

## **In-situ liquid electrochemical transmission electron microscopy**

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The ability to image in-situ nanoscale effects in the TEM has been enabled through the rapid development of new TEM holders, increasing detector sensitivity and the ability to process large amounts of data [1]. Specifically, for battery research new instrumentation developments allow us to obtain unique morphological and structural material information during electrochemical processes [2-4]. The new liquid electrochemical TEM holders allow battery materials and a liquid electrolyte to be encased between two electron transparent windows.

The University of Queensland has worked together with Norcada and Hitachi, Canada to develop an in-situ liquid electrochemical TEM holder that is compatible with the Hitachi TEM. This poster presents development underway at UQ which will allow materials sensitive to atmospheric conditions to be imaged using in-situ TEM techniques.

### **References**

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