Sarah Parker

**Award:** Undergraduate Student Research; $2888.00

**Status:** Junior, Physics

**Advisor:** Adriana Durbala

**Research Topic:** Lenticular Galaxies in Different Environments – Isolated versus Group Environment

**Abstract:** (First Paragraph of Proposal)Isolated lenticular (S0) galaxies are a hot topic of research nowadays. I aim to learn more about these lenticular galaxies through exploring various photometric parameters to identify differences between galaxies in isolated and crowded (groups with 4-10 galaxy members) environments. Using a Fortran code (BUDDA – Bulge Disk Decomposition Analysis; http://www.sc.eso.org/~dgadotti/budda.html ), I will model and derive the parameters that describe the bulge, bar, and the disk of each lenticular galaxy (e.g., shape, light profile, etc.). Then, I will compare the given parameters along with colors and size to see if they are statistically different for the two samples. In doing this, I might be able to get some more insights into the formation and evolution of lenticular galaxies.

**Biography:** Sarah Parker is a physics major, math minor at the University of Wisconsin-Stevens Point. She is the treasurer of her school’s chapter of the Society of Physics Students, as well as an Astronomy Tutor, Planetarium Lecturer at the Allen F. Blocher Planetarium, and Telescope Operator at the Arthur J. Pejsa Observatory. She is doing research with Dr. Adriana Durbala on Elliptical Galaxies in Different Environments-Isolated versus Group Environments. She plans on continuing her studies by attaining a doctorate in astrophysics and hopefully doing research at either NASA or SpaceX.

**Congressional District:** 3

**Congressional Representative:** Ron Kind