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Design of Next-Generation Lithium-Ion Batteries: Materials, Cell Performance and Production Processes

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Message from the Guest Editor

Lithium-ion battery chemistry is currently driving rapid changes in a number of industries, including the automotive industry, and a wide range of consumer electronics. To facilitate the use of batteries in industry, improvements in battery performance, safety, and manufacturing sustainability are required, making this a highly desirable area of research.

Batteries are useful energy storage devices due to their energy density and reliability. Furthermore, they have a role to play in enabling "green" technologies, since they can be charged from renewable energy sources. However, challenges remain in terms of sustainably sourcing raw materials for battery manufacture and effectively recycling used batteries in order to continue to meet growing demands. Since a battery is an electrochemical system, its performance depends largely on the materials used in its manufacture. Therefore, investigating and developing materials that will enhance the performance of existing battery systems or allow them to be produced and recycled more sustainably is highly important.











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Message from the Editor-in-Chief

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