

Engineering Competency III -Summer Camp-

GMSI-GSDM Summer Camp 2014

Report

Summer camp
Organizers & facilitators
2014.10.7



Participants

64 graduate students from a variety of engineering fields representing 19 universities in 12 countries.



Details of the participants

Invited students:
24

University	N.	Major
Ecole Polytechnique Fédérale de Lausanne (EPFL)	2	Robotics Systems
Scuola Superiore Sant' Anna (SSSA)	2	BioRobotics
Rice University	2	Electrical and Computer Engineering
Imperial College London	1	Mechanical Engineering
Technische Universität München (TUM)	1	M.Sc.Informatics
RWTH Aachen University	1	Machine Tools and Production Engineering
UC Berkeley	1	Mechanical Engineering
Tsinghua University	1	Precision Instrument
Tsinghua University	1	Material Science & Engineering
Nanyang Technological University (NTU)	1	Physics and Applied Physics
Indian Institute of Technology (IIT)	1	Mechanical and Aerospace Engineering
Imperial College London	1	Aeronautics
Swiss Federal Institute of Technology Zurich (ETH)	1	Chemistry and Applied Biosciences
Aalto University (Helsinki, Finland)	1	Mechanical Engineering
RWTH Aachen University	1	Metal forming
Massachusetts Institute of Technology (MIT)	1	Mechanical Engineering
Stanford University	1	Materials Science and Engineering, Mechanical Engineering
The University of Texas at Austin	1	Mechanical Engineering
University of Toronto	1	Material Science & Engineering
Peking University	1	Chemistry and Molecular Engineering
Universidade de São Paul	1	Mechanical Engineering

UT students:
40

UT_GSDM (Japanese)	9	原子力×1、機械×3、シス創×2、化シス×1、航空×1、社基×1
UT_GSDM (Non-Japanese)	8	機械×2、学際情報×1、社基×1、技術戦略×1、メディカルゲノム×2、農学国際×1
UT_GMSI (Japanese)	9	機械×8、シス創×1
UT_GMSI (Non-Japanese)	14	精密×5、機械×7、バイオ×1、航空×1



Schedule

	7 am	8	9	10	11	12	1 pm	2	3	4	5	6	7	8	9
Fri. Sep 26			registration	Lectures		Lunch	Lab visits at UT								
Sat. Sep 27	Travel to Camp					Lunch	Opening	Self-Introduction	Technical Session	Team meetings			Dinner	Team meetings (Optional)	
Sun. Sep 28	Breakfast	Team meetings				Lunch	Team meetings		Final Presentation		Group photo	Award Ceremony & Banquet			
Mon. Sep 29	Breakfast			Bus transfer		Lunch	Bus	NISSAN lab tour			Return to UT				

Introduction & lectures

Messages from:

- Prof. Mitsuishi
- Prof. Maruyama
- Prof. Watanabe
- Proj. Prof. Yokono



Lectures:



Prof. Assoc. Prof. Yarime
Graduate school of public policy



Prof. Kato
Dep. of mechanical engineering

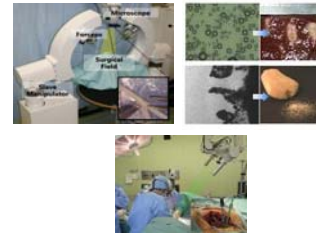


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UT Lab tours

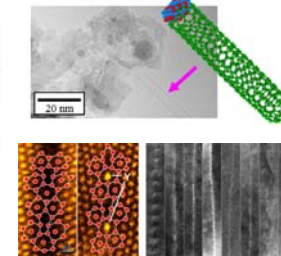
Course A

- Mitsuishi-Sugita Lab.
- Matsumoto-Takagi Lab.
- Najajima Lab.



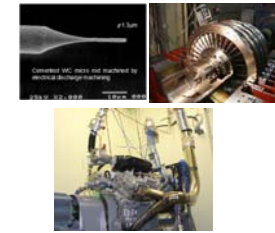
Course B

- Maruyama-Chiashi Lab.
- Ikuhara Lab.



Course C

- Kunieda-Mimura Lab.
- Watanabe-Himeno Lab.
- Kaneko-Yamasaki Lab.



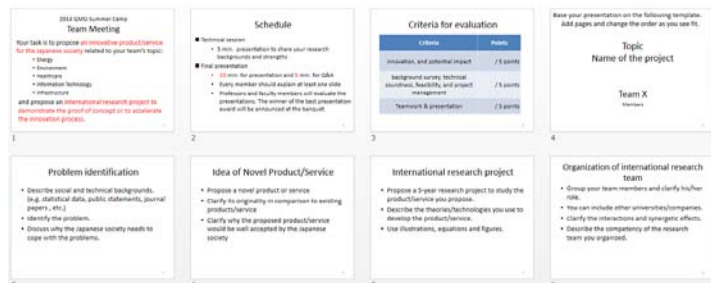
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Team meetings: task

Task is to propose an innovative product/service for the Japanese society related to your team's topic:

<Energy, Environment, Healthcare, Information Technology, Infrastructure>
and propose an international research project to demonstrate the proof of concept or to accelerate the innovation process.

A presentation template was distributed.



10 teams (6-7 students/team) were organized in advance by the facilitators considering the balance of the nationality, organization (UT/Non-UT), area (Europe/America/Asia), grade (PhD/MSc), gender, technical backgrounds, etc.

7

Team meetings



Some UT students took an excellent initiative during the team meeting.

8

Final presentations

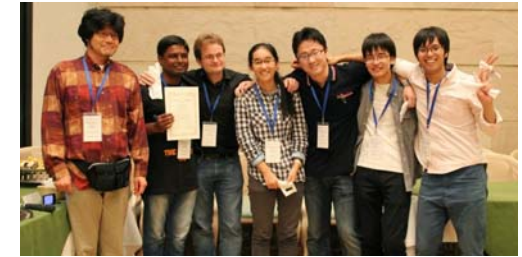


Evaluation & Awards

Criteria	Points
innovation, and potential impact	/ 5 points
background survey, technical soundness, feasibility, and project management	/ 5 points
Teamwork & presentation	/ 5 points



Award for Best Challenge
Award for Best Presentation
Award for Best Technology
Award for Best Proposal



Comments given to each team

Energy 2 (vending machine)

It was excellent that...

- Good survey and description about the technology.
- Novel ideas of the broad band solar cells.

Becomes better if you improve...

- ✓ accurate estimation of the PCE (30% PCE sounds optimistic).
- ✓ cost consideration of the development of the solar cells.

Others

Certification of participation



Students enjoyed Karaoke, swimming, public bath, etc.



Facilitators



Tour to Nissan Technical Center

Confidential

14:30-15:50 Lab tour

大型実車風洞
Full-Scale Aerodynamic Wind Tunnel

最大風速 270km/hの気流実車風洞

車体・シャシーシステム耐久試験用ロードシミュレータ
Road Simulator for Durability Test of Body&Chassis System

衝突安全実験棟
Impact Test Laboratory

16:10-17:00 Discussion with UT OB&OG working at Nissan

Questionnaire summary (1)

	Did you enjoy the camp?	Rate										
		Topic selection	Team structure	Technical session	Team meeting	Final presentations	UT Lab tour	Nissan tour	Location	Meals	Accommodations	Organization
All	4.6	4.1	4.3	3.7	4.2	4.2	4.1	4.3	4.2	4.6	4.6	4.6
Invited students	4.7	4.1	4.3	3.9	4.3	4.4	4.3	4.0	4.4	4.4	4.7	4.6
UT (Japanese)	4.5	4.0	4.0	3.5	3.9	4.1	3.8	4.3	3.9	4.9	4.7	4.6
UT (non-Japanese)	4.6	4.1	4.6	3.9	4.6	4.3	4.3	4.7	4.3	4.6	4.4	4.7

- Basically, most of the participants enjoyed the camp very much.
- Many participants complained of the slow internet connection and the long bus trip.
- Some Japanese students join the camp reluctantly, which resulted in the low scores.

Questionnaire summary (2)

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. of participants (N=58)	41	42	26	48	18
Ratio	71%	72%	45%	83%	31%

- The camp surely enhanced the “competency” of the students.
- Some students got useful comments on their research.

Comments from participants (1)

Positive comments

- **Great experience to discuss and brainstorm with people who have diverse backgrounds.** Well organized and an overall great experience!
- it really enjoyed the camp and **I got a lot of contacts for further cooperation or even consultations related to my research.** The installations were incredible and the food was perfect. Thank you for the invitation and organization.
- **It was very inspiring for me to see what other departments are doing for their research.** Thus, lab tour, technical session was particularly exciting.
- I really enjoyed every aspect of this camp and I hope that this program continues to run long into the future. Thanks for the wonderful time!
- In summer camp, **the discussion with many-country students gave me precious experience** because I didn't have such a deep discuss about energy before. So that was a fruitful time for me. Thanks.
- To my surprise, I enjoyed the camp very much. I knew many new friends, both from UTokyo and other top universities over the world. **I feel that I also improved my brainstorming, discussion, and presentation skills during the camp.** My group members' mixture and teamwork are great. We worked extremely hard and the experience we had learned was wonderful.

Comments from participants (2)

Negative comments / suggestions

- On the other hand, because **there were only few students whose research fields are social science oriented**, like me for instance, I am not sure if we were able to inspire them (engineering students) by introducing what we are doing for our research. It would be very helpful if the feedback regarding this issue is shared if there is any.
- **if the distance between club and company lab is shorter**, we can save more time for communication between participants.
- **internet connection during the camp was very bad** and it very much hindered our ability to do background research and get necessary data for the team project. i think internet connection should be considered better when choosing the location. **(Many similar comments)**
- We need more time for groupwork. I felt 2 days are too short to make creative result. **At least, give us little more detailed topics. "Energy" or "Environment" is too broad.**
- **If we have enough time to exchange own research result**, summer camp will be better because many talented students join the summer camp with great results.
- **A cultural tour of Tokyo/Japan** could have brought completeness to the camp. We could have got more time, If the long travel was planned during night.