Knowledge required	<ul style="list-style-type: none"> o Research experience with van der Waals materials o Experience in fabricating electronic and optical devices based on novel materials and analyzing their physical properties using advanced measurement techniques o In-depth understanding of electronic behaviors in low-dimensional material systems o Proficiency in atomic-level high-resolution imaging and structural analysis using transmission electron microscopy 				
Competencies required	<ul style="list-style-type: none"> o Skills in paper writing, Problem-solving ability, Effective communication skills, English communication skills for smooth communication with foreign research personnel 				
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