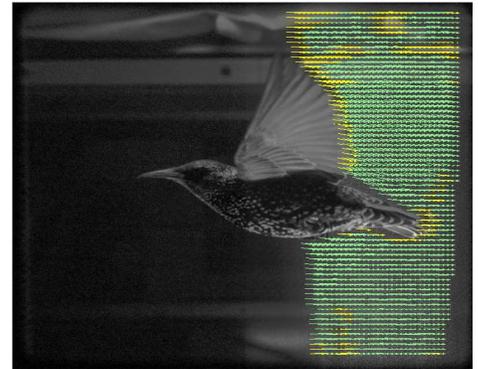


# Advanced Facility for Avian Research

Until now, the study of birds in flight has been particularly challenging for researchers since their mobile subjects tend to fly away; however, information on all aspects of high-altitude migratory flight can now be obtained at the *Advanced Facility for Avian Research (AFAR)*, a \$9-million research facility at Western University.

## What is the Advanced Facility for Avian Research?

- Unique, specialized centre providing infrastructure and research expertise that facilitates interdisciplinary studies of bird behaviour, physiology and neurobiology
- Unifies many experts with diverse backgrounds, promotes interdisciplinary collaboration, and integrates research projects, experts and groups within and beyond the University
- Enhances the strengths of an established group of distinguished researchers at Western working in the field of avian biology



*AFAR provides comprehensive facilities for the study of bird behaviour, physiology and neurobiology, including the world's first hypobaric bird wind tunnel.*

## Research

- Positions Western's scientists at the forefront of avian biology research, and attracts great interest from scientists around the world
- As with the diversity of researchers who are part of AFAR, research supported by the facility is equally diverse
- One main research theme is the study of all aspects of the avian annual cycle, from reproduction and moult to migration and wintering
- Helps show how birds adapt to their environment, and how they alter their reproductive and migratory strategies in response to such stressors as climate change, habitat disturbance and disease
- Enables scientists to obtain detailed understandings of how environmental change affects avian neural and physiological systems – an objective that has, until now, proved challenging

## Wind Tunnel

- Home to the world's first hypobaric bird wind tunnel, a multi-million dollar structure that gives its researchers precise control over internal conditions – such as moisture, temperature and pressure – enabling them to simulate climates and altitudes experienced by birds as they fly
- Permits a new level of study of the biological parameters and survival of migrating birds
- Allows scientists to elucidate the physiological effects and aerodynamics of long distance, high-altitude migration

## Facilities

- 13,000-square-foot building, complete with some of the world's most comprehensive avian analytical equipment and experimental facilities
- Furnished with indoor and outdoor holding rooms, outdoor aviaries, wet laboratories, cold rooms and acoustic isolation chambers
- Features a digital behavioural observation system and high-speed stereoscopic particle image velocimetry, as well as the one-of-a-kind steel flight chamber

## Applied Outcomes

- Birds are among the best model systems with which to study the neurobiology of vocal learning and adult neurogenesis
- Avian migration is an important gauge of climate and environmental changes and, because birds travel so freely, they are key vectors in the spread of parasites and disease, which has important implications for human and ecosystem health
- The study of birds has made significant contributions to the life sciences, ecology and evolution, and birds are important biomarkers of population biology and biological and environmental conservation
- In a broader context, the type of research undertaken at AFAR also promises to lead to further discoveries in biomedicine and agriculture

**For more information, please visit:** [www.birds.uwo.ca](http://www.birds.uwo.ca)



**Western  
Research**