

HeKKSaGOn • L-INSIGHT
Spin-off Programme,
2024 [HLSP]

**Dialogues
for Future Research
and Science
with Early Career
Researchers**

DATES AND TIME

Friday 29 Nov. 2024
9:00–15:45 CET

VENUE

Heidelberg University
Campus

ORGANIZERS

Heidelberg University
Karlsruhe Institute of Technology
Göttingen University
Kyoto University

SPEAKERS

Dr. FUJII Yuri I.

Planetary Science | Astrophysics | Astronomy

Dr. FUKUMOTO Kenshi

History

Dr. GOGAMI Toshiyuki

Nuclear Physics | Hadron Physics

Dr. HAYASHI Kazuki

Structural Engineering | Computational Design
Architectural Informatics

Dr. KATSURA Yukako

Evolutionary Genetics

Dr. YASUI Midori

Environmental Engineering

**Dialogues
for Future
and Research
Science
with Early
Career
Researchers**



GROUP — A

The Universe and Biological Interface: A Quest for Our Origins and Evolution

Dr. KATSURA Yukako / Dr. FUJII Yuri I.

Background

We would like to discuss the origin, evolution, and future of life from the various perspective of life science and astrophysics. What is life? Life has a cellular structure that distinguishes itself from the outside world, and is capable of energy metabolism and self-replication. The origin of life on Earth dates back about 4.28 billion years ago. Evolution is a phenomenon in which life repeats birth and death, and changes in phenotypes and genetic information over generations.

Yukako Katsura is an evolutionary geneticist who studies the molecular evolution of sex chromosomes in various organisms. We would like to discuss the evolution and future of life and sexual systems from the perspective of diversity of life.

Yuri Fujii is an astronomer who studies the formation of planets and moons. To find traces of life outside of Earth, we would like to discuss the essential origin of life and whether life can exist on other planets from the perspective of astrophysics and astrobiology.

Anticipated field of researchers

Researchers from various fields who are interested in this topic.

Researchers in fields that connect life sciences and astrophysics (evolutionary biology, biophysics, mathematical biology, astrobiology, astrochemistry, geology, cosmochemistry, space science etc.)

GROUP — B

Emerging Contaminants and Acceptable Health Risks in Water

Dr. GOGAMI Toshiyuki / Dr. YASUI Midori

Background

Proper management of food and environment is crucial to ensure the safety of human life and activity. Water-quality standards are determined based on the human health and environmental impacts. Additionally, economic benefits are significant considerations. For instance, nuclear power plants produce a great amount of energy, yet they must release tritium-contained water to the sea. The regulation for the tritium water is evaluated based on risks and benefits. Recently, discussions about the human health and environmental impacts of emerging contaminants such as antibiotic resistant bacteria, microplastic, PFAS, etc. have arisen. Local governments have to determine the water-quality standards based on the local economy and the environment as well as human health risks. We would like to discuss what global standards and acceptable health risks should be and what the researchers' roles are.

Anticipated field of researchers

Researchers we want to discuss with

- Researchers who interested in this topic
- Researchers in areas of environment, oceanography, agriculture, economy, law, politics, medical, nuclear physics, nuclear engineering, etc.

GROUP — C

Integration of emerging technologies into a sustainable human society

Dr. HAYASHI Kazuki / Dr. FUKUMOTO Kenshi

Background

The relationship between humans, technology, and society is dynamic, constantly evolving with the advent of new technologies and the environmental changes they bring. Instead of being limited by our current understanding of technologies, we can align our expertise with the broader context of creating healthier, more peaceful, and joyful living systems. By adopting a holistic perspective on these transitions across our specialized fields and sharing insights, we can explore how, as researchers, we can contribute to the realization of a sustainable human society.

Anticipated field of researchers

We plan to provide historical and engineering approaches to the issue. We sincerely welcome researchers from any background i.e. sociologists, anthropologists, and data scientists, are encouraged to participate, provided they communicate their expertise in a manner accessible to non-specialists, fostering fruitful discussions on the social impacts of the techniques of their interest.

Dr. FUJII Yuri I.

| Keywords | Planetary Science / Astrophysics / Astronomy

Department of Earth, Life and Environment,
School of Human and Environmental Studies,
Kyoto University

[Assistant Professor / The Second Cohort]

Dr. FUKUMOTO Kenshi

| Keywords | History

Department of Studies on Global Coexistence,
Graduate School of Human
and Environmental Studies, Kyoto University

[Associate Professor / The Fourth Cohort]

Dr. GOGAMI Toshiyuki

| Keywords | Nuclear Physics / Hadron Physics

Division of Physics and Astronomy,
Graduate School of Science, Kyoto University

[Assistant Professor / The Fourth Cohort]

Dr. HAYASHI Kazuki

| Keywords | Structural Engineering / Computational
Design / Architectural Informatics

Department of Architecture
and Architectural Engineering,
Graduate School of Engineering, Kyoto University

[Assistant Professor / The Fourth Cohort]

Dr. KATSURA Yukako

| Keywords | Evolutionary Genetics

Center for Evolutionary Origins
of Human Behavior (EHUB), Kyoto University

[Assistant Professor / The First Cohort]

Dr. YASUI Midori

| Keywords | Environmental Engineering

Department of Environmental Engineering,
Graduate School of Engineering, Kyoto University

[Assistant Professor / The Fourth Cohort]

PARALLEL DIALOGUES

SPEAKERS

This forum supports the next generation of researchers in forming germinating synergetic forces in cross-cultural interdisciplinary activities.

This initiative has stemmed from the friendly relationship between German and Japanese universities fostered through the HeKKSaGOn (The German-Japanese University Alliance) framework, which is now in its fourth year. This forum consists of 3 dialogues among researchers from Kyoto University (L-INSIGHT fellows, a community of early career researchers), Heidelberg University, Karlsruhe Institute of Technology and Göttingen University. Each group consists of interdisciplinary members who study the same research subject with different approaches.

We also hope that the forum will provide an opportunity for all participants in the audience to form special international and intergenerational connections, which we hope will form the basis for future research excellence.

| TIMETABLE | (tentative, CET)

Part I

- 09:00–09:15 Opening remarks
- 09:15–11:00 Presentations & Q&A
- 11:00–12:30 Parallel dialogues
- 12:30–14:00 Lunch time

Part II

- 14:00–15:15 Wrap-ups from each group & General discussion
- 15:15–15:30 Coffee Break
- 15:15–15:40 Comments from guests
- 15:40–15:45 Closing

| REGISTRATION |

The URL will be available in October

| REPORTS |

- https://www.l-insight.kyoto-u.ac.jp/wp-content/uploads/2022/07/hekksagon_book_220422-1_web.pdf
- https://www.l-insight.kyoto-u.ac.jp/wp-content/uploads/2023/06/hekksagon_book_230216-1_web.pdf

| REFERENCE |

- <https://www.l-insight.kyoto-u.ac.jp/activity/2021hekksagon/>
- https://www.l-insight.kyoto-u.ac.jp/en/event/hekksagon_20221202/

Organizers

- Heidelberg University
- Karlsruhe Institute of Technology
- Göttingen University
- Kyoto University

Collaborator

- Kyoto University European Center

Contact

- Kyoto University Center for Enhancing Next-Generation Research
- admin-l-insight@mail2.adm.kyoto-u.ac.jp