

This issue includes reports on the 10th Tokyo Section hosted lecture 2023, the 2024 LMAG annual general assembly, and a report on the Tokyo Section 1st Lecture Meeting 2024.

1. Lecture Meetings hosted by Tokyo Section (co-hosted by LMAG)

The lecture, organized by the IEEE Tokyo Section Technical Program Committee (TPC) and co-hosted by LMAG Tokyo, took place on December 22, 2023 (Friday) at the Kikai Shinko Kaikan (on-site) and online. The lecturer was Dr. Akihiko Kandori (Research Director, Fundamental Research Center, Hitachi, Ltd.). The lecture was titled "Viewing the World of Electrical Activity in Living Organisms with High-Sensitivity Magnetic Measurement (with a Focus on Medical Applications)" A total of 75 participants attended, with 13 on-site participants and 62 online participants, including 54 IEEE members.

The human body regulates various functions and movements through ion activities within cells, generating weak electrical currents that flow internally and produce extremely subtle magnetic fields externally. To detect these ultra-weak magnetic fields, techniques like Superconducting Quantum Interference Devices (SQUIDs) have been employed, leveraging superconductivity. The speaker has utilized SQUIDs to measure various heart and brain disorders ranging from adults to fetuses, even identifying previously unseen conditions worldwide. Through this work, they've also been able to uncover clues to the mechanisms behind these disorders. This presentation centered on over 25 years of research, incorporating anecdotes involving actual patients to provide insights into their studies.



Fig.1 Dr. Kandori giving his talk

2. LMAG-Tokyo Annual General Assembly 2024

The Annual General Assembly was held in person at Room 66 on the 6th floor of the Kikai Shinko Kaikan on Thursday, March 14th, from 14:10 to 14:40. The meeting commenced with Dr. Sugie serving as Secretary, reporting that 44 people participated, and other LMAG-Tokyo members delegated their voting rights to the chairperson according to the Bylaws. Following introductions by the current officers (Chair; Dr. Ohta, Vice Chair; Dr. Hayashi, and Secretary; Dr. Sugie), Dr. Ohta delivered opening remarks and chaired the meeting. All agenda items were discussed and approved, and the LMAG-Tokyo General Assembly concluded successfully. A summary of the proceedings is provided below:



Fig.2 LMAG-Tokyo Annual General Assembly 2024

Agenda 1: Report on the 2023 LMAG-Tokyo Activities

Dr. Hayashi, Vice Chair, presented the following activity report:

- General meetings, officer meetings (10 times), and lectures organized or co-organized (12 times)
- Publicity activities including issuing LMAG-Tokyo newsletters (in Japanese and English, 3 times each) and promoting activities to members through the LMAG-Tokyo website, as well as contributions to R10 and IEEE Life Members Newsletters

- Collaboration with LMAGs both domestically and internationally, participation in LMAG meetings within R10, and collaboration with Student, YP, and WIE groups
- Receipt of the R10 IEEE Life Members Affinity Group (LMAG) Achievement Award 2023

Agenda 2: Activity Plan for 2024

Dr. Sugie, Secretary, outlined the following activity plan for 2024:

- Continuation of the current officer lineup (Dr. Ohta as Chair, Dr. Hayashi as Vice Chair, Dr. Sugie as Secretary), holding general and officer meetings
- Conducting elections for the next term of officers in accordance with the bylaws
- Hosting or co-hosting lecture meetings in various fields at least 4 times
- Organizing events such as technical site visits or events related to IEEE Milestones
- Collaboration with Tokyo Section SYW activities, TOWERS, and SIGHT activities
- Issuing LMAG-Tokyo newsletters three times a year and enhancing publicity to LMAG members through the Home Page

For reference, the materials from the meeting can be accessed through the following link on the day of the meeting (in Japanese).

<https://iee-jp.org/section/tokyo/lmag/mtg/soukai/report/2024rpt.pdf>



Fig.3 LMAG-Tokyo Officers
((from left) Sugie, Secretary; Ohta, Chair and Hayashi, Vice Chair)

3. Lecture hosted by Tokyo Section (co-sponsored by LMAG-Tokyo)

The first lecture meeting in 2024 was held after the IEEE Tokyo Section General Meeting (held in conjunction with the LMAG-Tokyo General Meeting) on March 14th (Thursday) in person. The lecturer was Dr. Hideki Kimura, Deputy Director of the System Innovation Center and Professor Emeritus of the

University of Tokyo and Osaka University, who received the 2021 IEEE CONTROL SYSTEMS AWARD. The lecture title was "Science of Automation: The History of Technology's Headlights," and 44 people participated.

In the lecture, he talked about the history of the development and evolution of "Automation", and what it will look like in the future, including process and mechanical automation, feedback mathematics, model-based control, and robustness. He also gave the recent view of automation moving from manufacturing to services, and it has become the core of intelligent robots and autonomous driving. The next goal is to realize what exceptional people and organizations can do for the first time, to respond to the environment by predicting disasters and breakdowns, to expect integrated disease diagnosis, advanced nursing care, etc., and to expect excessive automation to be a burden on society. It was specific and easy to understand. Automation is expected to continue to advance. The content was interesting and a lively discussion took place.



Fig.4 Dr. Kimura giving his talk

4. Future Events

LMAG-Tokyo is planning to hold the following events. Details will be announced at a later date.

- June 11 (Tuesday): Visit to NTT Musashino Research and Development Center
- June 22 (Saturday): Visi to Sagamiko-berry farm

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