IROAST Symposiums

No.	Title	Organizer	Date
1	7th IROAST Symposium -Advanced Research in Science and Technology for Developing Social Well-Being-	**Kazuki Takashima** Director, IROAST	November 22, 2021
2	8th IROAST Symposium on X-Ray CT Visualization for Socio -Cultural Engineering & Environmental Materials on X-Earth "Challenge of Medicine, Science - Engineering Collaboration"	**Toshifumi Mukunoki** Professor, FAST **Akira Sato** Associate Professor, FAST	December 7, 2021 ~ December 8, 2021,
3	9th IROAST Symposium "Nano-organics and Nano-hybrids"	**Makoto Takafuji** Professor, FAST	January 21, 2022

FAST: Faculty of Advanced Science and Technology

IROAST Symposium Report 1

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Kazuki Takashima</td></tr>
<tr><td>Affiliation</td><td>IROAST</td><td>Title</td><td>Director</td></tr>
<tr><td>Symposium Title</td><td colspan="4">7th IROAST Symposium -Advanced Research in Science and Technology for Developing Social Well-Being-</td></tr>
<tr><td>Venue</td><td colspan="4">Hybrid style
Online: Zoom
Venue: Meeting Rm. A, Kurokami South C2 (Faculty of Engineering Bldg. I)</td></tr>
<tr><td>Time & Date</td><td colspan="4">13:30-15:30, November 22, 2021</td></tr>
<tr><td>Speaker’s Name/ Title/Affiliation</td><td colspan="4">Higaki Takumi (Assoc. Prof., FAST, KU)
Matsuo Hiroki (Assoc. Prof., IROAST, KU)
Lee Ruda (Assoc. Prof., IROAST, KU)
Nakashima Yuta (Assoc. Prof., FAST, KU)
Aida Mitsuhiro (Prof., IROAST, KU)
FAST: Faculty of Advanced Science and Technology</td></tr>
<tr><td rowspan="4">Number of Participants</td><td rowspan="3">From KU</td><td>Faculty: 42 (Int'l participants: 3)</td><td rowspan="4">Total</td><td rowspan="4">139</td></tr>
<tr><td>Students: 18 (Int'l participants: 0)</td></tr>
<tr><td>Others: 19</td></tr>
<tr><td>From outside KU</td><td>60 (Int'l participants: 2)</td></tr>
</table>

On November 22, the International Research Organization for Advanced Science and Technology (IROAST) of Kumamoto University held the 7th Kumamoto University IROAST Symposium in a hybrid online and in-person style.
This symposium was held as part of the National University Festa 2021 with the aim of introducing cutting-edge innovative research by IROAST and its wide application to applied technologies.

In his opening remarks, President Hisao Ogawa emphasized the importance of the development of science and technology for the realization of people’s physical and mental well-being. Then, I, Kazuki Takashima, Director of IROAST, introduced IROAST and the many outstanding results obtained through international joint research with world-class universities and research institutes, as well as cross-disciplinary research projects, such as medical-engineering collaboration. He also discussed the prospects for how future research can contribute to the development of a well-being society, new human-friendly science and technology, and safe and secure society. After that, five young researchers gave presentations on their researches developed from their unique perspectives and exchanged opinions with the participants. After the symposium, videos of each presentation were distributed on the symposium’s special website, which was open only to registered participants until the end of November, and a Q&A section was set up with the presenters.

In the end, more than 139 people, including those from the education and industry sectors, registered for the symposium, which was a great success as IROAST’s extensive research were widely shared and active discussions were held with the participants. In the future, we will continue to lead the University’s efforts to improve its research capabilities by conducting advanced international joint research with overseas universities and research institutes.

Symposium Poster

KU President Ogawa Hisao

IROAST Director Takashima Kazuki

Assoc. Prof. Higaki Takumi

Assoc. Prof. Matsuo Hiroki

Assoc. Prof. Lee Ruda

Assoc. Prof. Nakashima Yuta


Prof. Aida Mitsuhiro

IROAST Symposium Report 2

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Toshifumi Mukunoki</td></tr>
<tr><td>Affiliation</td><td>Faculty of Advanced Science and Technology</td><td>Title</td><td>Professor</td></tr>
<tr><td rowspan="2">Organizer 2</td><td>Name</td><td colspan="3">Akira Sato</td></tr>
<tr><td>Affiliation</td><td>Faculty of Advanced Science and Technology</td><td>Title</td><td>Associate Prof.</td></tr>
<tr><td>Symposium Title</td><td colspan="4">8th IROAST Symposium on X-Ray CT Visualization for Socio-Cultural Engineering & Environmental Materials on X-Earth
“Challenge of Medicine, Science - Engineering Collaboration”</td></tr>
<tr><td>Venue</td><td colspan="4">Online via Zoom</td></tr>
<tr><td>Time & Date</td><td colspan="4">Tue, December 7, 2021,
Morning session 9:00-12:30, Afternoon session 17:00-18:50
Wed, December 8, 2021,
Morning session 9:00-14:30, Afternoon session 16:00-18:45</td></tr>
<tr><td>Speaker’s Name/ Title/Affiliation</td><td colspan="4">Melvin Diaz, PhD, Korea Maritime & Ocean University, Korea
Agus Sasmito, Associate Professor, McGill University, Canada
Toshifumi Mukunoki, Professor, FAST, KU
Akira Sato, Associate Professor, FAST, KU
Kenichi Okubo, Nikon Solutions Co., Ltd.
Alessandro Tengattini, PhD, Université Grenoble Alpes, France
Ilija Vego, PhD candidate, Université Grenoble Alpes, France
Yuichiro Arima, Associate Professor, IRCMS, KU
Buluke, Researcher, KU hospital
Patrice Jean Delmas, Associate Professor, The University of Auckland, New Zealand
Sanae Takasugi, Bruker Japan
Zeinab Aliabadian, Postdoctoral fellow, FAST, KU
Jiaxi Yang, Doctoral student, FAST, KU
Hideharu Sugimoto, PhD candidate, FAST, KU
Shuhei Matsumoto, FAST, KU
Kamil Souček, The Czech Academy of Science, Czech Republic
Eomzi Yang, PhD candidate, Yonsei University, Korea</td></tr>
<tr><td rowspan="6">Number of Participants</td><td rowspan="3">From KU</td><td>Faculty: 17
(Int'l participants: 4)</td><td rowspan="6">Total</td><td rowspan="6">185</td></tr>
<tr><td>Students: 37
(Int'l participants: 7)</td></tr>
<tr><td>Other: 6</td></tr>
<tr><td rowspan="3">From outside KU</td><td>Faculty: 71
(Int'l participants:53)</td></tr>
<tr><td>Students: 20
(Int'l participants: 14)</td></tr>
<tr><td>Other: 34</td></tr>
</table>

1. Symposium Overview

X-Earth Center has organized several international workshops over the last decade as a place to establish an international network and provide international education whilst boosting international exchanges. In 2020, two new X-ray CT scanners were introduced to the X-Earth Center: a high-power, high-resolution micro-focused X-ray CT scanner and a nano-focused X-ray CT scanner, both of which have been in operation since April, 2021. So now X-Earth center can use three different kinds of CT devise. The newly introduced micro-focused X-ray CT scanner is an excellent device that can irradiate more powerful X-rays than the previous device. Also, the new micro-focused X-ray CT has an environment that allows various mechanical experiments to be performed in the CT chamber. Then, the nano-focused X-ray CT scanner is a device that can also be called a 3D X-ray microscope with nano-scale resolution. By overcoming the technical limitations with these novel CT systems, we are now able to make a further contribution. Kumamoto University is a rare academic institution in Japan and abroad with this kind of research environment. Our research activity using these newly introduced CTs has just begun.

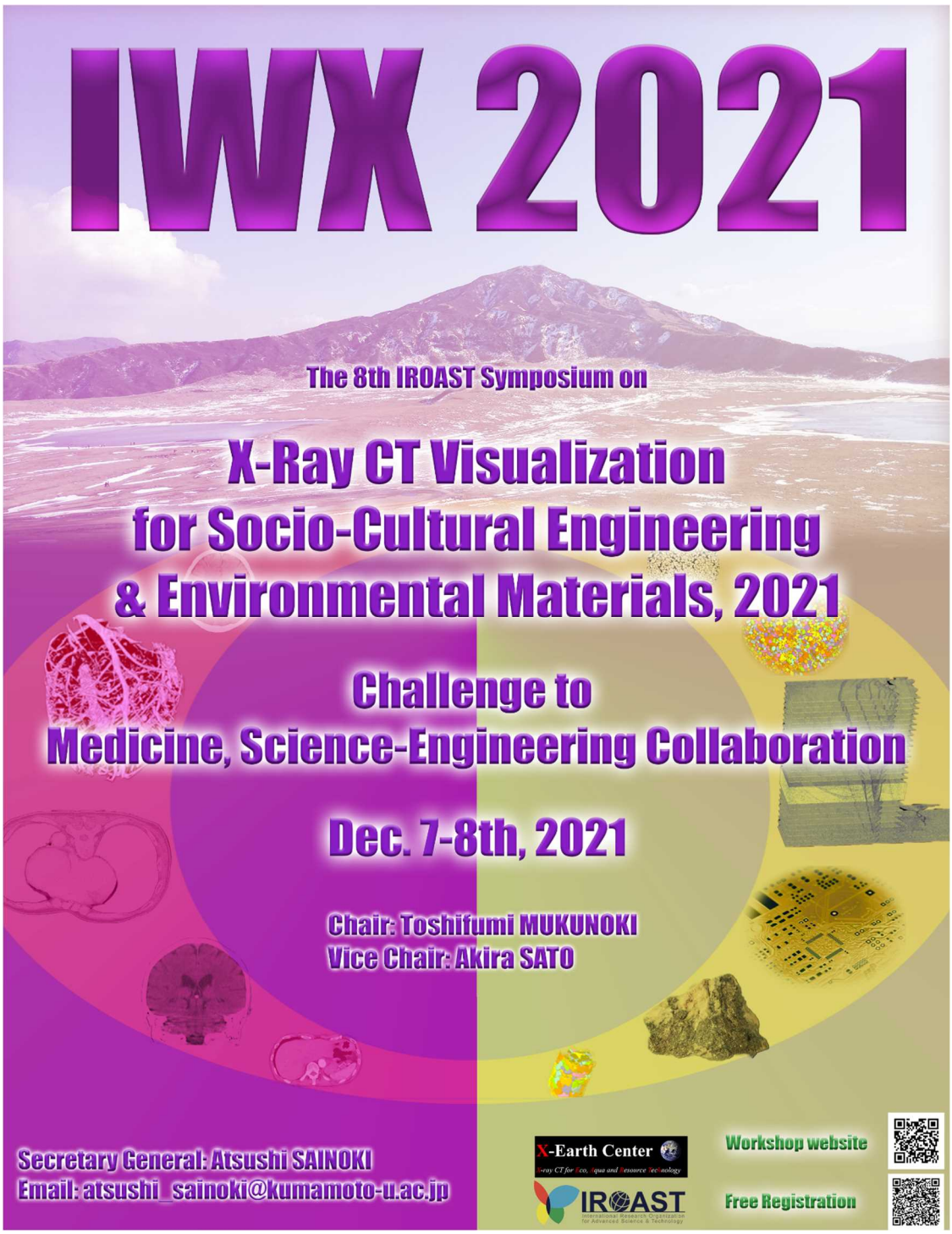
In light of the installation of the new X-ray CT scanners, X-Earth center has decided to hold the 8th international workshop with the help of IROAST. This workshop aims at further extending the engineering field of application, disseminating research outcomes obtained from the cooperation with the field of medicine, and developing the cooperation between fields of engineering and science. Furthermore, another objective of this workshop is to provide an opportunity to enhance international cooperative research through exchanges with graduate students and distinguished researchers.

2. Symposium Outcomes and Future Plan

Eventually, 185 participants made a registration for this workshop from all over the world, including South Korea, Australia, Canada, China, Czech Republic, France, Indonesia, USA, New Zealand, Mauritius, Makassar, Vietnam, and Zambia. All the attendees enjoyed this workshop whilst being intellectually stimulated by cutting-edge technologies and research outcomes. The presentations covered a wide range of topics in fields of engineering, science, and medicine, such as study on liquid-liquid two-phase flow mechanism in pore scale for granular materials and visualization of blood vessel microstructure by CT. As there are not many opportunities for researchers to see researches in the other fields, it seemed that such presentations attracted much attention. In addition to that, the student session has provided an opportunity for PhD candidates at Kumamoto University to give a presentation in English and to communicate with outstanding oversea researchers, which provided a valuable experience for them.

We are planning to hold the 9th IWX in the near future. Our goal is the same, but we will try to gather speakers of which fields are different from those of the 8th IWX. In this way, the attendees can enjoy the next IWX as well.

3. Poster & Photos



Professor Mukunoki, Kumamoto University

Associate Professor Sato, Kumamoto University

Professor Sasmito, McGill University

Dr. Tengattini, Université Grenoble Alpes

Dr. Buluke, Kumamoto University

Professor Delmas, University Auckland

IROAST Symposium Report 3

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Makoto Takafuji</td></tr>
<tr><td>Affiliation</td><td>Faculty of Advanced Science and Technology</td><td>Title</td><td>Professor</td></tr>
<tr><td>Symposium Title</td><td colspan="4">9th IROAST Symposium “Nano-organics and Nano-hybrids”</td></tr>
<tr><td>Venue</td><td colspan="4">Online via Zoom</td></tr>
<tr><td>Time & Date</td><td colspan="4">Fri, January 21, 2022
10:00-17:20</td></tr>
<tr><td>Speaker’s Name/ Title/Affiliation</td><td colspan="4">Yutaka Okazaki, Assistant Prof., Kyoto University
Takunori Harada, Associate Prof., Oita University
Yoshiro Kaneko, Associate Prof., Kagoshima University
Shunsuke Shiba, Assistant Prof., Ehime University
Yasuchika Hasegawa, Professor, Hokkaido University
Hiroshi Yabu, Professor, Tohoku University
Aya Tanatani, Professor, Ochanomizu University
Tatsuo Taniguchi, Professor, Chiba University
Takashi Hirose, Associate Prof., Kyoto University
Yutaka Kuwahara, Assistant Prof., Faculty of Advanced Science and Technology, Kumamoto University</td></tr>
<tr><td rowspan="6">Number of Participants</td><td rowspan="3">From KU</td><td>Faculty: 21
(Int'l participants: 0)</td><td rowspan="6">Total</td><td rowspan="6">124</td></tr>
<tr><td>Students: 74
(Int'l participants: 4)</td></tr>
<tr><td>Other</td></tr>
<tr><td rowspan="3">From outside KU</td><td>Faculty: 23
(Int'l participants: 0)</td></tr>
<tr><td>Students: 6
(Int'l participants: 0)</td></tr>
<tr><td>Other</td></tr>
</table>

Please describe the following 1 to 3.

1. Symposium Overview

The 9th IROAST symposium titled “Nano-organics and Nano-hybrids” was held on January 21st, 2022 online by the Zoom instead of planed a face-to-face international meeting at Kumamoto University, due to the COVID-19 world crisis. This symposium involved ten invited lectures by Japanese researchers from Hokkaido to Kagoshima. More than 120 participants including almost 80 students joined this symposium.

Invited lectures: Y. Okazaki (Kyoto University), T. Harada (Oita University), Y. Kaneko (Kagoshima University), S. Shiba (Ehime University) Y. Hasegawa (Hokkaido University), H. Yabu (Tohoku University), A. Tanatani (Ochanomizu University), T. Taniguchi (Chiba University) T. Hirose (Kyoto University), Y. Kuwahara (Kumamoto University)

Organizing committee members: Makoto Takafuji, Masashi Kunitake, Tsuyoshi Fukaminato, Soichiro Yoshimoto, Satoshi Watanabe and Nanami Hano from Kumamoto Univ.

2. Symposium Outcomes and Future Plan (e.g. about contribution to the development of young researchers and the initiation of international collaborative research aiming for the publication of international collaborative papers, etc.)

The “Nano-organics and Nano-hybrids” research unit of IROAST has several international collaboration research projects, with some grants, with researchers from France, China, Spain, Turkey, Bangladesh, Lithuania and USA. These international collaborations will contribute to the development of young researchers and graduate students at Kumamoto University, and the start of new international collaborations with Kumamoto University.

3. Others

Makoto Takafuji,
Symposium organizer

Kazuki TAKASHIMA,
Director of the IROAST

Invited lectures

IROAST Seminars

No.	Title	Organizer	Date
1	The 77th IROAST Seminar -Discussion seminar for Study on particle and fluid behaviors in granular materials using micro tomography-	**Toshifumi Mukunoki** Professor, FAST **Gioacchino Viggiani** Professor, UGA Visiting Professor, IROAST	May 12, 2021
2	The 78th ~ 81st IROAST Seminar - IROAST Research Unit Research Presentation Series FY2021 (1st Session-4thSession)-	**Kei Toda** Vice Director, IROAST	December 22, 2021 January 26, 2022 February 21, 2022 March 2, 2022
3	The 82nd IROAST Seminar -Robotic Vision and Mapping toward Inspection and Maintenance-	**Makoto Kumon** Professor,FAST	January 7, 2022
4	The 8th IRCMS-IROAST Joint Seminar (76th IRCMS Seminar/ 83rd IROAST Seminar) -Creation of joint researches which develops interdisciplinary research fields-	**Kazuki Takashima** Director, IROAST **Toshio Suda** Director, IRCMS	March 8, 2022

IRCMS: International Research Center for Medical Sciences, Kumamoto University

FAST: Faculty of Advanced Science and Technology

UGA: 3SR, Grenoble University, Alps

IROAST Seminar Report 1

Organizer 1	Name	Toshifumi Mukunoki		
	Affiliation	X-Earth Center, Faculty of Advanced Science and Technology	Title	Professor
Organizer 2	Name	Gioacchino Viggiani		
	Affiliation	3SR, Grenoble University, Alps (UGA)	Title	Professor
Seminar Title	Discussion seminar for Study on particle and fluid behaviors in granular materials using micro tomography			
Venue	Online seminar by Zoom			
Time & Date	16:00-19:00, May 12, 2021			
Speaker's Name/ Title/Affiliation	Professor Gioacchino Viggiani's Lab ・Dr. Cyrille Couture, 3SR ・PhD candidate Gustavo Pinzón Professor Mukunoki Toshifumi's Lab ・PhD candidate Nohara Shintaro, Central Research Institute of Electric Power Industry ・Dr. Sato Takahiro, Technical Division, Faculty of Engineering, KU			

Number of Participants *Including speakers	From KU	Faculty: 6 (Int'l participants: 0)	Total	43
		Students: 27 (Int'l participants: 5)		
	From outside KU	Faculty: 9 (Int'l participants: 9)		
		Students: 1 (Int'l participants: 1)		

1.Seminar Overview

Program of seminar

Time (CEST)	Time (JST)	Talk
09:00-09:15	16:00-16:15	**Opening** *Prof. Kazuki Takashima (KU)* *Prof. Gioacchino Viggiani (UGA)* *Prof. Toshifumi Mukunoki (KU)*
09:15-09:45	16:15-16:45	**Evaluation of particle structure evolution in shearing process using X-ray CT** *Shintaro Nohara (KU)*
09:45-10:15	16:45-17:15	**Experimental study on 3D fingering of immiscible fluids in porous media** *Cyrille Couture (UGA)*
10:15-10:30	17:15-17:30	Break
10:30-11:00	17:30-18:00	**An experimental study on the influence of grain shape on fabric and the mechanical properties** *Takahiro Sato (KU)*
11:00-11:30	18:00-18:30	**Strain localisation in inherently anisotropic granular materials measured using x-ray tomography** *Gustavo Pinzón (UGA)*
11:30-12:00	18:30-19:00	**Closing discussion** *Prof. Gioacchino Viggiani*

Prof. Mukunoki took a charge of the entire seminar and so he was MC. Prof. Takashima, who was a new director of IROAST gave his opening speech. Then, Prof. Viggiani reviewed the collaborated activities of X-Earth center organized by Prof. Otani and 3SR and his activity as a visiting professor of IROAST so far.

This seminar had two speakers from each and each of them gave 20-25 minutes presentation and 10 minutes discussion.

2. Seminar Outcomes and Future Plan

Of the four speakers, three (Mr. Nohara, Dr. Sato, and Mr. Gustavo) modeled soil particle shape as an ellipsoid to obtain the movement (displacement and rotation) of particles under loading, and used it to evaluate the deformation behavior of granular materials more microscopically. We were able to exchange information on reference papers, and there was a suggestion to consider using each other's image analysis methods to evaluate the same phenomenon, which may lead to joint research. In addition, one of the other researchers (Dr. Cyrille) was studying the phenomenon of oil seepage in soil, which was in line with Prof. Mukunoki's research theme, and we proposed to actively promote discussions in the future.

3. Comments from Prof. Viggiani

It was a very fruitful and good seminar as both institutions were able to give suggestions and comments on each other's research.

4. Others

At the end of the meeting, Prof. Mukunoki gave a short notice of IWX2021 to be held on December 7-8, 2021, and students who will be studying at Grenoble University from this September introduced themselves, and the meeting ended peacefully.

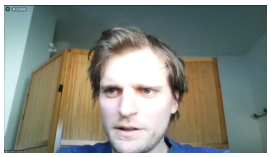
Prof. Takashima (KU)
Director of IROAST

Prof. Viggiani (UGA)
Visiting professor of IROAST

Prof. Mukunoki (KU)
Organizer

Prof. Otani (KU)
Trustee and Vice President of Kumamoto University

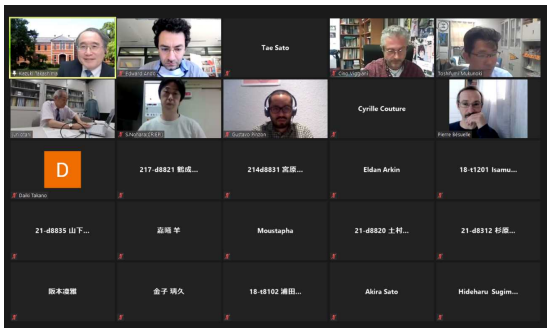
Mr. Nohara (KU)



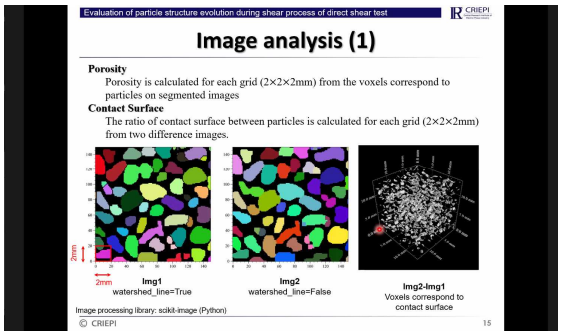
Dr. Couture (UGA)

Dr. Sato (KU)

Mr. Pinzón (UGA)



Scene 1 of seminar



Scene 2 of seminar

IROAST Seminar Report 2

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Kei Toda</td></tr>
<tr><td>Affiliation</td><td>IROAST</td><td>Title</td><td>Vice Director</td></tr>
<tr><td>Seminar Title</td><td colspan="4">The 78th ~ 81st IROAST Seminar
-IROAST Research Unit Research Presentation Series FY2021-</td></tr>
<tr><td>Venue</td><td colspan="4">Online seminar by Zoom</td></tr>
<tr><td>Time & Date</td><td colspan="4">12:00-12:45 on;
December 22, 2021
January 26, 2022
February 21, 2022
March 2, 2022</td></tr>
<tr><td>Speaker’s Name/
Title/Affiliation</td><td colspan="4">--The 78th seminar --
Mitsuhiro Aida, Professor, IROAST
Makiko Kobayashi, Associate Professor, FAST
Ruda Lee, Associate Professor, IROAST

--The 79th seminar --
Mitsuru Sasaki, Associate Professor, IINa
Keitaro Takahashi, Professor, FAST
Takumi Higaki, Associate Professor, FAST

--The 80th seminar --
Kei Ishida, Associate Professor, CWMD
Atsushi Sainoki, Associate Professor, FAST
Shin-ichi Ohira, Professor, FAST

--The 81st seminar --
Gaochuang Cai, Associate Professor, IROAST
Yutaka Kuwahara, Assistant Professor, FAST
Hiroki Matsuo, Associate Professor, IROAST</td></tr>
<tr><td rowspan="5">Number of
Participants
*Including speakers</td><td rowspan="3">From KU</td><td>Faculty: 48
(Int'l participants: 7)</td><td rowspan="5">Total</td><td rowspan="5">90</td></tr>
<tr><td>Students: 16
(Int'l participants: 4)</td></tr>
<tr><td>Others: 24</td></tr>
<tr><td rowspan="2">From outside KU</td><td>Faculty: 2
(Int'l participants: 0)</td></tr>
<tr><td>Students: 0
(Int'l participants: 0)</td></tr>
<tr><td colspan="5">The 78th ~ 81st IROAST Seminar entitled IROAST Research Unit Research Presentation Series FY2021 were held from 12:00 to 12:45 between December 2021 to March 2022.
In this presentation series, 12 IROAST Research Unit representative speakers reported their work progress and introduce their research.
The seminar was held 4 times. Though the seminars were held in remote in limited time, audiences frequently asked questions and discussions were actively carried out. We were also able to confirm the progress of young researchers' progresses. We could share the research results that are expected to impact on future science and to be applied in advanced technology.
Recently, there have been few opportunities among IROAST researchers to get to know each other because of the COVID-19 situation. However, the young research members could understand seeds and aims of other members through this seminar.
It is expected that joint research will develop on this occasion. It is hoped that we will be able to have face-to-face meetings or hybrid meetings soon next fiscal year.</td></tr>
</table>

Opening＆Closing

Kazuki Takashima,
Director of IROAST

Kei Toda
Vice-director of IROAST

The 78th seminar

Prof. Aida, IROAST

Assoc. Prof. Kobayashi, FAST

Assoc. Prof. Lee, IROAST

The 79th seminar

Assoc. Prof. Sasaki, IINa

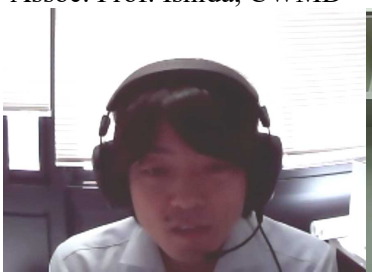
Prof. Takahashi, FAST

Assoc. Prof. Higaki, FAST

The 80th seminar

Assoc. Prof. Ishida, CWMD

Prof. Ohira, FAST



Assoc. Prof. Sainoki, FAST

Assist. Prof. Ito, FAST (from Sainoki Unit)

The 81st seminar

Assoc. Prof. Cai, IROAST

Assist. Prof. Kuwahara, FAST

Assoc. Prof. Matsuo, IROAST

IROAST Seminar Report 3

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Makoto Kumon</td></tr>
<tr><td>Affiliation</td><td>Faculty of Advanced Science and Technology</td><td>Title</td><td>Professor</td></tr>
<tr><td>Seminar Title</td><td colspan="4">Robotic Vision and Mapping toward Inspection and Maintenance
（The 82nd IROAST seminar）</td></tr>
<tr><td>Venue</td><td colspan="4">Online seminar by Zoom</td></tr>
<tr><td>Time & Date</td><td colspan="4">14:40-16:10, January 7, 2022</td></tr>
<tr><td>Speaker’s Name/ Title/Affiliation</td><td colspan="4">Tomonari Furukawa/Professor/University of Virginia</td></tr>
<tr><td rowspan="5">Number of Participants
*Including speakers</td><td rowspan="3">From KU</td><td>Faculty: 5
(Int'l participants: 0)</td><td rowspan="5">Total</td><td rowspan="5">28</td></tr>
<tr><td>Students: 17
(Int'l participants: 5)</td></tr>
<tr><td>Others: 5</td></tr>
<tr><td rowspan="2">From outside KU</td><td>Faculty: 1
(Int'l participants: 0)</td></tr>
<tr><td>Students: 0
(Int'l participants: 0)</td></tr>
</table>

1. Seminar Overview

The talk was about the framework of the robotic vision system to realize significantly accurate map of the environment that is useful for not only the navigation but also for the industrial level inspection and maintenance. The framework proposes multi-stage approach that consists of the coarse and rough but global mapping step, and the fine and precise local mapping step.
The second half of the talk was about the novel accurate three-dimensional reconstruction method using photometric-stereo approach. The method handles both speculator and diffusive reflection to provide pixel resolution normal information of the surface, and the surface structure can be obtained by integrating the normal distribution under mild assumptions.

2. Seminar Outcomes and Future Plan

Building Inspection and Maintenance (BIM) was a new viewpoint for the use of robotic systems in the practical purposes, and the talk revealed how the academic works and approaches could be translated into the industry. The host is certain that this talk broadened the participants’, especially young researchers’ minds on their own researches.
Photometric-stereo based three-dimension reconstruction as a robot sensor is a novel approach, and some of the students who attended the talk were interested in the technique, and there might be a chance to initiate a new international collaborative project in the future.

3. Comments from the invited speaker

Since the seminar was held when the number of Omicron cases started to increase, most of the participants attended the seminar in a Zoom room. The hybrid arrangement resulted in success as the number of participants was larger than what we expected. The seminar also attracted international students successfully. The speaker enjoyed the talk partly because his new ideas were shared with students and partly because some students showed interest in the presented approaches.

4. Others

IROAST Seminar Report 4

<table>
<tr><td rowspan="2">Organizer 1</td><td>Name</td><td colspan="3">Kazuki Takashima</td></tr>
<tr><td>Affiliation</td><td>IROAST</td><td>Title</td><td>Director</td></tr>
<tr><td rowspan="2">Organizer 2</td><td>Name</td><td colspan="3">Toshio Suda</td></tr>
<tr><td>Affiliation</td><td>IRCMS</td><td>Title</td><td>Director</td></tr>
<tr><td>Seminar Title</td><td colspan="4">The 8th IRCMS-IROAST Joint Seminar
(76th IRCMS Seminar/ 83rd IROAST Seminar)
“Creation of joint researches which develops interdisciplinary research fields”</td></tr>
<tr><td>Venue</td><td colspan="4">Online seminar by Zoom</td></tr>
<tr><td>Time & Date</td><td colspan="4">13:30-15:20, March 8, 2022</td></tr>
<tr><td>Speaker’s Name/
Title/Affiliation</td><td colspan="4">1. Hidenobu Mizuno, Associate Professor, IRCMS
2. Yuichiro Arima, Associate Professor, IRCMS
3. Guojun Sheng, Professor, IRCMS
4. Kenichi Miharada, Professor, IRCMS
5. Hiroki Matsuo, Associate Professor, IROAST</td></tr>
<tr><td rowspan="5">Number of
Participants
*Including speakers</td><td rowspan="3">From KU</td><td>Faculty: 32
(Int'l participants: 7)</td><td rowspan="5">Total</td><td rowspan="5">51</td></tr>
<tr><td>Students: 12
(Int'l participants: 7)</td></tr>
<tr><td>Others: 7</td></tr>
<tr><td rowspan="2">From outside KU</td><td>Faculty: 0
(Int'l participants: 0)</td></tr>
<tr><td>Students: 0
(Int'l participants: 0)</td></tr>
</table>

1. Seminar Overview

The 8th IRCMS-IROAST Joint Seminar (76th IRCMS Seminar/ 83rd IROAST Seminar) “Creation of joint researches which develops interdisciplinary research fields” was held from 13:30 to 15:20 on March 8, 2022.

Since their establishment, both IROAST and IRCMS have been actively engaged in joint research that takes advantage of their respective strengths, and have contributed to enhancing the international presence and reputation of the University.

It goes without saying that there are many unexplored research seeds lying dormant in the boundary areas of research fields such as life science and engineering.

In order to discover such valuable research seeds, we have supported joint research groups consisting of researchers in the life sciences and natural sciences with financial support from the President and have achieved significant results to date. The results have been reported and demonstrated in seminars held seven times in the past.

In this seminar, in addition to presentations from the joint research groups, new research seeds that will lead to future collaborations were presented. The names of the researchers and their research titles are listed below in the attached flyer.

2. Seminar Outcomes and Future Plan

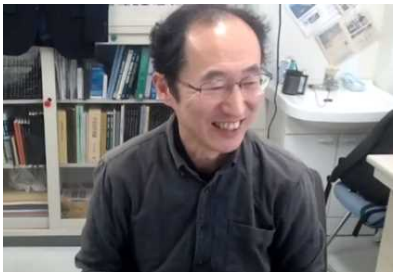
The seminar was jointly organized by Prof. Toshio Suda, Director of the International Research Center for Medical Sciences (IRCMS) and Prof. Kazuki Takashima, the director of International Research Organization for Advanced Science and Technology (IROAST). We have held eight seminars so far, but this seminar was the last. We have achieved a number of results during this period. We would like to further expand the medical-industrial collaboration based on the past cooperation.

3. Comments

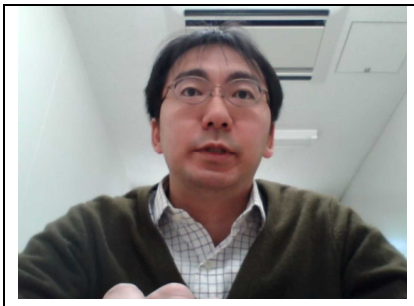
Like last year, the seminar was held online due to the expansion of COVID-19 infection, but active discussions were conducted and the advantages of online were put to good use.

Opening address:
Kazuki Takashima,
Director, IROAST

MC1: Guojun Sheng,
Professor, IRCMS

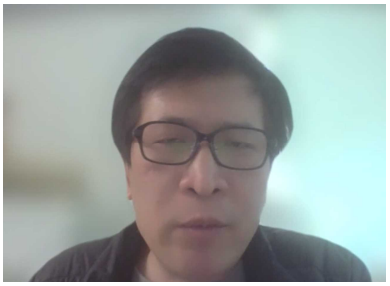


MC2: Kei Toda,
Vice Director, IROAST



Hidenobu Mizuno,
Associate Professor, IRCMS

Yuichiro Arima,
Associate Professor, IRCMS



Guojun Sheng,
Professor, IRCMS

Kenichi Miharada,
Professor, IRCMS

Hiroki Matsuo,
Associate Professor, IROAST

Closing address:
Hitoshi Takizawa,
Vice Director, IRCMS