## Using Photo Novellas to Identify Local Funds of Knowledge and Perceptions of Engineering

Tuesday 3 August 2021 - Parallel Session 1 - 11.30am to 12.30pm (GMT+1) CAMERON - Embedding Learning in Culture

**Rebekah Hammack, Nicholas Lux, Paul Gannon, Brock La Meres** (*Montana State University, USA*)

This session will present findings from the first year of a multiple year USA National Science Foundation funded project focused on utilizing local funds of knowledge to develop placebased engineering-focused curriculum for rural and indigenous children aged 8 to 11 years. The project utilizes professional learning communities (PLCs) consisting of pre- and inservice elementary teachers, instructors from partnering tribal and community colleges, and faculty from a large public research university. The PLCs work together throughout the project with the goal of supporting teachers in the design and implementation of placedbased engineering activities to increase 8 to 11-year- old students' awareness of, interest in, and preparedness to pursue engineering related careers. We use photo novellas as a means for students and their families to document their views about learning, knowledge, and engineering. The photo novellas, along with classroom observation data, are analyzed to identify students' funds of identity and current perceptions of engineering that are then used by PLC members to develop place-based engineering-focused interventions for the students that connect to the educational programming and research happening at the tribal and community colleges and university. The proposed presentation focuses on the development of the photo novella prompts and the data collected by piloting them with undergraduate students and teachers who work in rural and reservation schools in the United States. These data, collected by students and teachers from diverse contexts, are compared and contrasted to explore opportunities to develop educational interventions aimed at fostering inclusive awareness of and interest in engineering-related careers.