

**Performing Data Analysis and Studying Rare-Event Physics at  
Yangtze University in Hubei, China through the PIRE-  
GEMADARC Undergraduate Research Program**

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This summer, the PIRE-GEMADARC collaboration enabled six undergraduate physics majors from three universities to travel to China and participate in a ten-week research program which included raw data acquisition, data analysis, and rare-event physics studies. Rare-event physics experiments require precise background characterization, and due to the collaboration's involvement in this field, the research aspect of the program involved a project measuring the abundance of natural radioisotopes in soil samples from across China. To supplement this research experience, students also attended lectures on various rare-event physics topics such as neutrinoless double beta decay and dark matter searches, as well as relevant experiments. At this seminar, we wish to discuss the research process and its relevance to rare-event physics studies, the lecture material in greater detail, a general overview of studying abroad, and our engagement with the international collaboration.