

MRS Bulletin

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Electrochemical energy storage to power the 21st century

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nanopatterning of organically
functionalized graphene with
ultrahigh vacuum scanning
tunneling microscopy

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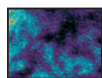


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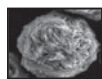
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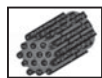


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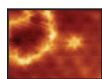


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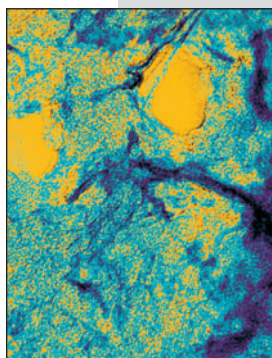
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Electrochemical energy storage to power the 21st century. This issue of *MRS Bulletin* encompasses recent efforts in 3D architectures, designing efficient transport paths for primary charge carriers and catholytes, and fabricating nanoscale forms of old and new charge-storage materials. The cover depicts an energy-storing nanostructure (~10-nm-thick coating of birnessite-like manganese oxide) well-wired onto the walls of a 3D carbon nanofoam paper, thereby amplifying the quantity of energy stored while also creating a device-ready electrode structure. Air (yellow), carbon (blue), and MnOx (black & purple). The graphical representation is derived from

data presented in A.E. Fischer, K.A. Pettigrew, D.R. Rolison, R.M. Stroud, J.W. Long, *Nano Lett.* **7**(2), 281 (2007). (See Figure 7c in the Long et al. article in this issue.) See the technical theme that begins on p. 486.



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