

Erika Gwin's Nevada NASA Space Grant Bio

Erika Gwin is a doctoral student in the Department of Physics at the University of Nevada, Reno. Throughout her academic career, Erika has had the privilege of working under many experts in the fields of X-ray astronomy and nuclear and particle physics. Through participation in several undergraduate research projects focusing on X-ray spectroscopy during her time as an astronomy major at San Diego State University and completion of a Master's degree in physics focusing on systematic error reduction in Jefferson Laboratory's Deuteron experiment, Erika has gained valuable experience in a range of skills concentrated on high-volume data science.

As a research assistant with the San Diego State University Research Foundation under the guide of Dr. Kate Rubin, she reduced SDSS XII/XIV data using custom Python algorithms in order to identify candidates for galaxies on top of quasars (GOTOQs), which can provide a diagnostic toward how gas flows throughout galaxies. During her REU at California State Polytechnic University, Pomona, she worked under Drs. Breanna Binder and Matthew Povich to refine a relationship between star formation rate and high-mass X-ray binary luminosity using data from Chandra, Spitzer, GALAX, and Hubble in order to obtain a more holistic picture of the physical parameters that influence areas of high star formation in regular spiral galaxies.

Presently, she is working with UNR's Dr. Richard Plotkin on research focused on reducing and modeling X-ray data of the (potential) lower-end mass regime of black holes - intermediate mass black holes (IMBHs). Erika's work centers on techniques and processes of data manipulation of XMM-Newton X-ray Observatory data. Following the completion of her Ph.D., she aspires to obtain a position as a research faculty member at a university in order to continue exploring the cosmic puzzle.

Outside of her work in astronomy, Erika enjoys cooking, gaming, and reading sci-fi novels.