

Improved Flight Efficiency and Energy Harvesting

Challenge

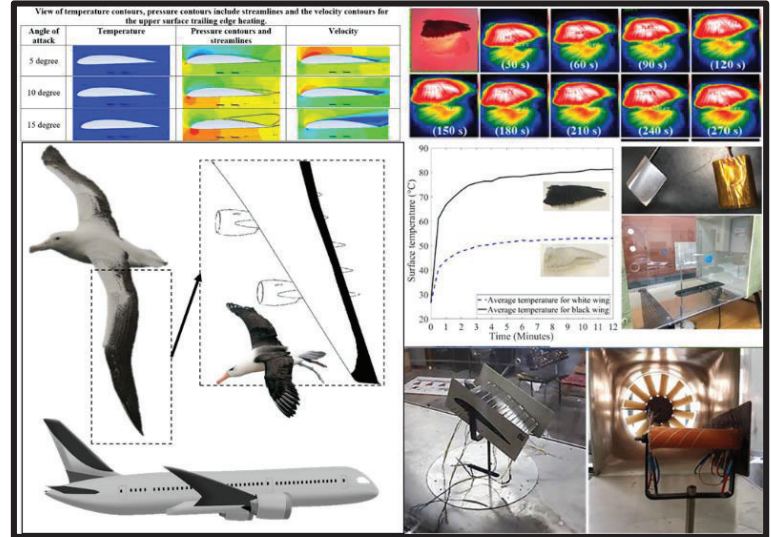
According to the Environmental Protection Agency, in 2018, 28% of greenhouse gas emissions were produced through the transportation industry, and over 2.5% of the global CO₂ emissions came from the aviation industry.

Solution

This innovation uses energy harvesting and energy usage reduction technology for the aviation industry using avian flights and their physical characteristics. This invention explores techniques and traits aimed at increasing lift potential and decreasing generated drag as common energy-saving techniques using different color patterns on the wing's surface via solar radiation.

Benefits and Features

- Increases the aerodynamic efficiency of the aircraft's wings by 20%
- Extends flight endurance and fuel efficiency
- Uses color or heating patterns on the aircraft's aerodynamic surfaces (wings, flaps, rudders and tails)
- Only requires paint/color modifications without expensive modifications such as weight reduction, engine alterations, etc.



Market Potential / Applications

This invention has applications in drones, modern aircrafts, and in the aerospace market.

Developments and Licensing Status

Status: Available

Commercial sponsor sought? Yes

Patent Status

US Patent Pending

Inventors

Brenden Herkenhoff; Mostafa Hassanalian; Ahmed Aboelezz

Keywords: aerospace, thermal radiation, green aircraft, energy-saving aircraft, aerostructure, avionics, color pattern wings, temperature-dependent flight, flight efficiency

To inquire about this technology call (575) 835-5390 or email us at OIC@nmt.edu

<https://www.nmt.edu/oic/>