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## Bachelor, Master, or PhD thesis

### *Thesis title*

*Passivation of silicon anodes for lithium-ion batteries: The effect of electrolyte additives*

### *Thesis description*

This project aims at investigating the passivating nature of electrolyte additives with specific focus on silicon anodes for lithium ion batteries. Additives are added in small amounts to electrolytes but have a tremendous impact on improvements of battery performance. Precision electrochemical measurements on model thin films are combined with chemical characterization and *operando* X-ray reflectivity to relate compositional and structural properties of passivation layers with electrolytes' functionality.

The project may involve travel to international user facilities such as DESY (Hamburg), SSRL (Stanford), APS (Chicago), and ESRF (Grenoble).

*For more information please contact Prof. Dr. Hans-Georg Steinrück.*

