

# Understanding the origin of the elements in the laboratory

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Refreshments at 3:30 P.M. in 202 NSH

Nucleosynthesis processes in novae, supernovae and X-ray bursts involve nuclear reactions that up to now have been mostly unavailable for experimental studies. Recent progress in astronomical observations and the chemical evolution of the Galaxy have provided new insights into stellar nucleosynthesis, but at the same time have opened up new questions that can only be answered with similar progress in understanding the relevant properties of both rare and stable isotopes through experiments.

I will review the important role that nuclear reactions play in stellar explosions and show some examples of recent measurements that help close that gap. In addition, I will give an outlook of the The ReAccelerator facility (ReA) at Michigan State University along with current and future opportunities at NSL that will address critical questions about the origin of the elements.