



University of Science and Technology, Korea

Global Research Internship 2020

February 2020



About UST.

UST is proud to provide the education system focus on a field research that is conducted at 32 government-funded research institutes.

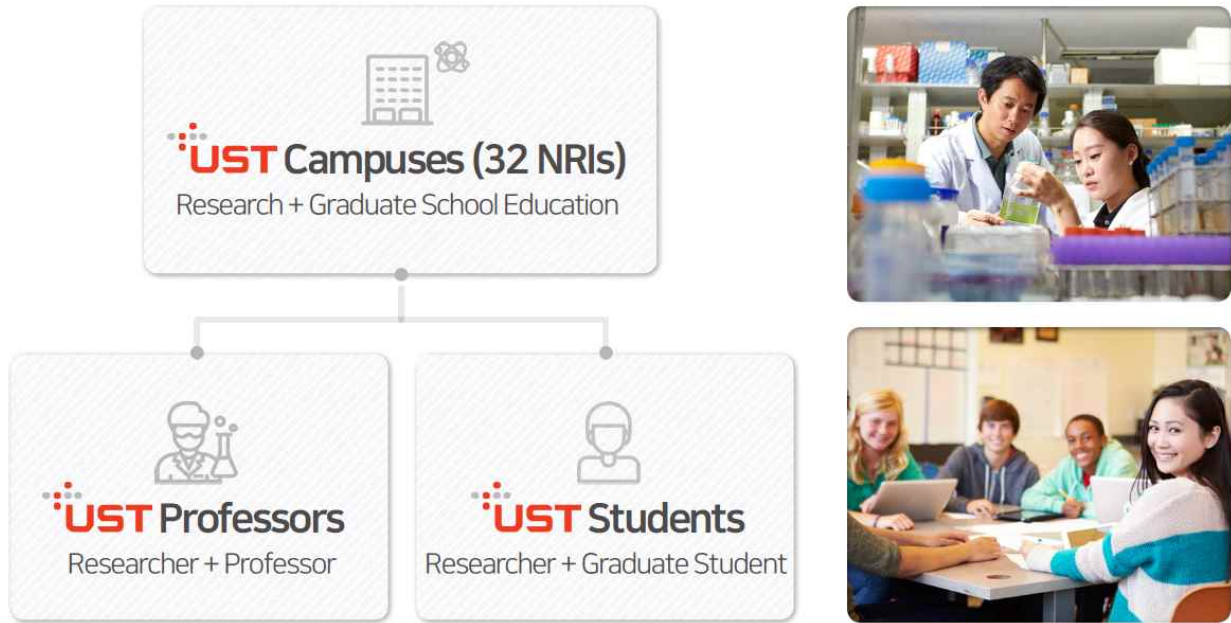
Outstanding researchers and high-tech facilities are contributing to notable research results.

In year of 2018, UST Ranked no.2 CWUR* World University Rankings in Korea, no.1 in performance of papers in the fields of 3D printing and Internet of Things(IoT) in Korea.

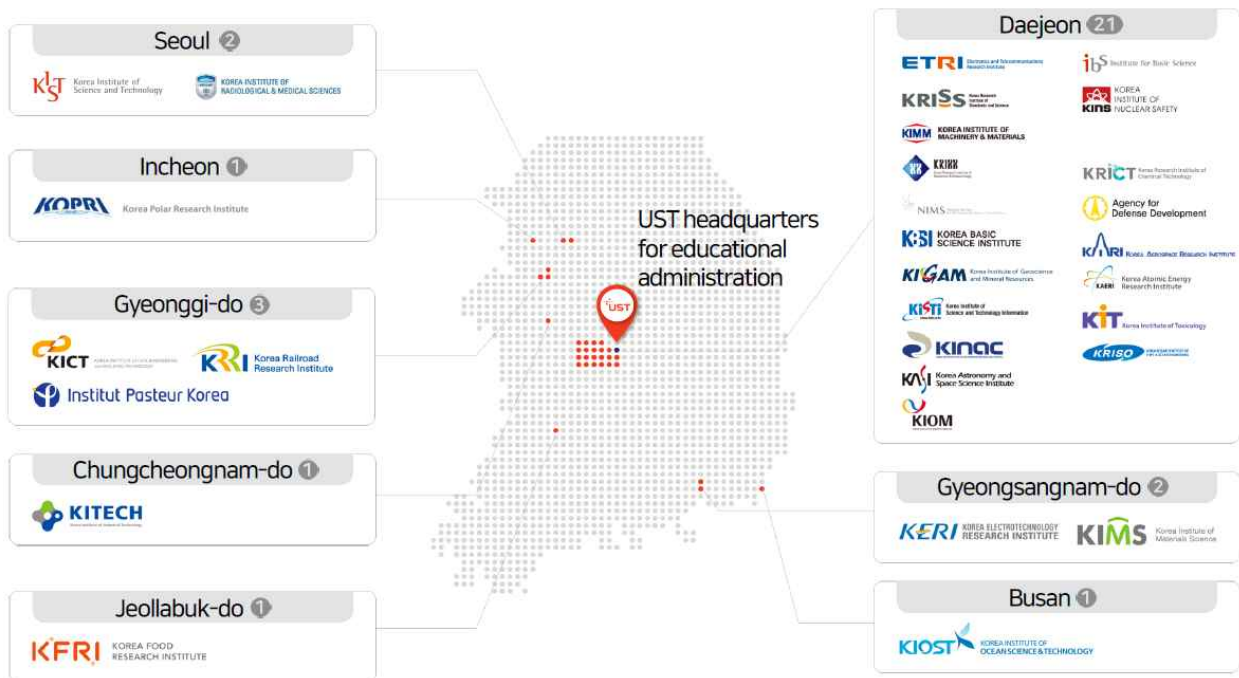
* CWUR: Center for World University Rankings (CWUR is a non-profit organization and has been publishing a global ranking of universities since 2012)



National Research Institutes-based graduate university
Nurturing national strategic S&T professionals since 2003



32 National Research Institutes ("NRIs") co-founded UST





1

Top South Korean papers in 3D Printing and IoT as ranked by IITP '18

*Institute for Information & Communications Technology Promotion

2

Ranked as the 2nd best South Korean university in CWUR '18

*Ranked as the 183rd in total
*Center for World University Rankings

100

Top young universities by Nature Index '19

1,306

Faculty members

1,343

Students

*444 International students

2,353

Graduates

*654 International graduates
*767 Ph.D.'s

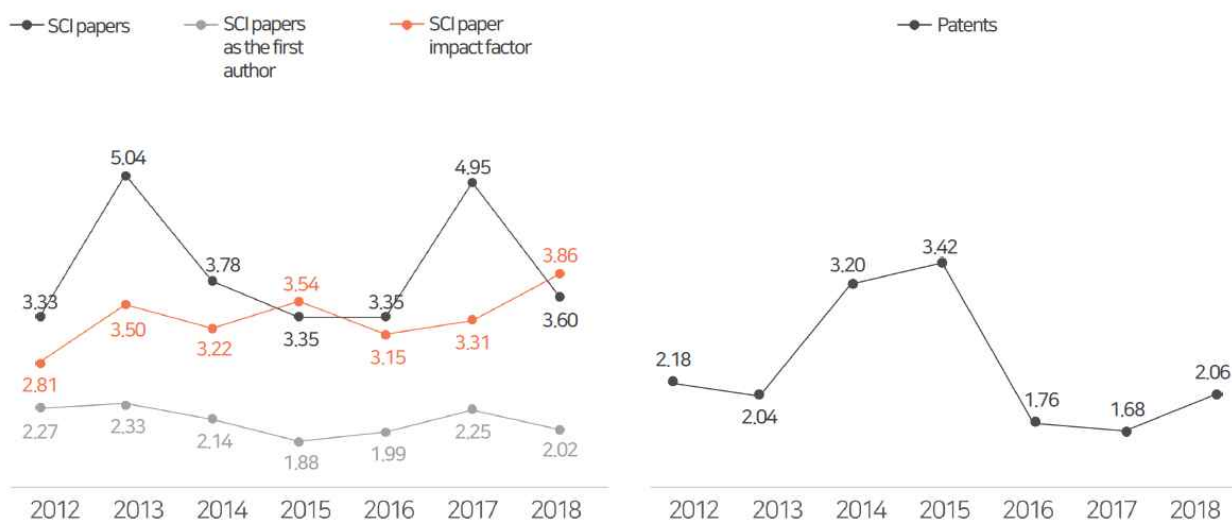
*As of Nov. 2019

3.60 SCI papers

2.02 SCI papers as the first author

3.86 SCI paper impact factor

2.06 Patents



*Average performance graduates who received a Ph.D. degree in 2018

* Visit our official website(<https://www.ust.ac.kr/eng.do>) for detailed information.

UST Global Research Internship

Purpose of the Program

- UST Global Research Internship aims to provide talented international students with opportunities to experience unique education system of UST centered on field research by participating in the research project at one of our campuses(National Research Institutes) as an intern.

Eligibility

- Overseas Korean or Foreigner with Following Qualifications

Type	Overseas Korean	Foreigner
Nationality	Irrelevant	Foreign nationality
College	Foreign college	Foreign College(if the applicants are graduated from Korean College, they must stay out of Korea when they apply)
Academic Program	Undergraduate(junior or over)or Master's (※ doctoral students are not eligible)	
School Status	Enrolled, Leave of absence, or Graduated	
Additional Requirements	Graduated foreign high school	-
language	English or Korean	

Internship Period

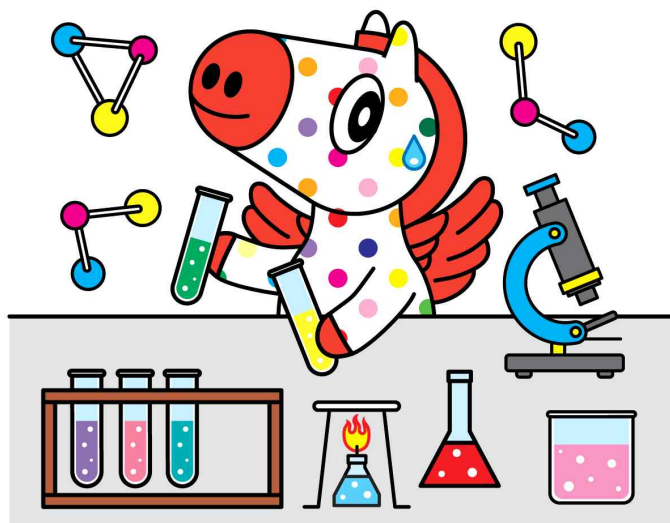
- July 1st to August 26th(for 2 months)
 - If agreed by an academic adviser and a student, the term can be slightly adjusted.

Type	Details
Air Fare	One way flight ticket (only for a intern from abroad)*
Documentation	Documents for visa application(if applicable)
Sickness and Accident Insurance	Same coverage as for international students of UST
Stipend	1,000,000KRW(850USD) each month
Orientation	Basic education to deepen comprehension about UST
Completion Ceremony	Sharing research results, Presentation of awards and certificates
Accommodations	May be charged for small amounts
Academic Adviser	Field research guidance by a UST faculty member
Mentor	Mentoring by a UST student or a researcher, Korean cultural experience

* Maximum amount of air fare can be limited

Program Schedule

February	Feb. 13	* Announcement of recruitment
March	Mar. 11~25	<ul style="list-style-type: none"> * Submission of application at (https://globalintern.ust.ac.kr) - Items to fill in: Self-introduction, Academic background, Abilities, Plan for the internship, Plan after the internship, Choice of school/campus and academic advisor(up to the third choice) - Required documents: Certificate of enrollment/leave of absence/graduation of college(graduate school), Transcripts for all semesters - Additional documents for reference can be attached such as a recommendation letter from your college or English tests score. - All the submitted documents should be written in English or Korean.
April	Mar.30 ~ Apr.22	<ul style="list-style-type: none"> * Screening - The method of review may vary by selected academic advisers(document review, e-mail interview, telephone interview, etc.)
	Apr. 29	* Announcement of successful applicants
May~June	-	* Preparation for the internship
July	Jul. 1	* Orientation at UST main office
	Jul. 2 ~ Aug. 25	* Field research at each school/campus
	Jul. 24	* Field trip(Cultural experience trip)
August	Aug. 26	* Completion ceremony at UST main office

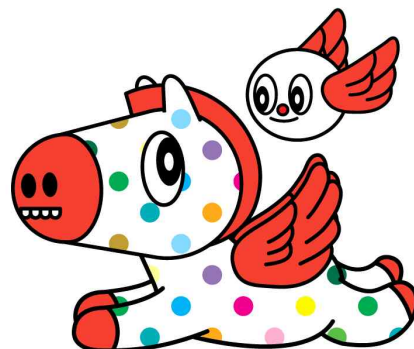


How to Apply

- Through online system at (<https://globalintern.ust.ac.kr>)
- ※ The online application system will be available during the application period only.
- Application Period: Mar. 11. 9:00 to 25 17:00 Korean time(GMT+9), 2020
- Required Documents for Application: One of certificate of enrollment/leave of absence/graduation from college(graduate school if applicable), Transcripts for all semesters from college(graduate school if applicable)
- ※ Additional documents for reference can be attached such as a recommendation letter from your college or English tests score.
- ※ All the submitted documents should be written in English or Korean.
- ※ Application form includes Self-Introduction/ Academic Background/ Abilities/ Plan for the Internship/ Plan after the Internship

Inquiry

- Department: Public Relations and International Affairs Team
- Person in Charge: Eun-Jin LEE
- E-mail: eunjinlee@ust.ac.kr
- Telephone: +82-42-865-2374
- Address: (34113) 217, Gajeong-ro, Yuseong-gu, Daejeon, Korea
- Homepage
 - UST Global Research Internship 2020:
https://admission.ust.ac.kr/admission_eng/sub03_02_02.do
 - UST Admission: https://admission.ust.ac.kr/admission_eng.do
 - UST: www.ust.ac.kr/eng.do





Participating Area, Major, Campus and Academic advisor's Name

No.	Area	Major	School/Campus	prof. name	e-mail	Region
1	BT	Biotechnology	Korea Research Institute of Bioscience & Biotechnology	Oh Seok KWON	oskwon79@kribb.re.kr	Daejeon
2				Ohsuk KWON	oskwon@kribb.re.kr	
3				Beungtae RYU	sbryu@kribb.re.kr	
4		Division of Bio-Medical Science & Technology	Korea Institute of Science & Technology	Kyungsu KANG	kskang@kist.re.kr	Gangneung
5				Min-Jung KANG	mjkang1@kist.re.kr	Seoul
6				Seok-Kyu KWON	skkwon@kist.re.kr	
7				Keri KIM	jazzpian@kist.re.kr	
8				LEE, Jun-Seok	junseoklee@kist.re.kr	
9				Myung-Suk CHUN	mschun@kist.re.kr	
10				Jee Hyun CHOI	jeechoi@kist.re.kr	
11		Seojung HAN	sjhan@kist.re.kr			
12	Korean Convergence Medicine Major	Korea Institute of Oriental Medicine	KANG, Youngmin	ymkang@kiom.re.kr	Naju	
13	ET	Accelerator and Nuclear Fusion Physical Engineering	National Fusion Research Institute Campus	Seong-Heon SEO	shseo@nfri.re.kr	Daejeon
14		Advanced Energy and System Technology	Korea Institute of Energy Research	Hyunuk KIM	hyunuk@kier.re.kr	Daejeon
15		Division of Energy & Environment Technology	Korea Institute of Science & Technology	Yong Bok LEE	lyb@kist.re.kr	Seoul
16		Resources Recycling	Korea Institute of Geoscience and Mineral Resources	AHN Ji Whan	ahnjw@kigam.re.kr	Daejeon
17		Petroleum Resources Engineering		Seonghyung JANG	shjang@kigam.re.kr	
18		Plant System & Machinery	Korea Institute of Machinery & Materials	Young-Bog HAM	hyb665@kimm.re.kr	Daejeon
19		Renewable Energy Engineering	Korea Institute of Energy Research	In-Gu LEE	samwe04@kier.re.kr	Daejeon

No.	Area	Major	School/Campus	prof. name	e-mail	Region
20	IT	Division of Nano & Information Technology	Korea Institute of Science & Technology	Donghoon KANG	chocopie@kist.re.kr	Seoul
21				Chunwoo KIM	cwkim@kist.re.kr	
22				PARK Sangbaek	sbpark@kist.re.kr	
23				Hyeonggeun YU	hyu@kist.re.kr	
24		ICT	Electronics and Telecommunications Research Institute	Bongki MHEEN	bkmheen@etri.re.kr	Deajeon
25		Industrial Technology	Korea Institute of Industrial Technology	Hyun-Rok CHA	hrcha@kitech.re.kr	Gwangju
26	NT	Nano-Mechatronics	Korea Institute of Machinery & Materials	Taik-Min LEE	taikmin@kimm.re.kr	Daejeon
27	NS	Bio-Analytical Science	Korea Basic Science Institute	Jeong Ah KIM	jakim98@kbsi.re.kr	Ochang
28		Bioscience	Korea Research Institute of Bioscience & Biotechnology	WOO, Euijeon	ejwoo@kribb.re.kr	Daejeon
29				Kweon YU	kweonyu@kribb.re.kr	
30				Sun-Woo YOON	syoon@kribb.re.kr	
31		Medicinal Chemistry and Pharmacology	Korea Research Institute of Chemical Technology	Kwangho LEE	kwangho@krict.re.kr	Daejeon
32		Nano Science	Korea Research Institute of Standards and Science	Jeong Won KIM	jeongwonk@kriss.re.kr	Daejeon
33		Radiological & Medico-Oncological Sciences	Korea Institute of Radiological & Medical Sciences	KIM Eun Ju	ejkim@kirams.re.kr	Seoul

Internship Openings

No.1			
Laboratory and Academic Advisor			
School/Campus	Korea Research Institute of Bioscience & Biotechnology (KRIBB)		
Name of Prof.	Oh Seok KWON(A)		
Reference	http://www.oskwonrnd.com/	Location	Daejeon
Introduction of Laboratory	<p>Our group has been investigating novel sensing materials and devices to accomplish an ultra-sensitive chem/bio sensors.</p> <p>We have designed conductive and optical nanomaterials and integrated them into circuit system, including multi-array, micro-fluidic, lateral flow assay, and flexible system by MEMS process.</p> <p>To improve limit detectable level (LOD), we modify the surface of nanomaterials with metal/metal oxide NPs and bio-receptors.</p> <p>The sensors exhibited highly sensitive, selective and rapid responses toward target analytes in room temperature.</p>		
Internship			
Related Majors	Chemical engineering, Biochemistry		
Internship Field	Development of Infectious Disease Diagnostics		

No.2			
Laboratory and Academic Advisor			
School/Campus	Korea Research Institute of Bioscience & Biotechnology (KRIBB)		
Name of Prof.	Ohsuk KWON(B)		
Reference	http://home.kribb.re.kr/oskwon	Location	Daejeon
Introduction of Laboratory	Our research focuses on functional genomic characterization and synthetic biological remodeling of microbial stress signal transduction and metabolic networks.		
Internship			
Related Majors	Microbiology related majors		
Internship Field	The internship will be involved in the development of bacterial strains to overproduce high-value added biomaterial by using random mutagenesis and genome editing techniques.		

No.3			
Laboratory and Academic Advisor			
School/Campus	Korea Research Institute of Bioscience & Biotechnology (KRIBB)		
Name of Prof.	Stephen (Beungtae) RYU		
Reference	http://home.kribb.re.kr/sbryu	Location	Daejeon
Introduction of Laboratory	<ol style="list-style-type: none"> 1. Natural rubber production from plants Identification of rubber biosynthesis gene(s), Generation of alternative rubber crops 2. Lipid signaling in plant defense responses Elucidation of a systemic mobile signal - Use as a natural vaccine to immunize plants for defense 		
Internship			
Related Majors	Plant biology, Biotechnology		
Internship Field	The internship will be involved in plant regeneration, transformation, plant molecular biology, CRISPR tech, Identification of rubber polymerase that is most commercially valuable gene in plants		

No.4			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Kyungsu KANG		
Reference	https://sites.google.com/site/kkanglab/	Location	Gangneung
Introduction of Laboratory	<p>The main research topic of Dr. Kang's laboratory is to discover bioactive natural products that can promote intestinal health and longevity. Dr. Kang and his members are interested in elucidating the biochemical and molecular mechanisms underlying the biological effects of various natural products. For this purpose, they are exploiting not only a tiny model nematode, <i>Caenorhabditis elegans</i>, but also cultured human and animal cells.</p>		
Internship			
Related Majors	Biotechnology, Life Science, Biology, Biochemistry, Cell, biology, Microbiology, Medicine, Pharmacy, and Food Science (any major related to bioscience)		
Internship Field	The internship will be involved in the development of bioactive natural products for promoting gut intestinal health in <i>C. elegans</i> and cultured cell model.		

No.5			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Min-Jung KANG		
Reference	https://www.youtube.com/watch?v=PzKXsUE-xss	Location	Seoul
Introduction of Laboratory	<p>Our laboratory is Bio Mass Analysis Lab. We are conducting biomarker discovery using OMIX technology and studying the development of new drug action point. For that, we are studying the validity of biomarker candidates using statistical and molecular biological tools. Until now, we have been studying biomarkers of cardiovascular disease, rheumatoid arthritis, gastric cancer and colorectal cancer related diseases, and will continue to study the usefulness of biomarker candidates, tissue specificity and mechanism of the action.</p> <p>On the other hand, we are also developing new analysis methods and diagnostic kits. Capillary electrophoresis laser induced fluorescence (CE-LIF) and LC-MS/ MS are employed for new analytical method development.</p>		
Internship			
Related Majors	Biochemistry, Biology, Chemistry, Pharmacy, Biochemical Engineering		
Internship Field	<p>The internship will include the lab introduction, orientation for experimenatal skills related with as belows.</p> <ul style="list-style-type: none"> - Biomarker discovery using LC-MS/MS- Validation of biomarker candidates using statistical and molecular biological tools (Cell Culature, Protein Quantitation, SDS-PAGE, Western Blotting, ELISA, MRM)- Study of tissue specificity and mechanism of the action- - Development of new analysis methods using CE-LIF & LC-MS/MS 		

No.6	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Seok-Kyu KWON		
Reference	https://kwonlab.wixsite.com/mysite/	Location	Seoul
Introduction of Laboratory	Our lab is investigating novel roles of intracellular organelles like mitochondria and ER in neurons using innovative in vitro/in vivo techniques based on previous studies (Nat. Neuroscience, 2009; PLoS Biology, 2016; Science, 2017; Nat. Communications, 2018).		
Internship			
Related Majors	Biology, Neuroscience, Neurobiology		
Internship Field	During this internship, the applicant will learn basic molecular works for neurobiology studies, and also experience various tools like live imaging, in vivo labeling for circuit study, and image analysis software.		

No.7	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Keri KIM		
Reference	https://www.kistcmr.com/	Location	Seoul
Introduction of Laboratory	Our laboratory focuses on medical robotics including surgical tools, fluorescence endoscopes and caring robots.		
Internship			
Related Majors	Mechanical engineering, biomedical engineering		
Internship Field	The internship will be involved in the development of fluorescence endoscopes or surgical tools or caring robots.		

No.8	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	LEE, Jun-Seok		
Reference	https://leegroup.chembiol.re.kr	Location	Seoul
Introduction of Laboratory	We are working on chemical biology study. Please visit my webpage for details.		
Internship			
Related Majors	Organic chemistry, Cell biology, Infectious disease, Imaging/Proteomics		
Internship Field	The internship will be involved in the development of chemical tools and methods for imaging/proteomic study for infectious disease.		

No.9			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Myung-Suk CHUN		
Reference	https://www.researchgate.net/profile/Myung-Suk_Chun https://scholar.google.co.kr/citations?user=ydkdTqUAAAAJ&hl=ko http://poisson.kist.re.kr	Location	Seoul
Introduction of Laboratory	During the last 20 years, the Complex Microfluids Lab at the KIST has been consistently devoting endeavor to investigate electrokinetic microfluidics, conformation and dynamics of complex fluids (soft matter), and applications to lab-on-chips platform, closely related to either computations or experiments or both.		
Internship			
Related Majors	Chemical Engineering, Mechanical Engineering, Physics, Chemistry, Materials, and Biomedical or Biotechnology-Related Major		
Internship Field	<p>The focused topics for internship can be</p> <ul style="list-style-type: none"> i) microfluidic or nanofluidic analysis of complex fluids, ii) design & fabrication of microfluidic-chip for sorting of living cells/particles or power-MEMS, and iii) fluorescent microscope imaging. <p>Based on the student's interest, we quite welcome applications with inclination towards either experiments or simulations or both.</p>		

No.10			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Jee Hyun CHOI		
Reference	https://sites.google.com/site/jeelabhomepage/	Location	Seoul
Introduction of Laboratory	<p>The Laboratory for Functional Brain Dynamics investigates mechanisms underlying the activities of neuronal circuits in correlation with cognitive brain states. We are particularly interested in the emergence, development, and termination of collective behaviors across the various scales of neuronal organization, from individual neurons to functional ensembles. We combine theoretical tools such as nonlinear dynamics and statistical analysis to experimentally obtained multi-modal brain signals. In addition to conventional multi-unit and local field recordings, we emphasize the use of functional brain mapping techniques that allow us to monitor the regional activities in large area simultaneously. We use transgenic mouse model to correlate the molecular and cellular perturbation to large scale dynamics.</p>		
Internship			
Related Majors	physics, computer sciences, neuroscience, psychology		
Internship Field	Neural signal recording and analysis computational & theoretical modeling of neural systems		

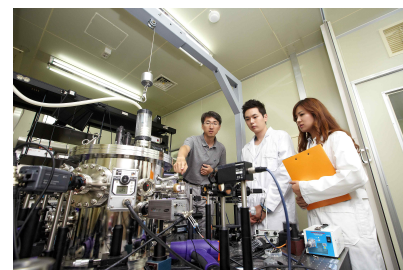
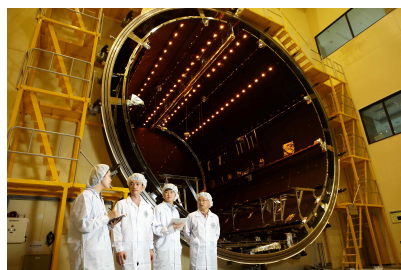
No.11	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Sejung HAN		
Reference	https://www.researchgate.net/profile/Seo_Jung_Han	Location	Seoul
Introduction of Laboratory	Research in our group centers on the small molecular drug discovery. In addition, we are developing new organic chemistry methodologies for synthesizing biologically active complex molecules.		
Internship			
Related Majors	Organic Chemistry, Organic Synthesis		
Internship Field	The internship will be involved in the design and discovery of biologically active small molecules. The knowledge of small molecular drug discovery and synthetic skills can be improved during the internship.		

No.12	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Oriental Medicine(KIOM)		
Name of Prof.	Youngmin, KANG		
Reference	www.kiom.re.kr www.ust.ac.kr	Location	Naju
Introduction of Laboratory	Conservation/Propagation of Medicinal Plants/ Production of Korean Herbal medicines Resources Technology of Korean Medicinal Microbes		
Internship			
Related Majors	Botany, Microbiology, Alternative Medicine, Life Sciences		
Internship Field	Someone who may interested in UST program before joining UST's Ph.D/Mater graduate Students, they may apply for UST global internship.		

No.13	Laboratory and Academic Advisor		
School/Campus	National Fusion Research Institute Campus		
Name of Prof.	Seong-Heon SEO		
Reference	http://www.nfri.re.kr	Location	Daejeon
Introduction of Laboratory	Nuclear Fusion Research Institute is operating the KSTAR tokamak which is one of the major devices in the nuclear fusion research field. The microwave Laboratory is operating a reflectometer (a kind of FMCW radar) to measure the plasma density profile of KSTAR tokamak and conducts high temperature plasma research related to the density profile.		
Internship			
Related Majors	plasma physics, microwave diagnostics, signal processing (wavelet transform, Neural Network)		
Internship Field	The internship will be involved in the plasma density profile measurements in the KSTAR tokamak. A kind of FMCW (frequency modulation continuous wave) radar, so called reflectometer, has been operated in the KSTAR tokamak. For the data analysis of radar signal, sophisticated data analysis techniques are necessary, for example wavelet transform, convolution neural network, GPU, etc. A data analysis program will be developed based on Python. The plasma density profiles will be analyzed from the data obtained during KSTAR tokamak experiment campaign by using the developed program.		

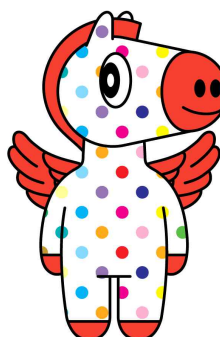
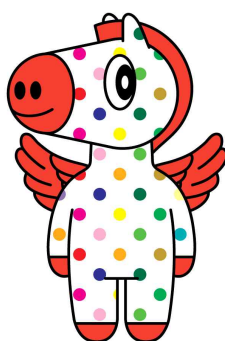
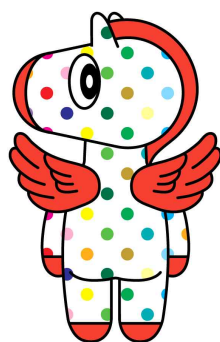
No.14			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Energy Research		
Name of Prof.	Hyunuk KIM		
Reference	Energy Materials Laboratory	Location	Daejeon
Introduction of Laboratory	We are research and development laboratory based on a government funded organization, Korea Institute of Energy Research (KIER). Our laboratory focuses on the synthesis of new materials for the applications in Li-ion batteries and hybrid supercapacitors. This gives us good possibility to work in the intersection of between these two disciplines i.e. synthesis and electrochemistry. Our group at KIER consists of one professor, two postdoctoral researchers, one Ph.D. student and one master student.		
Internship			
Related Majors	Chemistry, Chemical Engineering, Environmental Science, Materials Science		
Internship Field	This internship would be an excellent opportunity for me to continue to hone my skills in the field of metal-organic based hybrid materials, Li-ion batteries and supercapacitors, receiving formal training in many of the concepts and techniques (material synthesis, characterization and device making) necessary for our research work at KIER. This internship will give me opportunity to collaborate with others in the field of electrochemistry and generate innovation in the field.		

No.15			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Yong Bok LEE		
Reference	Romin.kist.re.kr	Location	Seoul
Introduction of Laboratory	Rotating Machinery Innovation(RoMin) Laboratory, actively conducting research since late 1980s, seeks to understand and exploit tribo-elements and rotor dynamics systems. Our group will go opening a new future for the next 100 years.		
Internship			
Related Majors	Rotor dynamics(Bearing, Sealing), Tribology, Condition monitoring, Machine Learning		
Internship Field	The internship will be involved in the development of the condition monitoring of the turbo pump, turbo charger, steam turbine, micro gas turbine, etc. and the comprehensive of rotating machines.		



No.16			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Geoscience and Mineral Resources		
Name of Prof.	Ahn Ji WHAN		
Reference	www.kigam.re.kr	Location	Daejeon
Introduction of Laboratory	Carbon Mineralization Flagship Center at Korea Institute of Geoscience and Mineral Resources is a high tech laboratory working on resources recycling through carbon mineralization. Major ongoing work includes aragonite synthesis and its applications as fillers in polymers, papers, and diapers. Other applications include as an adsorbents of phosphates and heavy metals. Our recent work includes potential treatment of wastewater contaminated with green algae through carbon mineralization.		
Internship			
Related Majors	Resources Recycling and Mechanical Engineering		
Internship Field	When water is stagnant, has a high temperature and a high concentration of Nitrates and Phosphates, green algae bloom might occur, which can cause several environmental problems. Therefore green algae problem is often unwanted and algae control is desired. This internship will involve exploration of possible ways, identifying separation techniques of green algae from wastewater through carbon mineralization.		

No.17			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Geoscience and Mineral Resources		
Name of Prof.	Seonghyung JANG		
Reference	http://english.kigam.re.kr/html/en/	Location	Daejeon
Introduction of Laboratory	The Seismic Data Processing Laboratory is to process seismic data and to make high quality subsurface images. The research areas are seismic modeling, prestack migration, anisotropic migration, seismic attributes, and wire line logging.		
Internship			
Related Majors	Seismic Exploration, Geophysics, Geology and related areas		
Internship Field	The internship will be involved in the development of seismic modeling and data processing.		



No.18			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Machinery & Materials		
Name of Prof.	Young-Bog HAM		
Reference	https://www.kimm.re.kr/limit01	Location	Daejeon
Introduction of Laboratory	1. Predictive maintenance of electronized hydraulic piston pump/motor using IoT technology 2. Cryogenic reciprocating high pressure pump for liquid hydrogen 3. Piezoelectric actuator and piezo-dispenser 4. Needle Free injector		
Internship			
Related Majors	Mechanical engineering		
Internship Field	Literature survey, experiemnts, analysis, and finding ways to overcome research challenges		

No.19			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Energy Research		
Name of Prof.	In-Gu LEE		
Reference	www.kier.re.kr	Location	Daejeon
Introduction of Laboratory	<ul style="list-style-type: none"> - Design of heterogeneous catalysis for upgrading of bio-oil - Process development for upgrading of bio-oil by catalytic deoxygenation in supercritical fluids - Lignin liquefaction combined with catalytic upgrading in supercritical ethanol 		
Internship			
Related Majors	Chemistry, Chemical Engineering		
Internship Field	The internship will be involved in the development of catalysis and catalytic processes for upgrading of bio-oil and also product separation processes		

No.20			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Donghoon KANG		
Reference	https://kimbabmoowoo.github.io/	Location	Seoul
Introduction of Laboratory	The goal of our lab is to develop an algorithm for estimating 3D human body pose in real time by using RGB cameras.		
Internship			
Related Majors	Computer science, electronic (or electrical) engineering, or mechanical engineering		
Internship Field	The internship will be involved in the development of a motion analysis tool by using publicly available open sources like the openpose (https://github.com/CMU-Perceptual-Computing-Lab/openpose)		

No.21			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Chunwoo KIM		
Reference	www.kistcmr.com	Location	Seoul
Introduction of Laboratory	<p>Center for Medical Robotics (www.kistcmr.com) in KIST is a leading medical robotics research group in Korea. The focus of our research is 1. Development of advanced instrumentation, imaging and navigation technology for the next generation surgical robots and 2. Development of assistive / service robot platforms. Interested applicants please contact cwkim@kist.re.kr with your CV and research interests.</p>		
Internship			
Related Majors	Mechanical Engineering, Electrical Engineering, Computer Engineering, Biomedical Engineering, Mechatronics, Robotics		
Internship Field	<p>Short term projects in following fields will be available for the interns.</p> <ul style="list-style-type: none"> - Design and manufacturing of mechanisms for minimally invasive surgical instruments - Programming of embedded system for medical robots and instruments - Development of surgical navigation software - Development of Bio/Micro-Robotic platform for fluorescent guided surgery 		

No.22			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	PARK Sangbaek		
Reference	https://sbparklab.wixsite.com/kist; http://ssemss.dssso.kr/	Location	Seoul
Introduction of Laboratory	<ul style="list-style-type: none"> • We dedicates to hetero-interface studies that can provide practical solutions for next-generation all-solid-state batteries and Li-air batteries. • We uses nano & thin-film technology for the systematic study to find scientific clues at interface. 		
Internship			
Related Majors	Materials Science & Engineering, Chemistry, Chemical Engineering, Nano & Energy Technology		
Internship Field	The internship will be involved in the development of novel hetero-interfaces with advanced ion and electron dynamics for high-energy and stable batteries. An applicant is required to know the relevant materials science and electrochemistry.		

No.23	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Science & Technology		
Name of Prof.	Hyeonggeun YU		
Reference	https://sites.google.com/view/imdlab-hyu/%ED%99%88	Location	Seoul
Introduction of Laboratory	We are focusing on advancing organic-inorganic hybrid thin film solar cells, photo-detectors, and transistor. You will learn how to fabricate thin film electronic devices and understand the mechanism.		
Internship			
Related Majors	Materials Science and Engineering, Chemical Engineering, Mechanical Engineering, Physics		
Internship Field	The internship will be involved in fabricating thin film solar cells and analyze the performance		

No.24	Laboratory and Academic Advisor		
School/Campus	Electronics and Telecommunications Research Institute		
Name of Prof.	Bongki MHEEN		
Reference	http://bit.ly/ETRI-STUD-Lidar	Location	Deajeon
Introduction of Laboratory	We have been researched in the arena of advanced LiDAR technologies and its applications for autonomous cars and drones. Recent activity can be found http://bit.ly/ETRI-STUD-Lidar .		
Internship			
Related Majors	Computer science and related majors to make it possible to program 3D point clouds applications using Python and C++ program environments		
Internship Field	The internship will be involved in the enhancement or reconstruction of the existing 3D display program for more efficient real-time 3D LiDAR point clouds.		

No.25	Laboratory and Academic Advisor		
School/Campus	Korea Institute of Industrial Technology		
Name of Prof.	Hyun-Rok CHA		
Reference	http://gjk.re.kr	Location	Gwangju
Introduction of Laboratory	<ul style="list-style-type: none"> - A study on Lightweight-body Materials for Electric Vehicles - A study on the Power Conversion of Battery EVs(Electric Vehicles) - A study on the Autonomous System by connection between AI and Vehicle Platform 		
Internship			
Related Majors	Autonomous Vehicle, Embedded system		
Internship Field	<ul style="list-style-type: none"> - Design and Development of EMS/4WS Control Algorithm - Design and Development of Integrated System Based on ISO26262/AUTOSAR) 		

No.26			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Machinery & Materials		
Name of Prof.	Taik-Min LEE		
Reference	https://www.kimm.re.kr/e_main	Location	Daejeon
Introduction of Laboratory	<p>My laboratory interests lie in the fields of printing process and equipment development for flexible electronic devices, sensors, and actuators such as flexible display, battery, solar cell, and bio-sensor. Specifically, my current and future research focuses include:</p> <ul style="list-style-type: none"> · Printing process and system development: The roll to roll gravure printing, offset printing, metaljet, screen printing, flexo printing, pad printing, and hybrid printing processes and systems. · Manufacturing of flexible electronic devices: The printed display part, printed metal bumping and solder, printed RFID, solar cell, and flexible TFT, and printed biosensor. 		
Internship			
Related Majors	Roll to roll Printing process and equipment development for flexible electronic devices		
Internship Field	The internship will be involved in the experiment of roll to roll printing process for fabricating the flexible computer		

No.27			
Laboratory and Academic Advisor			
School/Campus	Korea Basic Science Institute		
Name of Prof.	Jeong Ah KIM		
Reference	https://scholar.google.com/citations?hl=en&user=EBvbwMkAAAAJ&view_op=list_works&sortby=pubdate	Location	Ochang
Introduction of Laboratory	Our lab focuses on the development of a 3-D microfluidic cell culture platforms that mimic an organ or organ systems to understand the organ functions and mechanisms of various disease.		
Internship			
Related Majors	Bioengineering, Tissue engineering, Biomedical engineering		
Internship Field	The internship will be involved in the development of 3D organ-on-a-chip system using microfluidics and various biological techniques. Also, students will learn basic techniques for data analysis using artificial intelligence technology		



No.28		Laboratory and Academic Advisor	
School/Campus	Korea Research Institute of Bioscience &Biotechnology(KRIBB)		
Name of Prof.	WOO, Euijeon		
Reference	www.kribb.re.kr	Location	Daejeon
Introduction of Laboratory	Our research focuses on protein structure, function and structure based design of various medical and industrial proteins. Development of DNA binding Crispr/Cas system for efficient gene editing and protein design technology are recently highlighted.		
Internship			
Related Majors	protein, science, life science, biomedical		
Internship Field	The internship will be involved in the development of Crispr/Cas system for gene editing technology and/or computer based protein design.		

No.29		Laboratory and Academic Advisor	
School/Campus	Korea Research Institute of Bioscience &Biotechnology(KRIBB)		
Name of Prof.	Kweon YU		
Reference	www.kribb.re.kr	Location	Daejeon
Introduction of Laboratory	My laboratory has been studied the genetic mechanisms of human diseases using Drosophila genetic models.		
Internship			
Related Majors	Bioscience		
Internship Field	The intern will be involved in the experiments of genetic mechanisms of human diseases using Drosophila genetic models.		

No.30		Laboratory and Academic Advisor	
School/Campus	Korea Research Institute of Bioscience &Biotechnology(KRIBB)		
Name of Prof.	Sun-Woo YOON		
Reference	www.kribb.re.kr	Location	Daejeon
Introduction of Laboratory	Pathogenesis and genetic characterization of zoonotic viral diseases		
Internship			
Related Majors	Biology, Veterinary, Biochemistry		
Internship Field	<ul style="list-style-type: none"> * Characteristic analysis of zoonosis - Virus isolation and genetic characterization - Analysis of host factor and mechanism - Characterization of viruses using model animals 		

No.31			
Laboratory and Academic Advisor			
School/Campus	Korea Research Institute of Chemical Technology		
Name of Prof.	Kwangho LEE		
Reference	www.kriect.re.kr	Location	Daejeon
Introduction of Laboratory	Medicinal chemistry is an interdisciplinary science from synthetic organic chemistry, pharmacology, and computational chemistry. Medicinal chemistry activity includes design, chemical synthesis, and structure-activity-relationship (SAR) analysis toward bio-active small molecules.		
Internship			
Related Majors	medicinal chemistry, organic chemistry, organic synthesis		
Internship Field	The internship will be involved in organic chemistry, organic synthesis, structural analysis.		

No.32			
Laboratory and Academic Advisor			
School/Campus	Korea Research Institute of Standards and Science		
Name of Prof.	Jeong Won KIM		
Reference	http://pes.kriss.re.kr/	Location	Daejeon
Introduction of Laboratory	Interfacial electronic structures on organic/metal contacts and underlying carrier dynamics, Identification and quantification of organic thin films or chemical structures on low-dimensional material systems		
Internship			
Related Majors	Solid-state physics, Physical chemistry, Material science		
Internship Field	The internship will be involved in the excitation spectroscopy (PLE) measurement of fluorescent materials and analysis of interface charge carrier dynamics, This gives an evidence of material degradation and interface electronic structure.		

No.33			
Laboratory and Academic Advisor			
School/Campus	Korea Institute of Radiological & Medical Sciences		
Name of Prof.	KIM Eun Ju		
Reference	www.kirams.re.kr	Location	Seoul
Introduction of Laboratory	We have focused our scientific interests on the topics related to life-threatening disorders including cancer and Metabolic diseases. With our expertise in biological imaging, cancer chemotherapy and radiotherapy research, we have established a series of platforms for preclinical evaluation of early diagnosis/prognosis and risk assessment, developed a epigenetic changes method for improve the efficacy of radiotherapy of tumors, discovered a novel pharmacological inhibition effects.		
Internship			
Related Majors	molecular cell biology, Biochemistry, Medical Science		
Internship Field	The internship will be involved in the development of a epigenetic changes method for improve the efficacy of radiotherapy of tumors, discovered a novel pharmacological inhibition effects.		