**Objective**

Design and fabricate a microscale ion wind engine for electrohydrodynamic convection enhancement of microelectronics.

**Impact**

Chip-integrated, ionic wind convection enhancement will:
- Increase heat transfer over local, high-heat-flux regions
- Provide additional cooling capacity without impacting volume of overall cooling system
- Provide flexibility in thermal solutions for portable electronics

**Approach**

Modulate a bulk flow using a field emission-generated microscale ionic wind to increase the heat transfer at a surface.

**Selected Publications**


**Infrared image of a heated plate with bulk flow cooling**

**Demonstration of 25°C drop due to ionic wind**