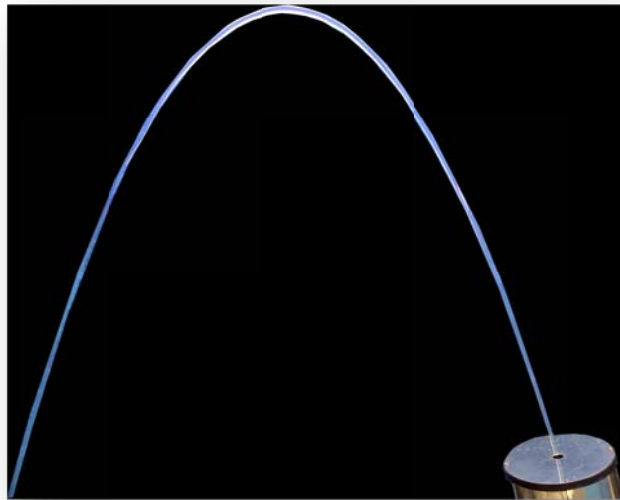


**Background:**

WET Design is the world's premier water feature design firm based in Los Angeles, California. It is known most notably for creating The Dubai Fountain, the world's largest performing fountain, along with the 8-acre Fountains of Bellagio. With in-house manufacturing, engineering, and production, WET has pioneered many of the technologies that have since become common in fountains built around the world. These technologies include laminar flow fountains that appear to be non-moving and can conduct light similar to a fiber optic cable.

**Project:**

In this Capstone project, students will design, build and characterize a high revolution per minute (RPM), or large displacement, impeller-driven pump. This pump shall be capable of meeting the flow requirements for the laminar stream all while maintaining the integrity of the expression. A motor shall be selected to meet the speed and torque requirements of the pump design, along with being capable of either being submersed or in a splash-down environment.

This project is expected to utilize a motor controller to characterize a rudimentary pump curve supplemented with calculations validating the relationship between flow, RPM, and torque of the pump.

Utilizing 3D-printing technologies, machining, and off-the-shelf components, students are encouraged to use their knowledge of fluid mechanics, control systems, and manufacturing technologies to successfully design and build a pump that is required for laminar flow.