

Application instruction for LIMMS internship FY 2024

On “Cardiomyocyte Electrical-Mechanical Cell Model Based on Electrical and Optical Investigations” at TIXIER-MITA laboratory, LIMMS/CNRS-IIS, The University of Tokyo

1. Internship description

- **Location:** LIMMS/CNRS-IIS (IRL 2820), Tokyo, Japan
- **Internship title:** Cardiomyocyte Electrical-Mechanical Cell Model Based in Electrical and Optical Investigations
- **Internship duration:** 1 to 6 months
- **Accommodation support:** 60 000 yens / month for maximum 6 months (360 000 yens max. per person)
- **Expenses:** Airplane tickets and incidental expenses are NOT covered by LIMMS.
- **Contract:** Up to 6 months. An internship contract between IIS-UTokyo and the French school will be finalized, which will define the rules and obligations (both overseas travel accident insurance and liability insurance) during the stay at LIMMS/CNRS, IIS UTokyo.
- **Starting & Ending dates:** The internship should start on the 1st of February 2024 or beyond and finish before the 31st of March 2025.
- **Visa:** Students who will participate in the program for more than 90 days must have a visa. An administrative procedure takes about 3 months.

2. Job Duties: This internship will be performed in collaboration with a PhD student who will manage the electrical measurements.

- Culture cardiomyocyte cell under various conditions.
- Register and process spatiotemporal imaging of cell to get cartography of the contraction frequency and amplitude.
- Combine with spatiotemporal electrical (impedance spectroscopy and electrophysiology) data from the cell culture to elaborate an electrical-mechanical model of cardiomyocyte cell culture.

3. Skills and Experience

- Optical measurement, Image processing
- Programming in Python, C++, Matlab, Arduino
- Basic electronics (impedance, RLC circuit)
- Interest in biology

4. Please send the following items to LIMMS direction <limmsadm@iis.u-tokyo.ac.jp>

1. CV
2. Motivation letter

- Candidates are kindly advised to send LIMMS direction the requested documents with an e-mail subject “internship title” FY2024 followed by the

candidate's full name. Sending documents with a different e-mail subject might be at risk of being overlooked.

5. Submission Deadline (Closing date) for applications is 15 October 2023.

- Please note that due to our administrative procedure, we cannot accept your applications AFTER the deadline.
- Due to a large number of applications, it is not possible to reply to you if you are not shortlisted. If you have not heard from us within one month of the closing date, please assume that your application has not been successful on this occasion.

6. Notification of results

- After approval by the screening committee in LIMMS, notification of the acceptance will be sent both to the intern and the host professor of LIMMS.