Made for this film: a fictional practice proposal, never submitted.

Facilities, Equipment and Other Resources

Laboratory. The PI's Biogeochemistry and Sensors Laboratory (about 900 square feet) in the Department of Biological and Agricultural Engineering has a gas chromatograph with electron capture and flame ionization detectors and an autosampler, standard gases, a soldering and electronics bench, a 3D printer for chamber parts, a −80 °C freezer for soil samples, and two field vehicles shared with the department.

Research farm. The Prairie Ridge State University Rice Research Farm provides sixteen leveled and independently irrigated plots of 0.1 ha with inlet flow meters, a weather station, a field laboratory with power, and farm staff for planting, fertilization and harvest at the university's internal rates.

Core facilities. The campus genomics core provides nucleic acid extraction support, qPCR and amplicon sequencing on a fee-for-service basis, and a training program for new users. The College of Education's Office of Assessment will help design the education assessment instruments and analyze the survey data each year at no cost to the project.

Collaborations not included in the budget. Two collaborations are documented by letters of collaboration in the supplementary documents. Teal Slough Farms, a commercial rice and soybean farm of about 1,100 ha, will provide two production fields of about 16 ha each for the farm-scale validation of objective R3 in Years 4 and 5, with access for installing and servicing the nodes and the farm's pumping, yield and labor records for those fields, under a written access agreement. The Harlow Bend School District will help recruit teachers for the summer institute, host the graduate student's classroom visits, and share classroom enrollment counts for the assessment.

Mentoring of the PI. The department's mentoring program for early-career faculty pairs each assistant professor with the department head and a senior colleague, who meet with the faculty member each semester.

Computing. The laboratory's data and code are kept on the university's research storage, which is backed up nightly, and analyzed on the laboratory's workstations and the university's computing cluster.