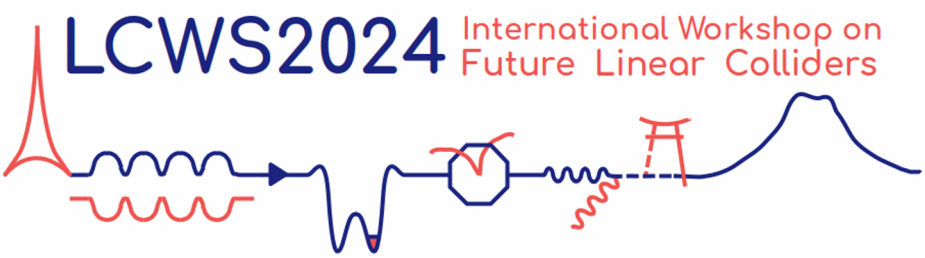



The 2024 International Workshop on Future Linear Colliders, LCWS2024[1], took place on July 8-11, 2024 at the University of Tokyo, Japan. The LCWS workshop series is devoted to the study of the physics, detectors, and accelerator issues relating to high-energy linear electron-positron colliders. A linear collider will initially operate as a Higgs factory, as well as providing a clear path for upgrades in both energy and luminosity.

The 2024 workshop had 341 registered participants, 254 of who joined in-person and 87 by remote connection, and a total of around 290 contributions. The workshop consisted of a mix of plenary and parallel sessions. Parallel sessions related to physics and detectors were grouped into:

- Higgs and Electroweak physics
- Top quark, QCD, and Flavor physics, and Precision Modelling
- BSM physics and Global Interpretations
- Vertex, Tracking, and Timing detectors
- Calorimetry and Muon detectors
- Software, Reconstruction, and Computing,

while accelerator-related sessions covered

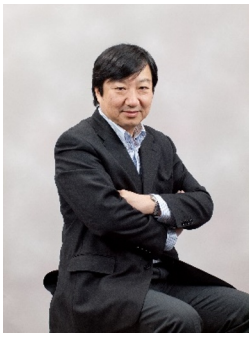
- Sources
- Damping Rings and Beam Delivery Systems
- Beam Dynamics
- Super-conducting RF
- Normal-conducting RF
- Advanced Accelerator Concepts
- Applications
- Conventional Facilities and Machine Detector interface.

There were additional sessions devoted to Sustainability, Industry, and Early Career Researchers, and a lively poster session featuring 18 posters mostly by young researchers and students, four of whom were awarded prizes.

A special session was devoted to the memory of Sachio Komamiya, a long-standing supporter of linear colliders, who had died a few weeks before the workshop. He played a leading role in the advancement and promotion of the International Linear Collider (ILC) project, both internationally and within the Japanese high energy physics community. He served

[1] https://agenda.linearcollider.org/e/lcws2024

multiple terms as chairperson of the High Energy Physics Committee of JAHEP (Japan Association of High Energy Physicists), and as chairperson of the Linear Collider Board during 2013-2017. Many happy memories of Sachio were recounted by his friends and colleagues from around the world.



*Sachio Komamiya*

The global situation around a future Higgs Factory is evolving rapidly. The feasibility study of the FCC-ee, a possible future project for CERN, is reaching its conclusion, and the CEPC project is preparing to submit a proposal to the Chinese government in the next year. The process to update the European Strategy in Particle Physics is underway. In a discussion session on the "Global vision for a Linear Collider facility", LCWS2024 participants agreed that a strong proposal should be made to the European Strategy for a Linear Collider as the next large accelerator facility, emphasising both its initial role as a Higgs Factory and the various technological paths which can be used to upgrade such a collider to the TeV scale.

The LCWS2024 was sponsored by a number of organisations and companies, whose support was essential in ensuring a fruitful and enjoyable workshop. We would also like to thank members of the International Advisory and Program Commitees, Session Conveners, and all staff, contributors and attendees for making such an interesting and lively workshop.

*Taikan* Suehara (ICEPP, U. Tokyo)
Chair of the Local Organizing Committee

*Junping* Tian (ICEPP, U. Tokyo), *Daniel* Jeans (KEK)
Editors of these Proceedings

December, 2024

*LCWS2024 participants*