

## **Vibro-Wind Power-Alternative Wind Energy Systems for Commercial and Home Buildings**

Principal Investigator: Francis C. Moon (MAE- Nonlinear Dynamics)

C0-Principal Investigators: Hod Lipson (MAE/Com Sci- Computer based  
fabrication)

Charles Williamson ( MAE- Fluid Mechanics)

Wolfgang Sachse (TAM- Sensor systems)

Kevin Pratt (Architecture)

Ephraim Garcia (MAE-Mechatronics)

The focus of this proposal is to investigate the principles and feasibility of 'vibro-wind power' i.e. harvesting energy from the wind as it flows around commercial and residential buildings. In this technology, the wind energy excites thousands of small vibrating elements attached to the structure and the vibrating structures convert the kinetic energy into electrical energy that can be used in the operation of the building needs.

We believe that this technology will compete with solar energy especially since wind energy is available in regions where solar availability is low as in Central New York. The research team brings together several different research expertise in nonlinear vibrations, fluid mechanics, computer fabrication, sensor mechanics, and architectural design.