

OHIO STATE UNIVERSITY – INSTITUTE OF AVIATION UNDERGRADUATE AND PHD STUDENT EXCHANGE

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1. INTRODUCTION

For years the Ohio State University has been engaged in international academic and research activities. The Institute of Aviation decided to join the Ohio State University in this endeavor.

The Institute of Aviation strongly believes that in order to provide world class research and laboratory services requires world class competitiveness, which is composed of employee knowledge, accredited laboratories, certified processes, modern organization of the workplace.

The Ohio State University, and in particular the Propulsion and Power Center, for years, has educated young engineers for the United States aerospace industries, and graduates immediately find employment with industry leaders like General Electric, Pratt & Whitney Aircraft, the Boeing Company, and others. The Institute of Aviation, in Warsaw, became also an important GE business partner with the creation in 2000 of the Engineering Design Center. This position achieved by the Institute of Aviation brought OSU and the Institute to closer cooperation, which started with the jointly organized Polish American Conference on Science and Technology held in 2012 in Columbus, Ohio and in 2013 in Washington, D.C.

The Institute of Aviation has a long tradition in organizing Polish-American Conferences on Science and Technology. The first conference was held in Washington, D.C. in March 2002, organized together with the Center for Strategic and International Studies (CSIS), a famous Washington based think tank.

This year's 15th jubilee conference will take place in Columbus, Ohio, on May 28-29 2015.

2. SIGNING OF THE TRILATERAL AGREEMENT

The signing of the trilateral agreement between The Ohio State University (OSU), the Institute of Aviation (IoA) and the Faculty of Power and Aeronautical Engineering of the Warsaw Technical University (WTU-PAE) was a natural conclusion of developing business and scientific collaboration whose summary chronology is presented below.

Table 1. Development of collaboration in business and science

	Year	Description
1.	2000	Creation of the Engineering Design Center with the signing of a public-private agreement between General Electric and the Institute of Aviation.
2.	2002	1 st Polish-American Science and Technology Conference, organized with the Center for Strategic and International Studies in Washington, D.C.
3.	2012	Signing of the trilateral agreement between OSU – IoA- WTU-PAE.
4.	2013	The first group of undergraduate students from Ohio State University begins a semester of study at the Institute of Aviation.
5.	2015	The first group of PhD students from the Institute of Aviation begins a semester of study at Ohio State University.

The creation of the Engineering Design Center (EDC) was, and still is today, related to the vigorous implementation of employee training programs. These training programs at EDC changed the reality at the Institute.

Annual Polish American Science and Technology conferences are bringing together participants from Polish and US government, business and academia.

Greater collaboration with The Ohio State University is the next step in scientific cooperation.



Figure 1. Publication from the 14th Polish American Conference on Science and Technology



Figure 2. Signing of the trilateral agreement between OSU – IoA- WTU-PAE at the U.S.-Poland Business Summit in 2012

(From left) Lee A. Feinstein – U.S. Ambassador to Poland; Michael C. Camuñez – Assistant Secretary of Commerce for Market Access and Compliance; Francisco Sánchez – Under Secretary for International Trade at the U.S. Department of Commerce; Rebecca M. Blank – Acting U.S. Secretary of Commerce; prof. Władysław Wieczorek – Vice Chancellor for Student Affairs, Warsaw University of Technology; Witold Wiśniowski – General Director of the Institute of Aviation; Waldemar Pawlak – Deputy Prime Minister, Minister of Economy; Ilona Antoniszyn-Klik – Undersecretary of State, Ministry of Economy of Poland.

3. INTERNSHIP OF THE FIRST GROUP OF AMERICAN STUDENTS FROM OHIO STATE UNIVERSITY AT THE INSTITUTE OF AVIATION

In 2013 the students from OSU started work as direct executors of projects, alongside their Polish colleagues. In this way the first goal of the internship and common work on research projects was attained.

The goals of student exchanges:

- participation of OSU students in IoA research projects,
- evaluation of IoA teams on their capability to collaborate on future projects,
- getting to know one another and building friendships for the future.

Students from OSU came to Warsaw in two groups: January 2 – April 2, 2014 and September 11 – December 9, 2014.

The students participated in the following projects:

- “Turbine engine with rotating detonating combustion chamber”,
- Demonstrator of “Butterfly Wing” type wing flap mechanization using magnetorheological material,
- PULCHER – Pulsed Chemical Rocket with Green High Performance Propellants,
- MOSUPS – Dynamically similar model of aircraft with joined wing configuration.



Figure 3. The first group of OSU students at a meeting with the US Ambassador to Poland, Mr. Stephen D. Mull



Figure 4. The second group of OSU students at a meeting with Professor Mike Benzakein in Warsaw

An opinion of Dr. Zbigniew Pagowski, who supervised the OSU students during their internships:

"We hosted two groups of dynamic young people who executed their assigned tasks with enthusiasm and overcame many difficulties. Beyond their work at the Institute of Aviation, they were eager to discover Poland and its culture, traveled across the country and one group attended a model airplane building competition in the mountains of southern Poland where they even got to do some flying in real gliders.

I am confident that they left us with a very different view of Poland from the one they came with."



Figure 5. The Institute of Aviation dedicated and adapted a small building on campus to house OSU students during their stay in Warsaw. The building is named “Ohio State University Student House”

Sending three PhD students from the Institute of Aviation for one semester of PhD studies at the Ohio State University was also an important step towards opening a way for double PhD diplomas from OSU and IoA. In the opinion of the Head of the Scientific Council of the Institute of Aviation, Professor Roman Domański, sending and receiving students opens a real possibility for common research and real future cooperation.



Figure 6. Meeting of three PhD students from the Institute of Aviation with Professor Mike Benzakein and General Director Witold Wiśniowski, before their semester of PhD studies at OSU

4. POLISH-AMERICAN INTERNS' CLUB

The proposal to create the Polish-American Interns' Club is an effect of discussions between intern supervisors and the OSU students. The Club is a virtual organization. Its goal is to maintain contact of the students with the Institute of Aviation. According to the Club organizer

and president, Mr. Thomas Osypowicz (tomasz.osypowicz@ilot.edu.pl), this type of contact gives a possibility of maintaining and developing relationships formed during the internships, for common benefit. The Club members will have access to generally attainable but also specifically prepared for them information and news items.

One element of building cooperation is the Institute's offer to publish selected articles written by interns, PhD students, or even OSU scientists in the Institute of Aviation's scientific quarterly called *Transactions of the Institute of Aviation* (figure 7).

Professor Mike Benzakein is an active member of this publication's Scientific Board.



Figure 7. Cover of the scientific quarterly Transactions of the Institute of Aviation

5. CONCLUSIONS

Cooperation of the Ohio State University and the Institute of Aviation, including undergraduate and PhD student exchanges, is growing to both sides' satisfaction. Thanks to this collaboration, the Institute of Aviation is able to reach and maintain a strong position on the world research market, and undergraduate and PhD students from the United States can discover Polish accomplishments and build new contacts for future cooperation.