

# 18th Polish-American Conference on Science and Technology 100 years of Polish Science and Industry Cooperation

## Conference Agenda

**Conference Chairman: Professor Roman Domański - Institute of Aviation**

Institute of Aviation

American participants

Polish participants

GE

### Thursday May 24

08:00 08:30 Registration and buffet breakfast

### Opening Session

08:30 08:35 5 min

Welcome Address  
Director Paweł Stężycki & Professor Mike Benzakein

08:35 08:45 10 min

Official Institute of Aviation Film

08:45 08:50 5 min

Overview of the Polish ILX-34 passenger airplane  
Director Paweł Stężycki - Institute of Aviation

08:50 09:15 25 min

VIP Welcome Remarks

09:15 09:25 10 min

Official signing of a Letter of Intent for the construction of the Polish ILX-34 9 passenger airplane

09:25 09:30 5 min

Presentation of signatories with commemorative medals  
Official awarding of PhD Diplomas to Institute of Aviation graduates

09:30 10:00 Break

### Aerospace Technologies (advances in Air, Space, and UAV technology) - Part I

**Moderated by Professor Piotr Wolański and Professor Mike Benzakein**

10:00 10:20 Slot 1.1

Challenges and opportunities of power electronics for future aircrafts  
Professor Jin Wang - OSU

10:20 10:40 Slot 1.2

Research on Application of Continuously Rotating Detonation to Rocket Engine  
Professor Piotr Wolański - Institute of Aviation  
Michał Kawalec - Institute of Aviation

10:40 11:00 Slot 1.3

Small UAS rotor wakes in hover and gusting crosswind conditions  
Professor Jim Gregory - OSU

11:00 11:20 Slot 1.4

Velocity control on spacecraft utilizing linear accelerometers for closed loop control  
Alan Chmiel - ZIN Technologies

11:20 11:40 Slot 1.5

Digitization of airspace, autonomy and automation of processes in the airspace as: a new environment for the development of unmanned technologies and the future of aviation. Development strategy and regulatory strategy.  
Małgorzata Darowska

11:40 12:00 Slot 1.6

Drones in Poland – the potential of unmanned technologies.  
Michał Witkowski - Acting Vice President of the Civil Aviation Authority for Aviation Standards (ULC)

12:00 13:20 Lunch

13:20 14:20 **Expert Panel moderated by Professor Roman Domański**  
**"Valley of Death" - Challenges in the commercialization of research and development results.**

1	Prof. Roman Domański (ILOT)
2	Marian Lubieniecki (GE)
3	Prof. Mike Benzakein (OSU)
4	Prof. Mark Turner (UofC)
5	Prof. Tadeusz Uhl (AGH)
6	Alan Chmiel (ZIN Technologies)

14:20 14:40 Break

## **Aerospace Technologies (advances in Air, Space, and UAV technology) - Part II**

**Moderated by Professor Piotr Wolański and Professor Mike Benzakein**

14:40	15:00	Slot 1.7	Institute of Aviation team in the NIAS flight testing campaign of the UTM System Professor Cezary Galiński - Institute of Aviation Krzysztof Łowczycki - Institute of Aviation
15:00	15:20	Slot 1.8	Composite technologies development for ILX-34 aircraft - wing demonstrator Konrad Kozaczuk - Institute of Aviation
15:20	15:40	Slot 1.9	Design, development, and flight testing of a beyond line-of-sight UAS Matthew McCrink - Research Scientist - OSU
15:40	16:00	Slot 1.10	Zin Technologies Developments in Composites, Separation, and Acoustics as they apply to Aerospace Bart Zalewski - ZIN Technologies

## **Friday May 25**

08:30 09:00 Buffet breakfast, registration

## **Defense and Security**

**Moderated by Professor Cezary Szczepański and Director Leszek Loroch**

09:00	09:20	Slot 2.1	Unmanned Aerial Vehicles Tomasz Gugafa - UAS Programs Director - Polish Armaments Group
09:20	09:40	Slot 2.2	Research and Development of Rocket Propulsion for the Space Probe Miroslaw Kowalski - Air Force Institute of Technology - ITWL Antoni Jankowski - Institute of Aviation
09:40	10:00	Slot 2.3	Rocket technology development at Institute of Aviation Adam Okniński - Institute of Aviation
10:00	10:20	Slot 2.4	New unmanned aerial targets - Preliminary study and conceptual design Dariusz Rykaczewski - Air Force Institute of Technology - ITWL
10:20	10:40	Break	

## Developing trends in New Technologies

Moderated by Professor Mark Turner and Director Sylwester Wyka

10:40	11:00	Slot 2.5	Smart mobility in smart cities – are we ready for autonomous driving? Professor Dorota A. Grejner-Brzezińska - OSU
11:00	11:20	Slot 2.6	Hardware protection against laser impulses using materials with complex structure Marcin Lenarczyk - Institute of Aviation
11:20	11:40	Slot 2.7	Digital and robotics technology development in energy sector based on gas turbines application Michał Matecki - General Electric Company Polska
11:40	12:00	Slot 2.8	Advances in Turbomachinery Design and Optimization Professor Mark Turner - University of Cincinnati
12:00	13:00	Lunch	

## New manufacturing and materials (Composites, Additive Manufacturing, etc.)

Moderated by Professor Maciej Bossak and Director Konrad Kozaczuk

13:00	13:20	Slot 2.9	Automated fiber placement technology application for sandwich panels manufacturing Wojciech Krauze - Institute of Aviation
13:20	13:40	Slot 2.10	Health monitoring of composite aerial structures Krzysztof Dragan - Air Force Institute of Technology - ITWL
13:40	14:00	Slot 2.11	High strength thermoplastic composites press forming technology on the example of wing rib Radosław Guzikowski - Institute of Aviation
14:00	14:20	Slot 2.12	Synthesis and Application of Modern Energetic Materials Rafał Bogusz, Katarzyna Gańczyk-Specjalska, Rafał Lewczuk - Institute of Industrial Organic Chemistry
14:20	14:40	Slot 2.13	Silicon carbide materials for aviation and ballistic applications Krzysztof Perkowski - Institute of Ceramics and Building Materials
14:40	15:00	Slot 2.14	Quasi-static and dynamic test of energy absorbing 3D printed structures Rafał Jakubowski, Sebastian Szałkowski, Professor Adam Wiśniewski - Institute of Aviation
15:00		Closing remarks	