

# The Energy Project Summer Research Institute: “PER Camp” in the Pacific Northwest

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## Qualitative research collaborations in real time

*Teams of researcher-videographers gather in Seattle to observe, document, and reflect on the summer professional development courses offered by the Energy Project and develop collaborations based on their observations.*

## Features of instructional context

An innovative professional development course on **energy**, co-taught by SPU faculty, visiting faculty, and K-12 teachers.

### Highly visible learning:

Learners use multiple representations (e.g., embodied learning activities, white boards, small group discussions, large-group consensus building) both for presentation and for idea development

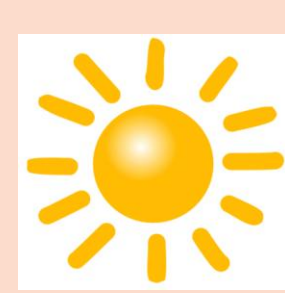
### Research novelty:

Physics topic, learner population, and instructional format are all relatively unexplored areas of PER interest  
(*Well-tested instructional formats may offer less exciting novelty*)

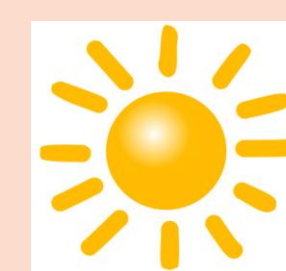
### Rich documentation:

Extensive video and photo documentation of detailed interactions provides material for multiple research perspectives

## A high-intensity summer research experience



**Morning:** Observe ongoing course (video & field notes)



**Afternoon:** identify video episodes of interest, engage in collaborative analysis, develop themes, consult literature, begin research projects



Scholars are **paired** to provide a strong framework for mentoring and collaboration

Scholars present new research questions, methodology, and theory at the **EPSRI Congress**



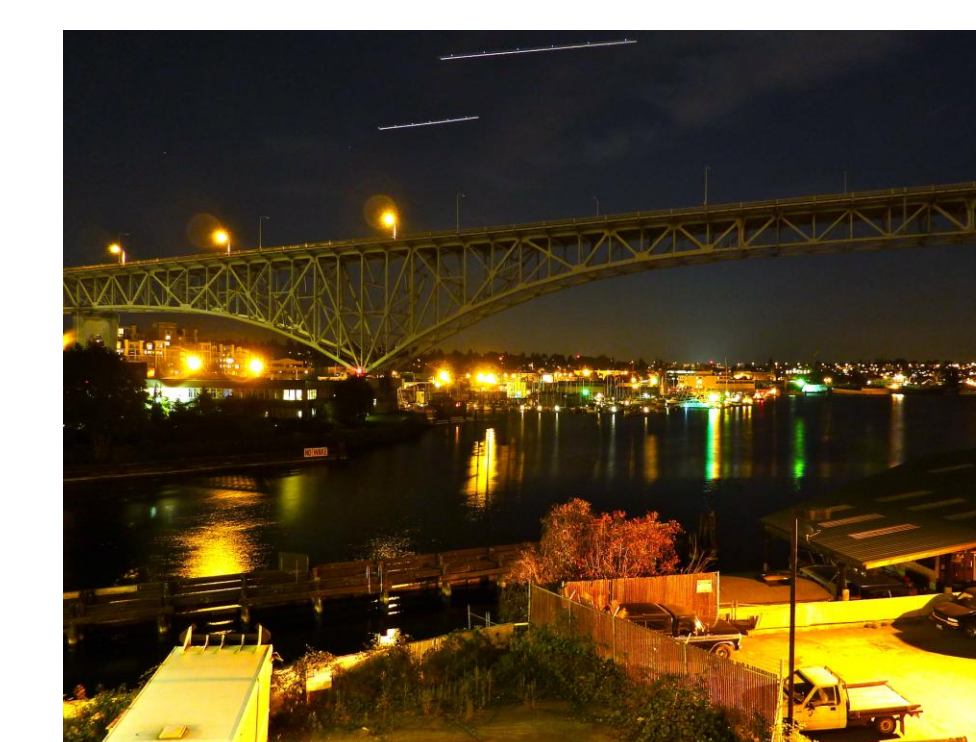
Scholars build **video library** supporting both Energy Project research and long-term collaborations

## 2010 Scholars

*Rachel E. Scherr and Sam McKagan, Directors*  
 Leslie Atkins, California State University – Chico  
 Andrew Boudreaux, Western Washington University  
 Warren Christensen, North Dakota State University  
 Dedra Demaree,, Oregon State University  
 Renee Michelle Goertzen, Florida International Univ  
 Kara Gray, University of Colorado – Boulder  
 Benedikt Harrer, University of Maine – Orono  
 Kayla Hegedus, Whitman College  
 Emma Kahle, Seattle Academy of Arts & Sciences  
 Sandy Martinuk, University of British Columbia  
 Vashti Sawtelle, Florida International University  
 Eleanor Sayre, Wabash College  
 Benjamin Spike, University of Colorado - Boulder

## Features of research program

- + **Shared phenomenon** (PD course) rich enough to support many interests
- + Each scholar is supported to **pursue self-determined interests**
- + Structured time for **self-guided reflection, analysis, and reading**
- + **Scholars of diverse backgrounds** are resources for each other
- + **Dynamic hierarchy:** Scholars position themselves as mentors, apprentices, or co-equal collaborators as needs arise



- ENERGY CONCEPTS
- LEARNING THEORIES
- ENERGY PEDAGOGY
- TEACHER EDUCATION
- FORMATIVE ASSESSMENT
- VIDEO RESEARCH

## A proposal for “PER summer school”:

A yearly Summer Research Institute in the EPSRI format, at a different location every year.

- ❖ Directly serves our maturation as researchers
- ❖ Takes advantage of PER scholars’ diverse interests and levels of experience
- ❖ Offers authentic research value, providing immediate benefit to both hosts and participants as well as long-term benefit for the PER community
- ❖ Grows and changes with the community’s interests and expertise
- ❖ Avoids lecture-readings-homework model of summer school
- ❖ Avoids arguments about topics and instructors

