KIYOAKI OKUDAIRA

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EDUCATION

Kyushu University, Japan *Apr. 2022 - Present*
Bachelor of Engineering in Aeronautics & Astronautics Major GPA 3.88 / 4.0, Overall GPA 3.92 / 4.0

University of Washington, Washington *Sep. 2025 - Present*
College of Arts and Sciences GPA 4.0 / 4.0

San Jose State University, California *Mar. 2025*
International Gateways, ELEP Program

University of Queensland, Australia *Aug. 2023 - Sep. 2023*
UQ college Pathway, Q2PEC Program

RESEARCH EXPERIENCE

Kyushu University, Prof. Toshiya Hanada *Apr. 2023 - Present*
Investigation into fragmentation of the Russian EKRAN 2 spacecraft

1. Conducted optical measurements into fragments of the EKRAN 2 spacecraft and identified the captured artificial objects with the fragments by a plate-solve technique
2. Performing light curve analysis of the fragments and estimating the shape of them, aiming to clarify how the EKRAN 2 spacecraft fragmented

University of Washington, Researcher Dr. Meredith Rawls *Sep. 2025 - Present*
Investigation and research in satellite constellation mitigation for ground-based astronomy

1. Used the NOIRLab Data Archive and a catalog of known linear features to identify DECam images after 2019 that contain satellite streaks
2. Identified the satellites most likely responsible for each streak using the IAU CPS SatHub's SatChecker tool
3. Conducted photometric measurements of each streak to quantify the impact they may have to science performed on streak-affected images

National Astronomical Observatory of Japan, Assoc. Prof. Yuka Fujii *Feb. 2024*
Estimation of atmospheric composition of the cool subneptune "K2-18b"

1. Analyzed transmission spectrum of the "K2-18b" measured by "Subaru Astronomical Telescope" with TauREx (spectrum calculator tool)
2. Estimated atmospheric composition of the "K2-18b" with Vulcan (chemical equilibration calculator tool)

PUBLICATION

Conference Paper

Kiyoaki Okudaira, Yasuhiro Yoshimura, Kensuke Nakajima, and Toshiya Hanada: Investigation into Fragmentation of the Russian EKRAN 2 Spacecraft Based on Optical Observations, 69th Space Science and Technology conference, 3O04, 2025.

Kiyoaki Okudaira, Yasuhiro Yoshimura, Kensuke Nakajima, Hidehiro Hata, Kumi Nitta, and Toshiya Hanada: Investigation into Fragmentation of the Russian EKRAN 2 Spacecraft, 45th COSPAR Scientific Assembly, PEDAS.1-0033-24, 2024.

Kiyoaki Okudaira, Toshiya Hanada, Kensuke Nakajima, and Yasuhiro Yoshimura: Optical observation and investigation into Fragmentation of Russian EKRAN 2 Spacecraft, JSASS Western Branch Symposium, JSASS-2023-S031, 2023. (**Won Student Presentation Award**)

Conference Poster

Kiyoaki Okudaira, Yasuhiro Yoshimura, Kensuke Nakajima, and Toshiya Hanada: Investigation into Fragmentation of the Russian EKRAN series Spacecraft, 68th Space Science and Technology conference, P120, 2024.

HONORS

Global Human Resource Development Scholarship, Japan Business Federation *Mar. 2025*

Endowed $14,000 to study at University of Washington

Olga Bannova Award, Global Education Program in NASA *Aug. 2024*

Awarded best presentation and teamwork at the competition in the program

Japan Kosen & University Support Foundation Scholarship *July 2024*

Endowed $175 per month to prepare and apply to exchange programs in the United States

Student Presentation Award, JSASS Western Branch Symposium *Dec. 2023*

Awarded excellent presentation in the conference

Title : “Optical observation and investigation into Fragmentation of Russian EKRAN 2 Spacecraft”

Yamakawa Prize (President’s Award), Kyushu University *Sep. 2023*

Awarded excellent academic record and acts for humanity, sociability, and internationally

Endowed $7,000 per year

KIKAN Education Award (Dean’s Award; Top 2% freshman GPA), Kyushu University *July 2023*

Awarded excellent academic record at the 1st year in Kyushu University and Endowed $2500

PROGRAMMING SKILLS

Proficient in MATLAB, Python, LaTeX; **Experience in** FORTRAN, C, R

ADDITIONAL

International Astronomical Union Centre for the Protection of the Dark & Quiet Sky from Satellite Constellation Interference (IAU CPS) *Sep. 2025 - Present*

1. Joining as a member of the IAU CPS SatHub
2. Quantifying impacts of satellite constellations on ground-based astronomical observations

Q-Li Project, 3U Satellite Developing Team, Mission Analysis Team *Oct. 2022 - Aug. 2025*

1. Estimated observation condition and light curve by using SPICE toolkit

Global Education Program in NASA, Houston *Mar. 2025*

1. Joined 9 days education program in NASA and visited Johnson Space Center’s crucial facilities; e.g. ISS mission control center and Sonny Carter Training Facility
2. Learned the latest research about space architecture from Prof. Olga Bannova at University of Houston
3. Experienced an escape training from a space plane at San Jacinto College
4. Our team proposed Multi-Use Mobility System (MUMS) for sustainable exploration at the Moon, **won the Olga Bannova Award (best presentation & team work)**

JTW Exchange Student Tutor Leader at Kyushu University *Oct. 2022 - Aug. 2024*

1. Joined Kyushu University “Japan in Today's World” exchange program as a leader of tutors of international students
2. Communicated students with diverse backgrounds; learned cultures all over the world

Keio Astrobiology Camp, Keio University, Japan *Mar. 2023*

1. Learned about latest astrobiology research and utilization
2. Our team proposed an utilization of Virtual Reality in space environment to reduce people's stress in space

Practical Astronomy and Space Engineering Project at Kyushu University *Oct. 2022 - Feb. 2023*

1. With Prof. Toshiya Hanada, Prof. Kensuke Nakajima, and Assoc. Prof. Yasuhiro Yoshimura, I calculated estimated orbits of satellites from TLEs by using SPICE toolkit and captured images of them through an astronomical telescope
2. Learned about light intensity estimation of the artificial objects and Initial Orbit Determination (IOD) method based on optical measurement results

Kings Boston English Program at Fisher College, Boston *Aug. 2022 - Sep. 2022*

1. Joined 2 weeks English learning program; Visited MIT and interacted with students in Aeronautics and Astronautics department

Canada Overseas Study Program at KVR middle school, Canada *July 2019 - Aug. 2019*

1. Joined 2 weeks English learning program and interacted with local students; learned the presentation and poster expressions skills in English