

# Kota Fujimoto

PHD STUDENT

The University of Tokyo, Kashiwa, Japan

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## Education

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### The University of Tokyo

PHD ENGINEERING

- Advisor: Dr. Hiroshi Fujimoto

Kashiwa, Japan

2023 - present

### The University of Tokyo

MSc ADVANCED ENERGY

- Advisor: Dr. Hiroshi Fujimoto

Kashiwa, Japan

2021 - 2022

### The University of Tokyo

BENG AERONAUTICS AND ASTRONAUTICS

- Advisor: Dr. Koji Uenishi

Tokyo, Japan

2017 - 2020

## Conference and Presentation

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### PEER-REVIEWED

**Kota Fujimoto**, Osamu Shimizu, Hiroshi Fujimoto, Jin Katsuya, Tetsu Sato, "Feasibility Study for Dynamic Wireless Power Transfer in Simulation with Big Data Focusing on Battery Capacity Requirement of Electric Vehicles," in *the 27th edition of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM)*, Ischia, Italy, 2024.

Sakahisa Nagai, Yusuke Satoh, **Kota Fujimoto**, Hiroshi Fujimoto, "Sensorless Drone Detection for In-Flight Inductive Power Transfer Using Transmitter-Side Voltage Pulses," in *IEEE 2024 Wireless Power Technology Conference and Expo (WPTCE)*, Kyoto, Japan, 2024, doi: 10.1109/WPTCE59894.2024.10557296.

Takuma Katagiri, Kentaro Yokota, **Kota Fujimoto**, Sakahisa Nagai, Hiroshi Fujimoto, "Basic Study on Velocity Control in Wing Coordinate System Using Acceleration-based Disturbance Observer for Tilt-wing eVTOL," in *The 10th IEEE international workshop on Sensing, Actuation, Motion Control, and Optimization (SAMCON)*, Kyoto, Japan, 2024.

Shogo Yamada, **Kota Fujimoto**, Hiroshi Fujimoto, "Basic Study on Robust Perfect Tracking Control Based on Parameter Estimation Reducing Outlier Effects," in *The 10th IEEE international workshop on Sensing, Actuation, Motion Control, and Optimization (SAMCON)*, Kyoto, Japan, 2024.

**Kota Fujimoto**, Hiroshi Fujimoto, Alessandro Correa Victorino, Pedro Castillo, "Optimal Energy Trajectory Generation Based on Pitch-Dependent Mutual Inductance Model for In-Flight Inductive Power Transfer of Drones," in *IEEE 18th International Conference on Advanced Motion Control (AMC)*, Kyoto, Japan, 2024, doi: 10.1109/AMC58169.2024.10505445.

**Kota Fujimoto**, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, "High Precision Control for Twin-Drive System Based on Mode Decoupling with Virtual Viscosity: Equivalent Controller Transform for Machine Tool," in *IEEE 18th International Conference on Advanced Motion Control (AMC)*, Kyoto, Japan, 2024, doi: 10.1109/AMC58169.2024.10505638.

**Kota Fujimoto**, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, "Test Bench Study on Attitude Estimation in Ground Effect Region Based on Motor Current for In-Flight Inductive Power Transfer of Drones," in *IEEE 2023 The 49th Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Singapore, 2023, doi: 10.1109/IECON51785.2023.10312055.

Yusuke Satoh, **Kota Fujimoto**, Ryo Matsumoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, "Basic Study on Received Power Control of In-Flight Inductive Power Transfer for Drones by Active Rectifier Switching and Altitude Regulation," in *IEEE 2023 The 49th Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Singapore, 2023, doi: 10.1109/IECON51785.2023.10312000.

**Kota Fujimoto**, Takumi Hamada and Hiroshi Fujimoto, "Proposal on Model Based Current Overshoot Suppression of Receiver Side Coil in Drone Wireless Power Transfer System," in *IEEE 2022 Wireless Power Week (WPW)*, pp. 235-239, Bordeaux, France, 2022, doi: 10.1109/WPW54272.2022.9854039.

### NON-PEER-REVIEWED

**Kota Fujimoto**, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Motor Current Based Attitude Estimation Considering Ground Effect for In-flight Inductive Power Transfer of Drones: Basic Concept and Test-Bench Evaluation,” in *IEE-Japan 2024 Industry Applications Society Conference (JIASC)*, No. TBA, Mito City Civic Center, 2024. (To be presented)

**Kota Fujimoto**, Yusuke Satoh, Sakahisa Nagai, Hiroshi Fujimoto, “Basic Study on Receiving-Side System Design of In-flight Inductive Power Transfer for Drones Considering Weight Limitation,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. PE-24-059, PSE-24-071, SPC-24-113, Nagasaki, 2024.

**Kota Fujimoto**, Hiroshi Fujimoto, Yoshihiro Isaoka, Yuki Terada, “High Precision Control for Twin-Drive System of Machine Tool Based on Mode Decoupling with Virtual Viscosity: Basic Study on Two-Inertia System,” in *IEE-Japan Technical Meeting on Mechatronics Control (PSS)*, No. MEC23011, Tokyo, 2023

Yusuke Satoh, **Kota Fujimoto**, Ryo Matsumoto, Sakahisa Nagai, Binh-Minh Nguyen, Hiroshi Fujimoto, “Basic Study on Flight Altitude and Battery Current Control in In-Flight Wireless Power Transfer for Drones,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. SPC23141, Okinawa, 2023.

**Kota Fujimoto**, Osamu Shimizu, Hiroshi Fujimoto, Jin Katsuya, Tetsu Sato, “Requirement Analysis for Dynamic Wireless Power Transfer with Big Data from Real Vehicles,” in *IEE-Japan Joint Technical Meeting on Power Engineering/Power Systems Engineering/Semiconductor Power Converter (SPC)*, No. SPC23140, Okinawa, 2023.

**Kota Fujimoto**, Kentaro Yokota, Sakahisa Nagai, Hiroshi Fujimoto, “Modeling and Verification of Pitch-Dependent Coupling Coefficient for WPT to Flying Drone,” in *IEE-Japan 2021 Industry Applications Society Conference (JIASC)*, No. 48, Nagaoka University of Technology, 2021.

## Awards, Fellowships, & Grants

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### AWARDS

- 2022 **IEEJ Excellent Presentation Award**, The Institute of Electrical Engineers of Japan
- 2022 **APET Excellent Poster Presentation Award 3rd Prize**, Alliance for Advanced Power & Environmental Technology

### FELLOWSHIP

- 2023 **Fostering Advanced Human Resources to Lead Green Transformation (SPRING GX)**, The University of Tokyo

### GRANT

- 2022 **Researcher Overseas Training Grant**, Suzuki Foundation
- 2022-2023 **La Bourse de Mobilité Internationale de Sorbonne Universités**, Sorbonne Universités
- 2023 **Overseas Travel Expense Assistance**, The Telecommunications Advancement Foundation
- 2024 **The Dispatch for International Meetings Program**, Fostering Advanced Human Resources to Lead Green Transformation (SPRING GX)

## Teaching/Supervising Experience

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- 2021-2024 **Graduate Teaching Assistant**, Electrical and Electronic Engineering, The University of Tokyo

## Outreach & Professional Development

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### SERVICE AND OUTREACH

- 2022 **Workshop in Kashiwanoha innovation festival**, Operational Staff at Craft Construction Course of Dynamic Wireless Power Transfer Chiba
- 2022-2023 **School Festival**, Operational Staff at Lab Introduction exhibit Tokyo

### INTERNSHIP

2022	<b>ACSL Ltd.</b> , R&D Mechatronics team	<i>Tokyo</i>
2023	<b>Université de technologie de Compiègne</b> , Project internship student	<i>France</i>
Aug.-Nov.		
2024	<b>Université de technologie de Compiègne</b> , Project internship student	<i>France</i>
May-Aug.		

#### PROFESSIONAL MEMBERSHIPS

The Institute of Electrical and Electronics Engineers Graduate Student Member  
The Institute of Electrical Engineers of Japan Society Student Member  
The Japan Society for Aeronautical and Space Sciences Student Member