Toyota Techological Institute Summer Seminar 2022 - updated on June 9

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Day 1 **Tuesday,** **August 23**	12pm - 2pm (JST)	● Keynote Lecture, TTI Introduction
	3pm - 5pm (JST)	● **Engineering Lectures**
Day 2 **Wednesday,** **August 24**	~~12pm – 5pm (JST)~~	~~Short Presentation & Discussion~~ Cancelled
	3pm - 5pm (JST)	● **Engineering Lectures**

--- LIST OF ENGINEERING LECTURES & PARTICIPANTS

Lectures are assgined to each participant based on their preference.

Laboratory	Lecturer(s)	Lecture Topic	Lecture Summary	Interactive Aspect in the Lecture	Required Skills and Background Knowlege for Engineering Lecture Participants	Tools to Be Prepared by Engineering Lecture Participants	Pre-seminar Preparation Required of Engineering Lecture Participants	Lecture Schedule for Participants from Partner Universities (as of June --may be joined by additional participants)									Number of Seats Available "Not limited" may also be limited due to network capacity	For Partner University International Relations Personnel Call for Additional Applications
								Tuesday, August 23 3:00-5:00 pm (JST)					**Wednesday, August 24 3:00-5:00 pm (JST)**					
Micro-Nano Mechatronics Laboratory	Professor SASAKI Minoru	Microfabrication and MEMS sensors	The microfabrication technique and our MEMS devices are explained. For assisting the understanding the effect of the small sensor, the acceleration sensor signal in the smart phone is observed.	YES	Basic knowledge of mechanical and electrical engineering	Optional tool: Smart phone (Android OS is preferred) with the free application installed	TBA	×	×	×	×	×	3	9	13	10	1	Not limited	OPEN
Intelligent Information Media Laboratory	Professor UKITA Norimichi	Computer Vision using Deep Learning	I will introduce recent progress of computer vision (image recognition) using deep learning. You can enjoy easy Python codes on Jupyter Notebook with Python, if possible.	YES	Basic Knowledge of Python	Web browser on a computer	Nothing	9	10	1	×	×	12	7	—	×	×	Up to three	N/A
Laser Science Laboratory	Professor FUJI Takao Lecturer KUDO Tetsuhiro	Frontiers in infrared lasers and applications	introduction to latest lasers and their applications	NO	Basic knowledge of Optics	Nothing special	Nothing	×	×	×	×	×	14	11	—	—	—	Not limited	OPEN
Electromagnetic Energy System Laboratory	Professor FUJISAKI Keisuke	Magnetism on Motor Drive System	An overview is given on magnetic materials that are applied for electrical vehicles, motors, and power electronics.	NO	N/A	N/A	N/A	3	13	7	12	—	×	×	×	×	×	Not limited	OPEN
Quantum Interface Laboratory	Professor KAMIYA Itaru	Introduction to Quantum Structures	Overview on quantum structures, together with their preparation and physical properties, will be given.	YES	Fundamental knowledge on quantum mechanics.	N/A However, it might be helpful if you can run some kind of a program for performing simple calculations on quantum mechanics.	TBA	×	×	×	×	×	5	6	8	—	—	Up to twenty	OPEN
Surface Science Laboratory	Professor YOSHIMURA Masamichi Associate Professor HARA Masanori	Fabrication of CNT-modified electrode for Li ion battery	Synthesis of vertically-aligned carbon nanotube on a Cu substrate by the chemical vapor deposition, and evaluation of the CNT-modified Cu electrode as an anode of Li ion battery.	YES	basic knowledge about chemical reaction and battery	no	no	4	5	6	×	×	2	15	—	×	×	Up to three	N/A
Optical Functional Materials Laboratory	Professor OHISHI Yasutake Associate Professor SUZUKI Takenob Assistant Researcher Tong Huang Tuan	Lightwave generation and control by specialty optical fibers	State of the art technology on lightwave generation and control, such as supercontinuum generation, amplification and propagation, using specialty optical fibers made of tellurite and chalcogenide glasses are presented.	NO	Basic knowledge of optics	N/A	N/A	2	15	14	11	8	×	×	×	×	×	Not limited	OPEN

*Lecture time is subject to slight change. Lecture duration is up to 2 hours.

*For participants: Please refer to an email from TTI to see your number, which is randomly assigned to link your information with the lecture schedule above.