

# Flexible supercapacitors for wearable energy storage

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The ever evolving microelectronics consumer industry is fascinated by cheap, wearable, flexible components/devices, and therefore, there is a huge interest in pliable films of functional materials. Almost all portable, wearable devices require equally flexible and lightweight energy support systems. Electrochemical supercapacitors (ESCs) are promising energy storage devices with their capability to deliver high specific power, ability to charge/discharge fast, and long cycle lifetime and are being hailed in many new technological applications. The existing ESC systems lack comparable energy storage density as conventional batteries; therefore, improving energy density without compromising power density and cyclability is another research concern for ESCs. We bring up some fresh ideas for the future development of wearable and flexible ESCs which exhibit myriad physical forms and functional features and form a complicated and extensive system. Pseudocapacitive materials like transition metal oxides are being evaluated in composition with carbon based materials as electrodes for ESCs so as to achieve the above goals via the usage of both EDLC and redox mechanisms of charge storage.