

# 2020 Summer Camp

August 17-20, 2020

The University of Tokyo  
ONLINE

Graduate Program for Mechanical Systems Innovation

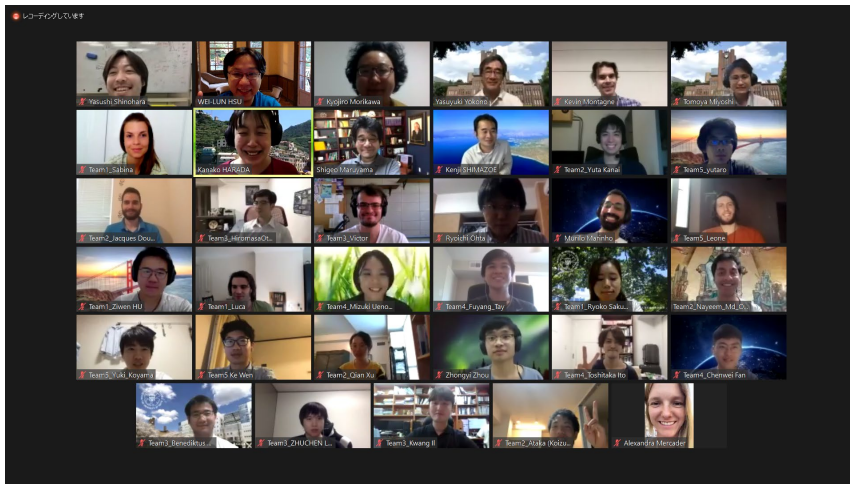
Global Leader Program for Social Design and Management

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

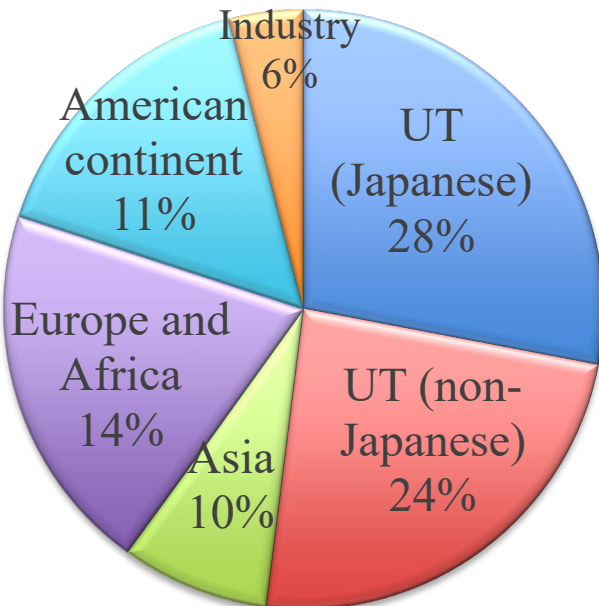
The University of Tokyo



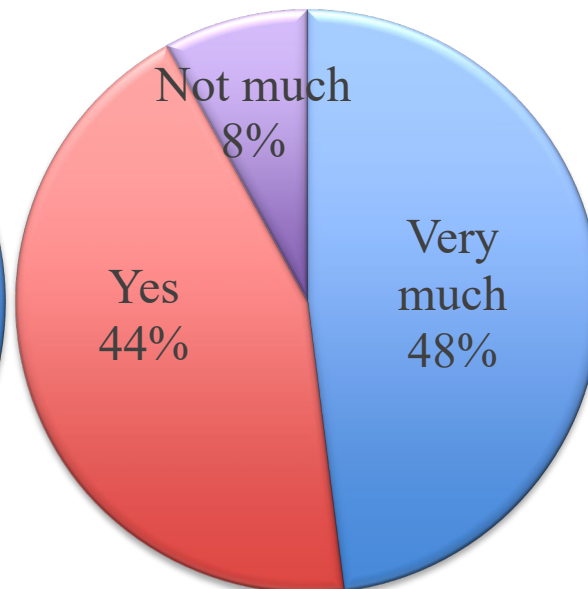
# 2020 Summer Camp



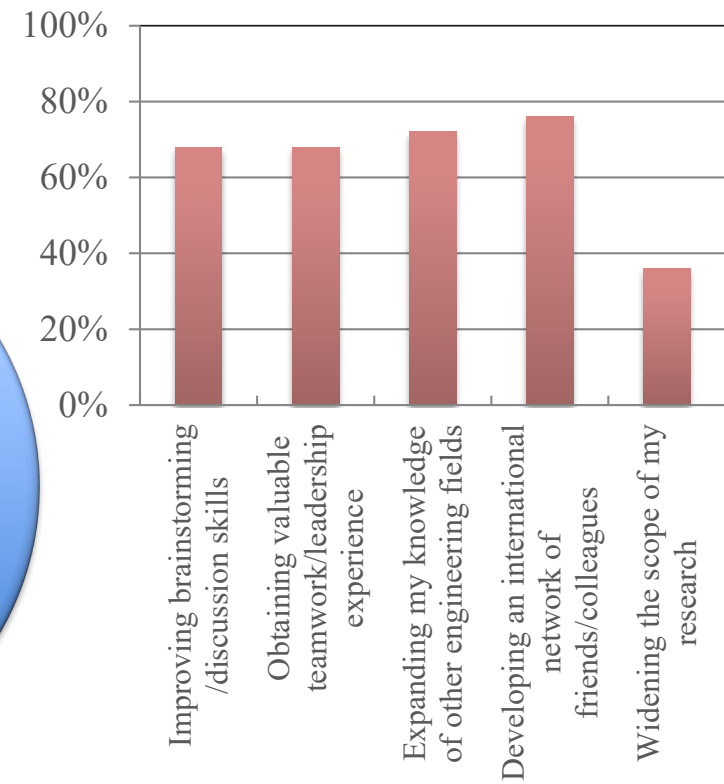
- UTokyo and world-leading universities Ph.D students discuss and exchange ideas to propose an international research project with your team members to develop an innovative device related to COVID-19
- 25 Participants from 10 universities of 9 countries & one company



▲ Participants



▲ Satisfaction



▲ Which areas beneficial



# Details of Participants

University	Major	Number
Massachusetts Institute of Technology	Mechanical Engineering	1
KTH Royal Institute of Technology	Mechanical Engineering	1
Korea Advanced Institute of Science and Technology	Mechanical Engineering	1
University of São Paulo	Mechatronics Engineering	1
Rice University	Applied Physics	2
University of Cambridge	Bionics Engineering	1
	Engineering (AI and Robotics)	1
Technical University of Munich	Mechanical Engineering	1
Scuola Superiore Sant'Anna	Biomedical Engineering	1
National Tsing Hua University	Mechanical Engineering	1
The University of Tokyo	Architecture	1
	Astronautics	1
	Bioengineering	1
	Civil Engineering	1
	Electrical Engineering and Information Systems	2
	Mechanical Engineering	4
	Nuclear Engineering and Management	1
	Precision Engineering	1
Urban Engineering	1	
Toshiba Corporation	Electrochemistry	1



# Slack # cultural exchange

**Luca Scimeca** 18:30  
Hi all,  
I am from Italy, and more specifically the island of Sicily (Palermo). We have a wealth of cultural diversity due to several dominations over the centuries, including Carthaginian, Greek, Roman, Arabic, Norman and more. Because of this diversity Sicily is a very special place to visit, both for its natural beauties, its art legacy and its flavors (below are some examples).  
6 個のファイル

3 7 1

**Leone Costi** 05:05  
Hi you all! My name is Leone Costi and I come from Italy, Ravenna to be more specific. Ravenna is a small city in the north-east side of the country, on the seaside. The city was the last capital of the Roman empire and has been a huge commercial port until the Middle Ages, therefore it is a must visit place for any art or history enthusiast. Last but not least, we most likely have the best food of all north Italy.  
6 個のファイル

11

**Zhongyi Zhou** 19:55  
Hi, my name is Zhongyi, master 2nd year student at University of Tokyo. I lived in Shanghai (China) before I came to Tokyo. Xiao Longbao (Figure 2) is the breakfast, lunch or dinner. Other than Chinese local culture, Shanghai also has some exotic architecture around city center. Highly recommend coming to!  
3 個のファイル

2

**Sabina Maglio** 00:05  
Hi! I'm Sabina, PhD candidate at the Scuola Superiore Sant'Anna. At the moment I live in Florence, capital of Tuscany in Italy. Florence with its museums, palaces and churches houses some of the most important artistic treasures in the world. Among the most famous places of art and religion in the city are undoubtedly the Cathedral of Santa Maria del Fiore (photo 1), the Baptistery (photo 2), the Uffizi Gallery (photo 3). In addition to the many museums and art galleries, Florence is beautiful to visit outdoors walking through the streets of the historic center and the gardens (photo 4). Traditional food is the Florentine steak (photo 5), beef cooked on the grill, and the ribollita (photo 6), the most famous Tuscan soup made of bread and vegetables. If you plan a holiday in Italy do not forget to visit Florence and the Tuscany!  
6 個のファイル

**Ataka Yasuho** 21:19  
Hello everyone, I am Yasuho Ataka from Japan. My hometown is Kanazawa. There are so many beautiful places like Kenrokuen and Higashiyayagai. They are amazing. You can feel its history. In addition to the historical site, you can also enjoy delicious foods. Japanese traditional sweets called Kintuba is so famous! Please enjoy this beautiful city!  
4 個のファイル

**Fuyang Tay** 11:44  
Hi all, my name is Fuyang, a PhD candidate at Rice University. I grew up in Skudai in Malaysia and finished my undergraduate studies at Nanyang Technological University in Singapore. My hometown is one of the tropical countries, we only have summer throughout the year, it's very hot and humid! I love the tropical fruits, especially durians! Malaysia is also a multiracial country (Malay, Chinese and Indian are three major ethnic groups), thus Malaysian cuisine is famous for a mixture of different cultures. Here I included the figure of our typical food, "nasi lemak".  
4 個のファイル

6 2

Welcome messages :  
**Prof. Maruyama**

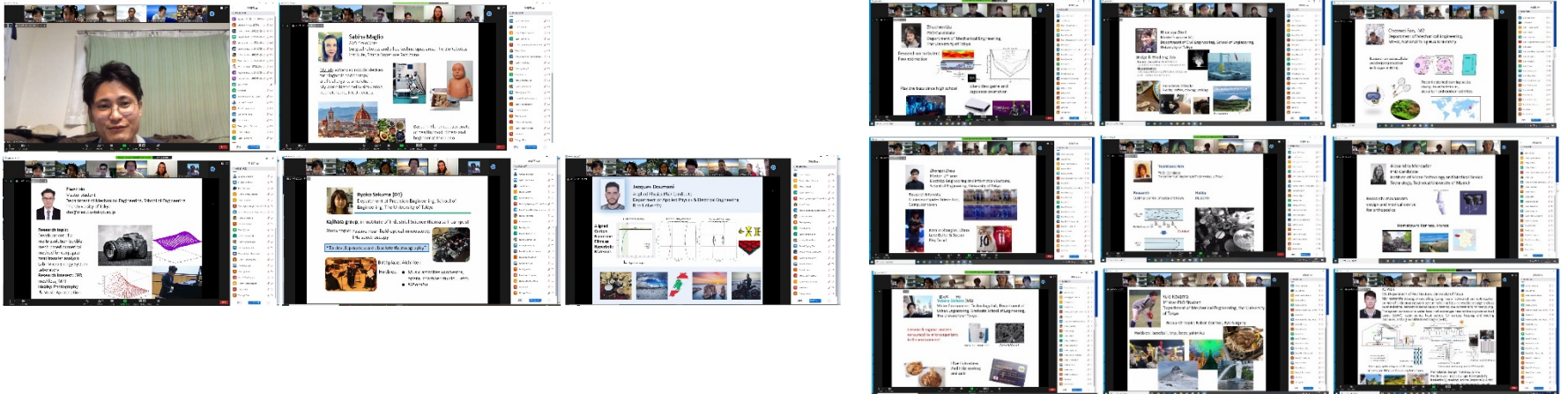
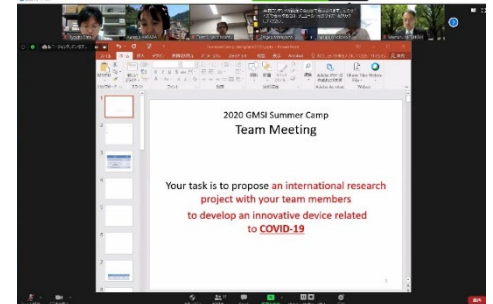
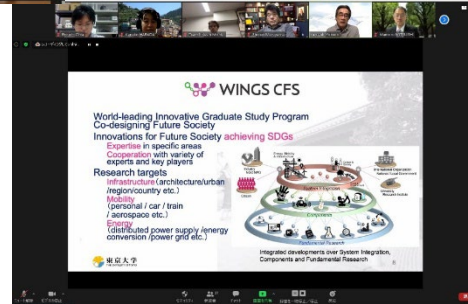
**Prof. Mitsuishi**

Introduction of  
program :**Prof. Yokono**

Guidance:  
**Prof. Harada**



## Self Introduction



Your task is to propose an international research project with your team members to develop an innovative device related to COVID-19.

## 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.

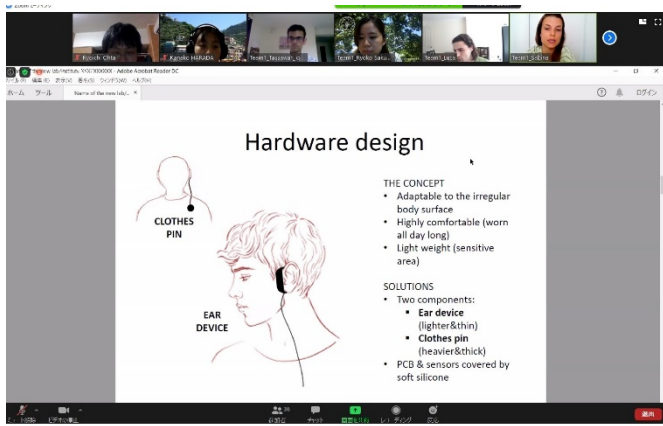
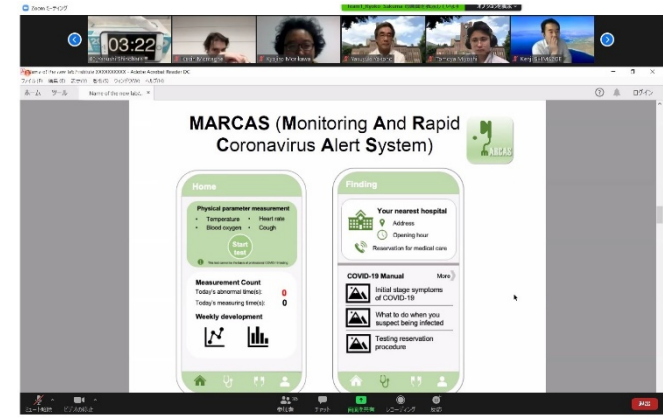
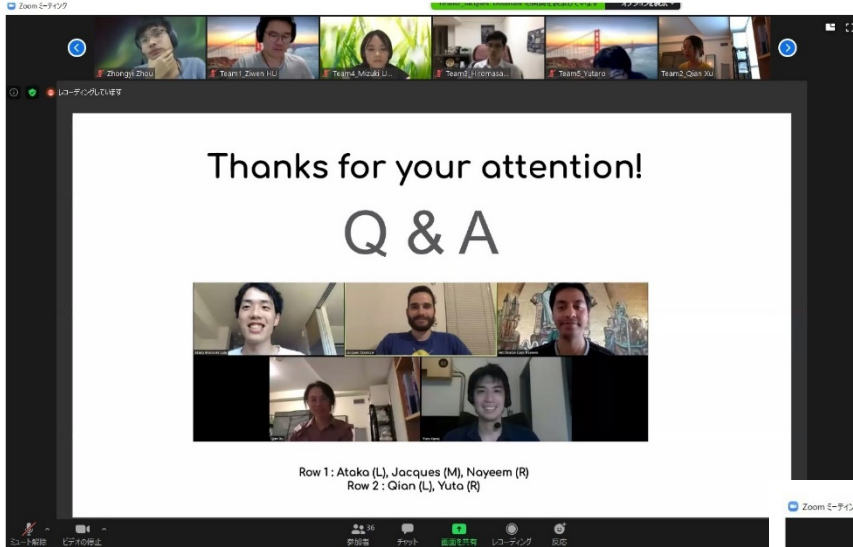
6

### 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

7

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



# Evaluation & Awards

## Comments given to each team

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

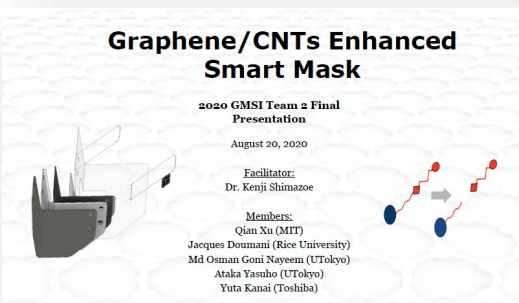
### Team 2 (Smart mask)

It was excellent that...

- The requirements were clarified, and the design of mask was discussed in detail and quantitatively.
- The project organization and teamwork were excellent.

It can be better if you could improve...

- ✓To show evidences to back up the “numbers” shown on the slides.
- ✓The market could be clarified.



**Graphene/CNTs Enhanced Smart Mask**

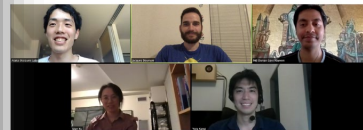
2020 GMSI Team 2 Final Presentation  
August 20, 2020

Facilitator:  
Dr. Kenji Shimazoe

Members:  
Qian Xu (MIT)  
Jacques Doumani (Rice University)  
Md Osman Goni Naveem (UTokyo)  
Ataka Yasuho (UTokyo)  
Yuta Kanai (Toshiba)

Thanks for your attention!

### Q & A



Row 1 : Ataka (L), Jacques (M), Noysem (R)  
Row 2 : Qian (L), Yuta (R)

Best Innovation  
Team 2 (Smart mask)

### A low-cost THz camera for COVID-19 diagnosis

Team4

Fuyang Tay (Rice University)  
Chen Wei Fan (National Tsing Hua University)  
Zhongyi Zhou (The University of Tokyo)  
Mizuki Uenomachi (The University of Tokyo)  
Toshitaka Itoh (The University of Tokyo)  
Yasushi Shinohara (Facilitator, The University of Tokyo)

Best Proposal  
Team 4 (THz camera)



	Did you enjoy the Summer Camp ?	Self introduction	Virtual lab tour	Research presentation	Cultural exchange	Team meeting	Final presentations	Organization
All (2020)	4.3	4.6	4.2	4.4	4.4	4.6	4.7	4.6
Invited from universities	4.2	4.6	4.4	4.4	4.7	4.6	4.6	4.7
UT (non-Japanese)	4.5	4.7	4.2	4.5	4.8	4.8	4.8	4.5
UT (Japanese)	4.3	4.4	4.0	4.1	3.6	4.4	4.7	4.4
Invited from companies	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

- 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
<b>N. (N=25)</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>9</b>
Ratio					
<b>2020</b>	<b>68%</b>	<u><b>68%</b></u>	<u><b>72%</b></u>	<u><b>76%</b></u>	<u><b>36%</b></u>
<b>2019</b>	<u><b>77%</b></u>	<b>66%</b>	<b>58%</b>	<b>75%</b>	<b>31%</b>

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

## Invited Student

- I would have liked to have lectures given by professors to improve my knowledge in fields other than my own and not just see research presentations.
- It's very good!
- Honestly, it was a blast! I have really enjoyed this summer camp while working with professionals from all over the place. I learned new stuff about my research (that I may use in the future), and developed a wonderful connections with my team mates. Thank you for granting me the opportunity to participate.
- In general I think the camp was excellent. I only think that sometimes the research presentation channel in slack was a little messy, due to many questions of the participants, but I don't know if there is some way of improving it. Also, I think that the research presentations and lab tour were pretty good, it would be better only if we could actually be there in person, but that is not possible, given the current situation.
- Thank you very much for this high quality camp I hope I will be able to keep in touch with the colleagues I was working with to be able to work with them in the future. The team was really motivated and changed my mind about team working especially as it was online and therefore even more challenging. Thank you the university of Tokyo and the professors for the great organization. I hope to see you in real if I have the chance to come to Tokyo.

- On the research presentations, maybe it would be useful to have time slots next year (if it still needs to be done online depending on covid) for the research presentations where each participant presents and the schedule is made available so people can drop in if they want.
- My personal disapproval of listing Taiwan as an individual country in the brochure/abstract (especially this is documented), and most Chinese students would find it offensive. The United Nations does not acknowledge Taiwan as a country, or at least it's controversial worldwide. Maybe better use "area" or "island" instead of "country" in the future.
- This was the first time I attend a camp online, although it's pity that cannot visit UTokyo this year, I still learned a lot from these top students over the world, thank you for well organizing this event, leave me a good memory in the summer of 2020.

## UT (non-Japanese)

- Maybe try making the questionnaire anonymous.
- I enjoyed the summer camp. I think, if we can do it in real physical world, it would be a very precious experience. However, the number of persons who are active in SLACK and responding to threads are low. And further, I cannot interact with other people outside of my team. This online summer camp, in a sense, is the same with any online class that I took this semester in UTokyo, but with international students. This lack of freedom in interaction, is somehow the limitation of digital/online summer camp.

The whole summer camp is excellent, except the meeting time is a little bit late for people living in Japan or Korea especially on weekdays. I know it's difficult to adjust the time for the online meetings.

## UT (Japanese)

- Sometimes difficult to understand the research just by reading the slides.
- It's tough to come up new idea in such a short period. I wish I knew the topic previously.
- The communications via Slack was excellent. I've had really informative time in the discussion as well as watching others' presentations. I wish we could talk with members in other teams, but it seems impossible online now. Instead I've enjoyed wonderful time with the members of team 3. Also, I have to thank Senseis to set members within one hemisphere so as to make discussions easy and fair!
- オンラインで開催するのであればキャンプの様に詰めたスケジュールでなくてもよいのではないかと感じた。来年も開催するのであればオンラインではない方式で開催してほしい。オンラインではチームワークが深まった感じもなければ、実際にあった時に比べて深い議論ができたとは思えない(自分が積極的に絡もうとしなかったこともあると思うがオンラインだとやはり難しい)。
- Although this is the first attempt to hold an online camp, I'm impressed by that everything was going smoothly and well organized. It would be nice if we had much more chance to talk with participants in other groups. Anyway, thanks a lot for giving me this great opportunity!

## Researcher in company (Japanese)

- This camp is so tough and enjoyable for me. I'm honored to work with promising Ph.D. candidate from over the world. Thank you.