Cover Profile
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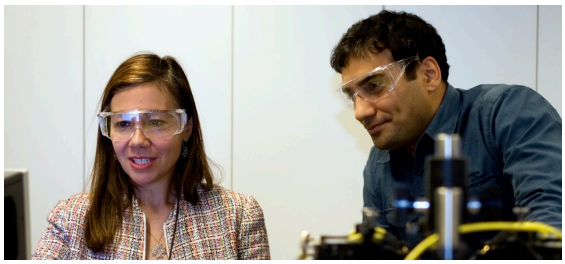
Graphitic-Based Solid-State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment



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Invited for this month's cover picture is the group of Integrated Nano Systems Lab (INSys Lab), part of the Centre for Clean Energy Technology, University of Technology Sydney. The cover picture illustrates an efficient in situ pathway to generate and attach oxygen functional groups to graphitic electrodes for supercapacitors by inducing hydrolysis of water molecules within the gel electrolyte. Read the full text of the Article at 10.1002/batt.201900204.

How would you describe to the layperson the most significant result of this study?

Quasi-solid-state supercapacitors could power integrated smart electronics, but are not yet quite as performant as their counterparts based on aqueous electrolytes. We have discovered a simple pathway to improve their performance after preparation of the cells, generating a stable in situ functionalization of the graphitic electrodes.

What was the inspiration for this cover design?

This cover image depicts the in- situ functionalization of the graphitic electrodes, triggered by the products of the hydrolysis of water within the gel electrolyte.

Did serendipity play a part in this work?

This research has originated from our curiosity of exploring the operation limits of the cells, leading us to unforeseen beneficial results. The control of this process would not have been possible without understanding the fundamental reasons for the observed improvement, using our team's complementary expertise.

Acknowledgements

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