



## **James Walsh**

Postdoctoral Fellow  
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### **Current Position**

Assistant Professor, Department of Chemistry, University of Massachusetts Amherst (Sep 2019)  
Postdoctoral Fellow, Department of Chemistry, Northwestern University (2015 – Present)  
*Advisors: Prof. Danna Freedman and Prof. Steven Jacobsen*

### **Background**

Postdoctoral Fellow, Aarhus University (2015)  
*Advisor: Dr. Jacob Overgaard*  
Ph.D. in Inorganic Chemistry, University of Manchester (2010 – 2014)  
*Advisors: Prof. David Collison, Prof. Eric McInnes, Prof. Richard Winpenny*  
Master's in Chemistry, University of Manchester (2006 – 2010)

### **Honors**

International Institute for Nanotechnology Outstanding Researcher Award (2017)

### **Activities and Interests**

My research interests center on the use of extremely high pressure for the synthesis of completely new structures and chemical bonds. More broadly, I am interested in the use of X-ray crystallography as a tool to examine reaction mechanism in solid-state chemistry. I am a frequent user of the HPCAT and GSECARS beamlines at the APS. I collaborate closely with beamline scientists across both sectors and have averaged 8 shifts each run over the last four years. The APS is a world leader in the field of high pressure and is the source of many of the cutting-edge techniques that have since been adopted by other beamlines. This trend of origination is set to continue with the upgrade, which will position the APS at the forefront of synchrotron radiation science. The enormous increase in flux will make it the flagship of a new generation of experiments that allow for crystallographic access to unprecedented ultrafast timescales. This will open up entirely new avenues of exploration in fields as diverse as chemistry, geology, physics, and materials science. I would like to act as a spokesperson for the experimental community to ensure that the upgrade capitalizes on its enormous potential in these areas.