From Art to Physics: A Course on Flow Visualization

JEAN HERTZBERG, University of Colorado, Boulder — For the past four years, a course on flow visualization has been offered to mixed teams of engineering and fine arts photography students at the University of Colorado. The course has significant technical content on flow visualization and photographic techniques, and includes some emphasis on documentation and the interpretation of results, particularly with respect to atmospheric dynamics as revealed by clouds. One unusual aspect of the course is that all students are expected to demonstrate both aesthetic sensibility and scientific discipline. Another is that students are not constrained to study specific phenomena or use specific techniques; instead, creativity is required. A major outcome from this course is a series of stunning images which challenge the mind and delight the eye. In addition, anecdotal evidence suggests that this course has a lasting impact on students’ perception of fluid physics, which can be contrasted to the effect of traditional introductory fluids courses.