



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 pplication 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	70% of Entrance & Tuition fee	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
	70% of Entrance & Tuition fee	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
	70% of Entrance & Tuition fee	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 ro 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	<input type="checkbox"/> 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.			



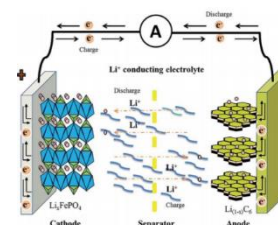
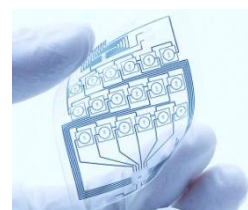
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Name 성함	Surname	Hwang		
	Given Name	Sungwon		
Position 직급	Associate Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	
Department 소속학과	Chemical Engineering	Major 소속전공	Process System Engineering	
Contact Information 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	Master ____ / Ph.D <u>2</u>	
Research Field 연구분야 설명	<ul style="list-style-type: none"> - Process modeling & optimization of Renewable Energy System - Application of AI (Artificial Intelligence) to new material synthesis and its analysis - Application of the 4th Industrial Revolution Technology to Process Design and its Operation 			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Yeonpyeong Jo, Kyeongseok Shin, Sungwon Hwang. (2021) <i>Development of Dynamic Simulation Model of LNG Tank and its Operational Strategy</i> , Energy			
	Jiyoung Moon, Dela Quarme Gbadago, Minjeong Kim, Sungwon Hwang. (2021) <i>Cooling effects of different molten salts and tube diameters on the performance of chemical reactors: a case study with butadiene synthesis</i> , Applied Thermal Engineering			
	Dela Quarme Gbadago, Jiyoung Moon, Minjeong Kim, Sungwon Hwang. (2021) <i>A Unified Framework for the Mathematical Modelling, Predictive Analysis, and Optimization of Reaction Systems using Computational Fluid Dynamics, Deep Neural Network and Genetic Algorithm: A Case of Butadiene Synthesis</i> , Chemical Engineering Journal			
Others 기타사항	<p>All graduates accepted for our Lab will be financially supported by the government grants and other research grants.</p> <p>The main projects of our laboratory are as below.</p> <ul style="list-style-type: none"> - Development of LNG Tank model and numerical analysis of Boiled Off Gas - Reactor Design for Polymer Synthesis - Physical Property Estimation of the Synthesized Silicon Foam using AI - Process Development of Hydrogen Liquefaction Process - Development of PEMFC (Proton Exchange Membrane Fuel Cell) system and its model predictive control system 			



Introduction of Laboratory

Name 성함	Surname	Youk		
	Given Name	Ji Ho		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Chemical Engineering		Major 소속전공	Polymer
Contact Information 연락처 정보	Email	youk@inha.ac.kr		
	Telephone	+82-10-8815-5099, +82-32-860-7498		
	Home Page	https://scholar.google.com/citations?user=0W1aX8YAAAAJ&hl=ko		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master ____ / Ph.D ____ 2
Research Field 연구분야 설명	<p>1. Applications of Functional Materials</p> <ul style="list-style-type: none"> - Electrospinning: Li-ion batteries separators - Hard coating with ladder-like polysilsesquioxane - Spinning: Flame retardant polyimide fibers <p>2. Synthesis of Functional Polymers</p> <ul style="list-style-type: none"> - Synthesis of block copolymers: Surface modification - Graft polymerization: Binders for Li-ion batteries - Synthesis of flame retardant monomers and polymers <p>3. Synthesis of Stimuli-Responsive Materials</p> <ul style="list-style-type: none"> - Thermo-responsive materials: Shape memory polymers - Self-healing materials: Self-healing composites 			
Three Recent Career Achievements 업적 리스트 (최근 세건)	<ul style="list-style-type: none"> - Electrochemical wet-spinning process for fabricating strong PAN fibers via an in situ induced plasticizing effect, POLYMER, 202, 122641, 2020. - Palladium supported on an amphiphilic triazine-urea-functionalized porous organic polymer as a highly efficient electrocatalyst for electrochemical sensing of rutin in human plasma, ACS APPLIED MATERIALS & INTERFACES, 10, 19554, 2018. - Room-temperature-phosphorescence-based dissolved oxygen detection by core-shell polymer nanoparticles containing metal-free organic phosphors, ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, 56, 16207, 2017. 			
Others 기타사항	<p>Ongoing Research Projects</p> <ul style="list-style-type: none"> - Development of FCCL material for 4th industry and 5G - Development of High-strength PET fibers with over 12 g/d for Advanced Safety Vehicle - Development of flame retardant modacrylic fibers and their textile products having LOI values greater than 32 			





Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Yongjin		
Position 직급	Assistant Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 2 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	<p>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.</p> <ol style="list-style-type: none"> 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)	<p>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).</p>			
	<p>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).</p>			
	<p>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)</p>			
Others 기타사항	<p>Highly motivated students equipped with a research-oriented mindset are more than welcomed. For more information, please visit our website.</p>			



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	Materials and Structural Engineering	
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 ____ / Ph.D _2_	
Research Field 연구분야 설명	Materials and Structural Engineering Lab. has mainly focused on 1) development of smart materials based on cementitious and advanced materials, 2) application of smart materials to structures, 3) development and application of Inspection and management systems based on vision and data deep learning technologies			
Career Achievements 업적 리스트 (Recent 3 ones)	Vision-based multipoint measurement systems for structural in-plane and out-of-plane movements including twisting rotation, SMART STRUCTURES AND SYSTEMS , 2017			
	Flexural capacity and crack-closing performance of NiTi and NiTiNb shape-memory alloy fibers randomly distributed in mortar beams, COMPOSITES PART B-ENGINEERING, 2018.			
	Effects of blades inside a nozzle on the fiber orientation and distribution in fiber-reinforced cement-based materials , COMPOSITE STRUCTURES, 2019			
Others 기타사항				



Introduction of Laboratory

Name 성함	Surname	Song	
	Given Name	KI-IL	
Position 직급	Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	<p><u>Underground space and rock engineering</u></p> <ul style="list-style-type: none"> Tunnel support design using optimization methods Deep and subsea tunnel monitoring system and analysis Structural health monitoring for tunnel using NDT technique AI aid design of TBM Cutterhead <p><u>Sustainable development of infrastructure</u></p> <ul style="list-style-type: none"> Nondestructive characterization for soil and rock using elastic and electromagnetic waves Smart geophysical characterization technique for geo-infrastructures Seismic analysis on aged bridge foundation <p><u>Building digital twin for geo-structures</u></p> <ul style="list-style-type: none"> 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	<p>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.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 22%;"> <p>Non-Destructive Testing</p> <ul style="list-style-type: none"> Development of Applications with Elastic and Electromagnetic Wave Wave Propagation in Heterogeneous Ground </div> <div style="border: 1px solid black; padding: 5px; width: 22%;"> <p>Underground Space Technology</p> <ul style="list-style-type: none"> 3D Numerical Analysis on Geo-structures Stochastic Numerical Analysis on Tunnel Failure Mechanism FEM Code Development for the Tunnel Stability Analysis </div> <div style="border: 1px solid black; padding: 5px; width: 22%;"> <p>Energy-Geotechnology</p> <ul style="list-style-type: none"> Physical and Chemical Behavior of Gas Hydrate Bearing Sediment Thermal-Hydraulic-Mechanical Coupled Analysis </div> <div style="border: 1px solid black; padding: 5px; width: 22%;"> <p>Modern Geotechnics</p> <ul style="list-style-type: none"> Characterization of geomaterials with geophysical methods Application of machine learning for geotechnics Combination of IoT, Digital Twin, Building information modelling, and FEM </div> </div> <p>Carrier</p> <ul style="list-style-type: none"> INHA University, Prof. University of Nottingham (Malaysia), Assistant Professor KAIST, Civil & Environ. Eng., Ph.D. INHA University, Civil Eng., B.S. <p style="text-align: center;">Research Interests INHA University, Dept. of Civil Engineering</p> <div style="display: flex; justify-content: space-between; align-items: center; background-color: #f0f0f0; padding: 10px;"> <div style="text-align: center;"> <p>Geomechanics and Engineering Lab</p> </div> <div style="text-align: right;"> <p>KI-IL SONG Ph.D. Professor of Geomechanics ksong@inha.ac.kr</p> </div> </div>		



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Hung Soo		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master _2_ / Ph.D _1_
Research Field 연구분야 설명	<ul style="list-style-type: none"> ● 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	<div style="display: flex; justify-content: space-around;"> <div style="width: 23%;"> <p>Climate Change Climate Change</p> <p>Copula for Drought Analysis Under Climate Change</p> <p>Frequency Analysis Under Climate Change</p> <p>2011-2040 2041-2070 2071-2100</p> </div> <div style="width: 23%;"> <p>Wetlands & Ecology Wetlands and Ecosystem</p> <p>Hydrology and Hydraulics in Wetlands</p> <p>Evaluation of Wetland Functions and Values</p> <p>Hydrologic Function, Biogeo-chemical Function, Plant-Animal Habitat Function, Economic Value</p> </div> <div style="width: 23%;"> <p>Rainfall Radar Rainfall Radar Networking</p> <p>Quality Control and Estimation of Radar rainfall</p> <p>Flood Forecasting By Radar Rainfall</p> </div> <div style="width: 23%;"> <p>Chaos in Hydrology Fractal and Chaos</p> <p>Natural phenomena with fractal features</p> <p>Chaotic Time Series</p> <p>BDS Statistic & C-C Method</p> </div> </div>			



Introduction of Laboratory

Name 성함	Surname	WON		
	Given Name	Jong-Hoon		
Position 직급	Associate Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D __1__	
Research Field 연구분야 설명	<ul style="list-style-type: none"> ▪ Signal Processing, Estimation Theory and Applications ▪ Kalman Filtering, Multi-Sensor Data Fusion and Target Tracking ▪ Precise Positioning and Attitude Determination ▪ Sensor Integration (e.g. GPS/INS/DR/etc.) ▪ GNSS Receiver/Signal Design ▪ Next Generation GNSS System Design and Analysis ▪ Navigation/Communication System Applications to Next Generation Smart Vehicles 			
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 (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	<ul style="list-style-type: none"> ○ Autonomous robot path planning and control <ul style="list-style-type: none"> - Deep reinforcement learning, Deep neural optimizer for control ○ Automotive control systems <ul style="list-style-type: none"> - Embedded model predictive control ○ Power system optimization and control <ul style="list-style-type: none"> - Distributed optimization and networked embedded control 			
	Theory		Application	
	Data-driven	Reinforcement Learning for Control	Eco-CAV, Path planning and control for autonomous robots/vehicles	
	Optimal Control	Learning and Optimization for Control		
	Model-based	Embedded Model Predictive Control	Robot control	
	Optimal Control	Real-Time Numerical Optimal Control		
	Uncertainty	Polynomial Chaos with Stochastic	Power system state estimation Power system optimization	
	Quantification	Galerkin Projection Model Reduction		
		Bayesian Inference		
	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 control policies)			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"Economic Nonlinear Predictive Control for Real-Time Optimal Energy Management of Parallel Hybrid Electric Vehicles," <i>IEEE Access</i> , vol. 8, no. 1, pp. 177896–177920, 2020.			
	"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	Chang																																
	Given Name	KyungHi																																
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<p>The figure displays various research components: a 3D signal field plot, a reinforcement learning framework diagram (Agent, Environment, Action, Reward), a UAV swarm illustration, a Confusion Matrix for classification performance, and a VRU scenario diagram.</p> <table border="1"> <caption>Confusion Matrix</caption> <thead> <tr> <th></th> <th>Actual Class</th> <th>TP</th> <th>FP</th> <th>FN</th> <th>TN</th> </tr> </thead> <tbody> <tr> <th>TP</th> <td>95.0%</td> <td>21</td> <td>0.0%</td> <td>0.0%</td> <td>95.0%</td> </tr> <tr> <th>FP</th> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> </tr> <tr> <th>FN</th> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> </tr> <tr> <th>TN</th> <td>95.0%</td> <td>0.0%</td> <td>0.0%</td> <td>0.0%</td> <td>95.0%</td> </tr> </tbody> </table>					Actual Class	TP	FP	FN	TN	TP	95.0%	21	0.0%	0.0%	95.0%	FP	0.0%	0.0%	0.0%	0.0%	0.0%	FN	0.0%	0.0%	0.0%	0.0%	0.0%	TN	95.0%	0.0%	0.0%	0.0%	95.0%
	Actual Class	TP	FP	FN	TN																													
TP	95.0%	21	0.0%	0.0%	95.0%																													
FP	0.0%	0.0%	0.0%	0.0%	0.0%																													
FN	0.0%	0.0%	0.0%	0.0%	0.0%																													
TN	95.0%	0.0%	0.0%	0.0%	95.0%																													



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Deok-Hwan		
Position 직급	Full Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Electronic Engineering		Major 소속전공	Electronic Engineering (Computer System Track)
Contact Information 연락처 정보	Email	deokhwan@inha.ac.kr		
	Telephone	(+82) 10-4660-3602		
	Home Page	http://iesl.inha.ac.kr (Intelligent Embedded System Lab)		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master ____ / Ph.D __2__
Research Field 연구분야 설명	<p>- Embedded System: Design and implementation of embedded systems, IoT Devices, Edge Devices, smart home & smart City with Deep Larning(AI) and Machine Learning(ML).</p> <p>- Deep Learning Algorithms and Applications for Embedded Devices, Robot Interface and Robot Operating Systems Platform, cloud-based software defined storage</p> <p>- Intelligent Social Robot : Embedded Device(IoT), Emotion and Event/Activity Recognition for Robot Control, Sensing and Acruator, Digital Systems.</p> <p>- ADAS / Autonomous Driving : Participate in the future vehicle student training program and train people who are interested in autonomous vehicles.</p> <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>			
Career Achievements 업적 리스트 (Recent 3 ones)	CaseDB:Lightweight Key-Value Stroe for Edge Computing Environment, IEEE ACCESS, 2020, Vol.8,149775-149786			
	Lightweight Driver Behavior Indentification Model with Sparse Learning on In-Vehicle CAN-BUS Sensor Data, Sensors, 20, 5030			
	EOG-based eye tracking protocol using baseline drift removal algorithm for long-term eye movement detection, Expert Systems With Applications 131 (2019) 275–287 (SCI 2019)			
	sEMG-signal and IMU sensor-based gait sub-phase detection and prediction using a user-adaptive classifier, To be appeared in Medical Engineering and Physics, 2019(SCIE)			
Others 기타사항	<p>Foreign students in our laboratory have either researched in comfortable atmosphere or published SCI dissertations. as a proof, Ph.D Pirahandeh who has graduated in 2016, researches as research professor, has published many papers such as Energy-aware RAID scheduling methods in distributed storage applications, GPU-accelerated High performance GPU-based parity computing scheduler in storage application and Energy-aware and intelligent storage features for multimedia devices in smart classroom, those have been published at SCI and SCIE. Currently, 2 PhD candidates, 6 Master course students, and 2 interns are joined with our Laboratory.</p>			



Introduction of Laboratory

Name 성함	Surname	Sang-Jo		
	Given Name	Yoo		
Position 직급	Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	
Department 소속학과	Information and Communication	Major 소속전공	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 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	Master <u>2</u> / Ph.D <u> </u>	
Research Field 연구분야 설명	We (Multimedia Network Laboratory) mainly research the technologies for wireless communication networks which include wireless sensor networks (WSN) and the next generation wireless network protocols. Our current research projects aim at examining how recent AI (artificial intelligent) technologies can be applied to wireless networking in UAV flying ad-hoc network, cognitive radio and IoT platform.			
Three Recent Career Achievements 업적 리스트 (최근 세건)	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			
	Q-Learning-Based Multi-Objective Clustering Algorithm for Cognitive Radio Ad-Hoc Networks, IEEE ACCESS, 2019			
Others 기타사항	We are very welcoming foreign students (master or Ph.D. degree) who are really interested in wired/wireless communication networks, Internet protocols, computer networks, mobile communication systems, and networked multimedia platform development. Research Projects: <ul style="list-style-type: none"> - Wireless sensor network and Internet of Things (IoT) protocol design - UAV (drone) flying ad-hoc network implementation - Wireless cognitive radio design and implementation using machine learning - Artificial intelligent (AI) technologies for wireless networking 			



Introduction of Laboratory

Name 성함	Surname	Nam	
	Given Name	Changjoo	
Position 직급	Assistant Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Dept. of Information and Communication Engineering	Major 소속전공	Information and Communication Engineering
Contact Information 연락처 정보	Email	cjnam@inha.ac.kr	
	Telephone	032-860-7430	
	Home Page	https://changjoonam.wixsite.com/airlab	
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	Master ____ / Ph.D __1__
Research Field 연구분야 설명	Our research aims to develop algorithms that compute efficient (preferably optimal) task plans for autonomous robots which may work with humans or in unstructured environments. We are interested in formulating robotics problems in a continuous space as discrete mathematic problems without losing the information necessary to achieve optimality. Although we like to work with various domains in robotics, our recent work focuses on task and motion planning for object manipulation, coordination of multiple robots, and mobile navigation.		
Three Recent Career Achievements 업적 리스트 (최근 세건)	Changjoo Nam, S. H. Cheong, J. Lee, D. H. Kim, and C. Kim, "Fast and resilient manipulation planning for object retrieval in cluttered and confined environments," IEEE Trans. on Robotics (T-RO), Jan 2021.		
	Changjoo Nam and D. A. Shell, "Robots in the Huddle: Upfront Computation to Reduce Global Communication at Run-time in Multi-Robot Task Allocation," IEEE Trans. on Robotics (T-RO), Feb 2020.		
	Changjoo Nam, P. Walker, H. Li, M. Lewis, and K. Sycara, "Models of Trust in Human Control of Swarms with Varied Levels of Autonomy," IEEE Trans. on Human-Machine Systems (T-HMS), May 2020.		
Others 기타사항	<ul style="list-style-type: none"> Qualifications <ul style="list-style-type: none"> MS in a field related to robotics and/or AI. Experiences with Python and ROS (C/C++ is a plus) Ability to present work clearly both written and orally (in English or Korean) The lab aims to publish high-quality results in premier robotics conferences and journals like ICRA, IROS, T-RO, and RA-L as the lab director has done so far. The lab director has been working with many international students during his career. He has mentored students while working at Korea Institute of Science and Technology, Carnegie Mellon University, and Texas A&M University around ten years. 		



Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Jae-Hyeung		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master _1____ / Ph.D ____1__
Research Field 연구분야 설명	<ul style="list-style-type: none"> - 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	<p>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.</p> <p>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)</p>		
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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Information and Communication Engineering		Major 소속전공	Information and Communication Engineering
Contact Information 연락처 정보	Email	hhlee@inha.ac.kr		
	Telephone	(+82) 32-860-7449		
	Home Page	http://soc.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master (1) / Ph.D (1)
Research Field 연구분야 설명	<ul style="list-style-type: none"> - Post-quantum cryptography algorithm and architectures for Internet of Thing (IoT) - Hardware cryptography architectures for Homomorphic Encryption - Hardware security for either cloud or edge systems - Hardware architecture for artificial intelligent (AI) - High-performance Forward Error Correction (FEC) architectures 			
Three Recent Career Achievements 업적 리스트 (최근 세건)	First Prize in Haedong Best Paper Award, Nov. 2020.			
	Efficient NewHope Cryptography Based Facial Security System on a GPU, IEEE Access, vol. 8, no. 1, pp. 108158-108168, June 2020.			
	Minimal-Set Trellis Min-Max Decoder Architecture for Nonbinary LDPC Codes, IEEE Transactions on Circuits and Systems II, vol. 68, no. 1, pp. 216-220, Jan. 2021.			
Others 기타사항	<p>The students are required to have either 1) excellent programming skills and comprehension (or interest) of digital signal processing (DSP), digital systems design, computer architectures, 2) expertise in C/C++, Verilog HDL coding, and FPGA design.</p> <p>With the benefits of:</p> <ul style="list-style-type: none"> - Full tuition waive for Master and PhD periods. - Monthly support (Living cost) supported by government and industry research fund. Additionally, it can be increased depending on your performance. - Opportunities to attend international conferences oversea. 			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Mun-Kyu		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Computer Engineering		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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)	ECC Coprocessor over a NIST Prime Field Using Fast Partial Montgomery Reduction, IEEE Transactions on Circuits and Systems I: Regular Papers, vol.68(3), pp. 1206 – 1216, 2021			
	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 Cybersecurity Technology for Cloud-based Big Data Platform in Smart Grid * Joint project with Texas A&M University, Kingsville, USA * AI-based attack detection against smart grid - BK21 project * Scholarship program for graduate students			



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	<p>Our main research interest is in computer vision and artificial intelligence including:</p> <ul style="list-style-type: none"> - 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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Integrated(MS+PhD) / PhD: <u>5</u>
Research Field 연구분야 설명	<p align="center">[Positive Computing]</p> <p>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:</p> <ul style="list-style-type: none"> - What are the patterns of phone distraction vulnerable contexts? - Which type of DND mode is needed? - Would it be possible to automatically generate rules for DND mode? - How do users use proactive distraction management systems? <p>As an initial contribution we developed an Android mobile application to collect users' context data about their distractions.</p> <p>EasyTrack: Orchestrating Large-scale Mobile User Studies</p> <ul style="list-style-type: none"> • Human subject studies involve <ul style="list-style-type: none"> • Stress & depression tracking of students, Smartphone usage tracking studies, Physical activity and sleeping behavior tracking • Data collecting Platform: major features <ul style="list-style-type: none"> • Real-time tracking of participants' data collecting behaviors • Automatic detections and alerts of abnormal data collection • Real-time communications (interventions) with experiment/campaign participants • Challenge with the scalability: With the scales, however, it is laborious for data collectors who conduct human subject studies that especially involve mobile devices. <p align="center">[Cloud Computing]</p> <p>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.</p>			
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 ," <u>IEEE INFOCOM 2017</u> , 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	<input type="checkbox"/> Male <input checked="" type="checkbox"/> Female
Department 소속학과	Electrical and Computer Engineering		Major 소속전공	Computer Engineering
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 2 </u> / Ph.D. <u> 2 </u>
Research Field 연구분야 설명	Bioinformatics Machine learning Analyzing and visualizing bio big data			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Constructive Prediction of Potential RNA Aptamers for a Protein Target, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2020 (DOI: 10.1109/TCBB.2019.2951114).			
	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 All graduate students accepted for the Biocomputing Lab will be financially supported by the government grants and other research grants.			



Introduction of Laboratory

Name 성함	Surname	Choi		
	Given Name	Young-kyu		
Position 직급	Assistant Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Computer Engineering		Major 소속전공	Computer Architecture / CAD
Contact Information 연락처 정보	Email	ykc@inha.ac.kr		
	Telephone			
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	<p>High-level synthesis (HLS) and design automation</p> <p>Simulation / debugging for HLS</p> <p>High-bandwidth memory (HBM) friendly accelerators</p> <p>Accelerator design using Field-Programmable Gate Arrays (FPGA)</p> <p>Reconfigurable computing, high-performance computing</p>			
Three Recent Career Achievements 업적 리스트 (최근 세건)	"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.			
	"In-depth analysis on microarchitectures of modern heterogeneous CPU-FPGA platforms," ACM Trans. Reconf. Tech. and System (Top FPGA journal), 2019.			
Others 기타사항	<p>International students are welcomed.</p> <p>All students will be supported by research funding.</p> <p>Decent English skill required.</p> <p>Should have taken some courses related to digital system design, computer architecture, FPGAs, parallel programming, or compiler.</p>			



Introduction of Laboratory

Name 성함	Surname	Park		
	Given Name	Daeyoung		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Electrical & Computer Eng. (Artificial Intelligence)		Major 소속전공	Signal Processing / Machine Learning
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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," accepted for publication in <i>IEEE Transactions on Wireless Communications</i> , 2020.			
	"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: The research topics 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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<p>All graduates accepted for our AI Lab will be financially supported by the government grants and other research grants.</p> <p>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.</p> <p>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.</p>			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Chang Gyun		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u>3</u> / Ph.D <u> </u>
Research Field 연구분야 설명	<ol style="list-style-type: none"> Microplastic – Biochemical degradation/treatment <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - Development of a method for pretreatment and identification of microplastics in the natural environment. - Monitoring and management of extraneous bacteria and virus in the coast area - Biological soil remediation – Acid neutralization and heavy metal adsorption Survey coastal line and river mouth upon refractory pollutants such as microplastics, carcinogens, POPs 			
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				



Introduction of Laboratory

Name 성함	Surname	Jeonghwan		
	Given Name	Kim		
Position 직급	Professor		Gender 성별	<input type="checkbox"/> Male <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D __2__
Research Field 연구분야 설명	<p>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.</p>			
Career Achievements 업적 리스트 (Recent 3 ones)	<p>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</p>			
	<p>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</p>			
	<p>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</p>			
Others 기타사항	<p>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.</p>			



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	<p>1. Indoor Air Quality Indoor air quality research is related to the development of air cleaning systems including corona discharging and electrospun nanofiber.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>		
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	Park		
	Given Name	Kwan-Dong		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master __2__ / Ph.D __2__
Research Field 연구분야 설명	<p>High-precision GPS/GNSS data processing</p> <p>GPS sensor development for autonomous driving</p> <p>Geodesy and geophysical GPS</p>			
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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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			
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master __1__ or Ph.D __1__
Research Field 연구분야 설명	<p>We are working on various projects that target to produce microalgae-based products from upstream to downstream and from micro-scale to pilot-scale.</p> <ul style="list-style-type: none"> ● Systems Biology <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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	<p>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.</p> <ul style="list-style-type: none"> - Culture systems: Bubble columns, continuously stirred tank reactors, flat-panel photobioreactors, raceway ponds, ocean floating ponds <p>Analytical equipment: HPLC, GC-MS, Coulter Counter, Cellometer, TOC analyzer, water analyzer, phase-contrast microscope</p>			



Introduction of Laboratory

Name 성함	Surname	Yun Jung		
	Given Name	Yang		
Position 직급	Assistant professor		Gender 성별	<input type="checkbox"/> Male <input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	<p>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.</p>			
Three Recent Career Achievements 업적 리스트 (최근 세건)	<p>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", <i>Biomacromolecules</i>, 22(2):289-298, 2021 (I.F.: 5.738, JCR%: 6.9)</p>			
	<p>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", <i>Biofabrication</i>, 11(035001):1-13, 2019 (I.F.: 6.838, JCR%: 3.85)</p>			
	<p>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", <i>Biomacromolecules</i> 16(12):3819-3826, 2015 (I.F.: 5.738, JCR%: 6.9)</p>			
Others 기타사항	<p>✓ The applicant who can speak Korean or who is willing to study Korean is preferred (to mingle with lab members).</p> <p>✓ Interested individuals should contact Prof. Yun Jung Yang with an electronic copy of their CV.</p>			



Introduction of Laboratory

Name 성함	Surname	Jeon		
	Given Name	Tae-Joon		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Biological Engineering		Major 소속전공	Nanobiotechnology / Biohybrid Systems
Contact Information 연락처 정보	Email	tjeon@inha.ac.kr		
	Telephone	+82-32-860-7511		
	Home Page	https://bsl.inha.ac.kr		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master _____ / Ph.D. <u>2</u>
Research Field 연구분야 설명	<ul style="list-style-type: none"> ● Biosensors/Biochips – Virus/Pathogen Biosensors, Molecular Diagnosis ● Life-on-a-Chip – Cells/Tissues/Organs-on-a-Chip ● Biophysics – Biomimetic Membranes, Ion Channel Studies ● Nanobiotechnology – Liposomes/Vesosomes, Artificial Cells, Cosmetics 			
Career Achievements 업적 리스트 (Recent 3 ones)	Biomimetic membranes as potential tools for water purification: Preceding and future avenues, Desalination 2019 (JCR Category Ranking 2%)			
	An electrokinetic approach to fabricating aquaporin biomimetic membranes for water purification, Desalination 2019 (JCR Category Ranking 2%)			
	Nanopore based detection of Bacillus thuringiensis HD-73 spores using aptamers and versatile DNA hairpins. Nanoscale 2018 (JCR Category Ranking 10%)			
Others 기타사항	<p style="text-align: center;">Biohybrid Systems Lab (BSL) "Diversity" & "Multidisciplinary"</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid orange; padding: 2px; margin-bottom: 2px;">Virus / Pathogen Biosensors</div> <div style="border: 1px solid orange; padding: 2px; margin-bottom: 2px;">Disease Diagnosis</div> <div style="border: 1px solid green; padding: 2px; margin-bottom: 2px;">Tissues/Organs-on-Chips</div> <div style="border: 1px solid green; padding: 2px; margin-bottom: 2px;">Microfluidic Studies of <i>C. elegans</i></div> <div style="border: 1px solid blue; padding: 2px; margin-bottom: 2px;">Biophysical Studies w/ Biomimetic Membranes</div> <div style="border: 1px solid blue; padding: 2px; margin-bottom: 2px;">Drug/Ion Channel Screening Platform</div> <div style="border: 1px solid blue; padding: 2px; margin-bottom: 2px;">Membrane Biosensors</div> <div style="border: 1px solid blue; padding: 2px; margin-bottom: 2px;">Biomimetic Membrane Platform</div> </div> <p style="text-align: right;">Visit our webpages @ http://BSL.inha.ac.kr</p>			



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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Materials Science and Engineering		Major 소속전공	Semiconductor devices
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master (5) / Ph.D (1)
Research Field 연구분야 설명	<p>❖ CMOS extension</p> <p>+ Monolithic 3D Integration Circuit: Study on using laser and microwave annealing for a low-temperature process to prevent deterioration of the lower device and get high performance for the upper device.</p> <p>+ Low-temperature process: Low-temperature annealing using microwave annealing compared to conventional annealing for silicide formation, and dopant activation.</p> <p>+ Device reliability: endurance and retention, lifetime test, relaxation, short pulse characterization, bending test, charge trapping characterization</p> <p>❖ Memory application</p> <p>+ Ferroelectric devices: Fabrication of the ferroelectric HZO thin film using chemical solution deposition, ALD, and RF sputter. Enhancing the polarization and the retention performance of HZO thin film by HPA, microwave annealing, bottom electrode materials, and interlayers. Evaluation of the ferroelectric properties on MFM and FeFET for memory devices.</p> <p>+ ReRAM: Fabrication and characterization of ReRAM devices using CMOS technology compatible materials. Improve device performance, stability, reliability through different material combination and programming methods</p> <p>❖ Metal-oxide Thin Film Transistor: Enhance the mobility and reliability of IGZO TFTs with surface and defects passivation by SAM treatment and hydrogen doping. Fabrication of MGFET for new sensor generation.</p>			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Low-temperature fabrication of high quality gate insulator in metal-oxide-semiconductor capacitor using laser annealing –IEEE Electron Device Letters, 2019			
	Double-gate thin film transistor with suspended-gate applicable to tactile force sensor – Nano Convergence, 2020			
	Lateral profiling of defects and charges in oxide semiconductor channel thin-film transistors – IEEE Transactions on Electron Devices, 2020			
Others 기타사항				



Introduction of Laboratory

Name 성함	Surname	Hahm		
	Given Name	Myung Gwan		
Position 직급	Associate Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)	Ultrafast Excitonic Behavior in Two-Dimensional Metal-Semiconductor Heterostructure, ACS Photonics			
	Alloyed 2D Metal-Semiconductor Heterojunctions: Origin of Interface States Reduction and Schottky Barrier Lowering, Nano Letters			
	Three-Dimensional Atomistic Tomography of W-Based Alloyed Two-Dimensional Transition Metal Dichalcogenides, ACS Applied Materials and Interfaces			
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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>	
Research Field 연구분야 설명	<ul style="list-style-type: none"> ● 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	<p>Our laboratory is working on four research projects; three are supported by government (NRF Korea) and one by a private company.</p> <p>1) Development of composite solid electrolyte for Li-S, Li-air, and all-solid-state batteries of energy storage systems.</p> <p>2) Development of hydrophobic and hydrophilic silica aerogel powder</p> <p>3) Synthesis of bismuth sodium titanate perovskite nano powder for X9R MLCC application</p> <p>4) Next generation electrode materials for load-proof SOFC.</p> <p>A monthly stipend + incentive + TA or RA scholarship will be provided.</p>			



Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Gi-Woo		
Position 직급	Associate Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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://sssl.inha.ac.kr/ (Smart Structures and Systems Lab)		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master __1__ / Ph.D __1__
Research Field 연구분야 설명	<ul style="list-style-type: none"> Advanced Control of Dynamic Systems & Mechatronics Opto-mechanical Sensors Based on Mechanoluminescence Learning From Human Auditory Systems (Middle and Inner Ears) Concepts and Control of Compliant Deployable Structures for Solar Sails Vehicular Electronics and Machine Vision with Deep Learning Smart material-based sensor and actuators 			
Career Achievements 업적 리스트 (Recent 3 ones)	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			
	Jong-Yoon Yun and Gi-Woo Kim, "Harnessing the bilinear nonlinearity of a 3D printed biomimetic diaphragm for acoustic sensor applications", Mechanical Systems and Signal Processing (IF: 4.84) Vol 116, pp. 710-724, 2019.			
	Sun-Woo Kang, Jung-Sik Kim, and Gi-Woo Kim, "Road Roughness Estimation Based on Discrete Kalman Filter with Unknown Input", Vehicle System Dynamics, 2019.			
Others 기타사항	<p>Google Scholar https://scholar.google.co.kr/citations?user=BL6oQRsAAAAJ&hl=en</p> <p>ResearchGate https://www.researchgate.net/profile/Gi_Woo_Kim</p> <p>ORCID: https://orcid.org/0000-0003-4625-0382</p>			



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	<ul style="list-style-type: none"> ● 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	<p>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.</p> <p>The students having basic knowledge on thermodynamics, fluid mechanics, heat transfer and internal combustion engines are welcomed.</p>			



Introduction of Laboratory

Name 성함	Surname	Shin		
	Given Name	Hyunseong		
Position 직급	Assistant Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master _1_ / Ph.D _1_
Research Field 연구분야 설명	<p>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.</p>			
Career Achievements 업적 리스트 (Recent 3 ones)	<p><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.</p>			
	<p><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.</p>			
	<p><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.</p>			
Others 기타사항				


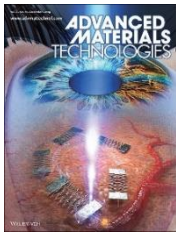
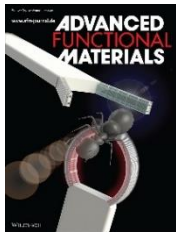


Introduction of Laboratory

Name 성함	Surname	CHUL-HEE		
	Given Name	LEE		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Mechanical Engineering		Major 소속전공	Solid Mechanics & Manufacturing Engineering
Contact Information 연락처 정보	Email	avdclab@outlook.com		
	Telephone	+82-32-860-7311		
	Home Page	http://avdclab.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master <u> 2 </u> / Ph.D <u> 2 </u>
Research Field 연구분야 설명	Transportation-Vehicle Components Design and Controls, Tribology (Friction, Adhesion, Wear and Lubrication), Structural FE Analysis and Optimization, Vehicle Dynamics and Vibration Analysis, Smart Materials and Mechanical Control			
Career Achievements 업적 리스트 (Recent 3 ones)	Friction performance of 3D printed ball bearing: Feasibility study			
	Tribological and rheological tests of core-shell typed carbonyl iron/polystyrene particle-based magnetorheological fluid			
	Piezoelectric energy harvesting pedal integrated with a compliant load amplifier			
Others 기타사항	Virtual Product Development - 3D CAD and CAE programs are used for various mechanical component parts based on virtual product development process and design and analysis are carried out in various fields. Optimization - We are carrying out researches on optimization through design and DOE, structural and shape optimization using topology optimization and multi-domain optimization. Tribology - It is an area of science and technology that deals with two aspects that affect one another while exercising relatively and related problems, including friction, wear and lubrication. Smart System Control & Dynamic Analysis - Smart materials include shape memory alloys that memorize shapes according to temperature, MRF and MRE whose rheological properties change depending on the magnetic field, and various piezoelectric materials Autonomous Vehicle - The component kinematic design, vehicle dynamics control technology, dynamic simulation and performance evaluation of autonomous vehicles.			

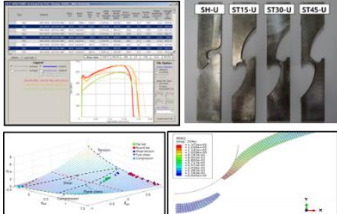
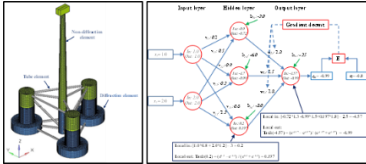
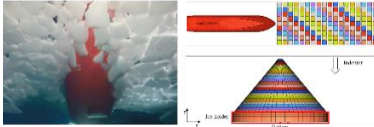


Introduction of Laboratory

Name 성함	Surname	LEE		
	Given Name	Hyun-Taek		
Position 직급	Assistant Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master <u>1</u> / Ph.D <u>1</u>
Research Field 연구분야 설명	<p>Innovative Manufacturing</p> <ul style="list-style-type: none"> To develop advanced fabrication technologies to overcome the limitations of conventional manufacturing processes. (Hybrid Manufacturing, 3D printing, Focused Ion Beam process) <p>Functional Materials</p> <ul style="list-style-type: none"> To explore unique properties of functional/smart materials in micro-/nanoscale. (Shape memory alloys, Piezoelectric materials, Biological composite) <p>Creative Design</p> <ul style="list-style-type: none"> To maximize the functionality or capability of materials/applications through creative design. (Origami/Kirigami based design, Compliant structure, Bio-inspired design) <p>Applications</p> <ul style="list-style-type: none"> 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	<p>Research Highlights</p>   			




Introduction of Laboratory

Name	Surname	Choung		
	Given Name	Joonmo		
Position	Full professor		Gender	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower	Master (2 vacancies) Ph.D (2 vacancies)
Research Field	▪ Research for materials and ductile fracture  <ul style="list-style-type: none"> - To develop new fracture models against ship collisions, and underwater explosions. - To conduct material calibration tests and structural failure tests using 50tonf UTM and 5tonf HTM (high speed test machine). 			
	▪ Research for floating offshore wind turbines (FOWT)  <ul style="list-style-type: none"> - New OPB fatigue prediction technique. - Fully coupled aero-hydro-structure-mooring dynamics technique. - ANN (artificial neural network) model for FOWT. 			
	▪ Research for ice-to-arctic vessel interactions  <ul style="list-style-type: none"> - Ship-to-ice resistance simulations using FEA - Ice crushing mechanics based on continuum theory 			
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	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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			
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	(How Many) Master <u>1</u> / Ph.D <u>1</u>	
Research Field 연구분야 설명	<ul style="list-style-type: none"> Regulation of mitochondrial function and insulin resistance in skeletal muscle: role of aging, obesity, and exercise Effects of aging and exercise on mitochondrial function, ROS, and apoptosis in skeletal muscle ("sarcopenia"), heart, and brain Lipid metabolism and mitochondrial function in skeletal muscle 			
Career Achievements 업적 리스트 (Recent 3 ones)	Exercise training protects against atorvastatin-induced skeletal muscle dysfunction and mitochondrial dysfunction in the skeletal muscle of rats, J Clin Med, 9(7): 2292, 2020			
	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	<p><input checked="" type="checkbox"/> Ongoing Research Projects (Funding)</p> <ul style="list-style-type: none"> 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 - 2022) BK21 Program in Biomedical Science and Engineering (2020 – 2027) <p><input checked="" type="checkbox"/> My Current Lab Members</p> 			

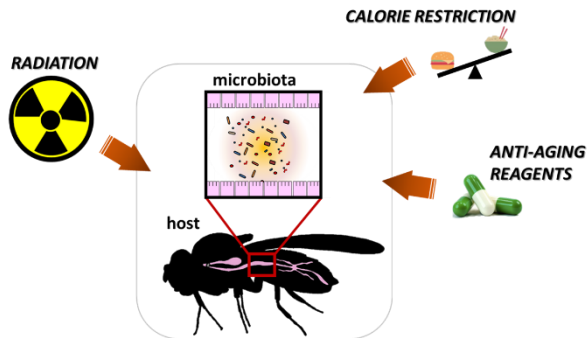







Introduction of Laboratory

Name 성함	Surname	Kim		
	Given Name	Dong Wook		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<p>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.</p> <p>The diagram illustrates a research workflow: <ul style="list-style-type: none"> Design of peptide/NP/low molecular imaging probes leads to Obtaining the optimized molecular imaging probes. Obtaining the optimized molecular imaging probes leads to Evaluation of In vivo imaging and feed back. Evaluation of In vivo imaging and feed back leads to Feed back system, which loops back to the design stage. The Feed back system also involves Phase transfer catalyst for RI labeling and SN2 reactions and Precursor steps. The Final Goal is the 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). </p>			



Introduction of Laboratory

Name 성함	Surname	Min		
	Given Name	Kyung-Jin		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> ▶ Study of Dietary Restriction and Longevity ▶ Searching for Anti-aging Drugs and Its Mechanisms ▶ Microbiota and Aging ▶ Physiological Response to Low Dose Radiation </div>			
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	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">      </div> <div style="flex: 2; padding-left: 10px;"> <p>Lab. of Biogerontology in Inha University</p> <p>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.</p> </div> </div>			



Introduction of Laboratory

Name 성함	Surname	Cho		
	Given Name	Jang-Cheon		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	Lee		
	Given Name	Guan-hong		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Ocean Sciences		Major 소속전공	Oceanography
Contact Information 연락처 정보	Email	ghlee@inha.ac.kr		
	Telephone	+ 82-32-860-7707		
	Home Page	http://ocean.inha.ac.kr/		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	(How Many) Master _____ / Ph.D. <u>1</u>
Research Field 연구분야 설명	<p>The earth has been in continuous change since its formation. One of the most vulnerable to changes are the coastal regions where there is a constant interaction between terrestrial, marine, and atmospheric processes. Moreover, human alterations (e.g. dams, land reclamation) have been found to significantly impact these areas. This is where the Coastal and Estuarine Morphodynamics Laboratory plays a big role since the laboratory focuses on identifying and understanding the occurrences of topographical changes and dynamics happening along the coast driven by the abovementioned environmental and human factors.</p> <p>RESEARCH AREA:</p> <ul style="list-style-type: none"> • Hydrodynamics • Sediment Dynamics • Coastal and Estuarine Morphodynamics <p>CURRENT RESEARCH:</p> <ul style="list-style-type: none"> • Topographic changes caused by estuary circulation and sediment movement • Topographic change analysis using Geographic Information System (GIS) and use of Unmanned Aerial Vehicle (UAV) for remote sensing • Sediment transport in an estuary using Regional Ocean Modeling System (ROMS) • Development and analysis of oceanographic observational equipment using Open Source Microcontroller 			
Career Achievements 업적 리스트 (Recent 3 ones)	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.			
	Figueroa, S. M., et al. (2020). Effects of an estuarine dam on sediment flux mechanisms in a shallow macrotidal estuary. <i>Estuarine, Coastal and Shelf Science</i> , 238, 106718.			
Others 기타사항	<p>Types of equipment in the laboratory include but are not limited to the following:</p> <p>Current and Wave Measurement: Aquadopp, Aquadopp side, Signature, Vector</p> <p>Suspended Sediment Particle: Acoustic Backscatter System, Floc Camera</p> <p>Geomorphologic Analysis: (Real-Time Kinematics) RTK-GPS, RTK-Drone, Altimeter</p> <p>Conductivity, Temperature, Depth: RBR CTD, Seabird CTD</p>			



Introduction of Laboratory

Name 성함	Surname	Lee		
	Given Name	Jae Woo		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> </u>
Research Field 연구분야 설명	<p>Complex Systems AI Big Data Lab</p> <p>We are interesting to topics complex systems, machine learning, artificial intelligence, big data based on statistical physics and critical phenomena</p> <p>Research Area</p> <ul style="list-style-type: none"> ● Complex systems ● Complex networks ● Nonequilibrium thermodynamics and statistical physics ● Nonequilibrium critical phenomena ● Econophysics and financial physics ● Social Physics ● Ecological systems and ecological networks ● Futures Studies ● Brain dynamics and Self-organized criticality 			
Three Recent Career Achievements 업적 리스트 (최근 세건)	<p>✓ S. Y. Chae et al. "Predictions of disease spreading based on initial individuals infected with COVID-19", <i>Frontiers in Physics</i>, 8, 311 (2020).</p> <p>✓ N. Jung et al. "Avalanche size distribution of an integrate-and-fire neural model on complex networks", <i>Chaos</i> 30, 063118 (2020).</p> <p>✓ J. W. Lee and A. Nobi, "State and network structures of stock markets around the global financial crisis", <i>Computational Economics</i> 51, 195-210 (2018) (SSCI).</p>			
Others 기타사항	<p>Current international students:</p> <ol style="list-style-type: none"> 1. Quang Anh Le, Vietnam 2. Biseco Juma Mafwele, Tanzania <p>Former students</p> <ol style="list-style-type: none"> 1. Ashadun Nobi, Bangladeshi (Now, Professor in Bangladeshi) <p>I recommend that you apply to GKS (Global Korea Scholarship): http:// www.studyinkorea.go.kr </p>			




Introduction of Laboratory

Name 성함	Surname	Kang		
	Given Name	Ju-Hee		
Position 직급	Full Professor	Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	
Department 소속학과	Pharmacology, College of Medicine	Major 소속전공	Pharmacology	
Contact Information 연락처 정보	Email	johykang@inha.ac.kr		
	Telephone	+82-32-860-9872		
	Home Page			
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Required Manpower 필요인력 수	(How Many) Master _____ / Ph.D. <u>1</u>	
Research Field 연구분야 설명	<p>1. Neurodegenerative disease</p> <p>(1) Development of biomarkers for early diagnosis of Alzheimer's disease (AD) under collaboration with clinicians</p> <p>(2) Investigation for the pathogenic roles of exosome-like vesicles (ELV) in AD pathogenesis.</p> <p>2. Aging-induced Sarcopenia and metabolic diseases</p> <p>(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.</p> <p>(2) Preventive or therapeutic effects of various molecules against the aging-induced sarcopenia; Pharmacological mechanisms of action</p> <p>(3) Integrative research under collaboration with colleagues who are experts in exercise science.</p> <p>Based on the efforts of above, we hope to discover the novel molecular mechanisms or networks between peripheral tissues and central nervous system.</p> <pre> graph LR MD[Metabolic disease] --> MM[Molecular mediator] MM --> AD[Alzheimer's Disease] MF[Muscle Fat] --> ELV[ELV] ELV --> NG[Neuron Glia] NG --> B[Blood] B --> ELV ELV --> B </pre> <p>Metabolic disease</p> <ul style="list-style-type: none"> • C2C12 myotube • 3T3-L1 adipocytes • T2DM models • Myokines • Adipokines <p>Molecular mediator</p> <ul style="list-style-type: none"> • Aβ/Tau pathology • Protein modification/Autophagy • Neuroinflammation <p>Alzheimer's Disease</p> <ul style="list-style-type: none"> • HT22 neuronal cell • Astrocytes, Microglia • AD models • Tau, A-beta pathology <p>ELV</p> <ul style="list-style-type: none"> • Animal model • Clinical sample 			
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	<p>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\geq80, IELTS\geq6.0) or Korean (TOPIK\geq3) is required to join my lab.</p> <p>NOTE: The information above should be used for appropriate purpose, therefore please don't release other institutions or universities without permission.</p>			



Introduction of Laboratory

Name 성함	Surname	Jung		
	Given Name	Young-Jin		
Position 직급	Professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Graduate School of Law		Major 소속전공	Corporation Law, Chinese Law
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Required Manpower 필요인력 수	Master 5 / Ph.D 5
Research Field 연구분야 설명	<p>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.</p>  <p>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.</p>			
Brief Record of Prof. Dr. Dr. Jung 약력	Vice Dean of INHA Law School			
	Head of Chinese Law Center of INHA Law School			
	Vice Chairman of the Korea-China Society of Law			
Others 기타사항	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)				
<p>You can contact us by mail, phone, email, or visit our office during regular business hours for any request or inquire in Chinese/English/Korean.</p> <p>Contact Person: Dr. Lee, Sang-Woo(李相佑)</p> <p>Telephone: +82(0)32-860-8974</p> <p>E-mail: sw.lee@inha.ac.kr</p> <p>WeChat ID: xiangyou_li_kr</p>				



Introduction of Laboratory

Name 성함	Surname	HAN		
	Given Name	Jeong Hugh		
Position 직급	Assistant professor		Gender 성별	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Department 소속학과	Asia Pacific School of Logistics		Major 소속전공	Global logistics / international trade
Contact Information 연락처 정보	Email	hanjh@inha.ac.kr		
	Telephone	+82328609431		
	Home Page	https://www.mdpi.com/journal/sustainability/special_issues/digital_supply_chain		
Monthly Stipend Provided or Not 생활비 지급 의사	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Required Manpower 필요인력 수	Master <u> 1 </u> / Ph.D <u> 1 </u>
Research Field 연구분야 설명	<ul style="list-style-type: none"> • IT capability for global logistics • Cross border electronic commerce • Blockchain technology for logistics and supply chains • Global value chain reconfiguration 			
Three Recent Career Achievements 업적 리스트 (최근 세건)	Understanding blockchain technology for future supply chains: a systematic literature review and research agenda, SUPPLY CHAIN MANAGEMENT: AN INTERNATIONAL JOURNAL, 24(1), 2019			
	The role of information technology use for increasing consumer informedness in cross-border electronic commerce: An empirical study, ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS, 34, 2019			
	Reconceptualization of information technology flexibility for supply chain management: An empirical study, INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS, 187, 2017			
Others 기타사항	<p>Interdisciplinary approaches to international trade and global logistics is the analytical lens I take in my research.</p> <p>I examine the socio-technical aspects of international trade and global logistics. So, new technologies and IT capabilities are often associated to global trade and logistics context.</p> <p>Based on your performance, a stipend on a monthly basis, for both masters and PhD students, can be offered.</p> <p>Scholarships for the tuition fee will also be exploited with my support.</p> <p>Applicants should have a reasonable level of English skills.</p>			

※ This lab is affiliated with the graduate school of logistics, is not affiliated with the general graduate school. If you're interested in the graduate school of logistics, please refer to the website : gsleng.inha.ac.kr



Introduction of Laboratory

Name 성함	Surname	Cho		
	Given Name	Young min		
Position 직급	professor		Gender 성별	(o) 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 _____
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			