

Maximize your research and technology development.

Collaborate with Ohio's renowned institutions of higher learning to create extraordinary aeropropulsion and power opportunities.

The Air Force Institute of Technology

Located at Wright-Patterson AFB, Ohio, Air Force Institute of Technology is the U.S. Air Force's graduate school and its premier professional continuing education institution. A component of Air University, the Institute provides responsive graduate and professional continuing education, research and consulting programs to keep the U.S. Air Force and U.S. Department of Defense on the leading edge of technology and management.

AFIT's Department of Aeronautics and Astronautics has approximately 200 MS and Ph.D. students in four Master's and four Ph.D. programs. The department's 14 research labs include world-class combustion and materials labs. The unique mix of military students and faculty, combined with low overhead costs at AFIT enable the department to manage its \$1.5 million annual research funding to produce results, comparable to approximately \$5-8 million per year at other schools. www.afit.edu

Case Western Reserve University

The Aerospace Engineering major at Case Western Reserve University has been developed to address the needs of those students seeking career opportunities in the highly specialized and advancing aerospace industries.

Scientific knowledge is being developed each day for programs to develop reusable launch vehicles (RLV), the International Space Station (ISS), High Speed Transport (HST), Human Exploration and Development of Space (HEDS), and micro-electro-mechanical sensors and control systems for advanced flight. New methods of analysis and design for structural, fluid and thermodynamic applications are required to meet these challenges. www.mae.case.edu

Cleveland State University

The Mechanical Engineering Program at Cleveland State University is broad and comprehensive, offering career opportunities in aerospace, aeronautics, automotive, machine design, management, manufacturing, power generation, product design, robotics, and technical sales.

Fully accredited undergraduate as well as graduate programs are offered in the disciplines of civil/environmental, chemical/biomedical, industrial/ manufacturing and electrical/ computer engineering, as well as an MS program in software engineering. www.csuohio.edu/engineering

Ohio University

Ohio University is active in aerospace and aeropropulsion research through programs sponsored by NASA, the U.S. Department of Energy and the U.S. Air Force in collaboration with Case Western Reserve University, Rolls Royce, and many others. In the area of novel power systems, Ohio

University is engaged in aero-based fuel cell deployment, specifically focusing on development of anodes that can use reformed jet propellant for aircraft deployment. In the area of fuel development, Ohio University has active programs in coal gasification and carbon recycling to support the Air Force's effort to create synthetic jet propellant using domestic coal as a feedstock for Fischer-Tropsch synthesis. These efforts not only help create more efficient and secure sources of energy for aero-based deployment, but the work could also create a reduced carbon footprint for aerospace applications, which could help create a better environment for all. www.ohio.edu/engineering

The Ohio State University

The Ohio State University (OSU) is recognized worldwide as a leading university in the field of propulsion and power. OSU incorporates unique Gas Turbine and Aero Laboratories with a cadre of outstanding faculty in all propulsion-related disciplines. The university works closely with the propulsion industry in the state, GE Aviation, Timken, BF Goodrich, Parker Hannifin, as well as Boeing, Lockheed and Honeywell. Common research programs are in progress with the NASA Glenn Research Center and the Air Force Research Laboratory. The Ohio State University has received more than \$50 million in propulsion research funds from the industry and the federal government over the last three years. Faculty expertise spans the field of propulsion technology from systems analysis, computational fluid dynamics, aeromechanics, heat transfer, gas turbine cooling, turbine aerodynamics, rotating parts life management, combustion systems, acoustics, fuels, thermal control, engine control and materials. It is a vibrant effort targeted at developing and optimizing new concepts aimed at reducing fuel consumption, pollution and noise for advanced commercial and military propulsion systems for the future. www.eng.ohio-state.edu/departments/aerospace.php

University of Akron

Research at The University of Akron (UA) contributes to our nation's aeropropulsion and power capabilities, as well as those of our industrial partners. The Gas Turbine Research and Testing Facility supports research and advanced technology development focused on aerospace and propulsion applications, including expertise in materials development and characterization, sensor systems for monitoring, accelerated testing, and component technologies such as bearings and seals. Additional research at UA is focused on advanced energy including fuel cells, hybrid power systems, and combustion science, together with fundamental research areas including nanotechnology, computational science, and advanced system modeling and simulation. Our faculty attract support from federal agencies such as NASA, Department of Defense, Department of

Energy, and National Science Foundation, as well as numerous industrial collaborators including The Timken Company, Parker Hannifin, GE Aviation, and Lockheed Martin. The graduate research program at UA equips students with the maturity and ability to assume leadership roles in aeropropulsion technology, while our undergraduate programs consistently produce graduates that enter the workforce ready to enhance and expand their employer's competitiveness. The ongoing research and education at UA can maximize opportunities for research and technology development. www.uakron.edu

University of Cincinnati

Is home to the Ohio Center for Intelligent Propulsion System. With its world-class laboratory facilities, UC is a leader in Aeropropulsion research and proprietary technology development for aeroacoustics, combustion and fuel injection diagnostics and control, nondestructive evaluation, turbomachinery erosion, turbine cooling, composite materials and coatings; and large-scale computational facilities for turbomachinery CFD, propulsion integration, and structural dynamics. State partners include GE Aviation, Parker Hannifin, Goodrich, and both Air Force Research Laboratory and NASA Glenn Research Laboratory. Cooperative education is mandatory for all engineering students. The Department of Aerospace Engineering is the second oldest U.S. aeronautical engineering program, established in 1929 in consultation with aeropropulsion pioneer Orville Wright. Each year, more than 230 undergraduate and 260 graduate students receive degrees in aerospace, chemical, computer, electrical, mechanical, and materials engineering, and computer science. College research grants are in excess of \$46 million, including more than \$32 million in Aeropropulsion and power. www.ase.uc.edu

University of Dayton

The University of Dayton Research Institute (UDRI) is a national leader in scientific and engineering research, serving government and industry customers. Established as the research arm of the University of Dayton in 1956, UDRI has performed more than \$1.5 billion in sponsored research and ranks second among all universities in the United States for materials research. Aeropropulsion is UDRI's longest-standing area of specialized research, with strengths in advanced sensor systems, high performance materials, fuels and combustion, aging systems, foreign object damage, nondestructive inspection, structures evaluation, testing and design, thermal management and more. UDRI houses the nation's largest indoor impact-physics lab and is equipped to test a wide range of projectiles – from hail to eight-pound geese – and is now equipped to fire small projectiles at orbital speeds. UDRI's von Ohain Fuels and Combustion Center is working with the Air Force Research Laboratory to open the nation's first research center designed to create viable, efficient jet fuel from coal and biomass. UDRI researchers have designed modifications to aircraft canopies for every model of high-performance jet fighter and bomber currently flying to improve their resistance to bird strikes. UDRI provides hands-on research opportunities to more than 250 undergraduate and graduate science and engineering students each year. www.udri.udayton.edu

University of Toledo

The University of Toledo (UT) presently has the third largest public university operating budget in the state of Ohio. The College of Engineering at UT has about 2,300 undergraduate and 370 graduate students pursuing BS, MS and Ph.D. degrees in six departments. Aeropropulsion research in the College of Engineering focuses on computational aeroacoustics, aircraft deicing, battery management systems, bearings and seals, computational fluid dynamics, composite materials, fatigue and fracture, coatings, system reliability, sensors, system modeling and simulation. Research at the College's Small Turbine Institute focuses on development and assessment of new concepts and technologies for advanced small gas turbine engines in partnership with industries and federal agencies. The College's faculty work with NASA Glenn Research Center, Naval Oceanographic Office and Air Force Research Laboratory, as well as industry, including Goodrich, Lockheed Martin, Teledyne Turbine Engines, and Orbital Research. Government agencies and industries provided \$32 million to support college research activities in the past three years. www.utoledo.edu

Youngstown State University

At Youngstown State University, the engineering departments reside within the newly formed College of Science, Technology, Engineering, and Mathematics. This arrangement facilitates an interdisciplinary approach to research, including that which benefits the aerospace industry. Along with the Center for Excellence in Materials Research, the College offers expertise in computational fluid dynamics, multi-physics finite element analysis, solid-fluid interaction analysis, and fuel cell research. The College has attracted support from state and federal agencies such as the Wright program, NASA, DoD, DoE, and NSF as well as numerous industrial collaborators. The undergraduate programs equip graduates with the skills to assume productive roles in the workforce that ultimately contribute to the employer's competitiveness while our graduate programs have the flexibility to produce industry leaders or further ready the students for Ph.D. level research. <http://stem.ysu.edu/>

Wright State University

The College of Engineering and Computer Science faculty and students at Wright State University actively work on aeronautics research in collaboration with the Air Force Research Laboratory at Wright-Patterson Air Force Base and the NASA Glenn Research Center. The proximity of the Air Force Base facilities affords the students unique learning opportunities in high-tech engineering topics, including computational fluid dynamics, hypersonics, turbomachinery, multi-disciplinary design, uncertainty modeling, and structural health monitoring. The College conducts sponsored projects totaling approximately \$8 million per year and boasts 150 Ph.D. students in engineering and computer science. www.wright.edu

To learn more about Ohio's many excellent institutions of higher learning, please call (877) 466-4551 or visit us at www.ohiomeansbusiness.com.

