

Snapshot

AEROSPACE
ENGINEERING



Vertical Lift Research Center of Excellence

**1 of only 3
in the U.S.**

dedicated to
advancing vertical
lift research and
training of the
next generation
of vertical lift
researchers.



Our Mission

Our mission in the Department of Aerospace Engineering is three-fold: education of the next generation of aerospace engineers and researchers for professional practice and leadership; research and development of next-generation technologies and systems; and service to Penn State, the profession, and society.

\$10.6
MILLION

**2022
Research
Expenditures**

*Includes externally and internally funded projects, subcontracts, and capital improvements.

28

Faculty

Enrollment

482

Undergraduate
(third- and fourth-year students)

53

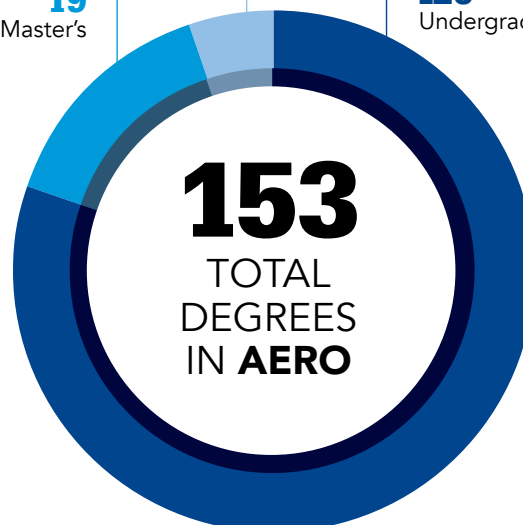
Master's

72

Ph.D.

Degrees Awarded [2022-23]

19 Master's
8 Ph.D.
126 Undergraduate



13

Fellows

American Institute
of Aeronautics and
Astronautics: five
Fellows, ten Associate
Fellows

American
Astronautical Society:
three Fellows



10

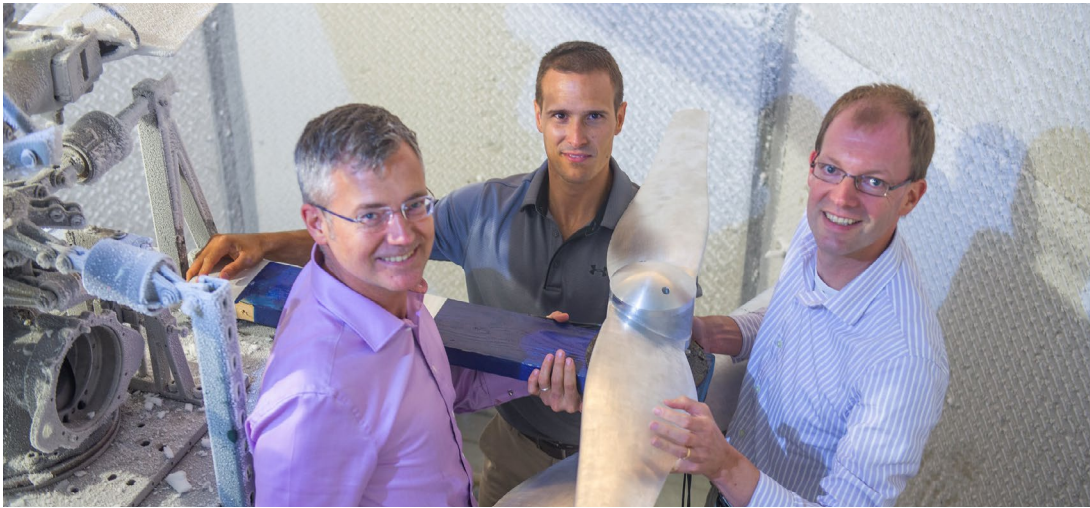
**Associate
Fellows**

AHS International:
one Technical Fellow

American Physical
Society: two Fellows

American Society
of Mechanical
Engineers: one
Fellow

Human Factors and
Ergonomics Society:
one Fellow



Research Labs and Facilities

- Adverse Environment Rotor Test Stand Facility
- Aeroacoustics Facilities
- Air Vehicle Intelligence and Autonomy Lab
- Control and Analysis of Stochastic Systems Lab
- High-Performance Computing Cluster Facility
- Indoor Flight Research Lab
- Robot Ethics and Aerial Vehicles Lab
- Rotorcraft Flight Simulator Facilities
- Sailplane Lab
- Space Propulsion Lab
- Structures Labs
- Student Space Programs Lab
- Turbomachinery Aero-Heat Transfer Lab
- Unmanned Aircraft Systems Research Lab
- Water Channel/Water Tunnel
- Wind Tunnels
- Wind Turbine Field Test Facility

Research Areas

- Aeroacoustics
- Air-Breathing Propulsion
- Astrodynamics
- Autonomous Flight and UAVs
- Computational and Experimental Fluid Dynamics
- Flight Science
- Human-Machine Integration
- Multifunctional Structures and Nanomaterials
- Rotorcraft Engineering
- Space Propulsion and Plasmas
- Structural Dynamics and Adaptive Structures
- Vehicle Dynamics and Control
- Vehicle Systems Engineering
- Wind Energy



Student Organizations

Students can join numerous engineering organizations, many of which are dedicated to outreach and service.

- Aerospace Graduate Student Association
- Vertical Flight Society
- American Institute of Aeronautics and Astronautics
- Astrodynamics Research Group of Penn State
- LionTech Rocket Labs
- Penn State Lunar Lion
- Sigma Gamma Tau
- Student Space Programs Laboratory
- Tau Beta Pi
- Wind Energy Club



Degrees Offered

Bachelor of Science
in Aerospace
Engineering (B.S.)

Undergraduate Minor
in Information Sciences
and Technology for
Aerospace Engineering

Master of Engineering
in Aerospace
Engineering (M.Eng.)

Master of Science
in Aerospace
Engineering (M.S.)

Doctor of Philosophy
in Aerospace
Engineering (Ph.D.)

Graduate Minor in
Computational Science



Centers and Institutes

Applied Research Lab

Center for Acoustics
and Vibration

Center for Combustion
Power and Propulsion

Composites Manufacturing
Technology Center

Engineering Energy &
Environmental Institute

Institute for CyberScience

Institute of Energy
and the Environment

Materials Research
Institute

Rock Ethics Institute

Sustainability Institute

Vertical Lift Research
Center of Excellence

