

26-28 August 2024

ETH Scherrer Auditorium

8006 Zürich

Report for Swiss Federal Office of Energy

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Dr. David Reber

Conference chair and head of local organizing committee

Dübendorf, September 2, 2024

The 6th edition of the Swiss Battery Days took place on August 26-28 at the ETH Scherrer Auditorium and in the atrium of the Department of Information Technology and Electrical Engineering at ETH Zurich. The aim of this event is to provide young researchers, active in the field of battery materials research and cell manufacturing, a platform to present their results and to connect to renowned battery researchers from all over the world.

With a unified visual identity, the event was advertised mainly over the event's website, social media channels X and LinkedIn, and over the websites of battery associations and initiatives including the Swiss Battery Association iBAT, the European large-scale long-term battery initiative Battery2030, the Battery European Partnership Association, the Alistore European Energy Research Institute, the Upcell Alliance, and the European Battery Alliance EBA250. The event was also promoted across the network of the members of the international advisory board including Prof. Dr. Wolfgang Zeier, University of Münster, Prof. Dr. Julia Maibach, Chalmers University of Technology, Prof. Dr. Ingo Krossing, Albert-Ludwigs-University Freiburg, Prof. Dr. Erik J. Berg, Uppsala University, and Prof. Dr. Alejandro A. Franco, University of Picardie Jules Vernes.

105 scientific abstracts were received by the abstract submission deadline on July 16th with, for the first time and by very small margin, more contributions from researchers outside of Switzerland. Swiss research institutes contributed 51 submissions (Empa (24), PSI (12), ETH (5), EPFL (3), UniFr (3), SUPSI (1), Swiss companies (3)), (see Book of Abstracts for details).

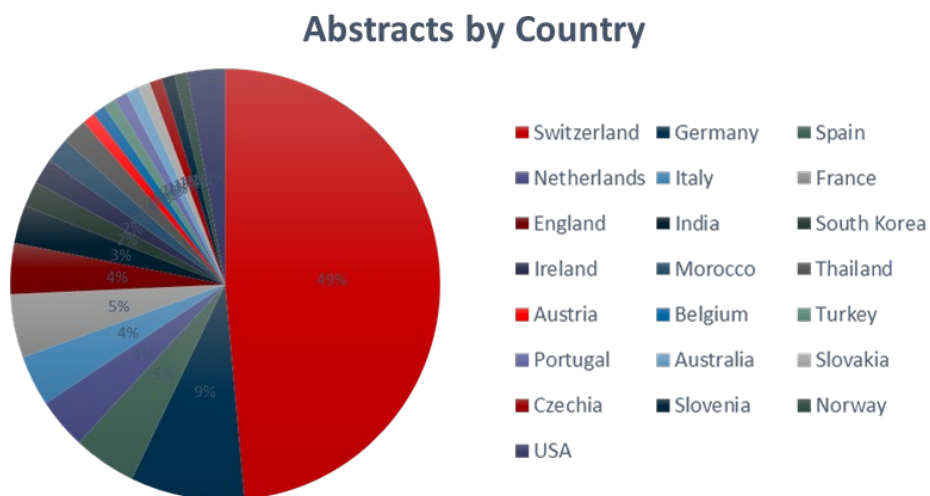


Figure 1: Distribution of received abstracts by country.

Moving to the Scherrer Auditorium and the ETHZ D-ITET auditorium we were able to accommodate a growth in the number of participants of 60% compared to previous years! Out of ~250 participants, one half were participants from industry, one third were women and PhD students represented almost 40%.

The interest of sponsors increased significantly compared to previous years and we attracted a total of 20 companies sponsoring the event, 13 of which booked exhibition booths to present their research products and software solutions. Financial support by the Swiss National Science Foundation (project number IZSEZ0_229375) and backing by the Swiss Federal Office of Energy (contract SI/502775-01) is also gratefully acknowledged.

Among this year's invited speakers, we had the honor to welcome Nobel laureate and inventor of the lithium-ion battery Sir Prof. Stanley Whittingham, Binghamton University, battery heavyweights Prof. Shirley Meng, University of Chicago & Argon National Laboratory, and Dr. Kang Xu, SES AI, as well as Prof. Philipp Adelhelm, Humboldt-Universität Berlin & Helmholtz-Zentrum Berlin, Prof. Emmanuel Baudrin, Université de Picardie Jules Verne & CNRS, and Prof. Jelena Popovic-Neuber, University of Stavanger. Due to sick leave, Prof. Kristina Edström, Uppsala University & Battery2030+, had to cancel her participation last-minute.



Figure 2: Group picture with the participants of the Swiss Battery Days 2024 at the Department of Information Technology and Electrical Engineering at ETH Zürich.

The scientific program consisted of several sessions opened by a talk given by one of the invited speakers followed by two or three contributed talks from junior researchers (PhD students and postdocs) that were selected from the >100 submitted abstracts by the scientific committee, which consisted of Dr. David Reber, Empa, Prof. Corsin Battaglia, Empa, ETHZ, EPFL, Dr. Sigita Trabesinger, PSI, and Dr. Mario El Kazzi, PSI. All abstracts, besides invited talks, were also presented as poster presentation at the poster session (99 posters), which took place on August 26 in the atrium of the Department of Information Technology and Electrical Engineering at ETH Zürich along with the welcome apero.



Figure 3: Impression of the Swiss Battery Days 2024 scientific poster session.

The scientific program was launched on Monday afternoon with a keynote by Nobel laureate Sir Prof. Stanley Whittingham who provided an American perspective on future battery research. This was followed by a scientific session on automated battery materials discovery and solid-state batteries and the poster session in parallel to the welcome apero. The invited speaker dinner with the scientific committee was held at Restaurant Lux in Zürich.

Tuesday morning was kicked off by a session on liquid electrolytes, followed by sessions on sodium-ion batteries, redox flow batteries, and advanced analytical tools. The conference banquet, providing an excellent platform for networking, took place on Tuesday evening in Restaurant Wöschi at lake Zurich.

The industry day was co-organized and chaired by the Swiss Battery Association iBAT, focusing on the industrial perspective of redox flow and sodium-ion batteries with invited talks given by Dr. Alasdair Robertson, Invinity Energy Systems, Tom Gebauer, Redox One, Dr. John Alper, VoltStorage, Dr. Mathieu Morcrette, Tiamat, Dr. Minglong He, ABB, and a summary perspective presented by Kenya Shatani from the European Battery Alliance EBA250.

The Swiss Battery Days 2024 outstanding poster award was awarded by the scientific committee to Julian Baumgärtner, PhD student at ETH Zürich and Empa. Congratulations Julian!



Picture 4: Julian Baumgärtner, the winner of the Swiss Battery Days 2024 outstanding poster award with members of the scientific committee.

The afternoon session organized by the Swiss Battery Association iBAT was opened by Richard Bouveret, CEO of Blue Solutions. This was followed by a session presenting four Swiss Battery startups with talks by Dr. Moritz Futscher, BTRY, Dr. Clara Moldovan, Swistor, Dr. Paul Baade, 8Inks, and Dr. David Taylor, Unbound Potential. The startup session has received particularly good feedback.

All in all, the Swiss Battery Days 2024 were a massive success. The significant growth in participants (+60% compared to 2023) and sponsor interest (+230% compared to 2023) is underlined by interactions on social media: On LinkedIn our speaker announcements and conference updates have seen more than >100000 impressions (the number of times our posts were displayed on screen) and >2100 engagements (likes, hearts, etc.) over the last 365 days and we have more than doubled our followers to >1100. It is fair to say that this edition has irrevocably established the Swiss Battery Days as a major European battery conference with global reach.

Number of participants from academia	125
Number of participants from economy or society	125
Percentage of female speakers, experts, moderators	33%
Percentage of female participants	32%

Table 1: Summary of participants

Here, I would like to thank again all participants, our invited speakers, the members of the scientific committee, the members of the international advisory board, our sponsors, the Swiss National Science Foundation, and the Swiss Federal Office of Energy for financial support.

A very BIG THANK YOU also goes to the local organizing team, especially our assistant Daniela Isler-Schmid, our technician Benjamin Kunz, Nadine Rieder, and the members of the Laboratory Materials for Energy Conversion who took care of a number of important tasks that ensured a smooth conference. Thank you also to Thomas Steingruber from ETH facility management for excellent support.

I am looking forward to the next edition in 2025. In parallel the executive committee of iBAT and the organizers of the Swiss Battery Days will continue a complementary series of battery networking events.

Best regards,

Dr. David Reber
Chairman Swiss Battery Days 2024
Empa, SNSF Ambizione Group Leader

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