First Year Research Award:  

Geology

Faculty Supervisor:  

Professor John Ritter

Position Title: First Year Research Scholar in Geology

Criteria: The Wittenberg University Department of Geology will offer a First Year Research Award for the academic year 2018-2019 to an incoming student to work with Dr. John Ritter. This student will have a demonstrated academic ability and/or research interest in earth science, environmental science, or geology along with the intention of majoring of geology.

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 recipients will assist Dr. John Ritter, Professor of Geology, in a new research initiative associated with detecting change in stream landforms (e.g., changes in stream bank location due to erosion or deposition) to complement and support on-going studies in the department on Buck Creek and Mad River. ‘Structure-from-Motion’ (SfM) is an emerging, low-cost photogrammetric method for high resolution topographic reconstruction. From overlapping images taken from ground and low altitude aerial platforms like balloons or drones, SfM is used to develop 3-D structure; change with repeated aerial surveys can resolve differences on a sub-decimeter scale. The recipient of this award will be expected to help us develop capabilities associated with this new methodology. The recipient of this award will participate in the collection of aerial photographs at various research sites, learn to create topographic reconstructions using SfM modeling software, and analyze topographic reconstructions for change over time using a Geographic Information System (GIS) software. No prior computer experience is necessary but an interest in photography or videography will be beneficial.