

# 2019 Summer Camp

August 2-5, 2019

The University of Tokyo  
Shonan Village Center

Graduate Program for Mechanical Systems Innovation

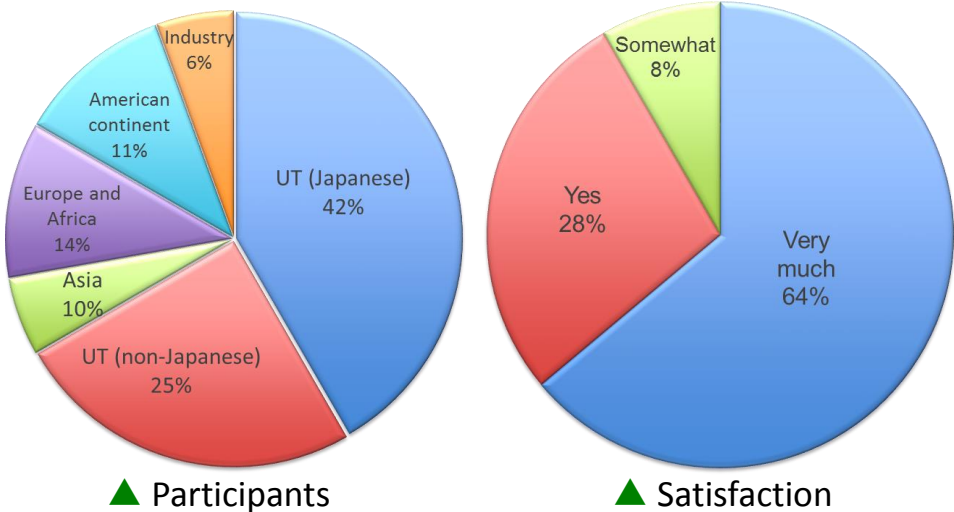
Global Leader Program for Social Design and Management

World-leading Innovative Graduate Study Program Co-designing Future Society

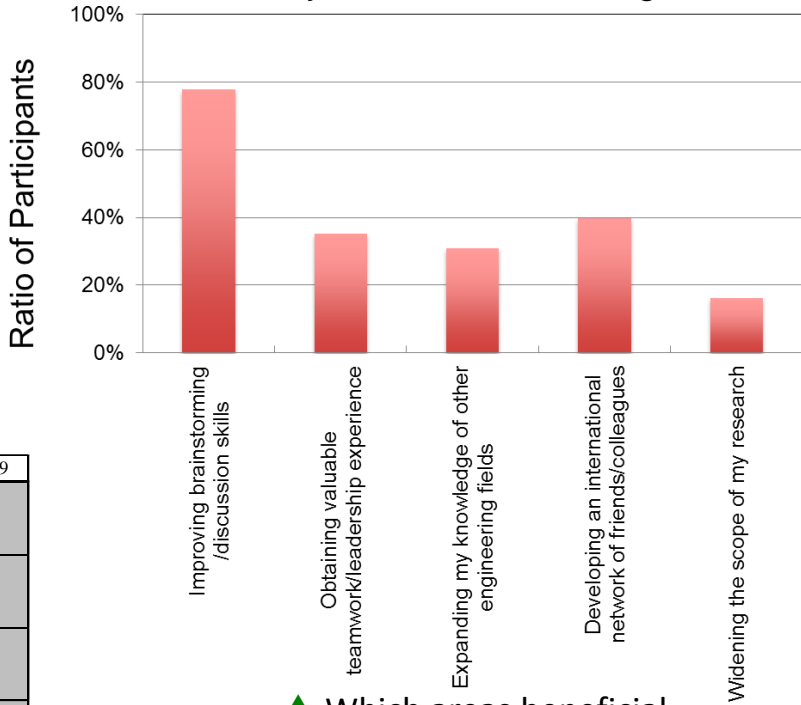
The University of Tokyo

# 2019 Summer Camp

- UTokyo and world-leading universities Ph.D students discuss and exchange ideas to propose an international research project to develop an innovative device related to SDGs
- 38 Participants from 11 universities of 7 countries & 3 companies



2019 Venue: UTokyo and Shonan Village Center



	7 am	8	9	10	11	12	1 pm	2	3	4	5	6	7	8	9
Fri. Aug 2				Reg.	Opening/ Lectures	Lunch	UTokyo lab tour		Travel to Camp		Checkin	Self-introduction	Dinner		
Sat. Aug 3	Breakfast			Research Presentation	Team Meeting	Lunch	Excursion						Dinner		
Sun. Aug 4	Breakfast		Team Meeting			Lunch	Team Meeting						Dinner (Banquet)		
Mon. Aug 5	Breakfast	Checkout	Final Presentation			Photo	Lunch	Award Ceremony & Closing		Return to Tokyo					

◀ Schedule of Summer Camp



# Details of Participants

Affiliation	Major	Number
University of California, Berkeley	Mechanical Engineering	1
Scuola Superiore Sant'Anna	Biorobotics	1
IIT Delhi	Materials Science and Engineering	1
Technical University of Munich	Robotics	1
Stanford University	Mechanical Engineering	1
Rice University	Physics	1
Korea Advanced Institute of Science and Technology (KAIST)	Mechanical Engineering	1
University of Toronto	Materials Science and Engineering	1
MIT	Mechanical Engineering	1
University of Cambridge	Information and Computer Engineering	1
KTH - Royal Institute of Technology	Aerospace Engineering	1
The University of Tokyo	Advanced Energy	1
	Aeronautics and Astronautics	4
	Applied Biological Chemistry	1
	Chemical System Engineering	1
	Computational Biology and Medical Sciences	1
	Earth and Planetary Science	1
	Electrical Engineering and Information Systems	1
	Information and Communication Engineering	1
	Mechanical Engineering	8
	Mechano-Informatics	1
	Precision Engineering	2
	Robotics	1
	Systems Innovation	1
Toshiba Corporation	Electrochemistry	1
Ebara Corporation	Mechanical Engineering	1
Hitachi, Ltd.	Mechanical Engineering	1

# Day1: Lectures & UT Lab tour

Address:

**Prof. Watanabe**



Lectures:

**Prof. Kitamura**



**Prof. Maruyama**



Guidance:

**Prof. Harada**



Introduction:

**Prof. Yokono**



UT Lab tour

Course A: Nano Structures and Devices

Maruyama-Chiashi Lab.

Ikuhara Lab.

Course B: Medical Robotics and Combustion Engine

Mitsuishi Harada Lab.

Yamasaki Lab.

Course C: Robotics and Bridge

Asama Lab.

Bridge and Wind Engineering Lab.

Lectures:

**Prof. Suzuki**



**Prof. Furuta**





# Team Meeting –task-

Your task is to propose **an international research project with your team members to develop an innovative device related to SGDs** (Sustainable Development Goals). The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030.

## Presentation template

- ✓ Problem identification
- ✓ Idea of New Device
- ✓ International research project
- ✓ Organization of international research team
- ✓ Potential impact
- ✓ Roadmap & Budget

### Problem identification

- Describe **both social and technical backgrounds** related to the SDG you chose. (by citing statistical data, public statements, journal papers , etc.)
- Specify the problem for your project.

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### Idea of New Device

- Propose a new device
- Please use technical seed(s) of your team members, or use state-of-the-art technical seeds you are familiar with.
- High-level technical discussions are expected

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- 8 teams (4-5 participants/team) were organized in advance.



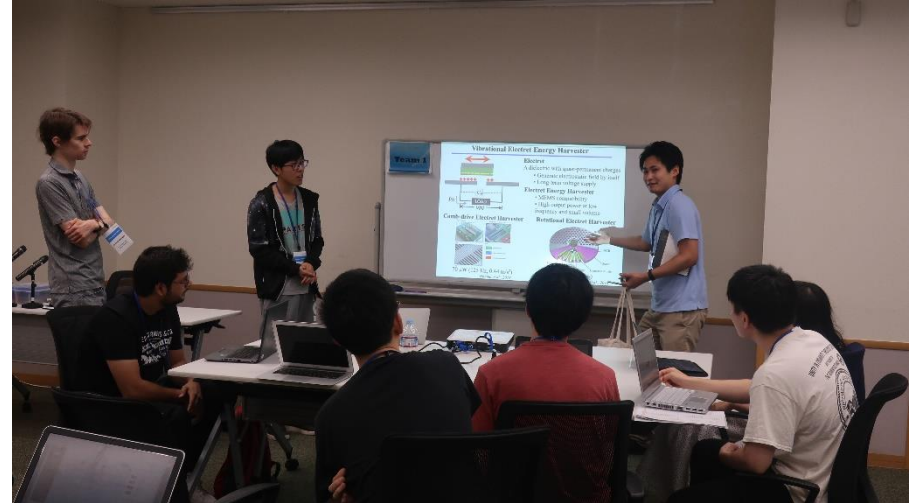
# Self Introduction



## Team Meeting

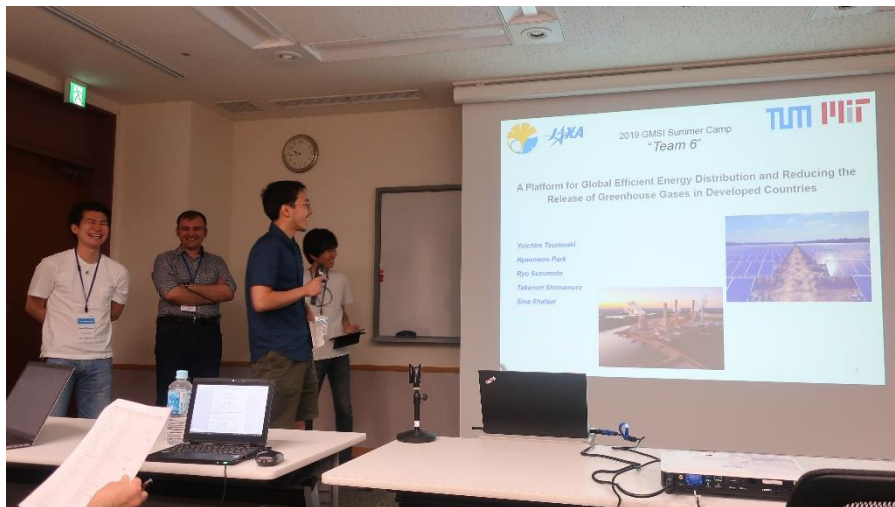
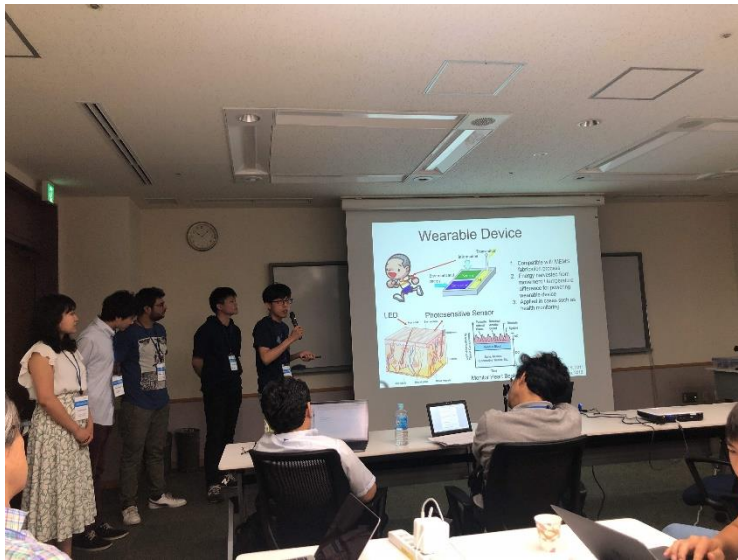


# Team Meeting





# Final Presentations





# Evaluation & Awards

Criteria	Points
Innovation, and potential impact	/ 5 points
Background survey, technical soundness, feasibility, and project management	/ 5 points
Teamwork, presentation	/ 5 points

## Comments given to each team

### Team 3 (Water Purification)

It was excellent that...

- Background explanation and implementation of new/Interesting technologies
- Good Q&A skills

It can be better if you could improve...

- ✓ Discussion on originality and feasibility (Power supply, etc.)
- ✓ Quantitative comparison with other low-cost water-purification methods



Best Presentation  
Team 1 (Tremor)



Best Proposal  
Team 3 (Water Purification)



Best Presentation  
Team 7 (Granma's glasses)



# Excursion

## Visiting Kamakura



# Questionnaire Summary (1)

	Did you enjoy the camp?	Lectures	Lab tour in UT	Grouping and Topic selection	Research presentation	Team meeting	Final presentations	Excursion	Location	Meals	Accommodation	Organization
All (2019)	4.6	4.2	4.2	4.3	4.1	4.1	4.3	4.1	4.1	4.2	4.2	4.4
All (2018)	4.6	4.0	3.9	4.3	4.2	4.5	4.4	4.3	4.3	4.2	4.2	4.4
All (2017)	4.4	4.0	4.1	4.1	4.0	4.4	4.5	4.2	4.1	3.5	4.0	4.4
Invited from universities	5.0	4.7	4.7	4.7	4.7	4.7	4.6	5.0	4.5	4.3	4.5	4.9
UT (non-Japanese)	4.5	4.5	4.1	4.5	4.4	4.5	4.5	3.9	4.1	4.0	4.1	4.6
UT (Japanese)	4.3	3.9	4.1	4.1	3.7	3.6	4.0	3.8	3.9	4.3	4.1	4.1
Invited from companies	4.5	3.5	3.5	3.5	3.0	4.0	4.5	3.0	3.0	4.0	3.5	3.5

- Basically, most of the participants enjoyed the camp very much.
- Scores vary depending on the affiliation.
- Japanese participants tend to be more critical.



In which areas did you find the camp beneficial?

	Improving brainstorming/discussion skills	Obtaining valuable teamwork/leadership experience	Expanding my knowledge of other engineering fields	Developing an international network of friends/colleagues	Widening the scope of my research
N. (N=36)	28	24	21	27	11
Ratio 2019 2018	<u>77%</u> 72%	<u>66%</u> 60%	<u>58%</u> 56%	75% <u>81%</u>	31% 31%

➤ The camp surely enhanced the “competency” of the participants.



## Invited Student

- Thank you very much! I had a great time. Even walking around in the hot summer was an authentic experience! I hope to have an opportunity to visit again.
- Thank you so much~ I really enjoyed this camp!!
- It would have been better to form the groups one month before the official start of the camps and provide them a pre-meeting (maybe over Skype?) just to get to know each other better and discuss the possible proposals together beforehand. This way, they will have enough time (before and during the summer camp) to cultivate the ideas and form an even stronger proposal by the end of the camp. However, I did enjoy my time during this summer camp and should thank each one of the organizers for their effort and support. ☺ special thanks to GMSI Office for handling all of the steps and travel issues of us (international members) to this event!

## UT (non-Japanese)

- Twins room could be better.
- There are too few girls. Gender inequality should also be interesting topic.
- I found this experience very valuable from both academic and personal point of view. I hope some international collaborations will be established after the camp
- 5 people in a room is not ideal! Maybe you should consider about earlier organization and prevent this "not enough room" situation.

## UT (Japanese)

- I guess the discussion time is a little short. In addition, the budget and time of the project is much limited so that I felt like it was difficult to come up with innovative ideas.
- It might be more convenient to let the students know the availability of the conference room at night.
- Maybe we can select teams by ourselves, so we can solve some now-existing problems in our lab.
- I think if there's the time for introducing ourselves and asking questions each other, then it's more easily to make good relationships with friends from all over the world.
- I would love it if the excursion was on the last day. I heard it used to be last year, and I feel that would have been better.
- Thank you for the useful summer camp. I think it is better for inviting company researchers more to consider business aspect.
- It was difficult to discuss with people from different backgrounds.
- Excursion should be on the last day because it made me a little tired to concentrate on team discussion...
- It would have been better if the excursion was held in the last day.
- 単純に時間が少なすぎたように思います。