

## **SARAH B. SIMONS**

### **Research Scientist**

Fluid Machinery Systems Section

Machinery Program

Fluids and Machinery Engineering Department

Mechanical Engineering Division



Ms. Simons is a Research Scientist in the Fluids Machinery Systems Section at Southwest Research Institute. In this position, she has acquired extensive experience in test design, setup, and data analysis. She was a lead investigator for an internal research project for advancing technology and expanding available tools for analyzing flow-induced vibrations. Ms. Simons also has experience performing thermal and acoustic analyses of compressor and pump piping systems as well as solving flow and acoustic problems in various types of piping (steam and gas turbines, blowdown and other facilities). Her flow pulsation research has significantly expanded the organization's flow-induced pulsation analysis business. Ms. Simons led the testing effort to develop mixed compression analysis to determine the effect of pulsating flow on the surge margins of centrifugal compressors. This new analysis not only pushed SwRI to the forefront of technology advancements in compressor station pulsation analysis, but also led to significant project growth for the organization. Ms. Simons is has led projects for equation-of-state property testing, performance testing for wet gas in reciprocating compressor systems, and centrifugal compressor surge-force predictions. She has worked extensively on projects with consortiums, pipelines, and currently leads a project for the Department of Energy. Ms. Simons has presented short courses, tutorials, and technical papers on machinery and piping topics in the oil and gas industry including acoustics, pulsations, and vibrations at various industry conferences



SOUTHWEST RESEARCH INSTITUTE®