Materials for advanced energy storage – Elsa Reichmanis

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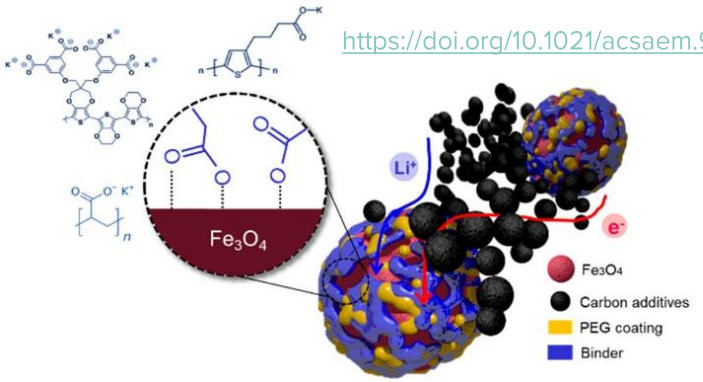
Current state-of-the-art lithium-ion technology relies on graphite-based anodes, which have low theoretical energy density → ***This is a problem for the transition to a sustainable energy future***

Our research explores active materials in lithium-ion electrodes (operating via conversion or alloying processes) → ***These electrodes can have up to 10× the charge capacity of graphite electrodes***

To learn more:

- We investigate the impact of interfacial interactions/chemistry on the cycling performance of high-capacity magnetite and silicon anodes: for example DOI: 10.1021/jacs.8b00693; 10.1021/acsaem.1c01882
- We explore approaches to fabricating flexible electrodes and polymer electrolytes: DOI: 10.1021/acsnano.7b08918; 10.1021/acsapm.1c01789

https://doi.org/10.1021/acsaem.9b01580



https://doi.org/10.1021/acsnano.7b08918