Engineering instructors and administrators are under increasing pressure to maintain high levels of classroom engagement and student achievement in the face of dwindling resources and increasing class sizes. Although feedback plays a central role in developing these students’ critical thinking skills, students are receiving less detailed and less frequent input on their designs. Peerval is a collaborative online system that leverages the power of peers to lower instructor burden while increasing the frequency of design critiques and fostering active learning by using students to participate in the assessment. Unlike other peer-evaluation systems, Peerval provides a workspace that is at once familiar and easy to use while being equipped with powerful tools for 3D manipulation and annotation right in the browser.

Technology Description
Peerval is a browser-based peer evaluation tool, where students are recruited to provide feedback to their classmates using a rubric devised by the instructors. Unlike other tools, Peerval allows users to interact with 3D design objects right in the browser and then provide comments directly through the same interface. Removing the need for additional software streamlines the critique process, enabling easier classroom implementation.

Advantages
- Easy to use
- Native 3D manipulation and annotation
- Browser-based
- Inexpensive

Applications
- College and postgraduate teaching
- Small to medium design firms
- Design competitions
- MOOC
- K12 education

Stage of Development
Prototype back-end development is complete, and front-end development is still in progress

IP Status
University of Pittsburgh Copyright 2015

Notable Mentions
- NSF Innovation Corps (I-Corps™) program
- Pitt Ventures First Gear program
Dr. Mandala’s research interests include product design and development and engineering education. He was the Entrepreneurial Lead for the I-Corps for Learning program for Peerval 3D and has been instrumental in the design and development of the project.

**Education**
PhD Rehabilitation Science  
University of Pittsburgh

MS Mechanical Engineering  
University of Kansas

BE Mechanical Engineering  
Osmania University, India

**Publications**

Dr. Goldberg is primarily interested in the recruitment and retention of underrepresented groups in STEM education, as well as transitional and vocational support for veterans and their families. To achieve these goals, she leverages tools such as online learning, assistive technology, and experiential curriculum development. In 2016, Dr. Goldberg was named Tech Innovator by *The Chronicle of Higher Education*.

**Education**
PhD Administrative and Policy Studies of Education  
University of Pittsburgh

MEd Higher Education Management  
University of Pittsburgh

BS Psychology, Spanish  
University of Pittsburgh

**Publications**