

Inha Graduate School Lab Information

No.	Department Information			Professor Information					Recruitment Information			
	Field	Department	Major	Name	Email	Phone	Website	Research Field	Master	Ph.D	Monthly Stipend Provided or Not	Eligibility
1	Engineering	Architectural Engineering	Building Environment	Jo Jaehun	jhjo@inha.ac.kr	82-32-860-7582		Building energy policy, regulation, and standard - Passive House and Zero-energy building - Building energy performance evaluation and energy simulation - Thermal & airflow simulation analysis in buildings: ventilation strategies & IAQ evaluation, insulation and condensation performance analysis - Design and evaluation of Kinetic facade and movable shading - Stack effect engineering and airflow analysis in high-rise buildings - Development of hi-performance envelope (e.g. double-skin facade) - Knowledge to achieve airtightness criteria (construction phase inspections, airtightness test, air leakage audit and thermographic surveys) - Large/Complex buildings air leakage measurement	2	2	yes	TOPIK Level 3 or above
2	Engineering	Biological Engineering	Biological Engineering	Lee Choul-Gyun	leeeg@inha.ac.kr	82-32-872-7518	www.mbe.re.kr	We are working on various projects that target to produce microalgae-based products from upstream to downstream and from micro-scale to pilot-scale. - Systems Biology - Metabolic engineering of microalgae with in-silico modeling of metabolic pathways and molecular biology tools to produce new valuable compounds or enhance their productivity - Synthetic biology research with cell-free protein synthesis system - Microalgal Cell Culture Technology - Development of large-scale culture systems based on semi-permeable materials technology for sustainable production of microalgal biomass - Photobioreactor engineering and optimization of cultivation parameters (temperature, light supply, media, etc.) to enhance productivities of biomass and valuable biochemicals such as lipids and pigments - Biorefinery - Development of extraction and conversion technologies to produce various products, such as biofuels, animal feeds, and fertilizers, from microalgal biomass - Downstream processes involved with transesterification, hydrothermal liquefaction, flash pyrolysis, supercritical CO2 extraction, and so on	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
3	Engineering	Biological Engineering	Biological Engineering	Jeon Tae Jun	tjeon@inha.ac.kr	+82-32-860-7511	https://bsl.inha.ac.kr	- Biosensors/Biochips – Pathogen Biosensors, Molecular Diagnosis - Life-on-a-Chip – Cells/Tissues/Organs-on-a-Chip - Biophysics – Biomimetic Membranes, Ion Channel Studies - Nanobiotechnology – Liposomes/Vesosomes, Artificial Cells, Aquaporin		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
4	Engineering	Chemical Engineering	Polymer synthesis	Youk Ji Ho	youk@inha.ac.kr	82-32-860-7498	Google Scholar Citations https://scholar.google.com/citations?user=0W1aX8YAAAAJ&hl=ko	(1) Synthesis of Stimuli-Responsive Materials - Thermo-responsive materials: Shape memory polymers - Self-healing materials: Self-healing composites (2) Synthesis of Functional Polymers - Synthesis of block copolymers: Surface modification - Graft polymerization: Binders for Li-ion batteries - Synthesis of flame retardant monomers and polymers (3) Applications of Functional Materials - Electrospinning: Li-ion batteries separators - Hard coating with polysilsesquioxane - Spinning: Flame retardant polyimide fibers		1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
5	Engineering	Chemical Engineering	Chemical Engineering	Hwang Sungwon	Sungwon.hwang@inha.ac.kr	+82-32-8607461	cepi.inha.ac.kr	CEPI Lab. is aiming to solve engineering problems in a creative way more effectively than conventional approach that arise in various types of process industries, and produce talented people equipped with basic theoretical knowledge and expertise in modelling and optimization of system engineering. List of industries that the system engineering technology applied to is (a) refinery and petrochemicals, (b) oil and gas, (c) pharmaceutical, (d) fine chemicals, (e) engineering and construction, (f) heavy industry, etc. Research field 1. New chemical process development and scale-up 2. Modeling and optimization of chemical process design and operation 3. Process system engineering with safety, health and environment	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
6	Engineering	Chemical Engineering	Polymer Science	Yang Hoichang	hcyang@inha.ac.kr	+82-32-860-7494	http://nanoseed.dothome.com.kr/	1. Organic Semiconductor-Based Soft Electronics: Thin Film Transistors, Solar Cells, Sensors, etc 2. Superhydrophobic Surface Coating 3. Nanotechnology-Based Optoelectronics		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
7	Engineering	Chemical Engineering	Chemical Engineering	Shim Bong Sup	bshim@inha.ac.kr	+82-32-860-7477	https://www.sbongs.com/	1. Nano-Bio Functional Materials This research is about discovering novel nano-bio functional materials including photosynthetic protein complexes, electrically conductive melanin pigments, highly crystalline cellulose nanofibers, well-defined clay platelets, and various carbon nanomaterials. 2. Biomimetic Nanocomposite Processing This research is to develop biomimetic material processing techniques to form hierarchically organized structures as well as to realize multifunctional properties of nanocomposites, which have wide ranges of real world applications from new generational airplanes and automotive, to bionic interfaces and regenerative medicines. 3. Bionic Interfaces This research focus on the development of biocompatible electronic materials for improved biotic-abiotic interfaces which would be designed to provide seamless functional integration from electronic devices to tissues, organs, and to human body.		1~2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above

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8	Engineering	Civil Engineering	Geotechnical Engineering	SONG KI IL	ksong@inha.ac.kr	010-6388-0449		Underground space and rock engineering <ul style="list-style-type: none"> • Tunnel support design using optimization methods • Deep and subsea tunnel monitoring system and analysis • Structural health monitoring for tunnel using NDT technique • AI aid design of TBM Cutterhead Sustainable development of infrastructure <ul style="list-style-type: none"> • Nondestructive characterization for soil and rock using elastic and electromagnetic waves • Smart geophysical characterization technique for geo-infrastructures • Seismic analysis on aged bridge foundation Real-time disaster prevention based on IoT for geo-infrastructure <ul style="list-style-type: none"> • BIM-CPS-FEM(Building Information Modelling-Cyber Physical Systems- Finite Element Method) model for underground structure • Development of mobile platform for reinforced slope stability monitoring 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above	
9	Engineering	Civil Engineering	Materials and Structural Engineering	Lee Jong Han	jh.lee@inha.ac.kr / one.jhlee@gmail.com	+82-32-860-7564 +82-10-4200-3017		Materials and Structural Engineering Lab. has mainly focused on <ol style="list-style-type: none"> 1) development of smart materials based on cementitious and advanced materials, 2) application of smart materials to structures, 3) development and application of inspection and management systems based on vision and data deep learning technologies 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above	
10	Engineering	Computer Engineering	Computer Vision / Machine Learning	LEE Sang-Chul	sclee@inha.ac.kr	+82-32-860-7442	http://imageinfo.inha.ac.kr/	Our main research interest is in computer vision, machine learning and multimedia: <ul style="list-style-type: none"> - Machine learning (deep learning) for vision - High-level Human-Computer interaction - Medical image analysis. - Content based video processing Major topic includes: Vision for drones, Autonomous car, AIDAS(Advanced Driver Assistance System), Human[brain]-computer interface, Anomaly detection in medicine.	2	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above	
11	Engineering	Computer engineering	Networked and Mobile Interaction System	Noh Youngtae	ytnoh@inha.ac.kr	+32-860-7445	http://ns.linha.ac.kr/	[Positive Computing] FocusMore: The overall goal of this research topic is developing proactive distraction management systems for smartphone distraction vulnerable situations. During the research we are currently focused on following questions: <ul style="list-style-type: none"> - What are the patterns of phone distraction vulnerable contexts? - Which type of DND mode is needed? - Would it be possible to automatically generate rules for DND mode? - How do users use proactive distraction management systems? As an initial contribution we developed an Android mobile application to collect users' context data about their distractions. EasyTrack: Orchestrating Large-scale Mobile User Studies <ul style="list-style-type: none"> • Human subject studies involve • Stress & depression tracking of students, Smartphone usage tracking studies, Physical activity and sleeping behavior tracking • Data collecting Platform: major features <ul style="list-style-type: none"> • Real-time tracking of participants' data collecting behaviors • Automatic detections and alerts of abnormal data collection • Real-time communications (interventions) with experiment/campaign participants • Challenge with the scalability: With the scales, however, it is laborious for data collectors who conduct human subject studies that especially involve mobile devices. [Cloud Computing] Elastic Kafka over Cloud: This research topic is mainly focused on traffic load balancing in the cloud. We are considering a use case of streams of data produced by IoT sensors and being sent toward the cloud for computational operations. Sometimes these data flows are drastically whimsical and cause the bottle neck in the cloud side. For better data consumption in the cloud our solution is to by making use of Kafka (most recent streaming platform) dynamically distribute the load among dynamic consumers in the cloud. As a clustering system for the cloud we are using the most recent platform by Google – Kubernetes, which showed quite good performance in running containerized applications and easy resource management.			5	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
12	Engineering	Computer engineering	Software security	ABUHMED Tamer	tamer@inha.ac.kr	+82 32 860 8986		Software Security, Networks Security Analysis, Social Network Privacy, Cloud Security, Applied Cryptography, Mobile and Pervasive Computing Security, Security Applications based on Deep learning and Machine Learning	0	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above	
13	Engineering	Computer engineering	System Software (Multimedia/real-time/cloud systems)	Song Minseok	mssong@inha.ac.kr	+82-32-860-7441	https://sites.google.com/site/inhaerslab/	We are actively doing research on system software technology for power optimization as follows: <ul style="list-style-type: none"> - Development of system software technologies for servers with heterogeneous computing and storage environments - Development of scheduling algorithms for workload allocation, temporal task distribution, and dynamic voltage scaling to optimize processing power consumption - Development of data placement/caching/migration techniques to limit storage power consumption while guaranteeing the lifetime of storage medium 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above	
14	Engineering	Electrical Engineering & Future Vehicle Engineering	Autonomous Navigation	WON Jong-Hoon	jh.won@inha.ac.kr	+82(0)32 860 7406	Autonav.inha.ac.kr	<ul style="list-style-type: none"> • Signal Processing, Estimation Theory and Applications • Kalman Filtering, Multi-Sensor Data Fusion and Target Tracking • Precise Positioning and Attitude Determination • Sensor Integration (e.g. GPS/INS/DR/etc.) • GNSS Receiver/Signal Design • Next Generation GNSS System Design and Analysis • Navigation/Communication System Applications to Next Generation Smart Vehicles 	1	1	yes	TOPIK Level 3 or above	

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15	Engineering	Electronic Engineering	Mobile Communications	Chang KyungHi	khchang@inha.ac.kr	82-32-860-8422	https://bit.do/mtr/	1. Next Generation Public Safety Network - Co-existence of PS-LTE & LTE-R/M Networks / - Service Priority-based RRM / - RAN Sharing Optimization 2. 3GPP LTE & 5G Systems - UDN (Ultra Dense Network) / - Mobile Personal Cell (eMBB) / - Machine-Type Communications (mMTC) / - Ultra-Low Latency (URLLC) / - AI (Machine/Deep Learning) & Big Data 3. Cellular V2X - Direct Communication / - Network-based Communication 4. Mobile Ad-hoc Network (MANET) - Flying Ad-hoc NW (FANET) - Drone Monitoring System Architecture - Detection & Classification using Machine - Vehicular Ad-hoc Network (VANET) - LTE-V2X Architecture / Interference Management - eV2X / 5G-V2X Technology Analysis & Implementation - Ship Ad-hoc Network (SANET) 5. OSTN (Ocean Surveillance & Tracking NW) - Underwater Network (UWN) System Model / - Link Adaptation / - Power Allocation & Control	3	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
16	Engineering	Electronic Engineering	Electronic Engineering	Kim Deok-Hwan	deokhwan@inha.ac.kr	+82-10-4660-3602	http://iesl.inha.ac.kr	Embedded System : Design and implementation of embedded system software, embedded DBMS software, smart cards and portable information terminal software for Multimedia System and Ubiquitous Computing. - High performance, high reliability, high availability and efficiency of cloud-based software defined storage : probabilistic models for speech, music, and noise, sensor signal processing, optimal signal estimation, sound source localizationAcoustic event detection, speech endpoint detection. - Intelligent Social Robot : Automatic speech recognition, MicroPhone array signal processing, Auditory models for signal processing, speech enhancement and noise suppression. - ADAS / Autonomous Driving : Participate in the future vehicle student training program and train people who are interested in autonomous vehicles.		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
17	Engineering	Energy Resource Engineering	Exploration Geophysics	Pyun Sukjoon	pyunjs@inha.ac.kr	+82-32-860-7551		The main research topics of geophysical prospecting lab (GPL) are the seismic exploration-related techniques. The seismic method is the main tool for oil and gas exploration. For this purpose, we develop seismic imaging and inversion algorithms such as reverse-time migration, traveltome tomography and full waveform inversion. We also develop microseismic monitoring techniques to study earthquakes and mining safety problem. The seismic method can be used to investigate groundwater flow and related pollutant behavior. We study the application of seismic refraction method to characterization of groundwater flow and pollutant pathway.	2		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
18	Engineering	Energy Resource Engineering	Economic Geology & Resource Geology	Seo Jung Hun	seo@inha.ac.kr	82 32 860 7557		1. Geochemistry of Volcanic and Magmatic-Hydrothermal systems 2. Geology of Ore Deposits, Magmatic and Magmatic-Hydrothermal Processes & Applications of Fluid and Melt Inclusions 3. Analytical (Spectroscopic & Spectrometric) Geochemical Techniques, Stable Isotope Processes 4. Petrology and W-Mo Mineral Explorations in Korea 5. Petrology and Geochemistry of Volcanic Rocks in Antarctica 6. Thermodynamic and Experimental Studies of Hydrothermal Systems	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
19	Engineering	Environmental Engineering	Environmental Engineering	Jeon Ki-Joon	inhafteelab@gmail.com	+821057211195	https://sites.google.com/view/inhaenvironment2	1. Air pollution and control - Development of eye exposure tested chamber system with In-vivo and In-vitro experiment. - Outdoor air quality (aerosol): Evaluation of fine dust size distribution, chemical component etc. on. indoor emission characteristic: Evaluation of particles emission during operation of three-dimensional (3D) printer or cooking oily food. 2. Renewable energy and environmental sensor - 2D material property to use semiconductor transistor or electro catalyst for electrode - Environmental sensor using metal oxide or TMDCs (Transition Metal Dichalcogenides). - Electrode for water splitting to produce the hydrogen and degrade contaminants in the water.	2	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
20	Engineering	Environmental Engineering	Membrane Technology for Water and Wastewater Treatment and Resource Recovery	Kim Jeong Hwan	jeonghwankim@inha.ac.kr	82-32-860-7502	http://whs.inha.ac.kr/~semt/	Research interest in Sustainable Environmental Membrane Technology (SEMT) at Inha University focus on fundamental aspects and application of membrane technology in water and wastewater treatment. Particularly, we have studied extensively anaerobic membrane biotechnology for energy recovery along with wastewater treatment and reuse. In addition, the SEMT developed hybrid membrane technology ranging from materials development to its application such as catalytic membrane and mixed matrix membrane for intensified processes for subsequent water reuse and fouling control.	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
21	Engineering	Geoinformatic Engineering	GPS, Autonomous Driving	Park Kwan-Dong	kdpark@inha.ac.kr	82-32-873-4310	https://www.ppsoln.com	High-precision GPS/GNSS data processing GPS sensor development for autonomous driving Geodesy and geophysical GPS	2	2	yes	TOPIK Level 3 or above

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22	Engineering	Information and Communication Engineering / Future Vehicle Engineering	Computer Vision Image Processing	KIM HAKIL	hikim@inha.ac.kr	032-860-7385	http://vision.inha.ac.kr	<ul style="list-style-type: none"> Biometrics: Fingerprint, Finger vein, Iris or Face recognition using deep neural networks Human action recognition in video surveillance using deep neural networks Object detection and tracking for an intelligent vehicle using deep neural networks 	1		yes	1. Information and Communication Engineering : Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above 2. Future Vehicle Engineering : TOPIK Level 3 or above
23	Engineering	Information and Communication Engineering	Wireless Communication / Signal Processing	Park Daeyoung	dpark@inha.ac.kr	032-860-8376	http://comsys.inha.ac.kr / http://scholar.google.co.kr/citations?user=IC0QB8WAAAAA	<ul style="list-style-type: none"> * Wireless Communication * Signal Processing with Machine Learning * Optimization Theory 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
24	Engineering	Information and Communication Engineering	Communication and Networking	Yoo Sang-Jo	siyoo@inha.ac.kr	83-32-860-8304	http://multinet.inha.ac.kr	We (Multimedia Network Laboratory) mainly research the technologies for wireless communication networks which include wireless sensor networks (WSN), wireless network protocols and next generation cognitive radio networks. Our current research projects aim at examining how recent AI (artificial intelligent) technologies can be applied to wireless networking issues such as UAV flying ad-hoc network protocol design and cognitive engine implementation for software defined radio.	2		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
25	Engineering	Information and Communication Engineering		Park Jae-Hyeung	jh.park@inha.ac.kr	+82-32-860-7432	http://3dlab.inha.ac.kr	Optics for Augmented Reality (AR) Displays (Head mounted Displays, Near eye Displays, Vehicle Head up Displays) - Holographic capture and Displays - Computer Generated Hologram - Light field capture and Displays	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
26	Engineering	Information and Communication Engineering	Computer Vision, Graphics, Image Processing	Park In Kyu	pik@inha.ac.kr	+82-32-860-9190	http://image.inha.ac.kr	We work in integrated areas of computer vision, computer graphics, and image processing. Especially or research field includes - Multi-view (light field) image processing for depth estimation, free-viewpoint rendering - Computational image reconstruction such as image/video deblurring, super-resolution, noise reduction. - 3D human (face and body) reconstruction from images and videos - Deep learning to solve the above problems - Application of computer vision algorithms for augmented and virtual reality		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
27	Engineering	Information and Communication Engineering	Intelligent Electronics and RF/Analog IC and System Design	Byun Gyung Su	gsbyun@inha.ac.kr	+82-32-860-7435	http://mics.inha.ac.kr/	<ul style="list-style-type: none"> • Smart Artificial Intelligent (AI) electronics (coding-based smart IC and system design for future mobile smart communication and computing electronics) • Ultra-low-power compact neural-synaptic communication IC and system design • High-performance memory/CPU interface for high-computing systems • Intelligent wireless/wireline communication and computing systems. 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
28	Engineering	Information and Communication Engineering	VLSI and Circuit Design	Seo Yeongkyo	yeongkyo@inha.ac.kr	82 32-860-7415	https://sites.google.com/view/ircuits-lab	Circuits and Systems Lab is a part of the Department of Information and Communication Engineering at Inha University, Incheon, South Korea, under the direction of Prof. Yeongkyo Seo. We focus on high performance and energy efficient custom digital circuit design by Silicon and non-Silicon technologies. Also, our research interests focus on In-Memory Computing Devices, Circuits, and Systems using CMOS and post-CMOS Memories for Neuromorphic Applications. Our group currently has multiple openings to hire graduate students as well as undergraduate research interns who are interested in custom digital circuit design for neuromorphic computing system. If you are interested, please send an email with your brief resume to Prof. Yeongkyo Seo (yeongkyo@inha.ac.kr)	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
29	Engineering	Materials Science & Engineering		Choi Rino	rino.choi@inha.ac.kr	+82-32-860-7529	http://sndl.campushomepage.com/	Semiconductor devices for logic and memory applications - Process and material issues for scaling of devices - Device reliability and electrical characterization - Novel devices for new computational architectures	1		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
30	Engineering	Materials Science & Engineering	Organic semiconductor devices	Lee Jeong-Hwan	jeong-hwan.lee@inha.ac.kr	+82-32-860-7525	https://sites.google.com/view/alinha/	1. Optoelectronic Materials and Devices - Hybrid (organic + inorganic) semiconductor devices - Optoelectronic devices such as Light-emitting diodes (LED), Photovoltaic (PV), Thin Film Transistor (TFT), Sensor and detector, Flexible optoelectronic devices 2. Optical and Electrical Characterization of semiconductor devices - Recombination and emission mechanism in semiconductor devices - Investigation of charge trapping and temperature dependent behaviors - Transient opto-electrical characterization - Interface modification, metal/semiconductor (SC) and SC/SC interfaces		1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
31	Engineering	Mechanical Engineering	nanomaterials, energy harvesting, nanocomposites	Kang Tae June	tjkang@inha.ac.kr	82-32-860-7304	aml.inha.ac.kr	Advanced Materials Laboratory (AML) at INHA University is focused on developing novel materials and advanced manufacturing technologies to improve the performance of mechanical and energy & environmental applications. Our research area includes energy & environmental nanocomposites, micro/nanomachined sensors and actuators, intelligent soft robots and energy harvesters that convert wasted energies into useful electrical energy.	2	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
32	Engineering	Mechanical Engineering	Control, Measurement	Kim Gi-Woo	gwkim@inha.ac.kr	+82-32-860-7313	http://sssl.inha.ac.kr/	<ul style="list-style-type: none"> - Advanced Control of Dynamic Systems & Mechatronics - Opto-mechanical Sensors Based on Mechanoluminescence - Learning From Human Auditory Systems (Middle and Inner Ears) - Concepts and Control of Compliant Deployable Structures for Solar Sails - Vehicular Electronics and Machine Vision with Deep Learning - Smart material-based sensor and actuators 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above

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33	Engineering	Mechanical Engineering	Thermodynamics & Fluid Mechanics	Kim Sun -Min	sunmk@inha.ac.kr	+82-32-860-7328	https://www.bsl.inha.ac.kr	Microfluidics platform for biological studies Lab/Organ on a Chip Biomimetic Membranes platform for sensor and screening applications Mechanical Energy Harvesting		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
34	Engineering	Mechanical Engineering	Solid Mechanics & Manufacturing Engineering	Kim Jaehwan	jaehwan@inha.ac.kr	+82-32-874-7325	kr.easap.com	<ul style="list-style-type: none"> ▣ Nanocellulose fiber reinforced polymer composites -Materials: Nanocellulose extraction, Lignin-resin development -Design: Composite design -Process: Nanocellulose long fiber and composite fabrication -Analysis: Structure, multiphysics, MD simulation ▣ Smart materials and applications -Materials: Soft active materials and functional materials -Application: Piezoelectric devices, Sensors, Haptic devices 	3	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
35	Engineering	Mechanical Engineering	Solid Mechanics & Manufacturing Engineering	Lee Chul Hee	avdclab@outlook.com	+82-32-860-7311	http://avdclab.inha.ac.kr/	Transportation-Vehicle Components Design and Controls, Tribology (Friction, Adhesion, Wear and Lubrication), Structural FE Analysis and Optimization, Vehicle Dynamics and Vibration Analysis, Smart Materials and Mechanical Control		3	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
36	Engineering	Mechanical Engineering	Vibration & Dynamics	Kang Jaeyoung	kangi@inha.ac.kr	82-32-860-7324	http://dsvl.inha.ac.kr/	<ul style="list-style-type: none"> - Friction noise and vibration of automotive and railway - Nonlinear vibration and time-series analysis - Computational multi-body dynamics - Vibration of rotational machinery 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
37	Engineering	Mechanical Engineering	Mechanical Engine	Moon Seoksu	ss.moon@inha.ac.kr	+82-32-860-7378	http://neel.inha.ac.kr/	We analyze and perform the modeling of engine spray and combustion processes which can be accommodated to the 1D or 3D virtual engine tools for the ultimate optimization of next-generation engines fueled with conventional fuels or alternative fuels (Biofuels, naphtha, dimethyl-ether, natural gas and so on). We also develop cutting-edge X-ray measurement techniques for the analysis of high-speed microscale flows from high-pressure injectors for automotive engines which speed reaches up to 700 m/s. These works are performed with the collaboration of automotive companies such as Hyundai, Mazda, Isuzu and Denso and also the foreign national institutes such as Argonne National Laboratory (US) and AIST (Japan).	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
38	Engineering	Naval Architecture & Ocean Engineering	Structural Mechanics	Kim Yooil	yooilkim@inha.ac.kr	82328607347	http://mdsl.dothome.co.kr/	<ul style="list-style-type: none"> ▣ Advanced Engineering ▣ Ship hydroelasticity including springing/whipping ▣ Mooring chain fatigue analysis considering OPB/IPB ▣ LNG sloshing and CCS strength assessment ▣ Arctic Technology ▣ Probabilistic ice load estimation ▣ Ice-induced fatigue of ship/offshore structure ▣ Ice-induced abrasion and friction ▣ Structural Integrity Management ▣ Probabilistic crack propagation analysis ▣ Structural reliability analysis ▣ Risk-based inspection planning ▣ Signal processing ▣ Data-driven Design Technology ▣ Nonlinear system identification ▣ Data-driven time series forecast ▣ Application of artificial neural network 	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
39	Engineering	Naval Architecture & Ocean Engineering	Ship and offshore structures	Jeong Joonmo	jmchoung@inha.ac.kr	82 10 8604 7346	http://sose.inha.ac.kr/	<ul style="list-style-type: none"> • Research for materials and ductile fracture - To develop new fracture models against ship collisions, and underwater explosions. - To conduct material calibration tests and structural failure tests using 50tonf UTM and 5tonf HTM (high speed test machine). • Research for floating offshore wind turbines (FOWT) New OPB fatigue prediction technique. - Fully coupled aero-hydro-structure-mooring dynamics technique. - ANN (artificial neural network) model for FOWT. • Research for ice-to-arctic vessel interactions - Ship-to-ice resistance simulations using FEA - Ice crushing mechanics based on continuum theory 	2	2	yes • Monthly payment - more than one million KRW for a master student and two million KRW for a ph.d student • Annual incentive - abt 1 million KRW for a master student and abt 2 million KRW for a ph.d student	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
40	Engineering	Polymer Science and Engineering		Kwon Yongku	ykkwon@inha.ac.kr	+82-32-860-7482	http://nano.inha.ac.kr	<ul style="list-style-type: none"> -Synthesis and battery applications of nanoscale materials such as nanoparticles, nanoporous materials, aerogel and xerogels -Synthesis of conducting polymers, high performance polymers for electronic, photonic and battery applications -Synthesis of reprocessable thermoset polymers, biodegradable polymers -Structure analysis of nanostructured polymeric materials 		1	yes	TOPIK Level 3 or above

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	Field	Department	Major	Name	Email	Phone	Website	Research Field	Master	Ph.D	Monthly Stipend Provided or Not	Eligibility
41	Engineering	Polymer Science and Engineering		Jin Hyoung Joon	hijin@inha.ac.kr	+82-2-860-7483	luc.inha.ac.kr	The main research interests in this group are currently in nanostructured carbons for energy storage and conversion, and nanofabrication of polymeric materials and biopolymers, especially silk fibroins and bacterial celluloses, for electronic devices. - The study aims to develop anode material for secondary batteries and high barrier film by manufacturing reduced graphene based on large-area exfoliated graphene. - Fabrication of reduced graphene oxide by using surface modification for high energy batteries and gas barrier films	2		yes	TOPIK Level 3 or above
42	Natural Science	Chemistry	Material chemistry	Chang Bum Jo	jochangbum@inha.ac.kr	82-32-860-7681	https://jochangbum.wixsite.com/catalyst	M34 Rational design of functional nanomaterials for catalysis - catalysis in petrochemical processes and environmental chemistry - C1 (CO ₂ , CH ₄) chemistry - Mesoporous silica, zeolite, carbon	2		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
43	Natural Science	Chemistry	Analytical Chemistry Environmental Chemistry	Ro Chul-Un	curo@inha.ac.kr	+82 10 6381 1400	iws.inha.ac.kr/~curo	Environmental analysis Atmospheric aerosol particles Single-particle analysis (see the research papers on Google Scholar ☐ https://scholar.google.com/citations?hl=en&user=rw3HlykAAAAJ&view_op=list_works&sortby=pubdate)	2	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
44	Natural Science	Chemistry	Organic chemistry	Lee Keun-Hyeung	Leekh@inha.ac.kr	+82-32-860-8784		Bioorganic chemistry, chemosensor, nano-organic materials	1		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
45	Natural Science	Chemistry	Material chemistry	Park Soo Jin	sjpark@inha.ac.kr	+82-32-876-7234	sjpark.inha.ac.kr	Areas of Research Interests: ▶ Surfaces and Interfaces of Carbon, Ceramic, Polymer, and Composite Materials ▶ Adsorption and Catalytic Properties of Nanoporous Materials for Energy, Electronics, and Environments.	1	2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
46	Natural Science	Molecular Medicine	Molecular Biology	Kim Hong Seok	kimhs0622@inha.ac.kr	032-860-9834		1. Atherosclerosis - oxidative stress induced by metabolic disease - inflammation (monocyte/macrophage, endothelial cell) 2. Cancer - molecular mechanisms of carcinogenesis - signal pathway in tumor progression	1		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
47	Medicine	Internal Medicine	Pulmonology, Lung cancer	Ryu Jeong Seon	jsryu@inha.ac.kr	82+10-9975-1956	gbu772.wixsite.com/lungca	We have focused translational research to develop diagnostic, prognostic, and predictive biomarker in lung cancer. ○ Early diagnose of lung cancer and monitoring curative effacement - NGS analysis based lung cancer diagnosis method development - Development of non-invasive/minimally invasive biomarkers - Establishment of monitoring system for the blood-based chemotherapy effect ○ Precursor of lung cancer genome analysis - WES / RNA sequencing based lung cancer precursor genome analysis - Development of specific biomarker for early lung cancer ○ Clinical cohort and functional genomics research - Clinical information analysis - Genome transcriptome and TMA based protein expression characteristics - Connection analysis and function research	1	1	yes - More than 1,000,000 Won, dependent upon applicant's expertise	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
48	Medicine	Physiology	Neuroscience	Han Inn-Oc	iohan@inha.ac.kr	82-10-7252-3643		Cognitive Science (Alzheimer's Disease) - Neuroimmunology - Molecular Immunology - Metabolism (Diabetes, Obesity)		2	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
49	Medicine	Otorhinolaryngology (ENT)	Neurotology, Aerospace Medicine	KIM KYU-SUNG	stedman@inha.ac.kr	+82-32-890-3620	https://www.inha.com/eng/department/department_pop_01.php?dx=94	Space Medicine: Conducting researches focused on the space adaptation syndrome, spatial awareness mechanisms in space, medical prevention/treatment system development. • Neuro-vestibular research: Based on electrophysiological methods, assessing the neuronal responses to kinetic and electrical stimulations in the vestibular nucleus, cerebellum and thalamus. All interesting brain regions are related to the vestibular end organs. • Motor control and Neural diseases: Animal experiments by constructing animal models with labyrinthectomy and intractable neural diseases. Performing behavior tests and immunochemistry.	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above

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	Field	Department	Major	Name	Email	Phone	Website	Research Field	Master	Ph.D	Monthly Stipend Provided or Not	Eligibility
50	Medicine	Pharmacology	Clinical Pharmacology	Kang Ju-Hee	johtygang@inha.ac.kr	+82-32-860-9872		1. Neurodegenerative disease (1) Development of cerebrospinal fluid biomarkers for early diagnosis of Alzheimer's disease (AD) under collaboration with Korean clinician and researchers in United States; Clinical cohort studies and evaluation of applicability (2) Development of blood biomarkers for AD targeting circulating microRNA in extracellular vesicles; Evaluation of clinical efficacy of miRNA biomarkers and investigation of role of target miRNA in AD pathogenesis. (3) Investigation for the pathogenic roles of ischemic damage in AD pathogenesis, particularly in tau modification and amyloid production. 2. Aging-induced Sarcopenia (1) Investigation of novel molecular mechanisms of aging-induced sarcopenia using in vitro cell culture model and in vivo models; major target is extracellular molecules, myokines, and adipokines. (2) Preventive or therapeutic effects of various molecules against development of aging-induced sarcopenia; Pharmacological mechanisms of action	1		yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
51	Medicine	Biomedical Science	Biomedical Science	Yang Su Geun	orosyang@gmail.com sugeun.yang@inha.ac.kr	82-10-3628-0468	www.inhamedic.com	1) Polymer-based medical and pharmaceutical engineering ☑ Nanomedicine for cancer therapy and cancer imaging ☑ NIR-laser based photodynamic cancer therapy ☑ 3D bioprinting and medical devices 2) Space medicine and cell physiology (NASA collaboration research) ☑ Microgravity, cosmic radiation protection ☑ Space disease prevention medicine	1	1	yes	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above
52	Medicine	Otorhinolaryngology	Rhinology/Allergy/Sleep Medicine	Kim Young-Hyo	inhaorl@inha.ac.kr	82-32-890-2437		Our laboratory is mainly for studying the pathophysiology of immunological diseases such as allergic rhinitis and allergic asthma. The facilities and research protocols for these experiments are well established, and you can learn experimental techniques and theories from research professors and senior researchers. We also have an aerospace medical research institute funded by the Korea Research Foundation. We have the only advanced equipment in Korea to study the effects of rapid changes in gravity and baropressure on living things.	1	1	No	Meet 1 of 2 below - TOPIK Level 3 or above - English Certificate of TOEFL 71, TOEIC 700, IELTS 5.5 or above