

First Year Research Award: **Physics**

Faculty Supervisor: **Dr. Elizabeth George**

Position Title: First Year Research Scholar in Physics/Engineering

Criteria: The Wittenberg University Physics Department will offer a First Year Research Award for the academic year 2024-2025 to an incoming student to work with Professor Elizabeth George. This student will have a demonstrated academic ability and/or research interest in Physics, Engineering, and/or Computer Science.

Expectations: FYRA Scholarship recipients will devote between 6 and 8 hours per week across their first year to FYRA program and their research-related project, according to the FYRA Learning Contract agreed upon by the sponsoring professor and the scholarship recipient. Recipients will also be expected to participate in a regular meeting of FYRA recipients, present their results in an appropriate forum and submit a copy of their presentation to the appropriate university office. FYRA Scholarship recipients will also participate in an assessment of the FYRA program. (The FYRA Scholarship is not part of a student's work study award.)

Research Activity: The First Year Research Award recipient will work with Dr. Elizabeth George, Professor of Physics, as agreed upon in the FYRA Learning Contract. Dr. George's current research involves positronium, which is an artificial "atom" consisting of an electron and a positron (the antiparticle of the electron). The goal of the research is to investigate differences between matter and anti-matter. The techniques used in this research have applications in areas of physics, engineering, computer science, and medical physics (positrons are the basis of PET scans). The FYRA Scholarship recipient will have the opportunity to work closely with Dr. George on various aspects of the research. Depending on student background and interest, this could involve designing, constructing, and testing equipment; writing and using computer code to analyze and visualize data; and/or developing and running computer simulations of the experiment. Students will be mentored in research practices and will have the opportunity to present their research in a public venue. Recipients should have good quantitative and problem-solving skills, a willingness to learn, and a curiosity about how things work.