

## Undergraduate Research Abstract

### **Testing the Feasibility of a Bladeless Wind Turbine Design**

**By: Chukwuemeka Ibebuike and Hauke Busch**

In this era of increased global warming, the immediate reduction of CO<sub>2</sub> emission is of great importance to the survival of humanity. Wind power can go a long way to offer a better alternative to generate sustainable power without producing any CO<sub>2</sub> gas.

The reductions of CO<sub>2</sub> emissions are of significant importance to humanity. Wind power can offer a better alternative to generate sustainable power without producing CO<sub>2</sub>. Traditional turbines consist of rotating blades while a Bladeless turbine would significantly simplify the design. This would offer possible improvements such as cost savings, reduction of the operating noise level, simplification of the manufacturing process, reduction of maintenance costs, and incorporation of eco-friendly features. Past experiments helped improve (as much as possible) the shape and design of the Bladeless turbine, and printing 3D prototypes of the turbine. Now, our experiments are focused on testing the 3D printed prototypes and evaluating the efficiency and power production of various turbine designs.