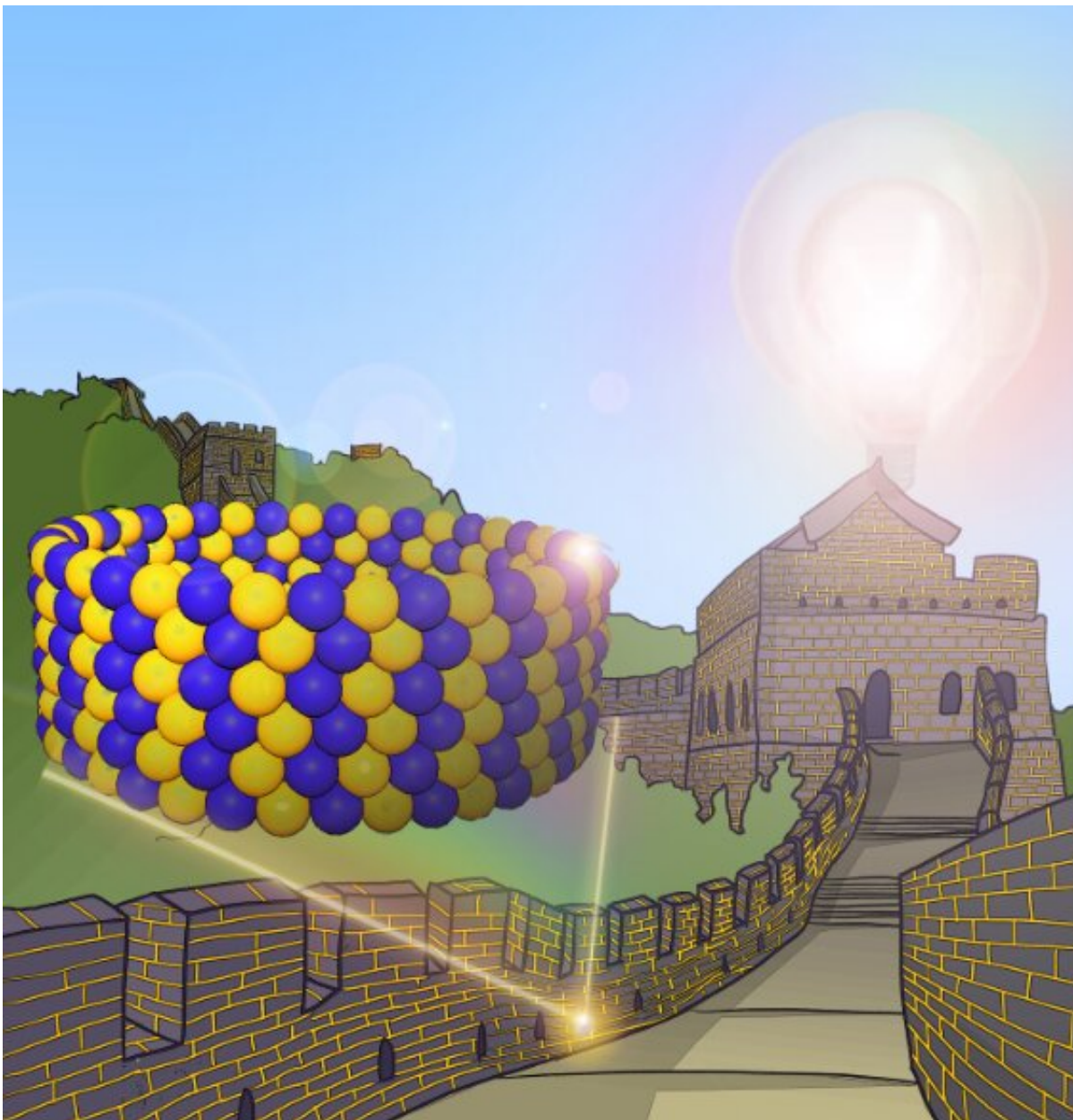


Scientists improve cycling performance of Al-based batteries with high areal density cathode

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Al Anode in High Areal Density Lithium Ion Battery, the structure is rock-solid as Great Wall Credit: SIAT

Lithium-ion batteries (LIBs) are the dominant power source for portable electronics and electric vehicles. However, the relatively low theoretical capacity of the graphite anode (372 mAh g^{-1}) hinders the enhancement of the energy density of LIBs. Therefore, exploiting anode materials with high capacity is drawing increasing attention.

Among various anode materials, [aluminum](#) (Al) is a promising candidate due to its excellent conductivity, high theoretical capacity, low discharge potential, natural abundance, and especially low cost. However, Al-based anodes are usually investigated in half cells or full cells with low cathode areal density (

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