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Core Collapse Supernovae and the r-Process: An Amalgam of Current Ideas MATTHEW MEIXNER, GRANT MATHEWS, University of Notre Dame, JAMES WILSON, Lawrence Livermore National Laboratory, KAORI OTSUKI, University of Chicago — After several decades of research the sites for the rapid neutron capture process (i.e. the r-process) have not been unequivocally identified. However, it is generally agreed upon that the most likely candidates are type II supernovae. We will be using a renovated 1D core collapse supernova simulation that utilizes full general relativity and runs out to late times. In this talk we will discuss using this simulation in conjunction with the latest r-process nuclear abundance calculations. We will address the critical role played by the neutrino-energized high entropy bubble in the nucleosynthesis of heavy nuclei.

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