



## Report for Swiss Federal Office of Energy

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The 4<sup>th</sup> edition of the Swiss Battery Days took place on August 29-31 at Empa Academy in Dübendorf. The aim of this event is 1) 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 Europe, 2) to strengthen the network among Swiss battery researchers in academia and industry, and 3) to enhance the visibility of research on batteries in Switzerland to a broader audience outside of Switzerland.

With a new visual identity, the event was advertised mainly over the event's [website](#), social media channels [Twitter](#) and [LinkedIn](#), but also 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, and the Alistore European Energy Research Institute. The event was also promoted across the network of the members of an international advisory board including Prof. Kristina Edström, Uppsala University, Prof. Petr Novák, Braunschweig Technical University and ETH Zurich, Prof. Martin Winter, Münster University, Prof. Robert Dominko, National Institute of Chemistry Ljubljana, and Prof. Arnulf Latz, Helmholtz Institute Ulm and Karlsruhe Institute of Technology.

80 scientific abstracts were received by the abstract submission deadline on July 1<sup>st</sup> including about 50% of abstracts from Swiss research institutions (Empa (16), PSI (8), ETH (6), CSEM (3), BFH (1), EPFL (1), UniFr (1)), Swiss companies (4), and also an increasing number of abstracts, about 50%, from research institutions and companies outside of Switzerland (40) (see abstract books for details).

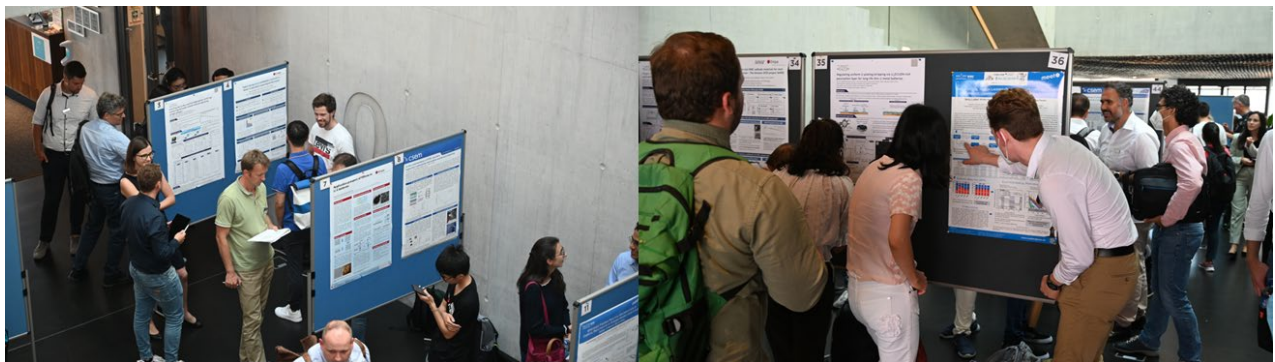


*Picture 1: Group picture with all participants of the Swiss Battery Days 2022 at Empa Academy in Dübendorf.*

Due to the limited capacity in the Empa Academy, the total number of participants was capped at 150 participants, a number which was reached already 10 days before the end of the registration deadline on August 19, resulting in many interested parties not being able to attend the event. It is planned to move the event to a location with a larger capacity in 2023. Participants from Swiss research institutions (Empa (37), PSI (14), ETH (11), CSEM (5), BFH (1), EPFL (1), UniFr (1)) and foreign research institutions (45), where complemented by participants from Swiss companies (20) and foreign companies (15).

Also the interest of sponsors increased for this year's event with a total of 11 companies sponsoring the event, 6 of which also exhibited their research products and software at the event's exhibition. Financial support by the Swiss Federal Office of Energy is also gratefully acknowledged. Sponsoring contributions were employed mainly to cover the travel and accommodation expenses of the invited speakers, which included Dr. Montserrat Casas-Cabanas, CIC energieGUNE, Prof. Jürgen Janek, Justus Liebig University Giessen, Prof. Jie Li, Politecnico di Milano, Prof. Mauro Pasta, University of Oxford, Prof. Ivano Castelli, Technical University of Denmark, Dr. Florian Klunker, Huntsman Advanced Materials, Dr. Hwamyung Jang, Northvolt, Dr. Sebastian Heinz, High Performance Battery, Dr. Andy Fiedler, Blackstone Resources, Dr. Aron Varga, BMW, and Dr. Hansen Chang Mercedes-Benz.

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 80 submitted abstracts by the scientific committee, which consisted of Dr. Corsin Battaglia, Empa, Dr. Sigita Trabesinger, Paul Scherrer Institute, Dr. Mario El Kazzi, Paul Scherrer Institute, Prof. Axel Fürst, Berner Fachhochschule. All abstracts were also presented as poster presentation at the poster session, which took place on August 29 in the atrium of Empa's NEST building followed by the welcome apero at NEST and the invited speaker dinner at Hotel Sonnenthal in Dübendorf.



*Picture 3: Impression of the Swiss Battery Days 2022 scientific poster session.*

The scientific program was launched on Monday afternoon with a first scientific session on alkali metal anodes, followed by two sessions on Tuesday morning on solid-state batteries and advanced battery materials characterization, and two sessions on Tuesday afternoon on liquid electrolytes and various modelling aspects. The conference banquet, providing an excellent platform for networking, took place on Tuesday evening in Restaurant Saal in Dübendorf.

The industry day was organized and chaired by the Swiss Battery Association iBAT focusing on the industrial perspective on solid-state batteries with invited talks given by BMW and Mercedes-Benz, and the two Swiss solid-state battery start-up companies Blackstone Resources/Blackstone Technology and High Performance Battery Technology/Swiss Clean Battery, followed by a perspective on cell manufacturing costs provided by the Swedish 160 GWh/y start-up company Northvolt.

The Swiss Battery Days 2022 outstanding poster award was awarded by the scientific committee based on an online vote of all conference participants to Marcel Heidbüchel, PhD student at MEET Battery Research Center in Münster Germany.



*Picture 2: Marcel Heidbüchel, the winner of the Swiss Battery Days 2022 outstanding poster award with members of the scientific committee.*

A special session with talks provided by projects from the Horizon 2020 LC-BAT-5 project cluster focusing on the development of advanced Generation 3a and 3b batteries for automotive application was organized by the [SeNSE](#) project consortium coordinated by Empa, including also presentations from other parallel European projects of the Horizon 2020 LC-BAT-5 project cluster, including projects [Hydra](#), [Cobra](#), and [3Believe](#). The LC-BAT-5 cluster session was followed by a LC-BAT-5 cluster dinner and workshop on Wednesday evening and Thursday morning, open only to the members of the LC-BAT-5 projects.

All in all, the Swiss Battery Days 2022 were a huge success. I would like to thank here again all participants, our invited speakers, the members of the scientific committee, the members of the international advisory board, our sponsors and the Swiss Federal Office of Energy for financial support. A special BIG THANK also to the local organizing team, especially our assistant Daniela Isler-Schmid, our technician Benjamin Kunz, Nadine Rieder and Nora Zuber from Empa academy, and the members of the Laboratory Materials for Energy Conversion, which took care of a number of important tasks to ensure a smooth conference. I am looking forward to the next edition in 2023. Discussions between the organizers of the Swiss Battery Days the executive committee of iBAT are already ongoing to offer a consistent complementary series of battery networking events in 2023.