Technical Competencies Applied in Experimental Fluid Dynamics

RANDALL TAGG, University of Colorado Denver — The practical design, construction, and operation of fluid dynamics experiments require a broad range of competencies. Three types are instrumental, procedural, and design. Respective examples would be operation of a spectrum analyzer, soft-soldering or brazing flow plumbing, and design of a small wind tunnel. Some competencies, such as the selection and installation of pumping systems, are unique to fluid dynamics and fluids engineering. Others, such as the design and construction of electronic amplifiers or optical imaging systems, overlap with other fields. Thus the identification and development of learning materials and methods for instruction are part of a larger effort to identify competencies needed in active research and technical innovation.