The vast majority of observable matter in our galaxy is much hotter and denser than the solids, liquids and gases we have on earth. Studying these extreme material states is complex and exciting. Exciting, because it tests the limits of scientific understanding of the phenomena by which atoms, ions and electrons interact and organize over a range of extreme conditions. Complex, because the study of materials in these conditions is inherently multi-disciplinary. Due to the high temperature of these states conventional high-pressure approaches cannot be applied, so dynamic compression is used. Dynamic compression provides a form of inertial confinement, where the pressure is applied as an impulse and the state is maintained while the pressure traverse the sample. Through dynamic compression some of the most extreme states of matter can be achieved. This talk will cover experiments performed at Washington State University to explore chemical interactions in the extreme states relevant to the cores of gas giants planets.

Please meet our guest speaker and share in refreshments, 3:45-4:10 p.m. in the foyer on floor G above the lecture hall

Host: Dr. Jeff McMahon