

ESEP-INDIA 2021 List of Host Laboratories (May 17 - July 9)

No.	Department	Host Professor	Research Topic & Research Description	Special academic conditions required for research				Campus	Lab website	Online
				1) Prerequisite knowledge and/or special skills and level of proficiency	2) Required academic background	3) Academic or research project experiences beneficial during selection process	4) Other conditions			
1	Civil Engineering	Prof. KOSEKI Junichi / Associate Prof. WATANABE Kenji	Experimental study on mechanical behavior of geomaterials	Basic knowledge on soil mechanics and geotechnical engineering	Specialization in the field of civil engineering		Undergraduate student Graduate student	Hongo	http://geotile.t.u-tokyo.ac.jp/research/	×
2	Civil Engineering	Associate Prof. SU Di	Bridge Engineering, Structural Dynamics	Structural mechanics and dynamics, basic programming knowledge	Civil Engineering		Undergraduate student Graduate student	Hongo	http://bridge.t.u-tokyo.ac.jp/index_e.html	×
3	Civil Engineering	Associate Prof. SEKIMOTO Yoshihide	Estimation of People Flow in Combination of Sensing and Behavior Modeling Monitoring Urban Infrastructure Rapidly and Cheaply Operating Cities by Designing and Establishing Information Distribution	Some interests in spatial information science for urban management			Undergraduate student Graduate student	Komaba	https://seki-lab.iis.u-tokyo.ac.jp/human-centered-urban-informatics/	×
4	Mechanical Engineering	Prof. MITSUISHI Mamoru / Associate Prof. HARADA Kanako	Microsurgical robots: participant(s) will join one of our projects and study surgical robotic design, control, or simulation. The detail will be decided considering the preference, experience and ability of each participant.	Programming	Mechanical Engineering or Computer Science	Robotics Image processing	Graduate student	Hongo	http://www.nml.t.u-tokyo.ac.jp/	×
5	Precision Engineering	Prof. KUNIEDA Masanori	Study on micromachining by electrochemical machining and electrical discharge machining	Anyones who are interested in material processing technologies are welcome.	Anyones who are interested in micromachining, materials processing technologies, manufacturing, production engineering, etc. are welcome.	Both electrochemical machining and electrical discharge machining involve multi-physics phenomena. Any students who have fundamental knowledge about physics, mechanical engineering, materials, electrochemistry, and electrical engineering, etc. are welcome.	Undergraduate student Graduate student	Hongo	http://www.edm.t.u-tokyo.ac.jp/wpKunieda/	×
6	Systems Innovation	Prof. TAKAHASHI Jun	Advanced Composite Material Technology for Future Society - CFRTP for the Future Transportation Society - Innovative Simulation Technology for New Services - Hybrid Materials for Improving Social Resilience	Mechanics of materials Strength of materials	Mechanics of materials Strength of materials	Composite material Carbon fiber reinforced plastics	Undergraduate student Graduate student	Hongo	http://j-t.o.oo7.jp/index-e.html	○

7	Electrical Engineering & Information Systems	Prof. NAKANO Yoshiaki	Semiconductor optoelectronic materials, devices, and circuits Description: Compound semiconductor material and device technologies for semiconductor lasers, optical modulators/switches, photonic integrated circuits, high efficiency solar cells, and solar fuels are studied.	None	Basic study on optics and semiconductor physics.	None	Undergraduate student Graduate student	Hongo / Komaba	http://www.ee.t.u-tokyo.ac.jp/~nakano/lab/e_index.html	×
8	Materials Engineering	Prof. WATANABE Satoshi	Development of interatomic potentials for molecular dynamics simulations via machine-learning: This project aims at establishing methodology to construct interatomic potentials for molecular dynamics (MD simulations using neural network. Examples of specific tasks are improvement of algorithm, improvement of training data sampling, training of neural network potential (including its performance test), and obtaining training data.	None	Basic knowledge on solid state physics or materials science. Specifically, on atom dynamics in solids.	Molecular dynamics simulation; Python programming; machine learning; numerical analysis	Undergraduate student Graduate student	Hongo	http://cello.t.u-tokyo.ac.jp/index.php?id=7	○
9	Chemical System Engineering	Prof. TAKANABE Kazuhiro	Electrocatalysis for energy conversion Investigation on developing electrocatalyst materials will be conducted. The works involve practical experiments in laboratory, related to materials synthesis, characterization, and catalytic testings.	Basic knowledge in the field of chemistry, chemical engineering, and/or materials science. Safety training is required before entering the lab. The chemical lab skill and knowledge is preferred.	Chemistry; Chemical Engineering; Materials Science.	Fundamental knowledge of chemistry, chemical engineering, and materials science.	Undergraduate student Graduate student	Hongo	https://www.catec.t.u-tokyo.ac.jp/	×