



Advanced Energy Materials and Its Devices

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Message from the Guest Editors

Dear Colleagues,

To mitigate worsening climate change and its catastrophic consequences on human society and realize the sustainable development of modern economy, the decarbonization of the current industries is required. The development of electrochemical devices that are capable of storing and converting different energies from one to another is a promising approach to solve the crises we are now facing. Electrochemical devices, such as batteries, supercapacitors, etc., promise the storage of seasonal energies. Furthermore, powered by clean electricity, the electrification of the current industries would fulfill the decarbonization targets and thus close the carbon cycles. The development of advanced energy materials and corresponding devices hold promise for the closure of the carbon cycle. Research areas may include (but are not limited to) the following:

1. Electrocatalytic conversion of small molecules into value-added chemicals;
2. Electrochemical energy storage devices;
3. Batteries, including alkaline metal ion batteries and other edging battery systems;
4. Solar energy conversion;
5. Clean energy generation and corresponding devices;
6. Flexible electronics;
7. Smart textiles.





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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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