

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	Architectural Engineering	Joe Jaewan	jjoe@inha.ac.kr	82-32-860-7590	https://sites.google.com/view/inhasbsg	Model-based predictive control Artificial intelligence / Machine learning based predictive building control Distributed optimization Prototype building modeling	1		yes	TOPIK level 3 or above
2	Engineering	Chemical Engineering	Chemical Engineering	Hwang Sungwon	Sungwon.hwang@inha.ac.kr	+82-(0)32-860-7461	http://cepi.inha.ac.kr/	- Process modeling & optimization of Renewable Energy System - Application of AI (Artificial Intelligence) to new material synthesis and its analysis - Application of the 4th Industrial Revolution Technology to Process Design and its Operation		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
3	Engineering	Chemical Engineering	Chemical Engineering	Youk Ji Ho	youk@inha.ac.kr	8815-5099, +82-32-860-7461	https://scholar.google.com/citations?user=0W1aX8YAAAJ&hl=ko	1. Applications of Functional Materials - Electrospinning: Li-ion batteries separators - Hard coating with ladder-like polysilsesquioxane - Spinning: Flame retardant polyimide fibers 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. Synthesis of Stimuli-Responsive Materials - Thermo-responsive materials: Shape memory polymers - Self-healing materials: Self-healing composites		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
4	Engineering	Chemical Engineering	Chemical Engineering	Lee Yongjin	yongjin.lee@inha.ac.kr	82-32-860-7468	https://sites.google.com/view/molsiminha/home	The overarching theme my research group pursues is the rational design and discovery of novel materials via an integrated approach of experiment, computational modeling, and machine learning/big data analysis. Some specific research projects are as follows. 1) Inverse Design of Nanoporous Materials using Molecular Simulation combined with Machine Learning 2) Inverse Design of novel polymers using Molecular Simulation combined with Machine Learning 3) Computational Nanoengineering based on Accurate Atomistic Models	2	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
5	Engineering	Civil Engineering	Civil 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 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		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
6	Engineering	Civil Engineering	Civil Engineering	Song KI-IL	ksong@inha.ac.kr	010-6388-0449		Underground space and rock engineering • 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 • Nondestructive characterization for soil and rock using elastic and electromagnetic waves • Smart geophysical characterization technique for geo-infrastructures • Seismic analysis on aged bridge foundation Building digital twin for geo-structures • BIM-CPS-FEM(Building Information Modelling-Cyber Physical Systems- Finite Element Method) model for underground structure and temporary works • 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, IELTS 5.5, TOEIC 700 or above
7	Engineering	Civil Engineering	Civil Engineering	Kim Hung Soo	sookim@inha.ac.kr	82-32-876-9783	http://hydroeco.inha.ac.kr/	Hydrology Wetlands & Ecology Climate Change Floods & Droughts	2	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
8	Engineering	Electrical and Computer Engineering	Electrical Engineering	WON Jong-Hoon	jh.won@inha.ac.kr	82(0)32-860-7406	Autonav.inha.ac.kr	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	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
9	Engineering	Electrical and Computer Engineering	Electrical Engineering	Kim Kwangki	kwangki.kim@inha.ac.kr	82 32 860 7397	http://lics.inha.ac.kr	o Autonomous robot path planning and control - Deep reinforcement learning, Deep neural optimizer for control o Automotive control systems - Embedded model predictive control o Power system optimization and control - Distributed optimization and networked embedded control		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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10	Engineering	Electrical and Computer Engineering	Electronic Engineering	Chang KyungHi	khchang@inha.ac.kr	82-32-860-8422	https://sites.google.com/view/mtrl-lab	3GPP LTE / 5G / 6G (Non-Terrestrial NW, NW Intelligence) RTT MANET (FANET: UAV Monitoring, UAM, VANET: Autonomous Vehicle, C-V2X) Underwater Network (Link Adaptation), Cross-layer Design AI (ML/DL/RL) & Big Data Applications, Decision Making Support System (using Text/Speech/Sound/Image/Video), Artificial General Intelligence (AGI)	3	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
11	Engineering	Electrical and Computer 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 systems, IoT Devices, Edge Devices, smart home & smart City with Deep Larning(AI) and Machine Learning(ML). - Deep Learning Algorithms and Applications for Embedded Devices, Robot Interface and Robot Operating Systems Platform, cloud-based software defined storage - Intelligent Social Robot : Embedded Device(IoT), Emotion and Event/Activity Recognition for Robot Control, Sensing and Acruator, Digital Systems. - 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, IELTS 5.5, TOEIC 700 or above
12	Engineering	Electrical and Computer Engineering	Information and Communication Engineering	Sang-Jo Yoo	sjyoo@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) and the next generation wireless network protocols. Our current research projects aim at examining how recent AI (artificial intelligent) technologies can be applied to wireless networking in UAV flying ad-hoc network, cognitive radio and IoT platform.	2		yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
13	Engineering	Electrical and Computer Engineering	Information and Communication Engineering	Nam Changjoo	cjnam@inha.ac.kr	032-860-7430	https://changjoonam.wixsite.com/airlab	Our research aims to develop algorithms that compute efficient (preferably optimal) task plans for autonomous robots which may work with humans or in unstructured environments. We are interested in formulating robotics problems in a continuous space as discrete mathematic problems without loosing the information necessary to achieve optimality. Although we like to work with various domains in robotics, our recent work focuses on task and motion planning for object manipulation, coordination of multiple robots, and mobile navigation.		1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
14	Engineering	Electrical and Computer 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, IELTS 5.5, TOEIC 700 or above
15	Engineering	Electrical and Computer Engineering	Information and Communication Engineering	Seo Yeongkyo	yeongkyo@inha.ac.kr	82 32-860-7415	https://sites.google.com/view/circuits-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 at inha.ac.kr)	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
16	Engineering	Electrical and Computer Engineering	Information and Communication Engineering	Lee Hanho	hhlee@inha.ac.kr	(+82) 32-860-7449	http://soc.inha.ac.kr	Post-quantum cryptography algorithm and architectures for Internet of Thing (IoT) - Hardware cryptography architectures for Homomorphic Encryption - Hardware security for either cloud or Edge systems - Hardware architecture for Artificial Intelligent (AI) - High-performance Forward Error Correction (FEC) architectures	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
17	Engineering	Electrical and Computer Engineering	Computer Science and Engineering	Lee Mun-Kyu	mklee@inha.ac.kr	82-32-860-7456	http://islab.inha.ac.kr	Privacy-Preserving Applications for Blockchain (Zero Knowledge Proof) Artificial Intelligence for Security / Security for Artificial Intelligence Privacy-Preserving Data Analysis (Homomorphic / Functional Encryption) Security Protection for Smart Grid and Energy Trading Systems Implementation and Optimization of Cryptographic Algorithms Secure Authentication (Password and Biometrics) for Smart Devices		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
18	Engineering	Electrical and Computer Engineering	Computer Science and Engineering	LEE Sang-Chul	sclee@inha.ac.kr	82 32 860 7442	http://imageinfo.inha.ac.kr/	Our main research interest is in computer vision and artificial intelligence including: - Medical Artificial Intelligence - Machine learning (deep learning) for vision - High-level Human-Computer interaction - Content based video processing - Applications of artificial intelligence	(integr ated) 3	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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19	Engineering	Electrical and Computer Engineering	Computer Science and Engineering	Noh YoungTae	ytnoh@inha.ac.kr	32-860-7445	http://nsl.inha.ac.kr/	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: - 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 • Human subject studies involve • Stress & depression tracking of students, Smartphone usage tracking studies, Physical activity and sleeping behavior tracking • Data collecting Platform: major features • 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		5	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
20	Engineering	Electrical and Computer Engineering	Computer Science and Engineering	Han Kyungsook	khan@inha.ac.kr	82-32-860-7388	http://biocomputing.inha.ac.kr	Bioinformatics Machine learning Analyzing and visualizing bio big data	2	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
21	Engineering	Computer Engineering	Computer Science and Engineering	Choi Young-kyu	ykc@inha.ac.kr			High-level synthesis (HLS) and design automation Simulation / debugging for HLS High-bandwidth memory (HBM) friendly accelerators Accelerator design using Field-Programmable Gate Arrays (FPGA) Reconfigurable computing, high-performance computing	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
22	Engineering	Electrical and Computer Engineering	Artificial Intelligence	Park Daeyoung	dpark@inha.ac.kr	032-860-8376	spml.inha.ac.kr	Machine Learning / Optimization Unsupervised Feature Learning / Autoencoder Data-driven Signal Processing Algorithms Large Scale Optimization Signal Processing for Wireless Communications Information Theory Sparsity Aware Signal Processing MIMO Systems	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
23	Engineering	Electrical and Computer Engineering	Artificial Intelligence	Jo Geun-Sik	gsjo@inha.ac.kr	82-32-860-7447	http://ailab.inha.ac.kr	Intelligent Augmented Reality Artificial Intelligence based Content Creation Machine/Deep Learning (Object Tracking, Facial Emotion Recognition, etc.) CSP (Constraint Satisfaction Problems)	3	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
24	Engineering	Environmental Engineering	Environmental Engineering	Kim Chang Gyun	cgk@inha.ac.kr	82 32 860 7561	http://whs.inha.ac.kr/~cgk/intro.html	1. Microplastic – Biochemical degradation/treatment - Assessment of biodegradability of microplastics, pharmaceuticals, antibiotics in water/soil environment. - Development of advanced oxidation process (AOP) for enhancing the biodegradability of microplastics, pharmaceuticals, antibiotics. 2. Environmental monitoring of hazardous pollutants - Development of a method for pretreatment and identification of microplastics in the natural environment. - Monitoring and management of extraneous bacteria and virus in the coast area - Biological soil remediation – Acid neutralization and heavy metal adsorption 3. Survey coastal line and river mouth upon refractory pollutants such as microplastics, carcinogens, POPs	3		yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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25	Engineering	Environmental Engineering	Environmental Engineering	Jeonghwan Kim	jeonghwankim@inha.ac.kr	020-1446, 032-860	http://whs.inha.ac.kr/~semt/	Research interests in Sustainable Environmental Membrane Technology (SEMT) laboratory at INHA University emphasize fundamental aspects of membrane technology and its applications as laboratory and pilot-scaled levels. We have studied membrane bioreactor (MBR) especially for energy recovery and developed hybrid based-based process for wastewater reclamations extensively. Recently, we have launched national projects dealing with new anaerobic membrane bioreactor and catalytic membrane system using reactive membrane materials for providing excellent effluent quality and antifouling functionality as well as resource recovery from water and wastewater.	1	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
26	Engineering	Environmental Engineering	Environmental Engineering	Lee Handol	leehd@inha.ac.kr	82-32-860-7504	http://pccl.inha.ac.kr/	1. Indoor Air Quality Indoor air quality research is related to the development of air cleaning systems including corona discharging and electrospun nanofiber. 2. Aerosol Instrumentation Aerosol instrumentation research focuses on the development of aerosol instruments for atmospheric particle measurements, especially the number concentration and the size distribution of airborne particles ranging from 5 nm to 10 µm. The developed aerosol instruments are actively used in various outdoor field measurements. 3. Air Pollution Air pollution research focuses on the effects of atmospheric particles on air pollution and climate change. Field measurements are conducted using the self-developed aerosol instruments. 4. Filtration Filtration research is supported by and collaborated with an industrial consortium, the Center for Filtration Research (CFR) consisting of international companies. The consortium is held by Particle Technology Laboratory at the University of Minnesota. 5. Particle Transport The research covers particle behavior analysis using the computational fluid dynamics (CFD) simulations. The numerical simulation is highly involved in most of the research fields in PCCL.	2	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
27	Engineering	Geoinformatic Engineering	Geoinformatic Engineering	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
28	Engineering	Interdisciplinary Biosystem	Bioprocess Engineering	Lee Choul-Gyun	leecg@inha.ac.kr	82-32-860-8997		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 for development of BIO-fertilizer 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	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
29	Engineering	Interdisciplinary Biosystem	Bioprocess Engineering	Yun Jung Yang	yj.yang@inha.ac.kr	82-32-860-7512	http://yanglab.creatorlink.net/INTRO	Our lab aims to develop and improve the properties of biomaterials based on detailed understanding of biological systems. Genetic or molecular engineering of biopolymers facilitates the flow of biological evolution, and enables the amplification of specific abilities. Re-designing biomolecules for changing affinity of antibodies, controlling self-assembly of biopolymers for physically/mechanically robust biomaterials, and hybridizing organic-inorganic materials for reinforced materials are good examples. The research on tuning the function and properties of biomaterials for specific purposes will solve the problems faced by humankind in medical, pharmaceutical, agricultural and environmental fields.	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
30	Engineering	Interdisciplinary Biosystem	Bioprocess Engineering	Jeon Tae-Joon	tjeon@inha.ac.kr	82-32-860-7511	https://bsl.inha.ac.kr	Biosensors/Biochips – Virus/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, Cosmetics		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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31	Engineering	Materials Science & Engineering	Materials Science & Engineering	Lee Jeong-Hwan	jeong-hwan.lee@inha.ac.kr	82-32-860-7525	https://sites.google.com/view/aolinha/	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. - Electrical and optical simulation of organic semiconductor devices		2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
32	Engineering	Materials Science & Engineering	Materials Science & Engineering	Choi Rino	rino.choi@inha.ac.kr	82 32 860 7525	https://sites.google.com/view/choisinha/home	CMOS extension + Monolithic 3D Integration Circuit: Study on using laser and microwave annealing for a low-temperature process to prevent deterioration of the lower device and get high performance for the upper device. + Low-temperature process: Low-temperature annealing using microwave annealing compared to conventional annealing for silicide formation, and dopant activation. + Device reliability: endurance and retention, lifetime test, relaxation, short pulse characterization, bending test, charge trapping characterization Memory application + Ferroelectric devices: Fabrication of the ferroelectric HZO thin film using chemical solution deposition, ALD, and RF sputter. Enhancing the polarization and the retention performance of HZO thin film by HPA, microwave annealing, bottom electrode materials, and interlayers. Evaluation of the ferroelectric properties on MF and FeFET for memory devices. + ReRAM: Fabrication and characterization of ReRAM devices using CMOS technology compatible materials. Improve device performance, stability, reliability through different material combination and programming methods Metal-oxide Thin Film Transistor: Enhance the mobility and reliability of IGZO TFTs with surface and defects passivation by SAM treatment and hydrogen doping. Fabrication of MGFT for new sensor generation.	5	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
33	Engineering	Materials Science & Engineering	Materials Science & Engineering	Hahn Myung Gwan	mghahn@inha.ac.kr	82-32-860-7524	http://qn.inha.ac.kr	The research of QNM Lab focuses on investigating new synthetic routes for low-dimensional nanomaterials and their diverse futuristic applications. We are interested in sp ² graphitic structures such as carbon nanotubes, graphene and nanostructured architectures and atomic-layered transition metal dichalcogenides such as MoS ₂ , MoSe ₂ , WS ₂ , WSe ₂ , NbSe ₂ , etc. and study underlying fundamental science including their low-temperature behaviors. We also develop diverse futuristic applications such as flexible/transparent electronics, sensors, and energy storage devices.		1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
34	Engineering	Materials Science & Engineering	Materials Science & Engineering	Hwang Haejin	hjhwang@inha.ac.kr	82-32-860-7521		Synthesis and evaluation of oxide and sulfide solid electrolytes for all-solid-state lithium-ion batteries Electrode and catalyst design for next generation solid oxide fuel cells Synthesis of ultra-porous hydrophobic or hydrophilic silica aerogel Fabrication of silica aerogel-based nanocomposite polymers Novel dielectric materials for X9R MLCC	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
35	Engineering	Mechanical Engineering	Mechanical Engineering	Kim Gi-Woo	gwkim@inha.ac.kr	82-32-860-7313	http://sssl.inha.ac.kr/ (Smart Structures and Systems Lab)	- 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, IELTS 5.5, TOEIC 700 or above
36	Engineering	Mechanical Engineering	Mechanical Engineering	Moon Seoksu	ss.moon@inha.ac.kr	82-32-860-7378	http://neel.inha.ac.kr/	Development of future eco-friendly and intelligent energy conversion systems (automotive & marine engines, gas turbine, boiler and heat exchanger) Cutting-edge measurement techniques of thermofluids using laser and X-ray Advanced analysis and modeling of thermofluids systems in various energy conversion systems using theories, computational methods and AI Development and application of future energy sources such as hydrogen, thermoelectric power and waste heat recovery	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
37	Engineering	Mechanical Engineering	Mechanical Engineering	Shin Hyunseong	shs1106@inha.ac.kr	82-10-9080-2530	http://mmml.inha.ac.kr	Multiscale Mechanics of Materials Laboratory at INHA University focuses on the mechanics of materials across the wide length and time scales (nano scale to macro scale). Currently, we concentrate on multiscale modeling and simulation of advanced materials (e.g., nano-composites, composite structures, solar cells, thin film, etc.) and advanced process (e.g., advanced lithography, 3D printing, etc.), by combining the classical molecular dynamics simulation, micro-mechanics theory, continuum finite element method, fracture mechanics theory.	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
38	Engineering	Mechanical Engineering	Mechanical Engineering	CHUL-HEE LEE	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	2	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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39	Engineering	Mechanical Engineering	Mechanical Engineering	LEE Hyun-Taek	htlee@inha.ac.kr	82 32-860-7376	http://imfm.inha.ac.kr/	Innovative Manufacturing § To develop advanced fabrication technologies to overcome the limitations of conventional manufacturing processes. (Hybrid Manufacturing, 3D printing, Focused Ion Beam process) Functional Materials § To explore unique properties of functional/smart materials in micro-/nanoscale. (Shape memory alloys, Piezoelectric materials, Biological composite) Creative Design § To maximize the functionality or capability of materials/applications through creative design. (Origami/Kirigami based design, Compliant structure, Bio-inspired design) Applications § To combine manufacturing, materials, and design knowledges to utilize at small scale devices for various applications. (Micro-actuators and sensors)	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
40	Engineering	Naval Architecture & Ocean Engineering	Naval Architecture & Ocean Engineering	Choung 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 <ul style="list-style-type: none"> 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) <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Ship-to-ice resistance simulations using FEA Ice crushing mechanics based on continuum theory 	2	2	yes	TOPIK level 3 or above
41	Natural Science	Biomedical Science and Engineering	Biomedical Science	Kwak Hyo-Bum	kwakhb@inha.ac.kr	82-032-860-8183		<ul style="list-style-type: none"> Regulation of mitochondrial function and insulin resistance in skeletal muscle: role of aging, obesity, and exercise Effects of aging and exercise on mitochondrial function, ROS, and apoptosis in skeletal muscle ("sarcopenia"), heart, and brain Lipid metabolism and mitochondrial function in skeletal muscle 	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
42	Natural Science	Chemistry	Chemistry	Kim Dong Wook	kimdw@inha.ac.kr	032-860-7679		Research Field: Organic Chemistry, Medicinal Chemistry, Molecular Imaging. Our laboratory explores novel biologically active molecules that can be developed as a molecular probe to elucidate several biological functions related to currently issued diseases.		2		Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
43	Natural Science	Interdisciplinary Biosystem	Biological Science	Min Kyung-Jin	minkj@inha.ac.kr	82-32-860-8193	http://biogerontology.inha.ac.kr/	<ul style="list-style-type: none"> Study of Dietary Restriction and Logevity Searching for Anti-aging Drugs and its mechanisms Microbiota and aging Physiological response to low dose radiation 	1	1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
44	Natural Science	Interdisciplinary Biosystem	Biological Science	Cho Jang-Cheon	chojc@inha.ac.kr	82-32-860-7711	http://www.cholabinha.org	1. Cultivation of Unculture Microbes from diverse environments - Ocean, Lake, Groundwater - Novel physiology of novel microorganisms 2. Microbial genomics, Metagenomics, and Microbiome analyses 3. Phage isolation and genomics 4. Viral metagenomics and Phage-borne antibiotic resistance genes	2	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
45	Natural Science	Ocean Science	Ocean Science	Lee Guan-hong	ghlee@inha.ac.kr	82-32-860-7707	http://ocean.inha.ac.kr/	The earth has been in continuous change since its formation. One of the most vulnerable to changes are the coastal regions where there is a constant interaction between terrestrial, marine, and atmospheric processes. Moreover, human alterations (e.g. dams, land reclamation) have been found to significantly impact these areas. This is where the Coastal and Estuarine Morphodynamics Laboratory plays a big role since the laboratory focuses on identifying and understanding the occurrences of topographical changes and dynamics happening along the coast driven by the abovementioned environmental and human factors. RESEARCH AREA: <ul style="list-style-type: none"> Hydrodynamics Sediment Dynamics Coastal and Estuarine Morphodynamics CURRENT RESEARCH: <ul style="list-style-type: none"> Topographic changes caused by estuary circulation and sediment movement Topographic change analysis using Geographic Information System (GIS) and use of Unmanned Aerial Vehicle (UAV) for remote sensing Sediment transport in an estuary using Regional Ocean Modeling System (ROMS) Development and analysis of oceanographic observational equipment using Open Source Microcontroller 		1	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above

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
46	Natural Science	Physics	physics	Lee Jae Woo	jaewlee@inha.ac.kr	82-32-860-7660	https://sites.google.com/view/compsysbdai/	We are interesting to topics complex systems, machine learning, artificial intelligence, big data based on statistical physics and critical phenomena Research Area Complex systems Complex networks Nonequilibrium thermodynamics and statistical physics Nonequilibrium critical phenomena Econophysics and financial physics Social Physics Ecological systems and ecological networks Futures Studies Brain dynamics and Self-organized criticality	1		yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
47	Medicine	Medicine	Pharmacology	Kang Ju-Hee	johykang@inha.ac.kr	82-32-860-9872		1. Neurodegenerative disease (1) Development of biomarkers for early diagnosis of Alzheimer's disease (AD) under collaboration with clinicians (2) Investigation for the pathogenic roles of exosome-like vesicles (ELV) in AD pathogenesis. 2. Aging-induced Sarcopenia and metabolic diseases (1) Novel molecular mechanisms underlying aging-induced sarcopenia, a skeletal muscle dysfunction associated with frailty in elderly population: major target is extracellular molecules, myokines, and adipokines. (2) Preventive or therapeutic effects of various molecules against the aging-induced sarcopenia; Pharmacological mechanisms of action (3) Integrative research under collaboration with colleagues who are experts in exercise science. Based on the efforts of above, we hope to discover the novel molecular mechanisms or networks between peripheral tissues and central nervous system.	1	2	yes	Meet 1 of 2 below - Topik level 3 or above - English Certificate of TOEFL 71, IELTS 5.5, TOEIC 700 or above
48	Humanities & Social Science	Law	Private Law	Jung Young-Jin	junglaw@inha.ac.kr / neovarsa	82(0)10-6394-5050	https://ilseng.inha.ac.kr/user/ilseng/	Since its founding in 1976, INHA University's Law School has graduated many prominent legal scholars, judges and lawyers. Backed by the rich history, academic strength and reputation of INHA Law School, Chinese Law Center has progressed to become a leading institute in legal education and research in Korea. Within the complex is a comprehensive Law Library, moot court, computer labs and classrooms. Chinese Law Center of INHA Law School prides itself in its top-notch education programs and facilities and strives to provide the best learning conditions for its researchers. Welcome researchers who want to do master's or/and doctorate degree of Corporation Law and then want to be a professor in China/Korea. In addition to the school scholarship, a teaching assistant scholarship can be provided	5	5	no	TOPIK level 3 or above
49	Logistics	Logistics	Logistics	Han Jeong Hugh	hanjh@inha.ac.kr	82-32-860-9431	https://www.mdpi.com/journal/sustainability/special_issues/digital_supply_chain	IT capability for global logistics Cross border electronic commerce Blockchain technology for logistics and supply chains Global value chain reconfiguration	1		yes	Please refer to the link below https://gsleng.inha.ac.kr/user/logisticseng/
50	Arts & Sports	Design Convergence	Design Convergence	Cho Young min	megeneration@inha.ac.kr	032-860-7898		All fields about visual communication design - Graphic design - Identity design - Brand strategy & design - Package design	1-2		no	TOPIK level 3 or above