

## Perspective of Vertical Nanoarchitectures on Supercapacitor Performance

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An ever-rising demand on the energy technology and depletion of fossil fuels compelled towards the development of green energy technology. Supercapacitor is expecting a strong momentum to meet the energy challenge. Although supercapacitor is well-appreciated owing to its high power density and prolonged cycle life, lower energy density limits its utilization as full-phase energy device. Therefore, improving the energy density of supercapacitor is major challenge in the energy research community. Since the electrode materials plays a pivotal role in this context, designing them are crucial in boosting the energy harvesting. Herein, the current presentation will be based on the importance of vertical nanoarchitectures as supercapacitor electrode materials compared to non-aligned and agglomerated counterparts. The key factors in rational designing the vertical nanoarchitectures to achieve high-performance like edge-density, type of edges, wettability, inter-vertical sheets spacing, pore distribution, corrugated surface going to be discussed.