

**PROGRAM**  
**14 CONFERENCE „FATIGUE OF AIRCRAFT STRUCTURES”**  
**14 – 15 JANUARY 2021**

**THURSDAY, 14 JANUARY 2021**

10:00 Welcome and Conference Opening

10:15 – 11:15 Session 1

**Helicopter Test Specimen Fixture for the Full-Scale Fatigue Test**

P. Reymers, W. Zieliński, Ł. Piątkowski, T. Cichocki, A. Leśniczak, M. Kurdelski, K. Dragan  
- Air Force Institute of Technology, Warsaw, Poland

**Application of Lock-in Thermography in Bonded Repair of Aluminium Structures**

Piotr Synaszko, Paulina Kamińska, Krzysztof Dragan, Michał Sałaciński - Air Force  
Institute of Technology, Warsaw, Poland

**NDT PT Method - Capabilities of Penetrant Inspection in Aviation**

Patryk Ciężak, Piotr Synaszko, Krzysztof Dragan - Air Force Institute of Technology,  
Warsaw, Poland

11:15 – 11:45 Break

11:45 – 12:45 Session 2

**Digital Twin for Fatigue Analysis**

Amaury CHABOD - HBK France PRENSCIA

**Design of Production Process for PZT Ceramic Sensors – Theory and Practice**

Klaudia Olkowicz, Dawid Kapica, Bolesław Giemza, Michał Dziendzikowski - Air Force  
Institute of Technology, Warsaw, Poland

12:45 – 13:15 Break

13:15 – 14:15 Session 3

**Laser Shearography NDT: Technological advantages and applications in the  
Aerospace industry**

Liam Crosbie, Dantec Dynamics GmbH, Germany

**Utilising Digital Radiography in an Approach to Evaluate Mig-29 Vertical Stabilizers’  
Technical Condition**

Rafał Luziński, Adam Rdzanek, Piotr Synaszko, Krzysztof Dragan - Air Force Institute of  
Technology, Warsaw, Poland

14:15 – 14:30 Break

14:30 – 15:30 Session 4

**Progress in the Interpretation of D-Sight Aircraft Inspection System Data Using Machine Learning**

Jerzy Komorowski – JPWK Aerospace, Ottawa, Ontario, Canada

**Evolutions in Electrodynamic Test Machines: High Loads and High Frequencies**

Marco Salvador - Step Engineering Srl, Resana, Italy

**FRIDAY, 15 JANUARY 2021**

10:15 – 11:15 Session 5

**Load Spectrum Extrapolation of Unmanned Aircraft Photogrammetry Missions**

Mirosław Rodzewicz , Dominik Głowacki - Institute of Aeronautics and Applied Mechanics

Warsaw University of Technology, Warsaw, Poland

**Helicopter Main Rotor Blade Modal Analysis using Digital Image Correlation (DIC)**

Dominik Głowacki - Institute of Aeronautics and Applied Mechanics

Warsaw University of Technology, Warsaw, Poland

Błażej Morawski - BM Aviation Błażej Morawski

**Lift Force Measurement in Landing Gears Dynamic Tests**

Zbigniew Skorupka - Lukaszewicz Research Network – Institute of Aviation, Warsaw, Poland

11:15 – 11:45 Break

11:45 – 12:45 Session 6

**Experimental and numerical stress state assessment in refill friction stir welding joints**

Elżbieta Gadalińska, Grzegorz Moneta - Lukaszewicz Research Network – Institute of Aviation, Warsaw, Poland

Andrzej Kubit, Tomasz Trzepieciński - Rzeszów University of Technology, Rzeszów, Poland

**Selected Problems of Design and Modelling of SLM Parts**

Grzegorz Moneta, Elżbieta Gadalińska, Michał Fedasz, Marta Witt – Lukaszewicz Research Network – Institute of Aviation, Warsaw, Poland

12:45 – 13:15 Break

13:15 – 14:15 Session 7

**Mechanical Tests Applied to Structural Health Monitoring: An Overview of Previous Experience**

Marta Baran, Dominik Nowakowski, Janusz Lisiecki – Air Force Institute of Technology, Warsaw, Poland

**Analysis of the Corrosion Resistance of Aircraft Structure Joints with Double-Sided Rivets and Single-Sided Rivets**

Paulina Kamińska, Patryk Ciężak, Piotr Synaszko, Krzysztof Dragan - Air Force Institute of Technology, Warsaw, Poland

**Damage Monitoring Technology for Aircraft Metal Structures using Flexible Eddy Current Sensors**

Kamil Kowalczyk, Michał Dziendzikowski, Artur Kurnyta, Patryk Niedbała, Krzysztof Dragan - Air Force Institute of Technology, Warsaw, Poland

14:15 – 14:30 Break

14:30 – 15:30 Session 8

**Kineto-Static Theory of Fatigue. Strength and Reliability System**

Alex Oudovikine - STEDAX Inc., Maple, Ontario, Canada

**Light Helicopter In-flight Load and Fatigue Life Verification in Accordance with EASA CS-27 Rules**

Dominik Głowacki - Institute of Aeronautics and Applied Mechanics  
Warsaw University of Technology, Warsaw, Poland

Błażej Morawski - BM Aviation Błażej Morawski