

Katsunari Yamashita

Ph.D. student, Graduate School of Medicine, The University of Osaka
Special Research Student, Graduate School of Medicine, The University of Tokyo

Hongo 7-3-1, Bunkyo-ku, Tokyo, 113-0033, Japan

Tel: (+81) 3-5841-3415

Email: kyamashita276@gmail.com | kyamashi@m.u-tokyo.ac.jp

RESEARCH INTERESTS

- Sarcoma and spatial tumor cell biology
- Tissue clearing and 3D whole-organ/whole-tissue imaging
- Quantitative analysis of 3D imaging data
- Circadian rhythm and neural activity

EDUCATION

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| Apr 2023 – Present | Ph.D. student, Graduate School of Medicine, The University of Osaka, Japan |
| Apr 2011 – Mar 2017 | Bachelor of Medicine, Faculty of Medicine, Osaka University, Japan |

RESEARCH EXPERIENCE

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| Apr 2025 – Present | Special Research Student, Department of Systems Pharmacology (Prof. Hiroki R. Ueda), The University of Tokyo, Japan |
| Apr 2023 – Mar 2025 | Research Trainee, Laboratory for Synthetic Biology (Prof. Hiroki R. Ueda), RIKEN, Osaka, Japan |
| Aug 2022 – Mar 2023 | Research Student (non-degree), Laboratory for Synthetic Biology (Prof. Hiroki R. Ueda), RIKEN, Osaka, Japan |

WORK EXPERIENCE

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| Oct 2022 – Mar 2023 | Department of Orthopaedic Surgery, JCHO Osaka Hospital, Osaka, Japan |
| Apr 2022 – Sep 2022 | Department of Orthopaedic Surgery, Osaka University Hospital, Osaka, Japan |

Apr 2021 – Mar 2022	Department of Rehabilitation, Japanese Red Cross Society Himeji Hospital, Hyogo, Japan
Apr 2020 – Mar 2021	Department of Orthopaedic Surgery, Osaka International Cancer Institute, Osaka, Japan
Apr 2019 – Mar 2020	Department of Orthopaedic Surgery, Osaka Police Hospital / Daini Osaka Police Hospital, Osaka, Japan
Apr 2017 – Mar 2019	Junior Resident, Osaka Police Hospital, Osaka, Japan

LICENSURE & CERTIFICATION

Mar 2023	Board-certified Orthopaedic Surgeon, Japan
Mar 2017	National Medical License, Japan

GRANTS & AWARDS

Apr 2024 – Present	BOOST – Fostering Researchers in Emerging Artificial Intelligence (AI) Program (Support for Doctoral Students), Japan Science and Technology Agency (JST)
Oct 2025	Outstanding Presentation Award, 32nd Annual Meeting of the Japanese Society for Chronobiology (JSC)
Oct 2025	Next-Generation Young Researchers Colloquium Presentation Award, 32nd Annual Meeting of the Japanese Society for Chronobiology (JSC)
May 2024	Merit Award, Society for Research on Biological Rhythms (SRBR)

PUBLICATIONS

Yamashita K, Kinoshita FL, Yoshida SY, Matsumoto K, Mitani TT, Fujishima H, Minami Y, Morii E, Yamada RG, Okada S, Ueda HR. A whole-brain single-cell atlas of circadian neural activity in mice. *Science*, 2025.

Akiyama F, Matsumoto K, **Yamashita K**, Oishi A, Kitaoka T, Ueda HR. A multiwell plate approach to increase the sample throughput during tissue clearing. *Nature Protocols*, 2025.

Yamashita K, Outani H, Fujimori T, Imura Y, Okada S. A case of lumbar osteosarcoma treated with a combination of carbon-ion radiotherapy and surgical treatment. *Journal of the Central Japan Association of Orthopaedics and Traumatology*, 2023. [in Japanese]

Yagi T, Nakamura H, Wakamatsu T, Imura Y, Tamiya H, Sabe H, **Yamashita K**, Watanabe M, Takenaka S. Primary breast angiosarcoma with disseminated intravascular coagulation is successfully treated with self-

subcutaneous unfractionated heparin calcium injection: A case report. *Molecular and Clinical Oncology*, 2021.

Yagi T, Nagata S, Yamamoto T, Wakamatsu T, Imura Y, Tamiya H, Sabe H, **Yamashita K**, Takenaka S. Malignant gastrointestinal neuroectodermal tumor with BRAF mutation and a history of malignant melanoma: A case report. *Molecular and Clinical Oncology*, 2021.

ORAL PRESENTATIONS

- Oct 2025 Yamashita K, Yoshida SY, Kinoshita FL, Matsumoto K, Yamada RG, Ueda HR. A whole-brain single-cell atlas of circadian neural activity in mice. 32nd Annual Meeting of the Japanese Society for Chronobiology (JSC), Japan.
- Sep 2025 Yamashita K, Yoshida SY, Kinoshita FL, Matsumoto K, Yamada RG, Ueda HR. A whole-brain single-cell atlas of circadian neural activity in mice. Invited symposium, 43rd Annual Meeting of the Japan Human Cell Society (JHCS), Japan.
- May 2024 Yamashita K, Yoshida SY, Kinoshita FL, Matsumoto K, Yamada RG, Ueda HR. Whole-brain activity atlas of circadian rhythm: A quantitative analysis with 3D tissue clearing. DataDash oral presentation, Society for Research on Biological Rhythms (SRBR), Puerto Rico, USA.
- Jul 2021 Yamashita K, Takenaka S, Kakunaga S, Outani H, Watanabe M, Imura Y, Wakamatsu T, Tamiya H, Yagi T. The significance of metastatic foci resection in cases of soft tissue sarcoma metastasis. 54th Annual Meeting of the Japanese Orthopaedic Association of Bone and Soft Tissue Tumors, Japan.
- Mar 2018 Yamashita K, Noda Y, Nakatani Y, Kim S, Ihara S, Minami S, Ogata Y, Yamamoto S, Komuta K. A case of summer-type hypersensitivity pneumonitis that required time for diagnosis. 219th Kinki Regional Meeting of the Japanese Society of Internal Medicine, Japan.

POSTER PRESENTATIONS

- Jul 2025 Yamashita K, Kinoshita FL, Yoshida SY, Matsumoto K, Yamada RG, Ueda HR. A whole-brain single-cell atlas of circadian neural activity in mice. Gordon Research Conference on Chronobiology, Barcelona, Spain.
- Oct 2024 Yamashita K, Kinoshita FL, Yoshida SY, Matsumoto K, Yamada RG, Ueda HR. Whole-brain activity atlas of circadian rhythms: Comprehensive analysis using CUBIC. Society for Neuroscience (SfN) Annual Meeting, Chicago, USA.
- Dec 2023 Yamashita K, Matsumoto K, Yoshida SY, Ueda HR. Whole-brain activity atlas of circadian rhythm: A quantitative analysis with tissue clearing, 3D immunostaining, and 3D imaging. 46th Annual Meeting of the Molecular Biology Society of Japan (MBSJ), Japan.

Nov 2023	Yamashita K, Matsumoto K, Yoshida SY, Ueda HR. Whole-brain activity atlas of circadian rhythm: A quantitative analysis with tissue clearing, 3D immunostaining, and 3D imaging. Society for Neuroscience (SfN) Annual Meeting, Washington, DC, USA.
Aug 2019	Yamashita K, Yamasaki R, Tanaka M, Wada E, Nakayama S. Posterior fixation with PPS in a case of upper thoracic spine posterior ligament injury in collision sport. 45th Annual Meeting of the Japanese Orthopaedic Society for Sports Medicine, Japan.
Sep 2018	Yamashita K, Yamasaki R, Ariga K, Wada E. Posterior decompression and fixation for far-out syndrome occurring below a lumbosacral transitional vertebra at the anterior exit zone. 27th Annual Meeting of the Japan Society for Spinal Instrumentation, Japan.

TEACHING

Sep 2025	Teaching Assistant, Pharmacology practical course, Faculty of Medicine, The University of Tokyo
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KEY SKILLS

- Tissue clearing techniques
- 2D & 3D immunostaining
- Light-sheet microscopy setup and operation
- 3D image analysis and visualization using Python
- Rodent perfusion-fixation and tissue dissection
- Plasmid design and modification

Clinical (orthopaedic surgery)

- Surgical management of bone and soft-tissue sarcomas
- Basic spinal surgery, including decompression and instrumented fusion