

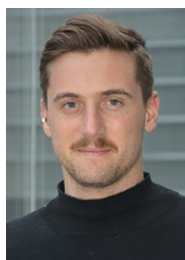
What Can Text Mining Tell Us About Lithium-Ion Battery Researchers' Habits?



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Invited for this month's cover picture is an effort run by the group of Alejandro A. Franco and made in collaboration with Mathieu Morcrette, Patrik Johansson, Patrice Simon and Alexis Grimaud. The Front Cover illustrates an ideal scientific literature, in which all the data are systematically disclosed and available for researchers, together with artificial intelligence algorithms bringing new light on battery research and researchers. Read the full text of the Concept at 10.1002/batt.202000288.

What prompted you to investigate this topic?

Many researchers recognize that scientific publications do not always disclose all the data needed to reproduce the findings, but this is typically not quantified. Here we quantify it for some key material, electrode, and cell features, discuss the implications for the blooming field of artificial intelligence, and consider the challenges that need to be tackled.

What is the most significant result of this study?

We demonstrate that the lack of data in scientific literature is both quantifiable and a reality, and we show its consequences as well as indicate a possible path for the future through standardization.

What future opportunities do you foresee?

The field of energy-related research and development is moving towards more shared and stronger standardization of experimental and computational data. The field of photovoltaics has already taken important steps in this direction and similar actions are in progress in the field of battery research, primarily led by journals and communities. Our work and findings strengthen these efforts towards well-established standards.

