### Pan research group



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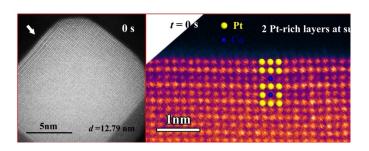
#### **Research Group Members**

- Wenpei Gao, Postdoc
- Xingxu Yan, Postdoc
- Mingjie Xu, Postdoc
- Thomas Blum, PhD student
- Christopher Addiego, PhD student
- Peter Tieu, PhD Student
- Huaixun Huyan, PhD Student
- Chaitanya Gadre, PhD Student
- Tom Lee, PhD Student
- Tom Kaufmann, PhD Student

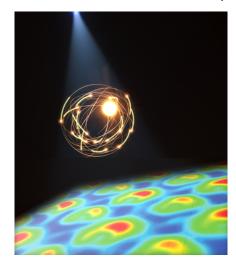
# Projects we are working on in the upcoming year

#### **Project/research summary**

- In-situ atomic resolution electron microscopy study of catalysts and energy materials;
- High energy resolution spectroscopy of phonon and molecule vibration;
- Multi-dimensional imaging of functional oxides
- Quantitative Prediction and Observation of Grain Boundary Dynamics



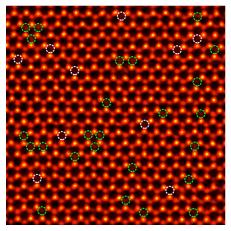
D. Sheng et al., Nature Communications 8, 204 (2017)



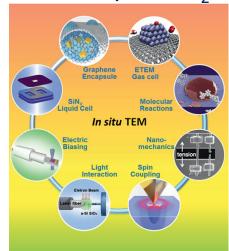
W. Gao et al., Nature (2019)

# Possible areas of collaboration with other groups

- Electronic structures of 2-D Material
- Big data analysis, machine learning and artificial intelligence for image processing and automation
- Development of next generation imaging platform for materials dynamics during heating, cooling, illumination, catalysis, biasing, and straining.



Monolayer MoS<sub>2</sub>



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