



GRADUATE SCHOOL
INHA UNIVERSITY

Introduction of Laboratory

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Scholarship Program of Inha Graduate School

Global Vision Scholarship		
Period	Amount	Eligibility
Master 1 st ~ 4 th Ph.D. 1 st ~ 4 th Integrated 1 st ~ 8 th	Full amount of Entrance & Tuition fee	▶ Ph.D. applicants: Those who are recommended by advisor during the application period
		▶ Master/Integrated applicants: Those who are recommended by advisor and also meet one of two requirements below. ① The advisor's employment period at Inha is less than three years Applicants ② Applicants' undergraduate degree is from Inha University and CGPA of undergraduate level is 3.5 or above.
Obligation		
※ Cumulative GPA should maintain 3.75 or above ※ Work as TA,LA for two semesters during the regular period(Master & Ph.D. 1~4 semester, Integrated 1~8 semester)		
Jungseok International Scholarship		
Period	Amount	Eligibility
Master 1 st ~ 4 th Ph.D. 1 st ~ 4 th Integrated 1 st ~ 8 th	100% of Entrance & Tuition fee (TYPE A)	① A person who has obtained the qualification to receive 70% of scholarships related to Korean language and a person who meets English Language Eligibility of TYPE D ② A person who has obtained the qualification to receive 70% of scholarships related to English language and a person who meets Korean Language Eligibility of TYPE D
	70% of Entrance & Tuition fee (TYPE B)	① TOPIK level 5~6 or ② Complete Korean Language Course level 6 which is established by universities in Korea or ③ IBT TOEFL 92(IELTS 7, TOEIC 820) or above
	50% of Entrance & Tuition fee (TYPE C)	① TOPIK level 4 or ② Complete Korean Language Course level 5 which is established by universities in Korea or ③ IBT TOEFL 78(IELTS 6, TOEIC 740) or above
	30% of Entrance & Tuition fee (TYPE D)	① TOPIK level 3 or ② IBT TOEFL 71(IELTS 5.5, TOEIC 700) or above



▶ Scholarship can be increased if students meet one of below two requirements. a. Submit materials designated by graduate school - Field of Engineering/Natural Science: 1 SCI or above (should be lead author) - Other field: 1 KCI or above (should be lead author) b. Language Certificate: Submit valid language certificate which is higher type than previous one students submitted. (C TYPE to B TYPE, B TYPE to A TYPE) ▶ Scholarship increasing from 70% to 100% is impossible(Maximum amount: 70%)
Obligation
※ Cumulative GPA should maintain 3.75 or above



Introduction of Laboratory

Name 성함	Surname	Joe		
	Given Name	Jaewan		
Position 직급	Assistant professor		Gender 성별	☐ Male
Department 소속학과	Architectural engineering department		Major 소속전공	Building smart operation
Contact Information 연락처 정보	Email	jjoe@inha.ac.kr		
	Telephone	82-32-860-7590		
	Home Page	https://sites.google.com/view/inhasbsg		
Monthly Stipend Provided or Not 생활비 지급 의사	Yes		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D. <u> </u>
Research Field 연구분야 설명	Model-based predictive control Artificial intelligence / Machine learning based predictive building control Distributed optimization Prototype building modeling			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Virtual storage capability of residential buildings for sustainable smart city via model-based predictive control J Joe, J Dong, J Munk, T Kuruganti, B Cui / Sustainable Cities and Society 64, 102491			
	Empirical Modeling of Direct Expansion (DX) Cooling System for Multiple Research Use Cases J Joe, P Im, J Dong / Sustainability 12 (20), 8738			
	A model predictive control strategy to optimize the performance of radiant floor heating and cooling systems in office buildings J Joe, P Karava / Applied Energy 245, 65-77			
Others 기타사항	Looking for highly motivated (and also will be paid) graduate students. 2 and 4 journal publication would be expected/required by the end of the program for MS and PhD students.			



Introduction of Laboratory

Name 성함	Surname	Hwang	
	Given Name	Sungwon	
Position 직급	Professor	Gender 성별	■ Male □ Female
Department 소속학과	Chemical Engineering	Major 소속전공	Process System Engineering
Contact Information 연락처 정보	Email	Sungwon.hwang@inha.ac.kr	
	Telephone	+82-(0)32-860-7461	
	Home Page	http://cepi.inha.ac.kr/	
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No	Required Manpower 필요인력 수	Master ____ / Ph.D. <u>2</u>
Research Field 연구분야 설명	- Li-ion battery system modeling - Fuel Cell system modeling - Polymer synthesis process development and economic evaluation - CO2 capture and utilization - Hydrogen synthesis, delivery and storage system modeling - Utilization of the waste plastics - Biomass conversion to fuel, etc. - Application AI to Process System Engineering		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Youngtak Jo, Gyuyeong Hwang, Dela Quarme Gbadago, Sungwon Hwang. (2022) <u>Artificial neural network-based model predictive control for optimal operating conditions in proton exchange membrane fuel cells</u> , Journal of Cleaner Production		
	Jiyoung Moon, Dela Quarme Gbadago, Gyuyeong Hwang, Dongjun Lee, Sungwon Hwang. (2021) <u>Software platform for high-fidelity-data-based artificial neural network modeling and process optimization in chemical engineering</u> , Computers & Chemical Engineering		
	Hyeonggeon Lee, Niranjana Sitapure, Sungwon Hwang, Joseph Sang-II Kwon. (2021) <u>Multiscale Modeling of Dendrite Formation in Lithium-ion Batteries</u> , Computers & Chemical Engineering		
Others 기타사항	 Clean Energy Process Integration Lab.(CEPI) Hwang, Sung Won B.Sc. : Inha Univ. Korea. 1995 M.Sc. / Ph.D. : Manchester Univ. UK 2000 - 2004 Work : GS E&C, AspenTech, UOP (Honeywell) 2012.9. ~ : Dept. Chem. Eng., Inha Univ. Email : sungwon.hwang@inha.ac.kr Phone : +82-32-860-7461 (60anniversary-1109) Fax : +82-32-872-0959 Home : cepi.inha.ac.kr PSE is a discipline that covers all stages related to experimentation, design, manufacture, and operation in various industries, including oil refining, petrochemical engineering, bio, pharmaceutical, etc.  Main Research Field - Design and economic evaluation of Hydrogen Liquefaction process - Modeling and control of modular lithium-ion battery thermal system - Development of CO₂ co-electrolysis synthetic fuel production system - Real-time performance monitoring of chemical process equipment using machine learning - Modeling and economic evaluation of ammonia fuel SOFC output system for large ships - AI-based software platform and digital twin design implementation - AI and CFD mixed-based device design and scale up Development program for Smart Digital Engineering Specialist - Operations of M.S. and Ph.D. curriculum for engineering specialist - Technology training and research using the 4th industry Graduate life - Education of graduate major - Desired field of research - Participation in domestic and international conferences - Participation in project with industrial Development program for global engineering specialist - Program for obtaining joint R&D and multiple degrees by using dispatched to outstanding overseas universities in the field of PSE		



Introduction of Laboratory

Name 성함	Surname	Youk		
	Given Name	Ji Ho		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Chemical Engineering		Major 소속전공	Polymer
Contact Information 연락처 정보	Email	youk@inha.ac.kr		
	Telephone	032-860-7498		
	Home Page	https://chemengsfpl.wixsite.com/my-site/current-members		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D. <u>1</u>
Research Field 연구분야 설명	(1) Application of Polymer-based Energy Materials (2) Synthesis of Functional Polymers Google Scholar: https://scholar.google.com/citations?user=0W1aX8YAAAAJ&hl=ko			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Height-tunable replica molding using viscous polymeric resins, ACS MACRO LETTERS, 11, 4, pp. 428~433, 2022.			
	Toxic gas-free synthesis of extremely negative triboelectric sulfur copolymer blends via phase separation of fluorine-rich polymers, NANO ENERGY, 92, 106761, 2022.			
	Study on preparation methodology of zero-valent iron decorated on graphene oxide for highly efficient sonocatalytic dye degradation, JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, 10, 107214, 2022.			
Others 기타사항	(1) Application of Polymer-based Energy Materials - Li-ion battery separators with high-temperature stability - Binders for Li-ion battery electrodes - Laser-Induced carbonization of polymer film - High-performance micro-supercapacitors (2) Synthesis of Functional Polymers - Efficiently controlled polymerization of block copolymers - Synthesis of stimuli-responsive polymers - Surface modification of polymer - Polymer film hard coating - Synthesis of flame-retardant monomers and polymers			

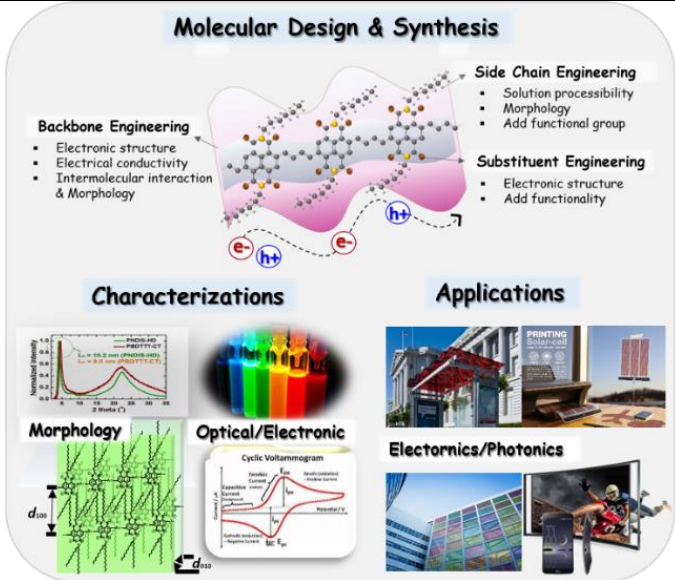


Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Yongjin		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Chemistry and Chemical Engineering		Major 소속전공	Chemical Engineering
Contact Information 연락처 정보	Email	yongjin.lee@inha.ac.kr		
	Telephone	+82-32-860-7468		
	Home Page	https://sites.google.com/view/molsiminha/home		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u> 2 </u> / Ph.D. <u> 1 </u>
Research Field 연구분야 설명	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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Xiangyu Zhang, Kexin Zhang, Hyeonsuk Yoo and Yongjin Lee*, "Machine Learning-Driven Discovery of Metal-Organic Frameworks for CO₂ Capture in humid condition", ACS Sustainable Chemistry & Engineering 9, 2872 (2021).			
	Xiangyu Zhang, Kexin Zhang, and Yongjin Lee*, "Machine Learning Enabled Tailor-Made Design of Application-Specific Metal Organic Frameworks", ACS Applied Materials & Interfaces 12, 734 (2020).			
	Sanfeng He, Hongliang Wang, Jing Cui, Cuizheng Zhang, Yi Yu, Yongjin Lee*, Tao Li*. "A General Way to Construct Micro- and Mesoporous Metal-Organic Framework-Based Porous Liquids", Journal of the American Chemical Society 141, 19708 (2019)			
Others 기타사항	Highly motivated students equipped with a research-oriented mindset are more than welcomed. For more information, please visit our website.			



Introduction of Laboratory

Name 성함	Surname	Hwang		
	Given Name	Ye-Jin		
Position 직급	Assistant Professor		Gender 성별	☐ Male ☒ Female
Department 소속학과	Chemical Engineering		Major 소속전공	Organic semiconductors
Contact Information 연락처 정보	Email	yjhwang@inha.ac.kr		
	Telephone	+82-32-860-7464		
	Home Page	https://cpslyjhwang.wixsite.com/cpsl		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u> 0 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	 (1) π-Conjugated Polymer Semiconductors for Electronics and Photovoltaics • Design and synthesis of new polymers • Development of new synthetic route • Structure-Property-Performance relationships • Polymer/polymer blend nanomorphology study (2) Organic Electronic Device Engineering • Device Physics and Fabrication • Organic Photovoltaics, OLEDs, Transistors (3) Flow Chemistry in Automated Macro-reactor			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Reproducible and rapid synthesis of a conjugated polymer by Stille polycondensation in flow: Effects of reaction parameters on molecular weight, CHEMICAL ENGINEERING JOURNAL, 412, 128572, 2021.			
	Mechanochemical Degradation of Amorphous Polymers with Ball-Mill Grinding: Influence of the Glass Transition Temperature, MACROMOLECULES, 53, 7795, 2020.			
	Synthesis and Characterization of a highly crystalline benzotriazole-selenophene copolymer semiconductor, POLYMER, 184, 121856, 2019.			

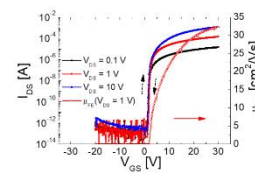
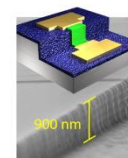
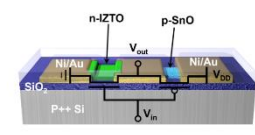


Introduction of Laboratory

Name 성함	Surname	Shin		
	Given Name	Naechul		
Position 직급	Associate Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Chemical Engineering	Major 소속전공	Semiconductor Nanostructures	
Contact Information 연락처 정보	Email	nshin@inha.ac.kr		
	Telephone	+82-32-860-7463		
	Home Page	www.theshinlab.com		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master ____ / Ph.D <u>1</u>	
Research Field 연구분야 설명	Vapor-based synthesis of low-dimensional semiconductor nanomaterials for hyper-scaling production 1. Vapor deposition of organic-inorganic perovskite thin films 2. Vapor-liquid-solid growth of van der Waals nanowires Chemical vapor deposition of 2D semiconductor materials for optoelectronics			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Sequential Surface Passivation for Enhanced Stability of Vapor-deposited Methylammonium Lead Iodide Thin Films, S. Han, S.-K. Hyeong, S.-K. Lee*, N. Shin*, <i>Chem. Eng. J</i> 439 135715 (2022). [https://doi.org/10.1016/j.cej.2022.135715]			
	Br-induced Orientation Control of PbI ₂ van der Waals Nanowires and Their Optoelectronics, L. Huh, H. Shim, N. Shin*, <i>ACS Photonics</i> 8 3291 (2021). [https://doi.org/10.1021/acsphotonics.1c01114]			
	Interlayer Energy Transfer and Photoluminescence Quenching in MoSe ₂ /Graphene van der Waals Heterostructures for Optoelectronic Devices, Y. Hwang, T. Kim, N. Shin*, <i>ACS Appl. Nano Mater.</i> 4 12034 (2021). [https://doi.org/10.1021/acsanm.1c02599]			
Others 기타사항	Our group specializes in synthesizing and fabricating semiconductor nanostructures using vapor-based crystal growth methods (chemical vapor deposition, physical vapor deposition, evaporation & sputtering, vapor-liquid-solid growth) for various applications, including optoelectronics, photonics, energy conversion, etc. The prospective student is expected to participate in developing instrumentation and methodology for the controlled growth of van der Waals crystalline materials.			



Introduction of Laboratory

Name 성함	Surname	Baek		
	Given Name	In-Hwan		
Position 직급	Assistant Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Chemical Engineering	Major 소속전공	Semiconducting thin film process	
Contact Information 연락처 정보	Email	baek@inha.ac.kr		
	Telephone	+82-32-860-7492		
	Home Page	https://sites.google.com/view/thinfil/home		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Ph. D. 1	
Research Field 연구분야 설명	1. Atomic layer deposition process for CMOS thin film devices and M3D application 2. Development of vertical DRAM capacitor & transistor 3. Selective thin film deposition & etching process 4. Research on atomic layer deposition process mechanism of novel precursor    Vertical transistor CMOS thin films inverter fabricated at low temperature (<240°C)			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Controlled orientation and microstructure of p-type SnO thin film transistors with high-k dielectric for improved performance			
	Cross-linked structure of self-aligned p-type SnS nanoplates for highly sensitive NO ₂ detection at room temperature			
	High-performance thin-film transistors of quaternary indium–zinc–tin oxide films grown by atomic layer deposition			
Others 기타사항	We are actively looking for highly motivated Graduate Students (Ph.D.) and Undergraduate Interns with various backgrounds (chemical engineering, materials science, physics, chemistry, electrical engineering etc.).			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Jong-Han		
Position 직급	Associate professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Civil Engineering	Major 소속전공	Smart Structures and Materials	
Contact Information 연락처 정보	Email	jh.lee@inha.ac.kr / one.jhlee@gmail.com		
	Telephone	+82-32-860-7564		
	Home Page	+82-10-4200-3017		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	(How Many) Master _1_ / Ph.D _1_	
Research Field 연구분야 설명	Structural Engineering and Materials Lab. have mainly focused on 1) Development and application of Inspection and management systems based on data-driven deep learning and vision technologies 2) development and application of smart materials to structures,			
Career Achievements 업적 리스트 (Recent 3 ones)	Smart Structural Engineering and Materials Lab. have mainly focused on 1) Development and application of inspection and management systems based on data-driven and vision technologies 1) development and application of smart materials to structures,			
	Flexural capacity and crack-closing performance of NiTi and NiTiNb shape-memory alloy fibers randomly distributed in mortar beams, COMPOSITES PART B-ENGINEERING, 2018.			
	Deep neural network for prediction of time history seismic response of bridges, STRUCTURAL ENGINEERING MECHANICS, 2022			
Others 기타사항				



Introduction of Laboratory

Name 성함	Surname Given Name	Song KI-IL	
Position 직급	Professor	Gender 성별	☒ Male ☐ Female
Department 소속학과	Dept of Civil Engineering	Major 소속전공	Geotechnical Engineering
Contact Information 연락처 정보	Email	ksong@inha.ac.kr	
	Telephone	010-6388-0449	
	Home Page		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D. <u> 1 </u>
Research Field 연구분야 설명	<u>Underground space and rock engineering</u> • 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 <u>Sustainable development of infrastructure</u> • Nondestructive characterization for soil and rock using elastic and electromagnetic waves • Smart geophysical characterization technique for geo-infrastructures • Seismic analysis on aged bridge foundation <u>Building digital twin for geo-structures</u> • 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		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Back analysis of an operating subsea tunnel considering the degradation of ground and concrete lining, Marine Georesources & Geotechnology (2018)		
	Electrical resistivity and elastic wave velocity of sand-cement-inorganic binder mixture, Environmental Geotechnics (2018)		
	Magnesium chloride and sulfate attacks on gravel-sand-cement-inorganic binder mixture, Construction and Building Materials (2018)		
Others 기타사항	Geomechanics Engineering Lab at Inha University has been involved in many national scientific research projects related to tunnelling. We have a strong background of numerical analysis and computational geomechanics. The finite element programming and genetic algorithm-based optimization by using a Visual Studio Developer that can design a pipe-roof pre-reinforcement system ahead of the tunnel face is supported by the Korean Advanced Institute of Science and Technology (KAIST) and Samsung. We also have a fundamental knowledge on the nondestructive characterization techniques that use elastic wave and electromagnetic wave propagation for the sustainable geotechnical development. Our main research topics are 1) Prediction of penetration rate using machine learning 2) Automation of tunnel support pattern design for NATM tunnel 3) Geophysical characterization for engineered geo-materials 4) Evaluation of segment backfill grouting quality using impact-echo 4) Propagation of elastic wave in jointed rock mass 5) Seismic performance evaluation of aged bridge foundation. Non-Destructive Testing • Development of Applications with Elastic and Electromagnetic Wave • Wave Propagation in Heterogeneous Ground Underground Space Technology • 3D Numerical Analysis on Geo-structures • Stochastic Numerical Analysis on Tunnel Failure Mechanism • FEM Code Development for the Tunnel Stability Analysis Energy-Geotechnology • Physical and Chemical Behavior of Gas Hydrate Bearing Sediment • Thermal-Hydraulic-Mechanical Coupled Analysis Modern Geotechnics • Characterization of geomaterials with geophysical methods • Application of machine learning for geotechnics • Combination of IoT, Digital Twin, Building information modelling, and FEM Carrier • INHA University, Prof. • University of Nottingham (Malaysia), Assistant Professor • KAIST, Civil & Environ. Eng., Ph.D. • INHA University, Civil Eng., B.S. Research Interests INHA University, Dept. of Civil Engineering Geomechanics and Engineering Lab KI-IL SONG Ph.D. Professor of Geomechanics ksong@inha.ac.kr		



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Hung Soo		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Department of Civil Engineering		Major 소속전공	Hydrological Ecology
Contact Information 연락처 정보	Email	sookim@inha.ac.kr		
	Telephone	82-32-876-9783		
	Home Page	http://hydroeco.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master _2_ / Ph.D. _1_
Research Field 연구분야 설명	● Hydrology ● Wetlands & Ecology ● Climate Change ● Floods & Droughts			
Career Achievements 업적 리스트 (Recent 3 ones)	Climate Change Adaptation for Water Resources (2014~2019)			
	Methodology Development for the Estimation and Prediction of Direct and Indirect Damages/Losses from Flood and Wind Disasters (2015~2019)			
	Impact Analysis of Global Climate System on Disasters and the National Economy (2017-2022)			
Others 기타사항	Climate Change Climate Change Copula for Drought Analysis Under Climate Change Frequency Analysis Under Climate Change 2011-2040 2041-2070 2071-2100 Wetlands & Ecology Wetlands and Ecosystem Hydrology and Hydraulics in Wetlands Evaluation of Wetland Functions and Values Hydrologic Function, Biogeo-chemical Function, Plant-Animal Habitat Function, Economic Value Rainfall Radar Rainfall Radar Networking Quality Control and Estimation of Radar rainfall Flood Forecasting By Radar Rainfall Chaos in Hydrology Fractal and Chaos Natural phenomena with fractal features Chaotic Time Series BDS Statistic & C-C Method			



Introduction of Laboratory

Name 성함	Surname	NA		
	Given Name	SEONHONG		
Position 직급	Associate Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Civil Engineering	Major 소속전공	Computational Geomechanics	
Contact Information 연락처 정보	Email	s.na@inha.ac.kr		
	Telephone	+82-10-860-7567		
	Home Page	https://newdept.inha.ac.kr/p-sna/index.do		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master ____ / Ph.D 1	
Research Field 연구분야 설명	Our research group specializes in computational geomechanics, multiphysics, and multiscale modeling of natural and engineering systems, with particular emphasis on coupled thermo-hydro-mechanical processes in porous media. Our research involves building and implementing computationally efficient and robust algorithms by leveraging theoretical and computational frameworks to predict how multiphase solids interact with diverse influences such as stress, deformation, heat source, chemical species, and fluid flows. In addition, our research interests encompass how material instabilities such as strain localization, soil liquefaction, damage, and fracture occur and impact across different spatial and temporal scales.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Y.Guo and S. Na (2023), A computational framework based on explicit local chemical equilibrium for coupled chemo-hydro-mechanical effects on fluid-infiltrating porous media, <i>Journal of Computational Physics</i> , DOI: 10.1016/j.jcp.2023.112196 . H. Mohammadi and S. Na (2022), A Volume Averaging FEM-Based Fracture Model for Damage Process in Cohesive-Frictional Solids, <i>International Journal of Geomechanics (ASCE)</i> , DOI: https://doi.org/10.1061/IJGNAL.GMENG-7181 . M.M. Kebria, S. Na, and F. Yu (2022), An algorithmic framework for computational estimation of soil freezing characteristic curves, <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , https://doi.org/10.1002/nag.3356 .			
Others 기타사항	We have positions available for highly motivated graduate students (generally 1-2 per year) who are interested in developing novel computational models ultimately for sustainable development and resilient systems for infrastructure, energy, environment, and societal needs. If interested, please spend some time investigating the opportunities below and send your CV, transcripts and a brief statement of interest to Dr. SeonHong Na (s.na@inha.ac.kr).			



Introduction of Laboratory

Name 성함	Surname	WON		
	Given Name	Jong-Hoon		
Position 직급	Associate Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Electrical Eng. Future Vehicle Eng.	Major 소속전공	Autonomous Navigation	
Contact Information 연락처 정보	Email	jh.won@inha.ac.kr		
	Telephone	+82(0)32-860-7406		
	Home Page	Autonav.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D. __1__	
Research Field 연구분야 설명	▪ 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			
Career Achievements 업적 리스트 (Recent 3 ones)	Signal Processing & Receiver Architecture: in GNSS Handbook (eds. by O. Montenbruck and P. J. G. Teunissen eds.) Springer, 2017. (ISBN 978-3-319-42926-7)			
	Analysis of Ground Transmitter Interference Range for GPS L1 Signals in the Ground Test-bed Environment of a Navigation Satellite System IET Radar, Sonar & Navigation, 2018, DOI: 10.1049/iet-rsn.2018.5294IET Digital Library			
	A Script Hook-based Ultra-Low Cost Driving Simulator for Development of Self-Driving Algorithms, Proceedings of the ION 2019 Pacific PNT Meeting April 8 - 11, 2019, Hilton Waikiki Beach, Honolulu, Hawaii			
Others 기타사항	Required skills - One of the followings : communication, control, software programming (Matlab, C/C++, python, etc.) Please visit our web-page (http://autonav.inha.ac.kr) for more details			



Introduction of Laboratory

Name 성함	Surname	Kim	
	Given Name	Kwangki	
Position 직급	Assistant Professor		Gender 성별 Male
Department 소속학과	Electrical Engineering		Major 소속전공 Control Engineering and Optimization
Contact Information 연락처 정보	Email	kwangki.kim@inha.ac.kr	
	Telephone	+82 32 860 7397	
	Home Page	http://lics.inha.ac.kr	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	2 (PhD student only)
Research Field 연구분야 설명	○ Autonomous robot localization, path planning and control - Visual SLAM with deep features - Deep reinforcement learning, Deep neural optimizer for control ○ Automotive control systems - Vision-based autonomous driving - Embedded model predictive control for vehicle motion control ○ Power system optimization and control - Computational methods for electric power systems - Distributed optimization and networked embedded control		
	Theory		Application
	Data-driven	Reinforcement Learning for Control	Eco-CAV, Path planning and control for
	Optimal Control	Learning and Optimization for Control	autonomous robots/vehicles
	Model-based	Embedded Model Predictive Control	Robot control
	Optimal Control	Real-Time Numerical Optimal Control	Power system control
	Uncertainty Quantification	Polynomial Chaos with Stochastic	Power system state estimation
		Galerkin Projection Model Reduction	Power system optimization
		Bayesian Inference	
	Vision-based Robot Localization, Planning and Control		Autonomous aerial vehicles
	Learning Theory and Applications		Intelligent control for robotics
	Optimization Theory and Applications		All engineering domains
	IQC (Integral Quadratic Constraint) analysis and control		Nonlinear robust control for UAV/UMV
	Sequential convex optimization for control policy		Portfolio optimization
	Optimization (Convex optimization for control policies)		
Three Recent Career Achievements 업적 리스트 (최근 세건)	“Service-Oriented Real-Time Energy-Optimal Regenerative Braking Strategy for Connected and Autonomous Electrified Vehicles,” <i>IEEE Transactions on Intelligent Transportation Systems</i> , Early access, 2021.		
	“Standard representation and unified stability analysis for dynamic artificial neural network models,” <i>Neural Networks</i> , Volume 98, pages 251–262, 2018.		
	“Semidefinite programming approach to gaussian sequential rate-distortion trade-offs,” <i>IEEE Transactions on Automatic Control</i> , Volume 62, Issue 4, pages 1896–1910, 2017.		



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Insu		
Position 직급	Associate Professor	Gender 성별	Male	
Department 소속학과	Department of Electrical and Computer Engineering	Major 소속전공	Electrical Engineering	
Contact Information 연락처 정보	Email	insu@inha.ac.kr		
	Telephone	+82-32-860-7390		
	Home Page	https://sites.google.com/view/inhapower		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D. __1__
Research Field 연구분야 설명	✓ Development of transmission and distribution power system steady and transient state analysis algorithms (e.g., power flow, short-circuit, and harmonic analysis algorithms for AC and HVDC grids) ✓ Power system optimizations and AI techniques (e.g. reliability, optimal allocation of distributed generators, hosting capacity of renewable energy resources, deep and reinforcement learning algorithms for energy systems) ✓ Developing algorithms for combined heat and power generation			
Three Recent Career Achievements 업적 리스트 (최근 세건)	[22] Insu Kim, "Part 1: A New Single-Logarithmic Approximation of Carson's Ground-Return Impedances," IEEE Access, Vol. 9, pp. 103850 - 103861, July 15, 2021. DOI: 10.1109/ACCESS.2021.3097377			
	[16] Insu Kim, "A calculation method for the short-circuit current contribution of current-control inverter-based distributed generation sources at balanced conditions," <i>Electric Power Systems Research</i> , Vol. 190, January 2021. https://doi.org/10.1016/j.epsr.2020.106839			
	[10] Insu Kim, "Short-circuit analysis models for unbalanced inverter-based distributed generation sources and loads," <i>IEEE Transactions on Power Systems</i> , Vol. 34, No. 5, pp. 3515-3526, September 2019.			
Others 기타사항	An ideal candidate is a graduate student or postdoctoral fellow who has a good understanding and experience of the following: (a) power-flow algorithms such as Newton-Raphson, decoupled, Gauss-Seidel, and backward and forward sweep methods (b) fault analysis or short-circuit algorithms using the sequence network method (c) some prior experiences in programming in MATLAB and Python. (d) developing the algorithms in MATLAB and publishing highly qualified journal papers are also the most important aspects of the position. The following topics will be plus but not required: (a) machine learning (genetic algorithm, particle swarm optimization, and so on)			

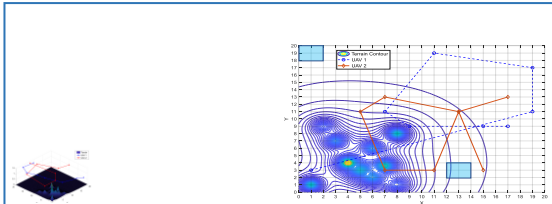
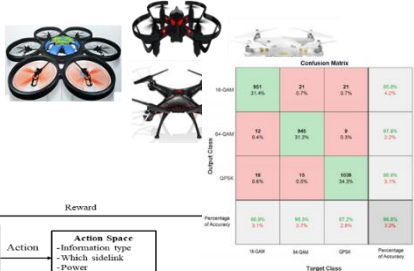
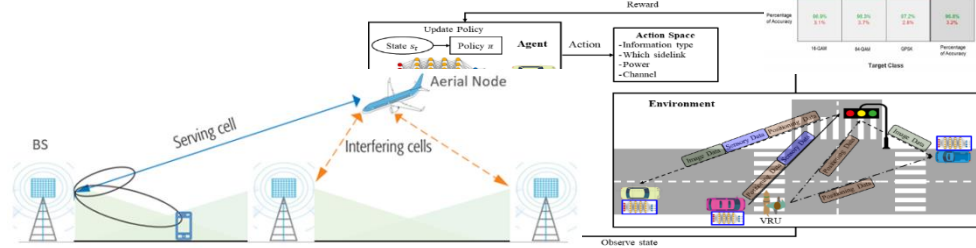


Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Daeyu		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Electrical Engineering		Major 소속전공	IoT Sensor, Optics, Wearable devices
Contact Information 연락처 정보	Email	dyukim@inha.ac.kr		
	Telephone	82-32-860-7394		
	Home Page	http://mellab.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master __2__ / Ph.D. __2__
Research Field 연구분야 설명	1. IoT sensors for smart healthcare and smart factory applications 2. Optical imaging system with HW and control SW 3. Image analysis using deep learning algorithm 4. LIDAR sensors for autonomous vehicle			
Career Achievements 업적 리스트 (Recent 3 ones)	Automatic Quantification of Anterior Lamina Cribrosa Structures in Optical Coherence Tomography Using a Two-Stage CNN Framework. Sensors. 2021			
	Jung S, Kim DY. Noninvasive Flow Monitoring in Simple Flow Phantom Using Resistive Strain Sensors. Sensors. 2021, 21;21(6):2201.			
	Hydrophobic Paper-Based SERS Sensor Using Gold Nanoparticles Arranged on Graphene Oxide Flakes. Sensors. 2019, 11;19(24):5471.			
Others 기타사항	Our laboratory members of 3 postdocs and 3 graduate students are working on government and industrial research projects supported by National Research Foundation of Korea, BK21-Plus as well as Samsung Science & Technology Foundation.  			



Introduction of Laboratory

Name 성함	Surname	Chang	
	Given Name	KyungHi	
Position 직급	Professor	Gender 성별	☒ Male ☐ Female
Department 소속학과	Electronic Engineering	Major 소속전공	Mobile Communications
Contact Information 연락처 정보	Email	khchang@inha.ac.kr	
	Telephone	+ 82-32-860-8422	
	Home Page	https://sites.google.com/view/mtrl-lab	
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master <u>3</u> / Ph.D.. <u>2</u>
Research Field 연구분야 설명	- 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)		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Cooperative resource management for C-V2I communications in a dense urban environment, Vehicular Communications, 2020. 08.		
	3D optimal surveillance trajectory planning for multiple UAVs by using particle swarm optimization with surveillance area priority, IEEE Access, 2020. 05.		
	SMART-Navigation over pilot LTE-Maritime: Deployment and co-existence with PS-LTE, IEEE Communications Magazine, 2019. 09.		
Others 기타사항	  		



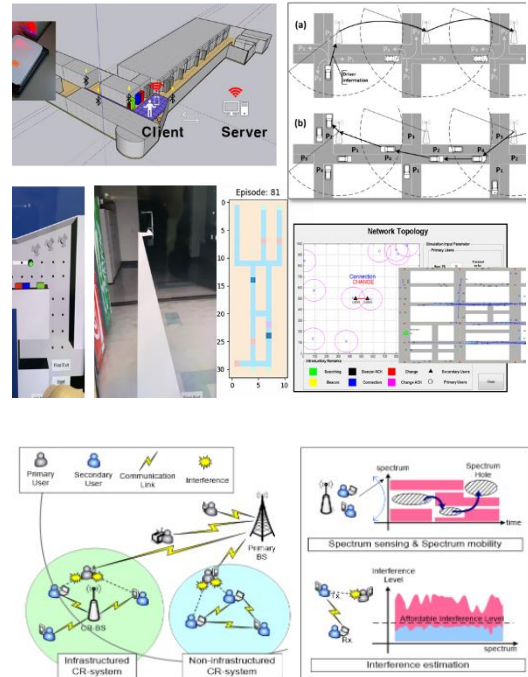
Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Deok-Hwan		
Position 직급	Full Professor	Gender	☒ Male ☐ Female	
Department 소속학과	Electrical & Computer Engineering	Major	Electronic Engineering	
Contact Information 연락처 정보	Email	deokhwan@inha.ac.kr		
	Telephone	(+82) 10-4660-3602		
	Home Page	http://iesl.inha.ac.kr(Artificial Intelligence&Embedded System Lab), http://aies.inha.ac.kr(Embedded System Research Center)		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No (enough stipend)	Required Manpower 필요인력 수	(How Many) Master _1_ / Ph.D _2_	
Research Field 연구분야 설명	- Embedded System: Design and implementation of embedded systems, IoT Devices, Edge Devices, Smart home & Smart City with Deep Learning(AI) and Machine Learning(ML). - Artificial Intelligence: Deep Learning Algorithms and Applications for Embedded Devices, Robot Interface and Robot Operating Systems Platform, cloud-based software defined storage - Intelligent Social Robot: XVoice: Multi-Modal Voice Meta Learning, Emotion and Event/Activity Recognition for Robot Control, Sensing and Actuator - ADAS / Autonomous Driving: Participate in the future vehicle student training program and train people who are interested in autonomous vehicles.      			
Career Achievements 업적 리스트 (Recent 3 ones)	BlockChain-enabled Approach for Big Data Processing in Edge Computing, IEEE Internet of Things, 2022 (SCIE IF 9.936)			
	MS scheduler: New, scalable, and high-performance sparse AVX-2 parity encoding and decoding technique for erasure-coded cloud storage systems, Future Generation Computing Systems 2022, (To be appeared SCIE IF 7.9)			
Others 기타사항	Currently, there are four foreign students (PhD Candidates). We provide enough stipends through BK21-Plus and other government and industrial projects. Required Skills: - One of the followings: software programming (Matlab, Python, C/C++ etc.) - Linux, Algorithm & Data Structure, Signal Processing			



Introduction of Laboratory

Name	Surname	Yoo		
	Given Name	Sang-Jo		
Position	Professor	Gender	☒ Male ☐ Female	
Department 소속학과	Information and Communication	Major	Communication and Networking	
Contact Information 연락처 정보	Email	sjyoo@inha.ac.kr		
	Telephone	+83-32-860-8304		
	Home Page	http://multinet.inha.ac.kr		
Monthly Stipend Provided or Not	☒ Yes ☐ No	Required Manpower	(How Many) Master <u>2</u> / Ph.D. <u>1</u>	
Research Field	We (Multimedia Network Laboratory) mainly research the machine learning-based network technologies for wireless sensor networks (WSN), vehicular ad-hoc networks, UAV flying ad-hoc networks, and next generation cognitive radio networks. Our current research projects include: - Wireless sensor network and Internet of Things (IoT) protocol design - AI-based IoT and UAV Networking Architecture - Machine Learning-based Networking Applications			
Career Achievements (Recent 3 ones)	Q-Learning-Based Data-Aggregation-Aware Energy-Efficient Routing Protocol for Wireless Sensor Networks, IEEE ACCESS, 2021 A Novel Energy Supply Strategy for Stable Sensor Data Delivery in Wireless Sensor Networks, IEEE Systems Journal, 2020 PSO-based Dynamic UAV Positioning Algorithm for Sensing Information Acquisition in Wireless Sensor Networks, IEEE ACCES, 2019			
Others	We are very welcoming foreign students who are really interested in machine learning, AI-based network platform development.			





Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Jae-Hyeung		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Information and Communication Engineering		Major 소속전공	
Contact Information 연락처 정보	Email	jh.park@inha.ac.kr		
	Telephone	+82-32-860-7432		
	Home Page	http://3dlab.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master _1_ / Ph.D. _1_
Research Field 연구분야 설명	- 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			
Career Achievements 업적 리스트 (Recent 3 ones)	J.-H. Park, M. Askari, "Non-hogel-based computer generated hologram from light field using complex field recovery technique from Wigner distribution function," Optics Express, vol. 27, no. 3, pp. 2562-2574, (2019).			
	J.-H. Park, S.-B. Kim, "Optical see-through holographic near-eye-display with eyebox steering and depth of field control," Opt. Express vol. 26, no. 21, pp. 27076-27088 (2018).			
	S.-B. Kim and J.-H. Park, "Optical see-through Maxwellian near-to-eye display with an enlarged eyebox," Optics Letters, vol. 43, no. 4, pp. 767-770, (2018).			
Others 기타사항				



Introduction of Laboratory

Name 성함	Surname	Seo	
	Given Name	Yeongkyo	
Position 직급	Assistant Professor	Gender 성별	Male
Department 소속학과	Information and Communication Engineering	Major 소속전공	VLSI and Circuit Design
Contact Information 연락처 정보	Email	yeongkyo@inha.ac.kr	
	Telephone	+ 82 32-860-7415	
	Home Page	https://sites.google.com/view/circuits-lab	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	Master _1_ / Ph.D. _1_
Research Field 연구분야 설명	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)		
Career Achievements 업적 리스트 (Recent 3 ones)	Y. Seo, K-W. Kwon, X. Fong, and K. Roy, "High Performance and Energy-Efficient On-Chip Cache using Dual Port (1R/1W) Spin-Orbit Torque MRAM," IEEE Journal of Emerging and Selected Topics in Circuits and Systems, vol. 6, no. 3, pp. 293-304, Sep. 2016.		
	Y. Seo, K-W. Kwon, and K. Roy, "Area-Efficient SOT-MRAM with a Schottky Diode," IEEE Electron Device Letters, vol. 37, no. 8, pp. 982-985, Aug. 2016.		
	Y. Seo, and K. Roy, "High-Density SOT-MRAM Based on Shared Bitline Structure," IEEE Transactions on Very Large Scale Integration Systems, vol. 26, no. 8, pp. 1600-1603, Aug. 2018.		
Others 기타사항			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Hanho		
Position 직급	Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Information and Communication engr.	Major 소속전공	Digital System Design, VLSI architecture design	
Contact Information 연락처 정보	Email	hhlee@inha.ac.kr		
	Telephone	+82-32-860-7449		
	Home Page	soc.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D. __1__	
Research Field 연구분야 설명	Depending on the student's experience and interests, the student will start working e.g. in one of the following fields: - Cryptography algorithm and architectures for post-quantum cryptography - Hardware cryptography architectures for Homomorphic Encryption - Hardware architecture for artificial intelligent - FPGA-based Machine Learning Detailed lab information is in http://soc.inha.ac.kr. The research topics require either 1) excellent programming skills and comprehension (or interest) of digital signal processing, communications, computer architectures, OR 2) expertise in C/C++, Verilog HDL coding, and FPGA design.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"High-Secure Fingerprint Authentication System using Ring-LWE Cryptography," <i>IEEE Access</i> , vol. 7, no. 1, pp. 23379-23387, Feb. 2019.			
	"Efficient-Scheduling arallel Multiplier-Based Ring-LWE Cryptoprocessors," <i>Electronics</i> , vol. 8, no. 4, pp. 413(1-13), Apr. 2019.			
	"Efficient NewHope Cryptography Based Facial Security System on a GPU," <i>IEEE Access</i> , vol. 8, no. 1, pp. 108158-108168, June 2020.			
Others 기타사항	• Benefits: 1) Selected candidates can get full tuition waive for Master and PhD periods. 2) Monthly support (Living cost) 3) Opportunities to attend international conferences oversea paid by research fund.			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Mun-Kyu		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	- Computer Engineering - Artificial Intelligence		Major 소속전공	Information Security
Contact Information 연락처 정보	Email	mkleee@inha.ac.kr		
	Telephone	+82-32-860-7456		
	Home Page	http://islab.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Integrated(MS+Ph.D) / Ph.D: 2
Research Field 연구분야 설명	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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Comments on "PassBio: Privacy-Preserving User-Centric Biometric Authentication" IEEE Transactions on Information Forensics and Security, vol. 17, pp 2816-2817, August 2022			
	Practical Privacy-Preserving Face Authentication for Smartphones Secure against Malicious Clients, IEEE Transactions on Information Forensics and Security, vol. 15, pp. 2386-2401, 2020			
	Fast Verification of Signatures with Shared ECQV Implicit Certificates, IEEE Transactions on Vehicular Technology, vol. 68, no. 5, pp. 4680-4694, 2019			
Others 기타사항	Ongoing Research Projects - Development of cryptographic optimization and application technology for providing confidentiality on blockchains * Transaction privacy on blockchain using functional encryption * Secure transaction using zkSNARK (zero-knowledge Succinct Non-interactive Argument of Knowledge) - Development of statistical analysis algorithm and module using homomorphic encryption based on real number operation * AI and machine learning secured by cryptographic algorithms - BK21 project * Scholarship program for graduate students - IITP AI center			



Introduction of Laboratory

Name 성함	Surname	LEE		
	Given Name	Sang-Chul		
Position 직급	Professor		Gender 성별	■ Male □ Female
Department 소속학과	Computer Engineering		Major 소속전공	Artificial Intelligence / Computer Vision
Contact Information 연락처 정보	Email	sclee@inha.ac.kr		
	Telephone	+82 32 860 7442		
	Home Page	http://imageinfo.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master <u> 0 </u> / Ph.D. <u> 1 </u> / MS/Ph.D. <u> 3 </u>
Research Field 연구분야 설명	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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"Morphological Multi-cell Discrimination for Robust Cell Segmentation," in IEEE Access, vol. 8, pp. 49837-49847, 2020.			
	"Cell segmentation for quantitative analysis of anodized TiO2 foil", in IEEE Transactions on Industrial Informatics, 15(5), pp. 2828-2837, IEEE, 2019.			
	"Nucleus Segmentation Using Gaussian Mixture based Shape Models", in IEEE Journal of Biomedical and Health Informatics, vol. 22(1), pp. 235-243, IEEE, 2018.			
Others 기타사항	I recruit new students seeking for MS/Ph.D. integrated degree only. For more detail, please visit our web site for more detailed research topics and publication lists.			



Introduction of Laboratory

Name 성함	Surname	Noh		
	Given Name	YoungTae		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Computer Engineering		Major 소속전공	Networked and Mobile Interaction System
Contact Information 연락처 정보	Email	ytnoh@inha.ac.kr		
	Telephone	+32-860-7445		
	Home Page	http://nsl.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Integrated(MS+PhD) / PhD: <u>5</u>
Research Field 연구분야 설명	[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: - 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 management.			
Career Achievements 업적 리스트 (Recent 3 ones)	Rhongho Jang, Seongkwang Moon, Youngtae Noh, Aziz Mohaisen and Daehun Nyang, " InstaMeasure: Instant Per-flow Detection Using Large In-DRAM Working Set of Active Flows ," IEEE ICDCS'19, to appear.			
	Youngtae Noh, Hirozumi Yamaguchi, Uichin Lee, " Infrastructure-free Collaborative Indoor Positioning Scheme for Time-critical Team Operations ," IEEE Trans. Systems, Man, and Cybernetics: Systems, 2018.			
	Rhongho Jang, DongGyu Cho, Youngtae Noh, and DaeHun Nyang, " RFlow+: An SDN-based WLAN Monitoring And Management Framework ," IEEE INFOCOM 2017, Atlanta, GA, USA, May 1-4, 2017. (Best-in-session Presentation Award) [PDF] [PPTX]			



Introduction of Laboratory

Name 성함	Surname	Han		
	Given Name	Kyungsook		
Position 직급	Professor		Gender 성별	Position 직급
Department 소속학과	Electrical and Computer Engineering		Major 소속전공	Department 소속학과
Contact Information 연락처 정보	Email	khan@inha.ac.kr		
	Telephone	+82-32-860-7388		
	Home Page	http://biocomputing.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Monthly Stipend Provided or Not 생활비 지급 의사
Research Field 연구분야 설명	Bioinformatics Machine learning Analyzing and visualizing bio big data			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Constructing a Cancer Patient-Specific Network Based on Second-Order Partial Correlations of Gene Expression and DNA Methylation, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2022 (DOI 10.1109/TCBB.2022.3145796)			
	A New Approach to Deriving Prognostic Gene Pairs from Cancer Patient-specific Gene Correlation Networks, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021 (DOI: 10.1109/TCBB.2020.3017209).			
	Constructing Cancer Patient-Specific and Group-Specific Gene Networks with Multi-Omics Data, BMC Medical Genomics, Vol. 13, 81, 2021 (DOI: 10.1186/s12920-020-00736-7).			
Others 기타사항	Current projects: - Discovery of cancer genes and inference of gene networks in individuals from mathematical modeling of bio big data - Deep learning for mining protein-binding motifs in nucleic acids More details are available at http://biocomputing.inha.ac.kr .			



Introduction of Laboratory

Name 성함	Surname	Choi		
	Given Name	Young-kyu		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Computer Engineering		Major 소속전공	Computer Architecture / CAD
Contact Information 연락처 정보	Email	ykc@inha.ac.kr		
	Telephone			
	Home Page	https://sites.google.com/view/ykchoi		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u>2</u> / Ph.D <u>2</u>
Research Field 연구분야 설명	High-level synthesis (HLS) and design automation (CAD) High-bandwidth memory (HBM) and CXL friendly accelerators Machine learning for CAD (MLCAD) Simulation / debugging for HLS Accelerator design using Field-Programmable Gate Arrays (FPGA) Reconfigurable computing, high-performance computing My YouTube lecture series on HLS : https://youtu.be/6Jn8Vj3Hk5Y?list=PLf4U4tpbjz7x_bsG3sBEuXgVQPZfWJgW			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"FPGA Acceleration of Probabilistic Sentential Decision Diagrams with High-Level Synthesis," ACM Trans. Reconf. Tech. and System (Top FPGA journal), 2022.			
	"HBM Connect: High-Performance HLS Interconnect for FPGA HBM," ACM/SIGDA Int. Symp. Field-Programmable Gate Arrays (Top FPGA conference), 2021.			
	"FLASH: Fast, Parallel, and Accurate Simulator for HLS," IEEE Trans. Computer-Aided Design of Integrated Circuits and Systems (Top CAD journal), 2020.			
Others 기타사항	International students are welcomed. All students will be supported by research funding. Decent English skill required. Should have taken some courses related to digital system design, computer architecture, FPGAs, parallel programming, or compiler.			



Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Daeyoung		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Electrical and Computer Engineering		Major 소속전공	Information & Communication / Artificial Intelligence
Contact Information 연락처 정보	Email	dpark@inha.ac.kr		
	Telephone	032-860-8376		
	Home Page	spml.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D. __1__
Research Field 연구분야 설명	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			
Career Achievements 업적 리스트 (Recent 3 ones)	"Learnable MIMO Detection Networks based on Inexact ADMM," <i>IEEE Transactions on Wireless Communications</i> , 2021.			
	"Element-wise Adaptive Thresholds for Learned Iterative Shrinkage Thresholding Algorithms," <i>IEEE Access</i> , 2020.			
	"Iterative Waterfilling with User Selection in Gaussian MIMO Broadcast Channels," <i>IEEE Transactions on Communications</i> , May 2018.			
Others 기타사항	We are looking for an excellent Master/PhD student in the area of signal processing and machine learning. Requirements: Students require excellent mathematical skills and extensive C/Matlab/Python programming expertise. The successful candidate needs to have a BS degree in Electrical/Computer Engineering or in a related discipline with high GPA.			



Introduction of Laboratory

Name 성함	Surname	Jo		
	Given Name	Geun-Sik		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Electrical and Computer Engineering		Major 소속전공	
Contact Information 연락처 정보	Email	gsjo@inha.ac.kr		
	Telephone	+82-32-860-7447		
	Home Page	http://ailab.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u>3</u> / Ph.D.. <u>2</u>
Research Field 연구분야 설명	Intelligent Augmented Reality Artificial Intelligence based Content Creation Machine/Deep Learning (Object Tracking, Facial Emotion Recognition, etc.) CSP (Constraint Satisfaction Problems)			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"RSINet: Rotation-Scale Invariant Network for Online Visual Tracking", ICPR 2020 (Top-tier Conference)			
	"Robust visual tracking based on global-and-local search with confidence reliability estimation", Neurocomputing, 2019 (SCI-E Journal, Impact Factor: 4.438)			
	"Visual Tracking Based on a Unified Tracking-and-Detection Framework with Spatial-Temporal Consistency Filtering", Computers & Electrical Engineering, 2019 (SCI-E Journal, Impact Factor: 2.663)			
Others 기타사항	All graduates accepted for our AI Lab will be financially supported by the government grants and other research grants. The main projects of our laboratory are as below. Artificial Intelligence-based Content Creation Project: We research artificial intelligence-based methods to understand video content such as movies. Various datasets collected, and based on analyzed information and deep learning algorithms, new video content is created automatically. XR for Aircraft Maintenance Training/Education: An aircraft is a complex machine made up of numerous parts, and traditionally, mechanics need to retrieve and organize various manuals each time to perform the maintenance process. To eliminate the high cognitive load of engineers during the operation, we research methods to innovate aircraft maintenance paper-based manuals to knowledge and visualize content using augmented reality.			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Chang Gyun		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Environmental Engineering Program in Environmental and Polymer Engineering		Major 소속전공	Environmental Engineering
Contact Information 연락처 정보	Email	cgk@inha.ac.kr		
	Telephone	+82 32 860 7561		
	Home Page	http://whs.inha.ac.kr/~cgk/intro.html		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u>3</u> / Ph.D. <u> </u>
Research Field 연구분야 설명	- 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. - 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, microplastics, carcinogens, POPs and virus in the coast area - Biological soil remediation – Acid neutralization and heavy metal adsorption - Methane gas production following the reaction between carbon dioxide and hydrogen			
Three Recent Career Achievements 업적 리스트 (최근 세건)	S.Y. Park; Y.S. Choi; S.Y. Park; C.G. Kim; "A case study on the correlation between radon and multiple geophysicochemical properties of soils in G island, Korea, and effects on the bacterial metabolic behaviors", <i>Journal of Environmental Radioactivity</i> , 222, 106336 (2020).			
	S.Y. Park; C.G. Kim; "Biodegradation of micro-polyethylene particles by bacterial colonization of a mixed microbial consortium isolated from a landfill site", <i>Chemosphere</i> , 222, 527-533 (2019).			
	S.Y. Park; C.G. Kim; "A comparative study of three different viability tests for chemically or thermally inactivated <i>Escherichia coli</i> ", <i>Environmental Engineering Research</i> , 23(3), 282-287 (2018)			
Others 기타사항	Prospering Vietnamese students			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Jeonghwan		
Position 직급	Professor		Gender 성별	☐ Male ☐ Female
Department 소속학과	Environmental Engineering		Major 소속전공	Membrane technology for water/wastewater treatment and resource recovery
Contact Information 연락처 정보	Email	jeonghwankim@inha.ac.kr		
	Telephone	010-4020-1446, 032-860-7502		
	Home Page	http://whs.inha.ac.kr/~semt/		
Monthly Stipend Provided or Not 생활비 지급 의사	☐ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D. __2__
Research Field 연구분야 설명	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.			
Career Achievements 업적 리스트 (Recent 3 ones)	M. Kim, T. Lam, G. A. Tan, P. Lee and J. Kim, Use of polymeric scouring agent as fluidized media in anaerobic fluidized bed membrane bioreactor for wastewater treatment: System performance and microbial community, 606, 118121, <i>Journal of Membrane Science</i> , 2020			
	S. Chang, R. Ahmad, D. Kwon and J. Kim, Hybrid ceramic membrane reactor combined with fluidized bed adsorbents and scouring agents for hazardous metal-plating wastewater treatment, <i>Journal of Hazardous Materials</i> , 388, 121777, 2020			
	D. Kwon, S. Kwon, J. Kim and J. Lee, Feasibility of the highly-permselective forward osmosis membrane process for the post-treatment of the anaerobic fluidized bed bioreactor effluent, <i>Desalination</i> , 485, 114451, 2020			
Others 기타사항	Importance and strong point of our researches in SEMT are interdisciplinary collaborations with many renowned research groups around the world. We have undergone international collaboration projects with various, leading research institutes in membrane technology such as University of Leuven (Belgium), University of Montpellier (France) and UCLA/Stanford University (USA). We have now been extending our global research network to The University of Hong Kong and Imperial College at London actively. New international project supported by Korea Research Foundation dealing with anaerobic membrane bioreactor was just launched with Denmark Institute of Technology. Students who are interested in joining our SEMT research group should have BS or MS degree in Environmental Engineering or related field, for example, Chemical Engineering, Materials Science and Engineering, Physics, Biology, Mathematics or other related fields. Official language scores may be required. Most importantly, anyone who is passionate and has highly research motivations to study membrane technology are always welcomed. Please contact with me if you have any inquiry on our research works and regarding the position as graduate level in our SEMT laboratory.			



Introduction of Laboratory

Name 성함	Surname	Lee	
	Given Name	Handol	
Position 직급	Assistant Professor	Gender 성별	Male
Department 소속학과	Environmental Engineering	Major 소속전공	Environmental Engineering (air pollution, aerosol technology, particulate matter control)
Contact Information 연락처 정보	Email	leehd@inha.ac.kr	
	Telephone	+82-32-860-7504	
	Home Page	http://pccl.inha.ac.kr/	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	Master: 2 / Ph.D.: 1
Research Field 연구분야 설명	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.		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Development of a new nanoparticle sizer equipped with a 12-channel multi-port differential mobility analyzer and multi-condensation particle counters, ATMOSPHERIC MEASUREMENT TECHNIQUES, 13(3), 1551-1562, 2020		
	Numerical investigation of nanoparticle deposition location and pattern on a sharp-bent tube wall, INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 164, 120534, 2021		
	Application of an aerosol electrical mobility spectrum analyzer: Charged-particle polarity ratio measurement in the Antarctic and Arctic regions, JOURNAL OF ENVIRONMENTAL SCIENCES, 105, 81-89, 2021		
Others 기타사항	Our lab welcomes international students for MS and PhD programs. We are open to any questions. Do not hesitate to send an email to leehd@inha.ac.kr for more information on our lab.		



Introduction of Laboratory

Name 성함	Surname	Jeon		
	Given Name	Ki-Joon		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Environmental engineering		Major 소속전공	Environmental engineering
Contact Information 연락처 정보	Email	inहाfeetlab@gmail.com		
	Telephone	+821057211195 (Vietnamese, English available)		
	Home Page	https://sites.google.com/view/inहाenvironment2/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Integrated (Ms+PhD) / PhD: 2
Research Field 연구분야 설명	Atmospheric Air quality measurements Particles emission characterization and toxicity test: <i>in-vivo</i> and <i>in-vitro</i> test Artificial PM generation Nanomaterial Nanomaterial engineering to solve environmental issues: Enhance efficiency of hydrogen energy production by utilizing electrocatalyst Development of nano-sized transistor for toxic gas sensor			
Career Achievements 업적 리스트 (Recent 3 ones)	Structural transformations of hydrogen and sulfur annealed Pt-based Chalcogenides electrocatalysis. Applied Surface Science, 2022			
	Self-healing graphene templated platinum nickel oxide heterostructures for overall water splitting. ACS nano, 2022			
	Quantification of tire wear particles in road dust from industrial and residential area in Seoul, Korea. <i>Science of The Total Environment</i> , 2021			
	Traffic-related particulate matter aggravates ocular allergic inflammation by mediating dendritic cell maturation. Journal of Toxicology and Environmental Health, 2021			



	Pd nanocluster/Monolayer MoS₂ heterojunctions for Light induced room temperature hydrogen sensing. ACS applied materials & Interfaces, 2021
Others 기타사항	2021 KAPAR and KOSAE



Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Kwan-Dong		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Geoinformatic Engineering		Major 소속전공	GPS, Autonomous Driving
Contact Information 연락처 정보	Email	kdpark@inha.ac.kr		
	Telephone	+82-32-873-4310		
	Home Page	https://www.ppsoln.com		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master __2__ / Ph.D. __2__
Research Field 연구분야 설명	High-precision GPS/GNSS data processing GPS sensor development for autonomous driving Geodesy and geophysical GPS			
Career Achievements 업적 리스트 (Recent 3 ones)	The school laboratory's name is "SNL", which stands for Satellite Navigation Laboratory.			
	The professor has founded a startup focusing on GPS/GNSS-sensor development for autonomous driving and its name is "Precise Positioning Solution Inc."			
	The professor and graduate students have published numerous GPS/GNSS-related articles in the international and Korean journals			
Others 기타사항	All the laboratory members or graduate students are working on government or industrial research projects, thus are being financially supported by the project money. Master's students and doctoral students get about 1500 and 2300 U.S. dollars per month, respectively.			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Choul-Gyun		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Department of Biological Engineering		Major 소속전공	Biological Engineering
Contact Information 연락처 정보	Email	leecg@inha.ac.kr		
	Telephone	82-32-860-8997		
	Home Page	https://p-leecg.inha.ac.kr/p-leecg/index.do		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master __1__ or Ph.D __1__
Research Field 연구분야 설명	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 <i>in-silico</i> 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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Photosynthetic production of biodiesel in <i>Synechocystis</i> sp. PCC6803 transformed with insect or plant fatty acid methyltransferase (2021)			
	Enhancing microalgal biomass productivity in floating photobioreactors with semi-permeable membranes grafted with 4-hydroxyphenethyl bromide (2020)			
	Method for mass culturing photosynthetic microalgae by additionally supplying environmental water. US Patent 10,174,282 (2019)			
Others 기타사항	We have many types of microalgal culture systems in various scales, cutting-edge analytical equipment, and downstream process reactors that students can learn to use and operate them for research. - Culture systems: Bubble columns, continuously stirred tank reactors, flat-panel photobioreactors, raceway ponds, ocean floating ponds Analytical equipment: HPLC, GC-MS, Coulter Counter, Cellometer, TOC analyzer, water analyzer, phase-contrast microscope			

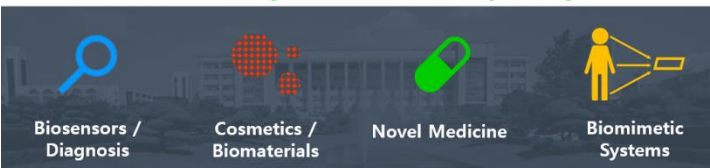


Introduction of Laboratory

Name 성함	Surname	Yang		
	Given Name	Yun Jung		
Position 직급	Assistant professor		Gender 성별	☐ Male ☒ Female
Department 소속학과	Biological engineering		Major 소속전공	Protein engineering, Tissue engineering, Scaffold design
Contact Information 연락처 정보	Email	yj.yang@inha.ac.kr		
	Telephone	+82-32-860-7512		
	Home Page	http://yanglab.creatorlink.net/INTRO		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D. <u> 1 </u>
Research Field 연구분야 설명	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.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Y.J. Yang, D.J. Mai, S. Li, M.A. Morris, and B.D Olsen, "Tuning Selective Transport of Biomolecules Through Site-Mutated Nucleoporin-Like Protein (NLP) Hydrogels", Biomacromolecules, 22(2):289-298, 2021 (I.F.: 5.738, JCR%: 6.9)			
	T.Y. Park*, Y.J. Yang*, D.H. Ha*, D. Cho, and H.J Cha, "Marine-derived Natural Polymer-based Bioprinting Ink for Biocompatible, Durable, and Controllable 3D Constructs", Biofabrication, 11(035001):1-13, 2019 (I.F.: 6.838, JCR%: 3.85)			
	Y.J. Yang, C.S. Kim, B.H. Choi and H.J. Cha, "Mechanically Durable and Biologically Favorable Protein Hydrogel based on Elastic Silklike Protein derived from Sea Anemone", Biomacromolecules 16(12):3819-3826, 2015 (I.F.: 5.738, JCR%: 6.9)			
Others 기타사항	✓ The applicant who can speak Korean or who is willing to study Korean is preferred (to mingle with lab members). ✓ Interested individuals should contact Prof. Yun Jung Yang with an electronic copy of their CV.			



Introduction of Laboratory

Name 성함	Surname	Jeon		
	Given Name	Tae-Joon		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Biological Engineering		Major 소속전공	Nanobiotechnology
Contact Information 연락처 정보	Email	tjeon@inha.ac.kr		
	Telephone	+82-32-860-7511		
	Home Page	http://bsl.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D __2__
Research Field 연구분야 설명	● Biosensors/Biochips – Virus/Pathogen Biosensors, Molecular Diagnosis ● Cells/Tissues/Organs-on-a-Chip ● Nanobiotechnology – Nanomedicine, Drug Delivery Systems ● Biomimetic Systems – Liposomes, Artificial Cells, Cosmetics			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Multicomponent-loaded vesosomal drug carrier for controlled and sustained compound release, Biomacromolecules 2023			
	Aptamer-conjugated polydiacetylene colorimetric paper chip for the detection of bacillus thuringiensis spores, Sensors 2020			
	Biomimetic membranes as potential tools for water purification: Preceding and future avenues, Desalination 2019			
Others 기타사항	Biohybrid Systems Lab (BSL) "Diversity" & "Multidisciplinary"  Virus / Pathogen Biosensors Disease Diagnosis Tissues/Organs-on-Chips Microfluidic Studies of <i>C. elegans</i> Biophysical Studies w/ Biomimetic Membranes Drug/Ion Channel Screening Platform Membrane Biosensors Biomimetic Membrane Platform  2015.5.28 THU - SH Visit our webpages @ http://BSL.inha.ac.kr			



Introduction of Laboratory

Name 성함	Surname	Lee	
	Given Name	Jeong-Hwan	
Position 직급	Assistant Professor	Gender 성별	Male
Department 소속학과	Materials Science & Engineering	Major 소속전공	Organic semiconductor devices
Contact Information 연락처 정보	Email	jeong-hwan.lee@inha.ac.kr	
	Telephone	+82-32-860-7525	
	Home Page	https://sites.google.com/view/aolinha/	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	Master ____ / Ph.D. __2__
Research Field 연구분야 설명	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		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Outstanding Young Faculty Awards 2020, Inha University		
	Small 15, 1900135 (2019)		
	Advanced Electronic Materials 5, 1800437 (2019)		
Others 기타사항	■ Ongoing Research Projects (Funding) 1. PBL oriented semiconductor equipment engineer recruits (POSEER), 2019~2024 2. PSF based blue organic light-emitting diodes with efficiency over 18%, 2019~2023 3. Low-dimensional perovskite materials and opto-electric device laboratory, 2020~2023 4. Development of OLED pixel-forming technology by photolithographic patterning method 2020~2024 5. Boosting the efficiency of perovskite light-emitting diodes by controlling the ligand of perovskite quantum dots coupled by optical simulation 2020~2021 6. Characterization of anode work-function depending on the pretreatment process 2020~2022		



Introduction of Laboratory

Name 성함	Surname	CHOI		
	Given Name	RINO		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Materials Science and Engineering		Major 소속전공	Materials Science and Engineering
Contact Information 연락처 정보	Email	rino.choi@inha.ac.kr		
	Telephone	+82 32 860 7525		
	Home Page	https://sites.google.com/view/choisinha/home		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u>6</u> / Ph.D. <u>2</u>
Research Field 연구분야 설명	CMOS Applications ■ Monolithic 3D Integration Circuit: utilizing Laser and Microwave Annealing for the low-temperature process to achieve high performance for the upper-layer device while preventing deterioration of existed layer. ■ Low-temperature process: Microwave Annealing for silicide formation and dopant activation for low-temperature process in comparison with traditional annealing methods. ■ Device Reliability: reliability assessments such as BTI, TDDB, and HCI for device analysis to guarantee a 10-year lifetime. Memory Applications: ■ Ferroelectric devices: HZO-based ferroelectric thin film fabrication utilizing ALD, RF Sputtering, and Solution processes. ■ Resistive Random Access Memory (RRAM): fabrication and characterization of ReRAM devices using CMOS technology compatible materials. Metal-Oxide Thin-Film Transistors: ■ IGZO TFTs: enhance the device mobility and reliability by passivating surface and defects using SAM treatment and hydrogen doping. ■ Indium Zinc Oxide (IZO): thin-film electrical properties improvement and low-temperature crystallization through alkali metal doping. ■ Oxide Semiconductor: low-temperature crystallization utilizing laser heat treatment. ■ MGFET Fabrication: solution for new sensor generation.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	<u>Low-temperature dopant activation using nanosecond ultra-violet laser annealing for monolithic 3D integration</u> JH Kim, HM Ji, MC Nguyen, AHT Nguyen, SW Kim, JY Baek, J Kim, ...Thin Solid Films 735 (2021) 138864			
	<u>Wakeup-free and Endurance-robust Ferroelectric Field-Effect Transistor Memory Using High Pressure Annealing</u> MC Nguyen, S Kim, K Lee, JY Yim, R Choi, D Kwon, IEEE Electron Device Letters, Vol. 42, No. 9, September 2021			
	<u>Electrical characterization of gate stack charge traps in floating body gate-all-around field-effect-transistors</u> MC Nguyen, AHT Nguyen, J Yim, AD Nguyen, M Kim, J Kim, J Beak, ...Journal of Vacuum Science & Technology B 39, 032203 (2021).			
Others 기타사항				



Introduction of Laboratory

Name 성함	Surname	Hahm		
	Given Name	Myung Gwan		
Position 직급	Associate Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Materials Science and Engineering	Major 소속전공	Materials Science and Engineering	
Contact Information 연락처 정보	Email	mghahm@inha.ac.kr		
	Telephone	+82-32-860-7524		
	Home Page	http://qnl.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master ____ / Ph.D __1__	
Research Field 연구분야 설명	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.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Catalyst-free Synthesis of sub-5nm Silicon Nanowire Arrays with Massive Lattice Contraction and Wide bandgap, Nature Communications, 13, 3467 (2022)			
	Robust, Ultrasooth Fluorinated Lithium Metal Interphase Feasible via Lithiophilic Graphene Quantum Dots for Dendrite-Less Batteries, Small, 18, 2200919 (2022)			
	Visualizing Line Defects in non-van der Waals Bi ₂ O ₂ Se using Raman Spectroscopy, ACS Nano, 16, 3637 (2022)			
Others 기타사항	All graduates accepted for our QNM Lab will be financially supported by the government grants and other research grants. The main projects of our laboratory are 1) Synthesis and 3D architecturing of quantum nanomaterials, 2) Controlled tailoring of atomic bonding structure of nanomaterials, 3) Developments of diverse futuristic applications.			



Introduction of Laboratory

Name 성함	Surname	Hwang		
	Given Name	Haejin		
Position 직급	Professor		Gender 성별	■ Male □ Female
Department 소속학과	Materials Science and Engineering		Major 소속전공	Materials Science and Engineering
Contact Information 연락처 정보	Email	hjhwang@inha.ac.kr		
	Telephone	+82-32-860-7521		
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master __1__ / Ph.D. __1__
Research Field 연구분야 설명	● 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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Fabrication and electrochemical properties of $\text{Li}_{1.3}\text{Al}_{0.3}\text{Ti}_{1.7}(\text{PO}_4)_3$ solid electrolytes by sol-gel method, Appl. Surf. Sci., 473 (2019) 622			
	Fabrication of a regenerable Ni supported NiO-MgO catalyst for methane steam reforming by exsolution, J. Power Sources, 397 (2018) 318			
	Fabrication of silica aerogel composite blankets from an aqueous silica aerogel slurry, Ceram. Inter., 44 (2018) 2204			
Others 기타사항	Our laboratory is working on four research projects; three are supported by government (NRF Korea) and one by a private company. 1) Development of composite solid electrolyte for Li-S, Li-air, and all-solid-state batteries of energy storage systems. 2) Development of hydrophobic and hydrophilic silica aerogel powder 3) Synthesis of bismuth sodium titanate perovskite nano powder for X9R MLCC application 4) Next generation electrode materials for load-proof SOFC. A monthly stipend + incentive + TA or RA scholarship will be provided.			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Gi-Woo		
Position 직급	Professor		Gender 성별	■ Male □ Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Control, Measurement
Contact Information 연락처 정보	Email	gwkim@inha.ac.kr		
	Telephone	+82-32-860-7313		
	Home Page	http://csml.inha.ac.kr/ (Control Systems and Mechatronics Lab)		
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master __1__ / Ph.D. __1__
Research Field 연구분야 설명	• Data-Driven Mechatronics : Machine Learning, Measurement, and Control • Vehicular Electronics and Smart Mobility • Piezophotonic Sensors Based on Mechanoluminescent Particles • Flexible Optoelectronic Applications for Internet of Things (IoT) • A Class of New Smart Materials for Sensors and Actuators			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Sang-Hyun Park, Dong-Hoon Lee, Sang-Eui Lee, and Gi-Woo Kim*, "Kalman filter-based loading rate-dependent hysteresis compensation of flexoelectric torsional responses in polyvinylidene fluoride films for shaft torque sensors", Mechanical Systems and Signal Processing 147 (2021) 107112			
	Yooil Kim, Gwang-Yong Jung, Jung-Sik Oh and Gi-Woo Kim*, "Dual Optical Signal-based Intraocular Pressure-sensing Principle Using Pressure-sensitive Mechanoluminescent ZnS:Cu/PDMS Soft Composite", Scientific Reports (2019) 9:15215			
	Yooil Kim, Ji-Sik Kim, and Gi-Woo Kim, "A Novel Frequency Selectivity Approach Based on Travelling Wave Propagation in Mechanoluminescence Basilar Membrane for Artificial Cochlea", Scientific Reports (IF: 4.259) 8, 12023, 2018			
Others 기타사항	Google Scholar https://scholar.google.com/citations?user=xyK3WQcAAAAJ&hl=ko ResearchGate https://www.researchgate.net/profile/Gi_Woo_Kim ORCID: https://orcid.org/0000-0003-4625-0382			



Introduction of Laboratory

Name 성함	Surname	Moon		
	Given Name	Seoksu		
Position 직급	Assistant Professor		Gender 성별	■ Male □ Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Thermodynamics & Fluid Mechanics
Contact Information 연락처 정보	Email	ss.moon@inha.ac.kr		
	Telephone	+82-32-860-7378		
	Home Page	http://neel.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D. <u> 1 </u>
Research Field 연구분야 설명	● 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			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Unraveling the initial flash boiling spray formation at the same superheated index achieved by altering ambient pressure and fuel temperature independently, International Journal of Heat and Mass Transfer, 2021.			
	Nozzle tip wetting in GDI injector at flash-boiling conditions, International Journal of Heat and Mass Transfer, 2021.			
	Unveiling needle lift dependence on near-nozzle spray dynamics of diesel injector, Fuel, 2021.			
Others 기타사항	Our lab has broad collaboration networks with foreign research institutes (Advanced Photon Source (Argonne National Lab), AIST, SPring-8) so that the graduate students can have opportunities to visit and perform the researches in abroad that will help the students to raise their global senses as well as research potentials. The students having basic knowledge on themodynamics, fluid mechanics, heat transfer and internal combustion engines are welcomed.			



Introduction of Laboratory

Name 성함	Surname	Shin		
	Given Name	Hyunseong		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Department of Mechanical Engineering		Major 소속전공	Mechanical Engineering
Contact Information 연락처 정보	Email	shs1106@inha.ac.kr		
	Telephone	82-10-9080-2530		
	Home Page	http://mmml.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master _1_ / Ph.D. _1_
Research Field 연구분야 설명	Multiscale Mechanics of Materials Laboratory at INHA University focuses on the <u>mechanics of materials</u> across the wide length and time scales (nano scale to macro scale). Currently, we concentrate on <u>multiscale modeling and simulation</u> of <u>advanced materials</u> (e.g., nano-composites, composite structures, solar cells, thin film, etc.) and <u>advanced process</u> (e.g., advanced lithography, 3D printing, etc.), by combining the classical molecular dynamics simulation, micro-mechanics theory, continuum finite element method, fracture mechanics theory.			
Career Achievements 업적 리스트 (Recent 3 ones)	<u>Hyunseong Shin</u>, Joonmyung Choi, Maenghyo Cho, " An efficient multiscale homogenization modeling approach to describe hyperelastic behavior of polymer nanocomposites ", Composites Science and Technology (ISSN: 0266-3538), 175, 128-134, Elsevier, 2019.05.03. <u>Hyunseong Shin</u>, Maenghyo Cho, " Multiscale model to predict fatigue crack propagation behavior of thermoset polymeric nanocomposites ", Composites Part A : Applied Science and Manufacturing (ISSN: 1359-835X), 99, 23-31, Elsevier, 2017.08.01. <u>Hyunseong Shin</u>, Byungjo Kim, Jin-Gyu Han, Man Young Lee, Jong Kyoo Park, Maenghyo Cho, " Fracture Toughness Enhancement of Thermoplastic/Epoxy Blends by the Plastic Yield of Toughening Agents: A Multiscale Analysis ", Composites Science and Technology (ISSN: 0266-3538), 145, 173-180, Elsevier, 2017.06.16.			
Others 기타사항				

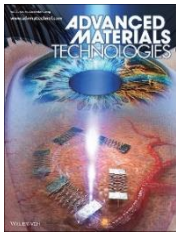
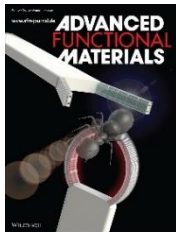


Introduction of Laboratory

Name 성함	Surname	LEE		
	Given Name	CHUL-HEE		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Solid Mechanics & Manufacturing Engineering
Contact Information 연락처 정보	Email	avdclab@outlook.com		
	Telephone	+82-860-8868		
	Home Page	http://avdclab.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u>2</u> / Ph.D. <u>2</u>
Research Field 연구분야 설명	- Virtual Product Development - Tribology / Health Monitoring - Smart System Design/Control - A.I. / Autonomous System			
Career Achievements 업적 리스트 (Recent 3 ones)	Development of a Personal Mobility System with Autonomous Driving for Agricultural Work by the Physically Challenged and the Vulnerable, 2022			
	Sensing, Perception, Decision, Planning and Action of Autonomous Excavators , 2022			
	Multi-parameter optimization-based design of lightweight vibration-reduction gear bodies, 2022			
Others 기타사항	☐ Virtual Product Development - Finite element analysis and optimization of mechanical system - Design optimization with Deep Learning - Semiconductor packaging (Hybrid printing head, Pin mounting, etc) ☐ Tribology / Health Monitoring - Tribological characteristics(Friction/Wear/Lubrication) of mechanical component/system - Contact/Wear mechanism via Experiment and FEA - Health monitoring (Fault detection/estimation) of mechanical system ☐ Smart System Design/Control - NVH control using smart material - Energy harvesting system using smart material - Motorized rehabilitation robot - Smart farm control using Deep learning ☐ A.I. / Autonomous System - Autonomous passenger/heavy construction vehicle - Smart mobility system for autonomous driving - Fault / feature detection using A.I. and Deep learning - Design and performance simulation for next generation vehicle			



Introduction of Laboratory

Name 성함	Surname	LEE		
	Given Name	Hyun-Taek		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Advanced Manufacturing
Contact Information 연락처 정보	Email	htlee@inha.ac.kr		
	Telephone	+82 32-860-7376		
	Home Page	http://imfm.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master <u>1</u> / Ph.D. <u>1</u>
Research Field 연구분야 설명	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)			
Career Achievements 업적 리스트 (Recent 3 ones)	Micro-tentacle actuators based on shape memory alloy smart soft composite, <i>Advanced Functional Materials</i> (2020) Vol.30, No.34, p.2002510 (Inside back cover)			
	Laser Controlled 65 Micrometer Long Microrobot Made of Ni-Ti Shape Memory Alloy, <i>Advanced Materials Technologies</i> (2019) Vol.4, No.12, p.1900583. (Front cover)			
	Shape memory alloy (SMA) based microscale actuators with 60% deformation rate and 1.6 kHz actuation speed, <i>Small</i> (2018) Vol.14, No.23, p.1801023 (Front cover)			
Others 기타사항	Research Highlights   			



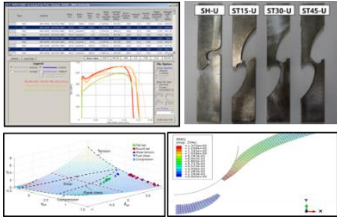
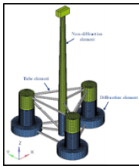
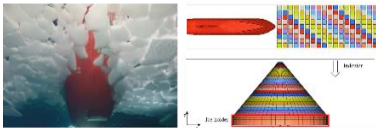
Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Il Woong		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Thermal Fluid
Contact Information 연락처 정보	Email	ilwoongpark@inha.ac.kr		
	Telephone	+82-32-860-7335		
	Home Page	https://mftel.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	Thermal management solutions based on multiphase flow - Phase-change heat transfer - Fabrication of microstructures - Thermal energy storage - Two-phase flow instabilities			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Il Woong Park , Maria Fernandino, Carlos Alberto Dorao, "Wetting state transitions over hierarchical conical microstructures," <i>Advanced Materials Interfaces</i> , 5.5, 1701039, 2018. Link *Inside Front Cover			
	Il Woong Park* , In Yeop Kang, Hyeon Jin Yong, "Flow boiling instability induced by the coexistence of ejecting and sliding bubbles in subcooled flow boiling," <i>International Journal of Heat and Mass Transfer</i> , 179, 121711, 2021			
	Il Woong Park , In Yeop Kang, Jia Yu, Yeon-Gun Lee, "Bubble lift-off diameter of lifting-off and ejecting bubbles in subcooled flow boiling," <i>International Communications in Heat and Mass Transfer</i> , 129, 105727, 2021			
Others 기타사항				

※ 영어로 작성해 주십시오.



Introduction of Laboratory

Name	Surname	Choung		
	Given Name	Joonmo		
Position	Full professor	Gender	☒ Male ☐ Female	
Department	naval arch. and ocean eng.	Major	Ship and offshore structures	
Contact Information	Email	jmchoung@inha.ac.kr		
	Telephone	+82 10 8604 7346		
	Home Page	http://sose.inha.ac.kr/		
Monthly Stipend Provided or Not	☒ Yes ☐ No	Required Manpower	Master (2 vacancies) Ph.D. (2 vacancies)	
Research Field	▪ 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			
Career Achievements	Student can study the problems that they introduced or identified. Students can concentrate on special projects. Students can be author of popular publications.			
Others	▪ Laboratory facilities - 50tonf UTM for monotonic strength tests and cyclic fatigue tests suited with temperature chamber from -200 to +300 - 5tonf HTM for high speed strain rate tests suited with temperature chamber			
	▪ 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			



Introduction of Laboratory

Name 성함	Surname	Kwak		
	Given Name	Hyo-Bum		
Position 직급	Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Program in Biomedical Science & Engineering	Major 소속전공	Exercise Physiology	
Contact Information 연락처 정보	Email	kwakhb@inha.ac.kr		
	Telephone	+82-032-860-8183		
	Home Page	http://iem.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	(How Many) Master <u>1</u> / Ph.D. <u>1</u>	
Research Field 연구분야 설명	- 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			
Career Achievements 업적 리스트 (Recent 3 ones)	Moderate aerobic exercise training ameliorates impairment of mitochondrial function and dynamics in skeletal muscle of high-fat diet-induced obese mice, FASEB J, 35(2): e21340, 2021			
	Re-setting the circadian clock using exercise against sarcopenia, Int J Mol Sci, 21(9): 3106, 2020			
	Effects of aging and exercise training on mitochondrial function and apoptosis in the rat heart, Pflugers Arch, 472(2): 179-193, 2020			
Others 기타사항	■ Ongoing Research Projects (Funding) - Development of healthy aging technology against sarcopenia based on integrative exercise medicine (2019 - 2025) - Beneficial effects and mechanisms of exercise training on sarcopenic obesity-induced metabolic diseases (2018 - 2023) - BK21 Program in Biomedical Science and Engineering (2020 – 2027) ■ My Current Lab Members 			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Dong Wook		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Chemistry		Major 소속전공	Organic Chemistry
Contact Information 연락처 정보	Email	kimdw@inha.ac.kr		
	Telephone	032-860-7679		
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D. <u>2</u>
Research Field 연구분야 설명	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.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Production of Metal-Free C, N Alternating Nanoplatelets and Their In Vivo Fluorescence Imaging Performance without Labeling. <i>Adv. Funct. Mater.</i> 2020 , 30, 2004800 (IF: 16.836)			
	Macrophage cell tracking PET imaging using mesoporous silica nanoparticles via in vivo bioorthogonal F-18 labeling. <i>Biomaterials</i> 2019 , 199, 32–39 (IF: 10.317)			
	Hydrogen-bond promoted nucleophilic fluorination: concept, mechanism and applications in positron emission tomography. <i>Chem. Soc. Rev.</i> 2016 , 45, 4638 (IF: 40.443)			
Others 기타사항	Based on knowledge of organic chemistry, our group has developed labeling method of radioisotope and modified model compound to an adequate labeled compound with a reasonable pharmacophore model. Interdisciplinary our research program integrates concepts from medicinal chemistry, labeling chemistry, and organic synthesis/methodology, which target new radiopharmaceuticals with the help of noninvasive imaging techniques for in vitro and in vivo characterization. The diagram illustrates a research workflow for developing molecular imaging probes. It starts with the 'Design of peptide/NP/low molecular imaging probes' and 'Phase transfer catalyst for RI labeling and SN2 reactions'. This leads to a 'Precursor' stage, which then undergoes 'F-18' labeling to become a 'Precursor' again. This stage feeds into a 'Feed back system' which involves 'Evaluation of In vivo imaging and feed back'. The final output is 'Obtaining the optimized molecular imaging probes'. The 'Final Goal' is 'Development of molecular imaging probes using radio-labeling technology based on organic chemistry'. Other goals include 'Development of phase transfer catalysts for SN2 reactions and F-18 radiolabeling method', 'Design and Synthesis of low molecular based radiopharmaceuticals for molecular imaging study', 'Development of peptide or nano-material based molecular imaging probes using Click Chemistry', and 'Evaluation of these probes using molecular imaging (PET, SPECT, MR, Optical)'.			



Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Soo-Jin		
Position 직급	Professor		Gender 성별	■ Male □ Female
Department 소속학과	Department of Chemistry		Major 소속전공	Surface chemistry
Contact Information 연락처 정보	Email	sjpark@inha.ac.kr		
	Telephone	+82-32-876-7234		
	Home Page	sjpark.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master ____ / Ph.D ____1__
Research Field 연구분야 설명	Carbonaceous materials Polymer composites Interface science Energy storage materials			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Supercapacitors: Large-Scale Conductive Yarns Based on Twistable Korean Traditional Paper (Hanji) for Supercapacitor Applications: Toward High-Performance Paper Supercapacitors / <i>Advanced Energy Materials</i> 8 , 1801854			
	Facile construction of MoO ₃ @ZIF-8 core-shell nanorods for efficient photoreduction of aqueous Cr (VI) / <i>Applied Catalyst B: Environmental</i> 240 , 92-101			
	A rational design of cellulose-based heteroatom-doped porous carbons: Promising contenders for CO ₂ adsorption and separation / <i>Chemical Engineering Journal</i> 420 , 130421			
Others 기타사항	All graduates accepted for our Lab will be financially supported by the government grants and other research grants. The main projects of our laboratory are as below. - Development of Intermetallic catalyst (IMC) model and decomposition of diesel vehicle exhaust emissions - Development of photocatalysts-based frame for VOCs adsorption and removal - Development of GDL (Gas diffusion layer) system and its model predictive control system - Development of lithium pretreatment technology to improve the irreversible 90% and high-capacity anode materials for electric vehicles			



Introduction of Laboratory

Name 성함	Surname	Kang		
	Given Name	Dong Won		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Chemistry		Major 소속전공	Inorganic Chemistry
Contact Information 연락처 정보	Email	dwkang@inha.ac.kr		
	Telephone	+82-32-860-7675		
	Home Page	https://sites.google.com/view/imekang/home?pli=1		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D __1__
Research Field 연구분야 설명	Research Field: Inorganic Chemistry, Material Chemistry, Molecular Engineering - Design, synthesis, characterization, and postsynthetic functionalization of two or three-dimensional covalent-organic frameworks (COFs), metal-organic frameworks (MOFs), porous organic polymers (POPs), and hydrogen-bonded organic frameworks (HOFs). Furthermore, we have focused composite materials containing emerging porous materials for practical applications like gas capture, photocatalysis, and advanced therapeutics			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Wavelength engineerable porous organic polymer photosensitizers with protonation triggered ROS generation", <i>Nat. Commun.</i> 2023 , 14, 1498.			
	Enhanced Energy Transfer in A π -Conjugated Covalent Organic Framework Facilitates Excited-State Nickel Catalysis", <i>Angew. Chem. Int. Ed.</i> 2023 , 135(11), e202218908.			
	Post-synthetic modifications in porous organic polymers for biomedical and related applications" <i>Chem. Soc. Rev.</i> 2022 , 51(1), 43-56.			
Others 기타사항	We're recruiting foreign graduate students. We pursue a democratic and social lab environment rather than a hierarchical one. ALL applicants MUST have fluent English language skills (If you can speak Korean, it is better but not important)." Monthly Stipend is dependent on current funding situation. Please join us in the Fall semester of 2024, not the Spring semester of 2024.			



Introduction of Laboratory

Name 성함	Surname	Min		
	Given Name	Kyung-Jin		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Biological Sciences		Major 소속전공	Biology of Aging
Contact Information 연락처 정보	Email	minkj@inha.ac.kr		
	Telephone	+82-32-860-8193		
	Home Page	http://biogerontology.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master ____ / Ph.D. ____
Research Field 연구분야 설명	▶ Study of Dietary Restriction and Longevity ▶ Searching for Anti-aging Drugs and Its Mechanisms ▶ Microbiota and Aging ▶ Physiological Response to Low Dose Radiation			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Mechanisms of Lifespan Regulation by Calorie Restriction and Intermittent Fasting in Model Organisms, Nutrient (2020), 12(4): 1194-1217			
	Asparaginyl-tRNA Synthetase, a Novel Component of Hippo Signaling, Binds to Salvador and Enhances Yorkie-Mediated Tumorigenesis, Frontiers in Cell and Developmental Biology (2020), 8(32): 1-13			
	Transplantation of ACE2- Mesenchymal Stem Cells Improves the Outcome of Patients with COVID-19 Pneumonia, Aging and Disease (2020), 11(2): 216-228			
Others 기타사항	Lab. of Biogerontology in Inha University Our lab has currently one post-doc and one PhD student, and has been supported by National Research Foundation of Korea. We can provide the fi supports for your study.			



Introduction of Laboratory

Name 성함	Surname	Cho		
	Given Name	Jang-Cheon		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Biological Sciences		Major 소속전공	Microbiology Molecular Microbial Ecology
Contact Information 연락처 정보	Email	chojc@inha.ac.kr		
	Telephone	+82-32-860-7711		
	Home Page	http://www.cholabinha.org		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master <u>2</u> / Ph.D. <u>2</u>
Research Field 연구분야 설명	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			
Career Achievements 업적 리스트 (Recent 3 ones)	2020. Freshwater viral metagenome reveals novel and functional phage-borne antibiotic resistance genes. <i>Microbiome</i> 8:75.			
	2019. Culturing the ubiquitous freshwater actinobacterial acl lineage by supplying a biochemical 'helper' catalase. <i>ISME J.</i> 13(9):2252-2263			
	2019. Spindle-shaped viruses infect marine ammonia-oxidizing thaumarchaea. <i>Proc. Natl. Acad. Sci (USA)</i> . 116(31):15645-15650.			
Others 기타사항	My lab has currently 1 research professor, 3 post-docs, 2 PhD students and 3 master students. They are all supported by national research grants. Recently the department has won a grant called BK21-Four, designed for supporting graduate students' scholarship and stipend funded by Korea NRF. My lab maintains "High-Throughput Bacterial Culture Collection" called IMCC, containing over 10,000 bacterial strains, so graduate students may start their research without delay.			

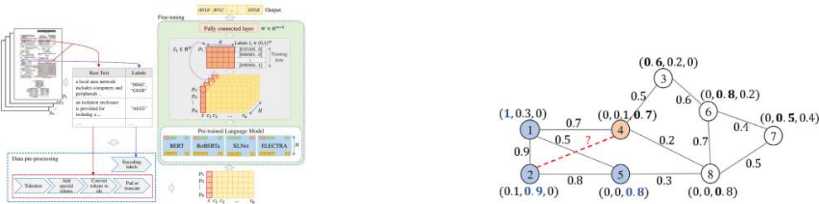


Introduction of Laboratory

Name 성함	Surname	Son	
	Given Name	Sejin	
Position 직급	Associate Professor	Gender 성별	Female
Department 소속학과	Biological Science	Major 소속전공	Biomedical Science
Contact Information 연락처 정보	Email	ssejin@inha.ac.kr	
	Telephone	032-860-7693	
	Home Page	https://www.son-lab.com	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	Master ____ / Ph.D __2__
Research Field 연구분야 설명	Son Laboratory is interested in elucidating how biomaterials interact with biological environment and coordinate biological/immunological functions, in order to better deal with the complexity of disease progression. As disease is getting complicated, our team seeks to design, construct, and evaluate an unique, sophisticated bio- and nano-systems capable of interacting with disease microenvironment to promote the precise action of biopharmaceuticals including genes, vaccine components, and antibodies. With solid ground on PI's diverse research and educational backgrounds covering biomaterials, bioengineering, micro- and nanotechnologies, immune-oncology and gene therapy, our team aims to develop new and multidisciplinary biomaterials-based tools and principles to modulate immune responses and promote the precise action of biopharmaceuticals for cancer, infectious disease, and autoimmune disease. The proposed studies will not only contribute to understanding of the largely unexplored interdisciplinary research areas of material science, immunology and cancer biology, but also promote clinical translation of new immunotherapies.		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Cancer nanomedicine for combination cancer immunotherapy , 2019, Nature Reviews Materials 4(6), 398-414		
	Modularly Programmable Nanoparticle Vaccine Based on Polyethyleneimine for Personalized Cancer Immunotherapy , 2021, Advanced Science 8 (5), 2002577		
	Sugar-nanocapsules imprinted with microbial molecular patterns for mRNA vaccination , 2020, Nano letters 20 (3), 1499-1509		
Others 기타사항	● PI, Sejin Son, has built diverse research backgrounds in biomedical research covering biomaterials, gene therapy, vaccine, and cancer immunotherapy in preclinical setting to make technology translation, resulting in publications in many high profile journals including Nature Biomedical Engineering (In revision), Nature Review Materials, Nature Communications, Advanced Science, ACS nano, Advanced Functional Materials, Nano Letters, and many others. ● PI has been working with many students from diverse backgrounds in gender, ethnicity (Vietnam, Myanmar, Canada, India, Pakistan, Canada, US...) culture, and research fields at Harvard Medical School and University of Michigan for 8 years. ● She has mentored more than 12 students providing them with guidance in career development as well as technical skills in bench work. ● You are strongly encouraged to apply the lab if you are self-driven and highly motivated student to improve your technical skills in this cutting-edge and hot research topic and to culture leadership to be a promising independent scientist in coming years. ● Benefit: Eligible students expect to receive full support of living cost, and attending international conferences.		



Introduction of Laboratory

Name 성함	Surname	Lee	
	Given Name	Wookey	
Position 직급	Full Professor	Gender 성별	Male
Department 소속학과	Industrial Engineering, Biomedical Science Engineering(BMSE), Industrial Security Governance	Major 소속전공	Database, Deep Learning
Contact Information 연락처 정보	Email	trinity@inha.ac.kr	
	Telephone	+82)032-860-7371	
	Home Page	-	
Monthly Stipend Provided or Not 생활비 지급 의사	Yes	Required Manpower 필요인력 수	Master ____ / Ph.D _3_
Research Field 연구분야 설명	 - Director: VOICE AI Institute, Inha University - IEEE TCDE executive committee member - Chairs: APweb, BigComp, CIKM, Dasfaa, EDB, ITA/EA, KJDB, etc - Big data-based patent portfolio system - Development of artificial intelligence talking system for speech impaired patients - A study on the problem the structural complexity of Big data networks - Development of AI Convergence Technology for Productivity Innovation in Smart City Industry - Conceptual Design Development of Knowledge Base Framework for Knowledge-Based Plant O&M		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Jafar Afshar, Arousha Haghighian Roudsari, Wookey Lee: Top-k team synergy problem: Capturing team synergy based on C3. Inf. Sci. 589: 117-141 (2022)		
	Arousha Haghighian Roudsari, Jafar Afshar, Wookey Lee, Suan Lee: PatentNet: multi-label classification of patent documents using deep learning based language understanding. Scientometrics 127(1): 207-231 (2022)		
	Wookey Lee, Jessica Jiwon Seong, Busra Ozlu, Bong Sup Shim, Azizbek Marakhimov, Suan Lee: Biosignal Sensors and Deep Learning-Based Speech Recognition: A Review. Sensors 21(4): 1399 (2021)		
Others 기타사항	We are recruiting passionate students. Who has high interest on Deep Learning		



Introduction of Laboratory

Name	Surname	Lee		
	Given Name	Guan-hong		
Position	Professor	Gender	✓ Male □ Female	
Department	Ocean Sciences	Major	Oceanography	
Contact Information	Email	ghlee@inha.ac.kr		
	Telephone	+82-32-860-7707		
	Home Page	https://p-ghlee.inha.ac.kr		
Monthly Stipend Provided or Not	✓ Yes □ No	Required Manpower	(How Many) Master ____ / Ph.D.. <u>1</u>	
Research Field 연구분야 설명	RESEARCH AREA: • Hydrodynamics • Sediment Dynamics • Coastal and Estuarine Morphodynamics The Coastal and Estuarine Morphodynamics Laboratory (CEML) explores the complex hydrodynamics and sediment transport of both the coastal and estuarine environments. Nowadays, humans have modified these environments through large coastal projects, which eventually changed the dominant processes. To aid our understanding, we utilize survey instruments such as RTK-GPS, altimeters, and UAVs to collect survey data. These data are visualized using GIS software (e.g., ArcGIS) and are analyzed to understand morphological changes. We then deploy field instruments such as ADV, ADCP, OBS, and ABS to measure flow velocity and suspended sediment concentration to understand sediment dynamics of morphologic changes. Recently, we employed numerical models to gain a holistic understanding of the spatiotemporal variation of sediment transport and morphodynamics, and to predict the morphologic change due to sea-level rise and anthropogenic alterations.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Jung, N. W., et al. (2021). MorphEst: An Automated Toolbox for Measuring Estuarine Planform Geometry from Remotely Sensed Imagery and Its Application to the South Korean Coast. <i>Remote Sensing</i>, 13(2), 330.			
	Chang, J., et al. (2020). Sediment transport mechanisms in altered depositional environments of the Anthropocene Nakdong Estuary: A numerical modeling study. <i>Marine Geology</i>, 106364.			
	Figueroa, S. M., et al. (2020). Evaluation of along-channel sediment flux gradients in an anthropocene estuary with an estuarine dam. <i>Marine Geology</i>, 429, 106318.			
Others 기타사항	GIS (Geomorphology) IN-SITU FIELD DATA (Hydrodynamics) NUMERICAL MODELING (Sediment Transport)			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Jae Woo		
Position 직급	Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Physics	Major 소속전공	Statistical Physics	
Contact Information 연락처 정보	Email	jaewlee@inha.ac.kr		
	Telephone	82-32-860-7660		
	Home Page	https://sites.google.com/view/compsysbdai/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>	
Research Field 연구분야 설명	Complex Systems AI Big Data Lab We are interesting to topics complex systems, machine learning, artificial intelligence, big data based on statistical physics and critical phenomena Research Area ● Complex Systems and Complex Networks ● Nonequilibrium statistical physics ● Econophysics ● Social Physics ● Ecological Systems and Ecological Networks ● Brain Dynamics and Self-Organized Criticality ● Futures Studies			
Three Recent Career Achievements 업적 리스트 (최근 세건)	B. J. Mafwele and J. W. Lee, "Relationships between transmission of malaria in Africa and climate factors", Sci. Rep. 12, 14392 (2022).			
	N. Jung et al. "Avalanche size distribution of an integrate-and-fire neural model on complex networks", Chaos 30, 063118 (2020).			
	J. W. Lee and A. Nobi, "State and network structures of stock markets around the global financial crisis", Computational Economics 51, 195-210 (2018) (SSCI).			
Others 기타사항	Current international students: 1. Quang Anh Le, Vietnam Former students 1. Ashadun Nobi, Bangladeshi (Now, Professor in Bangladeshi) 2. Biseco Juma Mafwele, Tanzania (Now, Researcher in Tanzania) I recommend that you apply to GKS (Global Korea Scholarship: http:// www.studyinkorea.go.kr)			



Introduction of Laboratory

Name 성함	Surname	Jung		
	Given Name	JongHoon		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Physics		Major 소속전공	Condensed Matter Experiments
Contact Information 연락처 정보	Email	jhjung@inha.ac.kr		
	Telephone	+82-32-860-7659		
	Home Page	https://qfml.cafe24.com/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	Master __1__ / Ph.D __1__
Research Field 연구분야 설명	We are aiming at (i) the synthesis of transition-metal oxide (sulfide, nitride) with single crystal, thin film, and nano-particle(rod) forms, (ii) the understanding of their physical (structural, electrical, magnetic, and optical) properties through the close correlation between charge, spin, orbital, and lattice degrees of freedom, and (iii) the realization of new functional devices related to information technology and energy-harvesting technology. Current Topics - Basic Science and Technological Application of Contact Electrification - Emerging Phenomena in Flexible Transition Metal Oxides			
Three Recent Career Achievements 업적 리스트 (최근 세건)	D. W. Lee et al., Correlation between Frictional Heat and Triboelectric Charge: In operando Temperature Measurement during Metal-Polymer Physical Contact, Nano Energy. 103, 107813 (2022)			
	D. G. Jeong et al., On the Origin of Enhanced Power Output in Ferroelectric Polymer-based Triboelectric Nanogenerators: Role of Dipole Charge versus Piezoelectric Charge, Nano Energy. 103, 107806 (2022)			
	H. S. Kim et al., Ferroelectrically augmented contact electrification enables efficient acoustic energy transfer through liquid and solid media, Energy Environ. Sci. 15, 1243 (2022)			
Others 기타사항	Current international Post-Doc. 1. Dheeraj Kumar (India) Former international Post-Doc. and student 1. Naresh Kumar (India) [Current: Professor, Motilal Nehru National Institute of Technology] 2. Taufik Bonaedy (Indonesia) [Current: Researcher in Indonesia] 3. Preetam Singh (India) [Current: Research Associate, Centre of Nanotechnology, Indian Institute of Technology Roorkee] 4. Huidrom Hemojit Singh (India) [Current: DST INSPIRE Faculty, National Institute of Technology Manipur]			



Introduction of Laboratory

Name 성함	Surname	Kang		
	Given Name	Ju-Hee		
Position 직급	Full Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Pharmacology, College of Medicine	Major 소속전공	Pharmacology	
Contact Information 연락처 정보	Email	johykang@inha.ac.kr		
	Telephone	+82-32-860-9872		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	(How Many) Master ____ / Ph.D. <u>1</u>	
Research Field 연구분야 설명	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.			
Career Achievements 업적 리스트 (Recent 3 ones)	Moon S., et al. Enrichment of Exosome-Like Extracellular Vesicles from Plasma Suitable for Clinical Vesicular miRNA Biomarker Research. (2019) Journal of Clinical Medicine, 8(11) E1995			
	Kim S, et al., Roles of Exosome-Like Vesicles Released from Inflammatory C2C12 Myotubes: Regulation of Myocyte Differentiation and Myokine Expression. (2018) Cellular Physiology and Biochemistry, 48:1829-1842.			
	Kang JH, et al., CSF biomarkers associated with disease heterogeneity in early Parkinson's disease: the Parkinson's Progression Markers Initiative study. (2016) Acta Neuropathologica, 131:935-949			
Others 기타사항	Currently, 1 senior researcher, 1 research associate and 2 graduate students work in my lab. They work several projects which are supported by national research grants. Monthly stipend will be provided, however, it should be noted that the amount of stipend will be dependent on the grants available. The high level of English (score of IBT≥80, IELTS≥6.0) or Korean (TOPIK≥3) is required to join my lab. NOTE: The information above should be used for appropriate purpose, therefore please don't release other institutions or universities without permission.			



Introduction of Laboratory

Name 성함	Surname	Yi		
	Given Name	Jin Wook		
Position 직급	Assistant Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Medicine, Surgery		Major 소속전공	Endocrine surgery
Contact Information 연락처 정보	Email	jinwook.yi@inha.ac.kr		
	Telephone	+82-32-890-3437		
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	☐ Yes ☒ No		Required Manpower 필요인력 수	Master <u>1</u> / Ph.D <u>1</u>
Research Field 연구분야 설명	Target organ: thyroid cancer, parathyroid and adrenal tumor Research field: Cancer bioinformatics - Available frozen stored cancer tissue and cancer cell lines - Biomedical data analysis from microarray and NGS (RNA sequencing) - Basic biologic experiments: cell culture, RT-PCR, Western blot, etc.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Choi YS, Choi SW, Yi JW. Prospective Analysis of TERT Promoter Mutations in Papillary Thyroid Carcinoma at a Single Institution. J Clin Med. 2021 May 18;10(10):2179.			
	Kwon JH, Yi JW. Correlation between telomerase reverse transcriptase messenger RNA expression and survival of patients with papillary thyroid carcinoma. Surgery. 2021 Jan;169(1):43-49.			
	Kim M, Kim SJ, Xu Z, Ha SY, Byeon JH, Kang EJ, Shin SH, Yoo SK, Jee HG, Yoon SG, Yi JW, Bae JM, Yu HW, Chai YJ, Cho SW, Choi JY, Lee KE, Han W. BRAFV600E Transduction of an SV40-Immortalized Normal Human Thyroid Cell Line Induces Dedifferentiated Thyroid Carcinogenesis in a Mouse Xenograft Model. Thyroid. 2020 Apr;30(4):487-500.			
Others 기타사항	Endocrine surgery is a field of general surgery that gives surgical treatment for various endocrine disorders, such as thyroid, parathyroid and adrenal gland. In the modern society, endocrine surgery is becoming more important because the increased incidence of endocrine related cancers and hormone associated structural disease. My laboratory is equipped with an environment where basic research can be performed using surgically removed endocrine cancer tissue and cancer cell lines. In particular, I have abundant experience in research related to microarray and next-generation sequencing, so I can teach students about clinical application using the biomedical big data analysis. Currently, research is being carried out as a national project to confirm cell appearance, genomic and epigenetic changes by culturing various cancer cells in a zero-gravity environment. I would like to have the opportunity to do research with a sincere student who will study together.			



Introduction of Laboratory

Name 성함	Surname	Choi		
	Given Name	Jeong-Seok		
Position 직급	Professor	Gender 성별	☒ Male ☐ Female	
Department 소속학과	Medicine	Major 소속전공	Otorhinolaryngology- Head and Neck Surgery	
Contact Information 연락처 정보	Email	jschoi@inha.ac.kr		
	Telephone	+82-32-890-2438		
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No	Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>	
Research Field 연구분야 설명	Study for the Mechanism of Salivary Gland Dysfunction and the Development of New Therapeutics Our main research interest is in the development of new treatments by identifying the mechanisms of salivary gland dysfunctions including: ● Anti-cancer therapy induced salivary gland damage ● Salivary gland aging and anti-aging drug ● Autologous stem cell transplantation and stem cell derived exosome therapy ● Salivary epithelial cell culture (2D, 3D, organoid) ● Modulation of salivary gland function using Gravity controlling system ● Crosstalk signaling pathway between salivary epithelial cells and neural cells			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Adiponectin is associated with inflammaging and age-related salivary gland lipid accumulation. Aging (Albany NY) 2023 Mar 27;15(6):1840-1858.			
	Platelet-rich plasma loaded nerve guidance conduit as implantable biocompatible materials for recurrent laryngeal nerve regeneration NPJ Regen Med 2022 Sep 14;7(1):49			
	Cell-derived vesicles from adipose-derived mesenchymal stem cells ameliorate irradiation-induced salivary gland cell damage Regen Ther. 2022 Oct 18;21:453-459.			
Others 기타사항	- All graduates accepted for our lab will be financially supported by the government grants and other research grants.			



Introduction of Laboratory

Name 성함	Surname	Jung		
	Given Name	Young-Jin		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Graduate School of Law		Major 소속전공	Corporation Law, Bankruptcy Law, Data Law, AI Law etc
Contact Information 연락처 정보	Email / WeChat	junglaw@inha.ac.kr / neovarsa		
	Telephone	+82(0)10-6394-5050		
	Home Page	https://ilseng.inha.ac.kr/user/ilseng/		
Monthly Stipend Provided or Not 생활비 지급 의사	☐ Yes ☒ No		Required Manpower 필요인력 수	Master 5 / Ph.D. 5
Research Field 연구분야 설명	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.			
Brief Record of Prof. Dr. Dr. Jung 약력	Director of Chinese Law Center of INHA Law School			
	Vice Chairman of the Korea-China Society of Law			
	Ph.D. in Law (East China University of Political Science and Law, 2020) Ph.D. in Law (Korea University, 2013) LL.M (Northwestern Law School, 2003) Attorney (N.Y. Bar Association, 2004) Attorney (Korean Bar Association, 1999)			
Others 기타사항	You can contact us by mail, phone, email, or visit our office at any time for any request or inquire in Chinese/English/Korean. Contact Person: Prof./Dr. JUNG Young Jin(丁莹镇) Telephone: +82(0)10-6394-5050 E-mail: junglaw@inha.ac.kr WeChat ID: neovarsa			



Introduction of Laboratory

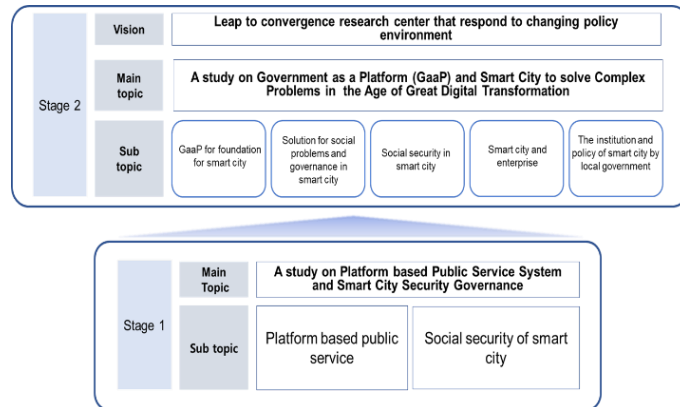
Name 성함	Surname	Myeong		
	Given Name	Seunghwan		
Position 직급	Professor		Gender 성별	■ Male □ Female
Department 소속학과	Public administration		Major 소속전공	Industrial security governance
Contact Information 연락처 정보	Email	shmyeong@inha.ac.kr		
	Telephone	+82)328607951		
	Home Page	https://inhacs.modoo.at/		
Monthly Stipend Provided or Not 생활비 지급 의사	■ Yes □ No		Required Manpower 필요인력 수	Master 3 / Ph.D 3
Research Field 연구분야 설명	© Center for Security Convergence and eGovernance(CSCeG) was established to conduct e-Governance, smart city, various informatization issues, and convergence security research.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Bokhari, S. A. A., & Myeong, S. (2022). Artificial Intelligence-Based Technological-Oriented Knowledge Management, Innovation, and E-Service Delivery in Smart Cities: Moderating Role of E-Governance. <i>Applied Sciences</i> , 12(17), 8732.			
	Aftab, M., & Myeong, S. (2022). An analysis of foreign residents' perceptions and behaviors regarding digital government portal services in the Republic of South Korea. <i>International Review of Administrative Sciences</i> , 1~19.			
	Seo, H., & Myeong, S. (2022). Effects of Application of Information on the Expectations of Benefits from GaaP: Moderating Effects from Perceptions of IIT. <i>Sustainability</i> , 14(3), 1624.			



Others
기타사항

◎ CSCeG was selected for the Humanities and Social Research Institute project by National Research Foundation of Korea to deal with the research topics; Government as a Platform(GaaP), Smart city, social safety and security research.

◎ The center is conducting stage 2 (Main research topic: A study on Government as a Platform (GaaP) and Smart City to solve Complex Problems in the Age of Great Digital Transformation) after passing stage 1 evaluation at present.



◎ Five sub topics that include the issues for GaaP and smart city for stage 2 research purpose. The sub topics have each detail topic for in-depth research and each detail topic has complementarity.

- 1) *GaaP for foundation for smart city*: Conducting research on status of local smart city for local GaaP, analysis of the effect on application of new technology, various stakeholders in GaaP
- 2) *Solution for social problems and governance in smart city*: Conducting research on conceptualization of various social problems in smart city and civic engagement model like living lab for establishing citizen driven smart city
- 3) *Social security in smart city*: Conducting research on classification of various risk factor from smart city service and prediction and measures against risk factor of smart city
- 4) *Smart city and enterprise*: Conducting research on security status of the enterprises and behavior of security of employee with focusing on the enterprises that offer smart city service
- 5) *The institution and policy of smart city by local government*: Conducting research on barriers and solution in implementation of smart city and reorganization of local government for local smart city



Introduction of Laboratory

Name 성함	Surname	Kim(Oh)		
	Given Name	Youngsoon(Youngsub)		
Position 직급	Professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	The Convergence Institute for Multicultural Studies(CIMS): Department of Multicultural Education, Program in Humanities Therapy		Major 소속전공	Cultural Study
Contact Information 연락처 정보	Email	kimysoon@inha.ac.kr		
	Telephone	032-860-7867, 032-860-8741(CIMS Office)		
	Home Page	1. The Convergence Institute for Multicultural Studies http://www.cims.kr 2. BK21FOUR Research Division for Global Multiculture Education http://multicultural-inha.com/ 3. Humanities Convergence Therapy Center http://humanct.com/		
Monthly Stipend Provided or Not 생활비 지급 의사	☒ Yes ☐ No		Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D __9__
Research Field 연구분야 설명	1. Multicultural Education - Multicultural Education Policy - Multicultural Leisure - Korean Language - Multicultural Economic Education - Multicultural Literacy - Multicultural Law - Multicultural Literary and Practice 2. Humanities Therapy - Narrative therapy - Psychotherapy and Communication - Art convergence therapy - Drama/Film convergence therapy - Music convergence therapy - Literature convergence therapy			
Three Recent Career	Theories and Scholars of Multicultural Education (Book Korea, 2017)			



Achievements 업적 리스트 (최근 3 건)	Multicultural Education and Coexistence Humanities (DBbooks, 2017)
	Homo Narraticus (Paradigm Book, 2022)
Others 기타사항	1. Department of multicultural education was established in 2011 in order to cultivate academic and practical leaders and experts in multicultural education by analyzing policies and practices necessary for social integration of foreigners residing in Korea in response to such changes and demands of the times. Faculty members consist of diverse majors from Social Education, Korean Language Education, and Arts and Sports. Courses include multicultural education theory, educational policy theory, multicultural curriculum theory, multicultural family child education and counseling, multicultural education leadership, Korean language and culture education theory, multicultural counseling, and multicultural welfare. Master/Ph.D degrees in education are granted if the required credits, major exams, thesis, etc. are completed. 2. Program in Humanities Therapy was established in 2018 in order to actively cope with integrative therapeutic approach to factors that threaten the physical and mental health of modern people in our rapidly changing society. This program aims to help modern people cope with physical and mental problems by utilizing various field of humanities, art and media, leading emotional recognition and rich lives as well as physical health. In connection with various studies such as pedagogy, medicine, psychology, sociology, and counseling studies, this program actively exchange knowledge and explore academic theories and treatment methods in depth. In addition, this program trains experts in music, art, dance, and literature through field-oriented clinical training in cooperation with related institutions such as nearby university hospitals, social welfare institutions, and community service and counseling centers. As humanities convergence counseling experts, graduates from this program will work in hospitals, special clinics, social welfare institutions, children and youth centers, cultural centers, rehabilitation centers, nursing homes, and research institutes. 3. Scholarship: - Diverse opportunities of on-campus scholarships and off-campus scholarship may be provided including Inha Vision Scholarship, etc. - If chosen as BK graduate students, BK21 Research Division for Glocal Multiculture Education may provide monthly stipend from BK21(Brain of Korea 21) Research Scholarship (Master \$600~700, Ph.D \$1,000~1,200).



Introduction of Laboratory

Name 성함	Surname	Cho		
	Given Name	Young min		
Position 직급	professor		Gender 성별	☒ Male ☐ Female
Department 소속학과	Design convergence		Major 소속전공	Graphic design
Contact Information 연락처 정보	Email	megeneration@inha.ac.kr		
	Telephone	032-860-7898		
	Home Page	www.choym.com		
Monthly Stipend Provided or Not 생활비 지급 의사	() Yes (o) No		Required Manpower 필요인력 수	Master <u>1-2</u> / Ph.D. <u> </u>
Research Field 연구분야 설명	All fields about visual communication design - Graphic design - Identity design - Brand strategy & design - Package design			
Three Recent Career Achievements 업적 리스트 (최근 세건)	2020 - Brand Identity Design, INFACE			
	2020 - Naming & Product (Vanding Machine) Design for Social Economy 'soft box'			
	Character Design of KFGO (Korea Federation of Former Government Officials) 'MARU & MAREE'			
Others 기타사항	Brand Strategy Lab, Dept. Visual Communication, Inha University is Think-Tank for experimental visual solution through various design strategy, visual expression, and process by joining with undergraduate and graduated students as well as professor Cho, young min			



Language Eligibility ①

Those who meet one of below 3 options are allowed to apply

- Applicants who have TOPIK level 3 or above
- Applicants who have obtained level 3 or above in the Korean language proficiency test held by Inha University.
- Applicants who have completed level 4 or higher of the Korean language course established by university in Korea (level 5 or higher is needed for the department of which eligibility is TOPIK 4, level 6 is needed for the departments of which eligibility is TOPIK 5)

Language Eligibility ②

Those who meet one of below 4 options are allowed to apply

- Applicants who meet the “Language Eligibility ①” above
- Applicants who have English proficiency certificate of below score/level or above
TOEFL (IBT 71), TOEIC (700), IELTS (5.5), NEW TEPS(327), TOEFL (IBT Special Home Edition 71), IELTS Indicator (5.5), Duolingo English Test (90)
- Applicants who want to apply for the digital business major must satisfy English Eligibility.
- Applicant who has completed degree program(Bachelor or Master) in USA, Canada, UK, Australia, New Zealand, India, Singapore, South Africa
- Applicant whose nationality is American, Canadian, British, Australian, New Zealander, Indian, Singaporean, South African