

**2<sup>nd</sup> AVIATION AND SPACE CONGRESS**  
**II KONGRES LOTNICZY I KOSMONAUTYCZNY – KLiK 2019**  
**Kielce-Cedzyna, 18 – 20 September 2019**

**CONGRESS SCHEDULE**

**WEDNESDAY      18.09.2019**

10 <sup>00</sup> –	Registration of Congress participants
12 <sup>00</sup> – 12 <sup>05</sup>	Opening of the Congress by <i>prof. dr hab. inż. Zbigniew KORUBA</i> <i>Chairman of the Scientific Committee of the Congress</i>
12 <sup>05</sup> – 12 <sup>15</sup>	Speeches of invited guests
12 <sup>30</sup> – 14 <sup>00</sup>	SESSION „A”
12 <sup>30</sup> – 13 <sup>45</sup>	SESSION „B”
14 <sup>00</sup> – 15 <sup>15</sup>	Lunch
15 <sup>30</sup> – 17 <sup>00</sup>	SESSION „C”
15 <sup>30</sup> – 17 <sup>00</sup>	SESSION „D”
17 <sup>00</sup> – 17 <sup>30</sup>	<i>Coffee break</i>
17 <sup>30</sup> – 18 <sup>45</sup>	SESSION „E” – POSTER SESSION
19 <sup>30</sup> –	Gala supper

**THURSDAY      19.09.2019**

7 <sup>30</sup>	Breakfast
8 <sup>30</sup> – 9 <sup>30</sup>	SESSION „F”
8 <sup>30</sup> – 9 <sup>15</sup>	SESSION „G”
9 <sup>45</sup>	Trip to the Former Palace of Cracow Bishops in Kielce
14 <sup>00</sup> – 15 <sup>15</sup>	Lunch
15 <sup>30</sup> – 16 <sup>30</sup>	SESSION „H”
15 <sup>30</sup> – 16 <sup>45</sup>	SESSION „I”
16 <sup>30</sup> – 17 <sup>00</sup>	<i>Coffee break</i>
17 <sup>00</sup> – 18 <sup>15</sup>	SESSION „J” – POSTER SESSION
18 <sup>15</sup> – 20 <sup>00</sup>	SPECIAL SESSION: „Future of the Polish aviation industry”
19 <sup>30</sup> –	Barbecue party

**FRIDAY      20.09.2019**

8 <sup>00</sup>	Breakfast
9 <sup>00</sup> – 10 <sup>00</sup>	SESSION „K”
9 <sup>00</sup> – 10 <sup>15</sup>	SESSION „L”
10 <sup>15</sup> – 11 <sup>00</sup>	<i>Coffee break</i>
11 <sup>00</sup> – 12 <sup>00</sup>	SESSION „M”
11 <sup>00</sup> – 12 <sup>15</sup>	SESSION „N”
12 <sup>30</sup>	The end of the Congress
13 <sup>00</sup>	Lunch

**2<sup>nd</sup> AVIATION AND SPACE CONGRESS**  
**Kielce-Cedzyna, 18 – 20 September 2019**  
**CONGRESS PROGRAM**

**WEDNESDAY 18.09.2019**

- 12<sup>00</sup>**      **Opening of the Congress by *prof. dr hab. inż. Zbigniew KORUBA***  
*Chairman of the Scientific Committee of the Congress*
- 12<sup>05</sup> – 12<sup>15</sup>**      **Speeches of invited guests**

**SESSION „A” 12<sup>30</sup> – 14<sup>00</sup>**

**Chairmen of the session:**    **Edyta ŁADYŻYŃSKA-KOZDRAŚ, Mirosław ADAMSKI**

***PRESENTATIONS OF PAPERS*** (15 min. with discussion)

- 1. Zygmunt KITOWSKI**  
ANALYSIS OF THE CURRENT STATE OF COOPERATION BETWEEN UNMANNED AIR VEHICLES (UAVS), UNMANNED SURFACE VEHICLES (USVS) AND UNMANNED UNDERWATER VEHICLES (ROVS AND AUVS)
- 2. Grzegorz KOWALECZKO, Mariusz PIETRASZEK**  
SIMULATION OF DROPPING OF A CONTROLLED BOMB ON MOVING TARGETS
- 3. Grzegorz KOWALECZKO, Mariusz PIETRASZEK**  
THE DESIGNING PROCESS OF GUIDED BOMBS
- 4. Przemysław MARKIEWICZ, Andrzej ŁUKASIEWICZ**  
THE MULTIPURPOSE AND MULTICRITERIA AIRFOIL SELECTION FOR LIGHT CIVIL AIRCRAFT
- 5. Marcin CHODNICKI, Krzysztof KUBRYŃSKI, Jarosław HAJDUK, Michał MAZUR**  
MODELING AND VALIDATION OF UNMANNED FIXED WING AIRCRAFT
- 6. Janusz ĆWIKŁAK**  
INFLUENCE OF A BIRD MODEL SHAPE ON BIRD IMPACT PARAMETERS

**SESSION „B” 12<sup>30</sup> – 13<sup>45</sup>**

**Chairmen of the session:**    **Zbigniew LECIEJEWSKI**

***PRESENTATIONS OF PAPERS*** (15 min. with discussion)

- 1. Jacek PIENIAŻEK**  
CONTROL SYSTEMS SUPPORTING PILOT – COOPERATION ISSUES
- 2. Andrzej KRZYSIAK**  
CORRECTNESS OF THE WIND TUNNEL TESTS
- 3. Zbigniew JAKIELASZEK, Andrzej J. PANAS, Mirosław NOWAKOWSKI, Maciej BIAŁECKI, Marcin BRYL, Michał SZMIDT, Mirosław KOZERA, Andrzej ORZECZOWSKI**  
APPLICATION OF A PNEUMATIC GUN SYSTEM FOR A CATASTROFIC FLIGHT DATA RECORDER CASSETTE ACCELERATION AT IMPACT CRASH-TESTS
- 4. Piotr CIECIŃSKI, Jacek PIENIAŻEK**  
AIRCRAFT LANDING CONTROL SYSTEM TESTS BY SIMULATION
- 6. Dariusz GRZELCZYK, Jan AWREJCWICZ**  
MODELING AND CONTROL OF A HYBRID WALKING ROBOT ON IRREGULAR, UNSTABLE AND VIBRATING GROUND

14<sup>00</sup> – 15<sup>15</sup>

Lunch

**SESSION „C” 15<sup>30</sup> – 17<sup>00</sup>**

**Chairmen of the session: Zbigniew KORUBA, Stanislaw KACHEL**

**PRESENTATIONS OF PAPERS (15 min. with discussion)**

- Łukasz JEZIOREK, Krzysztof SZAFRAN, Paweł SKALSKI**  
HEAT TRANSFER DETERMINED BY THE NEW METHOD OF MEASURING SURFACE TEMPERATURE
- Ireneusz KRAMARSKI, Krzysztof SZAFRAN**  
TECHNOLOGICAL INNOVATIONS IN THE PRODUCTION OF PARACHUTE CANOPIES TO INCREASE RELIABILITY AND ECONOMY OF USE
- Aleksandrs URBAHS, Dmitrij NEDELKO, Vladislav TURKO, Margarita URBAHA**  
FEATURES OF HELICOPTER DEFLECTION CURVE CALCULATION DURING FULL-SCALE BENCH TESTS
- Sławomir MICHALAK, Andrzej SZELMANOWSKI, Jerzy BOROWSKI**  
IDENTIFICATION OF TECHNICAL PARAMETERS OF THE SH-2G HELICOPTER BAROMETRIC ALTITUDE CONTROLLER IN TERMS OF DETERMINING THE POSSIBILITY OF ITS REPAIR AND MODIFICATION
- Andrzej SZELMANOWSKI, Jerzy BOROWSKI, Piotr ROGALA**  
METHOD FOR ASSESSING THE TECHNICAL CONDITION OF AN INERTIAL NAVIGATION SYSTEM ON THE BASIS OF THE ANALYSIS OF CRUISING SPEED ERRORS
- Dawid LIS, Adam JANUSZKO, Tadeusz DOBROCIŃSKI**  
INNOVATIVE UNMANNED AERIAL VEHICLE (UAV) CONSTRUCTION

**SESSION „D” 15<sup>30</sup> – 17<sup>00</sup>**

**Chairmen of the session: Andrzej ŻYLUK, Vladimir SHESTAKOV**

**PRESENTATIONS OF PAPERS (15 min. with discussion)**

- Józef GRZYBOWSKI, Adam KUBIT**  
PRELIMINARY TESTS OF THE DIGITAL CONTROL SYSTEM OF THE HEATING INSTALLTION OF THE PZL M28 AIRPLANE
- Józef GRZYBOWSKI, Piotr GRZYBOWSKI, Adam KUBIT, Emilia JANECZKO**  
TRAINING USING SIMULATORS OF PARACHUTES IN CIVIL DOMAIN – ADVANTAGES, LIMITATIONS AND OPPORTUNITIES
- Tomasz GOETZENDORF-GRABOWSKI, Jacek MIELOSZYK, Marcin FIGAT, Andrzej TARNOWSKI**  
LIGHTWEIGHT UAV FOR EMERGENCY MEDICAL SERVICE – SELECTED ASPECTS OF STABILITY AND PERFORMANCE
- Jevgenijs TERESCENKO, Aleksandrs BITINŠS, Vladimir SHESTAKOV, Rafał CHATYS, Juris MAKLAKOVS**  
ALGORITHM FOR ANALYZING DEVIATIONS FND IRREGULARITIES IN THE FUNCTIONIG OF THE AIRLINE'S STRUCTURAL UNITS AND PERSONNEL IN THE FACE OF UNCERTAINTY
- Leonid VINOGRADOV, Vladimir SHESTAKOV, Margarita URBAHA, Vladyslav TURKO, Zbigniew KORUBA**  
ASSESMENT OF CRITICAL CONDITION IN THE BURNING AIRCRAFT PASSENGERS CABIN
- Rafał OLIWA, Mariusz OLEKSY, Grzegorz BUDZIK**  
STUDY OF MECHANICAL PROPERTIES OF KEVLAR FABRIC COMPOSITES CONTAINING NANOPARTICLES

17<sup>00</sup> – 17<sup>30</sup> *Coffee break*

Chairmen of the session: Zygmunt KITOWSKI, Janusz ĆWIKLAK

- Juris MAKLAKOVŠ, Aleksandrs BITINŠS, Vladimir SHESTAKOV, Konrad STEFAŃSKI**  
POSITIVE CULTURE AS ELEMENT OF SAFETY AND EFFICIENCY OF AIRLINE OPERATION
- Jevgenijs TERESCENKO, Aleksandrs BITINŠS, Vladimir SHESTAKOV, Łukasz ORMAN**  
ASSESSMENT OF THE IMPACT OF AIRCRAFT MAINTENANCE ON FLIGHT SAFETY INDICATORS
- Andrzej SZELMANOWSKI, Andrzej PAZUR, Wojciech PATEREK**  
MATRIX ANALYSIS APPLICATION IN IDENTIFICATION OF MAGNETIC DEVIATION COMPONENTS OF THE AIRCRAFT HEADING REFERENCE SYSTEM
- Andrzej SZELMANOWSKI, Andrzej PAZUR, Wojciech PATEREK, Mirosław ADAMSKI, Kamil SKURA**  
SIMULATION TESTS OF THE POWER SUPPLY SYSTEM EFFICIENCY FOR A MICROWAVE GUN DEDICATED TO AN AIRCRAFT WEAPON SYSTEM
- Zbigniew DZIOPA**  
ESTIMATION OF THE HIT ZONE IN MANEUVERING TARGET WITH UNGUIDED MISSILE
- Marta GRZYB, Konrad STEFAŃSKI, Vladimir SHESTAKOV**  
THE GUIDANCE OF THE ANTI-AIRCRAFT MISSILE ON THE TARGET AT THE TURBULENCE CONDITIONS
- Małgorzata SZYMICZEK, Maciej MRÓWKA**  
INFLUENCE OF AGEING IN THERMAL SHOCKS CONDITIONS ON THE PROPERTIES OF POLYMER-ALUMINUM COMPOSITE JOINTS
- Łukasz NOCOŃ, Marta GRZYB, Piotr SZMIDT, Łukasz NOWAKOWSKI**  
ANALYSIS OF IMPROVING THE EFFECTIVENESS OF MANEUVERING A MISSILE AFTER ADDING MODIFICATIONS OF THE CONTROL ACTUATION SYSTEMS
- Dominika SOBOŃ, Medard MAKRENEK, Wojciech ŻÓRAWSKI**  
MODIFICATION OF Ni20Cr COLD SPRAYED COATINGS BY LASER TREATMENT
- Sławomir SPADŁO, Piotr MŁYNARCZYK**  
DIAGNOSING ROCKET ENGINE COMBUSTION CHAMBER BY NON DESTRUCTIVE METHOD
- Katarzyna BULANDA, Mariusz OLEKSY, Rafał OLIWA, Grzegorz BUDZIK, Tadeusz MARKOWSKI**  
POLYMER COMPOSERS USED IN RAPID PROTOTYPING TECHNOLOGY - 3D FILAMENTS
- Mirosław ADAMSKI, Szymon SANKOWSKI**  
ANALYSIS OF METHODS OF GUIDING MISSILES TO COMBAT MOVING TARGETS
- Paweł SKALSKI, Marta ROJEK**  
PSYCHOLOGICAL STRESS REACTION TO AVIATION NOIS
- Szymon TOFIL, GRZEGORZ WITKOWSKI**  
LASER MICROMACHINING TO INCREASE THE STRENGTH OF GLUED JOINTS
- Aleksandrs URBAHS, Pjotr TRIFONOVS-BOGDANOVS, Anvar ZABIROV, Konstantin MAMAY**  
ERROR ANALYSIS OF THE MODERN INERTIAL AIRCRAFT NAVIGATION SYSTEMS
- Jonas STANKUNAS**  
OPPORTUNITIES AND CHALLENGES IN THE DEVELOPMENT OF AERONAUTICAL STUDIES
- Zbigniew LECIEJEWSKI, Zbigniew SURMA**  
ANALYSIS OF MISSILE PROPULSION IN A SEMI-CLOSED PERFORATED BARREL OF LAUNCHER

**18. Paweł PRZYBYŁEK, Tadeusz Andrzej OPARA, Wojciech KUCHARCZYK, Wojciech ŻUROWSKI, Agata PIETRAS**  
SIMULATION OF OPERATING LOADS OF COMPOSITE SHIELD FLIGHT DATA RECORDERS

**19<sup>30</sup> – Gala supper**

7<sup>30</sup> BreakfastSESSION „F” 8<sup>30</sup> – 9<sup>30</sup>

Chairmen of the session: Ryszard WOŹNIAK

*PRESENTATIONS OF PAPERS (15 min. with discussion)*

1. **Grzegorz KOWALECZKO, Mariusz PIETRASZEK, Mirosław WIJASZKA**  
THE ANALYSIS OF THE GUIDANCE SYSTEM USED AT THE LASER GUIDED BOMB WITH STRAPDOWN SEEKER
2. **Grzegorz KOWALECZKO, Krzysztof GRAJEWSKI, Szymon KOBIELA, Romuald KAŹMIERCZAK**  
STANDARD WIND DEVIATION INFLUENCE ON BOMB FLIGHT IN A TURBULENT ATMOSPHERE
3. **Piotr SZYMAK, Paweł PISKUR, Marek GAŚSIOROWSKI**  
NEW DESIGN OF BIOMIMETIC UNMANNED UNDERWATER - GROUND VEHICLE
4. **Grzegorz SOCHA**  
EXPERIMENTAL CALIBRATION OF MIXED STRAIN-STRESS FAILURE CRITERION FOR 3D PRINTED MATERIALS

SESSION „G” 8<sup>30</sup> – 9<sup>15</sup>

Chairmen of the session: Izabela KRZYSZTOFIK

*PRESENTATIONS OF PAPERS (15 min. with discussion)*

1. **Kārlis MUIŽNIEKS**  
ACCREDITATION OF MATERIALS TESTING LABORATORY. A CASE STUDY OF THE INSTITUTE FOR MECHANICS OF MATERIALS, UNIVERSITY OF LATVIA
2. **Grzegorz KOPECKI**  
CONTROL OF THE AIRCRAFT LATERAL MOTION IN CASE OF FAULTY CONTROL SURFACES
3. **Michał BANICKI, Grzegorz KOPECKI**  
CORRECTION OF THE HEADING MEASUREMENTS WITH THE USE OF ROLL ANGLE IN AHRS ALGORITHMS

9<sup>45</sup> Trip to the Former Palace of Cracow Bishops in Kielce14<sup>00</sup> – 15<sup>15</sup> LunchSESSION „H” 15<sup>30</sup> – 16<sup>30</sup>

Chairmen of the session: Grzegorz KOWALECZKO

*PRESENTATIONS OF PAPERS (15 min. with discussion)*

1. **Tomasz MAZUR, Leszek CHAŁKO, Wojciech ŻUROWSKI**  
INTRODUCTION TO THE METHOD FOR DIAGNOSING CRITICAL STANDS PROPERTIES OF CONSTRUCTION MATERIALS BASED ON THE STATE OF DEFORMATION OF LAYER STATE AND STRESSES
2. **Marcin CHODNICKI, Jarosław HAJDUK, Jarosław CISZKOWSKI, Przemysław KROGULEC**  
SIMULATION MODEL OF THE DRIVE UNIT OF SMALL UNMANNED AERIAL VEHICLES VERIFIED BY WIND TUNNEL TESTS

3. **Sintija ZELTINA, Martins KLEINHOFS**  
AVIATION PROVISION OF TECHNICAL MATERIALS FOR THE WAREHOUSE IN ACCORDANCE WITH THE BASIC PRINCIPLES OF SAFE FLIGHT
4. **Joanna SZNAJDER, Bogdan ŻAK**  
COMPARASSION ANALYSIS OF SELECTED VISUAL METHODS FOR MEASUREMENT HYDRODYNAMIC PROPERTY OF THE OSCILATORY PROPELLER

**SESSION „I” 15<sup>30</sup> – 16<sup>45</sup>**

**Chairmen of the session: Krzysztof SIBILSKI**

**PRESENTATIONS OF PAPERS (15 min. with discussion)**

1. **Marcin MICHALCZYK, Krzysztof SZAFRAN**  
FAN-TYPE PROPELLERS FOR THE FUTURE OF PERSONAL AVIATION AND URBAN MOBILITY
2. **Krzysztof SZAFRAN**  
HUMAN FACTOR AS A MAIN PROBLEM FOR MAKE DECISION AT LANDING APPROACH - STATISTICAL INTERPRETATION
3. **Krzysztof SIBILSKI, Krzysztof FALKOWSKI, Edyta ŁADYŻYŃSKA-KOZDRAŚ, Anna SIBILSKA-MROZIEWICZ, Wiesław WRÓBLEWSKI**  
THE SMALL-SCALE MODEL OF MAGLEV SYSTEM ASSISTED AIRCRAFT SAFETY TAKE-OFF AND LANDING
4. **Tomasz ANTONIEWSKI**  
TECHNICAL INNOVATIONS AND DEVELOPMENT TRENDS – AT-5 AMONG GENERAL AVIATION CLASS AIRCRAF
5. **Edward MARGAŃSKI**  
THE SUCCESSOR OF THE AN-2

**16<sup>30</sup> – 17<sup>00</sup> Coffee break**

**SESSION „J” – POSTER SESSION 17<sup>00</sup> – 18<sup>15</sup>**

**Chairmen of the session: Martins KLEINHOFS, Krzysztof SZAFRAN**

1. **Marzena MIĘSIKOWSKA, Marta GRZYB, Piotr SZMIDT, Łukasz NOCOŃ**  
ANALYSIS OF THE IMPACT OF VIBRATIONS ON INERTIAL MEASUREMENT UNIT
2. **Tomasz ROGALSKI, Damian KORDOS, Mateusz PRZYTUŁA**  
LANDING QUALITY INDEX
3. **Łukasz NOCOŃ, Zbigniew KORUBA, Marta GRZYB, Piotr SZMIDT**  
MODIFIED LINEAR-QUADRATIC REGULATOR USED FOR CONTROLLING THE ANTI-TANK GUIDED MISSILE IN 3D SPACE
4. **Zbigniew KORUBA, Marta GRZYB, Łukasz NOCOŃ**  
OBSERVER BASED SLIDING MODE CONTROL AND MODIFIED LQR METHOD FOR MISSILE GUIDANCE SYSTEM
5. **Paweł PŁATEK, Ryszard WOŹNIAK**  
"RAWAT" PROJECT AS AN EXAMPLE OF APPLICATION 3D PRINTING TECHNIQUE IN DEVELOPMENT OF MILITARY EQUIPMENT
6. **Izabela KRZYSZTOFIK, Zbigniew KORUBA**  
AN ALGORITHM OF OPTIMAL CONTROL OF GYROSCOPIC SYSTEM IN THE PROCESS OF AIR-TO-AIR MISSILE HOMING IN CONDITIONS OF EXTERNAL DISTURBANCES IMPACT
7. **Zbigniew KORUBA, Izabela KRZYSZTOFIK**  
DYNAMICS AND CONTROL OF THE GYROSCOPIC HEAD USED FOR LASER ILLUMINATION OF THE GROUND TARGET FROM THE DECK OF QUADCOPTER IN THE CONDITIONS OF DISTURBANCE IMPACT

8. **Paweł LABĘDZKI, Rafał PAWLIKOWSKI**  
THE FRACTIONAL-ORDER PID CONTROLLER IN GENERAL VARIATION - THEORETICAL INVESTIGATION
9. **Aleksandr ARNAUTOV, Rafał CHATYS, Ilmars BLUMBERGS**  
EFFECT OF RUBBER FILLER ON THE FRACTURE TOUGHNESS AND STRENGTH OF EPOXY RESIN
10. **Łukasz ORMAN**  
ANALYSIS OF BOILING HEAT TRANSFER ENHANCEMENT WITH COMPOSITE HEAT EXCHANGERS
11. **Damian KORDOS, Tomasz ROGALSKI**  
AUTOMATIC TUNING OF PID CONTROLER COEFFICIENTS DURING THE FLIGHT
12. **Andrzej DUDZIŃSKI, Anna DUDZIŃSKA, Sebastian GRONEK, Anna KRUPIŃSKA, Krzysztof ŁĘCZYCKI**  
DATABASE ON THE RESULTS OF MATERIALS AND RESISTANCE EXPERT OPINIONS CONCERNING THE AIRCRAFT STRUCTURE ELEMENTS – HISTORICAL CHANGES OF THE PROCEDURES AND THE SCOPE IN THE FORM OF THE RESEARCH RESULTS
13. **Krzysztof PIERNIK, Rafał CHATYS**  
THE EFFECT OF THE RESIN USED AND THE SPEED OF ITS INJECTION ON THE STRENGTH PROPERTIES OF A POLYMER-BASED COMPOSITE
14. **Aleksandrs URBAHS, Sergey KRAVCHENKO, Margarita URBAHA, Kristine CARJOVA, Natalja PANOVA, Rafał CHATYS**  
LATLAUNCH - AIRCRAFT-BASED LAUNCHING SYSTEM FOR BUDGET ORBITING SMALL SATELLITES TO LOW EARTH ORBIT
15. **Dmitrijs GORELIKOV, Margarita URBAHA, Aleksandrs URBAHS**  
DEVELOPMENT OF AN IMAGE RECOGNITION SUBSYSTEM FOR CARTOGRAPHIC INFORMATION CORRECTION BASED ON MONITORED DATA OBTAINED WITH THE USE OF REMOTELY PILOTED AIRCRAFT
16. **Māris HAUKA, Vitālijs PAVELKO**  
POSSIBILITIES OF A LOW COST AUTOMATED CONSTRUCTION MONITORING SYSTEM
17. **Eugene SHKVAR, Shi-ju E, Andrii KRYZHANOVSKY**  
ACTIVE WALL-LOCALIZED DRAG REDUCTION TECHNIQUES OF HIGH-SPEED VEHICLES
18. **Sławomir CZUBAJ, Anna SIBILSKA-MROZIEWICZ, Edyta ŁADYŻYŃSKA-KOZDRAŚ**  
IDENTIFICATION OF THE RELATIVE POSITION OF A TROLLEY OF THE MAGNETIC CATAPULT, BASED ON MEASUREMENTS OF HALL SENSORS AND ARTIFICIAL INTELLIGENCE ALGORITHMS

18<sup>15</sup> – 20<sup>00</sup> **SPECIAL SESSION: „Future of the Polish aviation industry”:**

19<sup>30</sup> – **Barbecue party**



8<sup>00</sup> BreakfastSESSION „K” 9<sup>00</sup> – 10<sup>00</sup>

Chairmen of the session: Andrzej KRZYŚIAK

*PRESENTATIONS OF PAPERS* (15 min. with discussion)

1. **Michał GARBOWSKI, Dariusz RYKACZEWSKI, Krzysztof SIBILSKI, Paweł SZCZEPANIAK, Andrzej ŻYLUK**  
AERODYNAMIC COEFFICIENT PREDICTION OF MICRO AERIAL VEHICLE USING NEURAL NETWORK
2. **Michał KAIM, Paweł SZCZEPANIAK, Maciej LASEK, Krzysztof SIBILSKI, Mirosław NOWAKOWSKI**  
AVIATION ACCIDENTS AETIOLOGY FROM CATASTROPHE THEORY POINT OF VIEW
3. **Alicja MIESZKOWICZ-ROLKA, Leszek ROLKA, Grzegorz KOPECKI**  
MULTI-CRITERIA DECISION-MAKING IN LANDING FIELD SELECTION
4. **Grzegorz JAROMI, Janusz MICHALCEWICZ, Marcin DEREŃ, Andrzej PAW, Damian KORDOS, Tomasz ROGALSKI, Paweł RZUCIDŁO, Piotr SZCZERBA**  
PRELIMINARY TESTS OF INTRUDER DETECTION AND COLLISION AVOIDANCE SYSTEM

SESSION „L” 9<sup>00</sup> – 10<sup>15</sup>

Chairmen of the session: Janusz ĆWIKŁAK

*PRESENTATIONS OF PAPERS* (15 min. with discussion)

1. **Krzysztof KUBRYŃSKI, Konrad WIĘCKO**  
AERODYNAMIC DESIGN OF UNMANNED AIRCRAFT IN FLYING WING CONFIGURATION
2. **Krzysztof KUBRYŃSKI**  
NONLINEAR ASPECTS OF AERODYNAMIC CHARACTERISTICS OF A WING WITH FINITE SPAN
3. **Mirosław ADAMSKI**  
EFFECTIVENESS ANALYSIS OF USED UCAV IN COMBAT MISSION
4. **Mirosław ADAMSKI, Mikołaj SUSZEK**  
USE OF SOLIDWORKS SOFTWARE FOR SIMULATION WORKING PRINCIPLES OF M167 VADS ANTI-AIRCRAFT GUN
5. **Piotr TUREK, Witold BUŻANTOWICZ**  
IMAGE MATCHING CONSTRAINTS IN UNMANNED AERIAL VEHICLE TERRAIN-AIDED NAVIGATION

10<sup>15</sup> – 11<sup>00</sup> *Coffee break*

## SESSION „M” 11<sup>00</sup> – 12<sup>00</sup>

Chairmen of the session: **Zbigniew DZIOPA**

### *PRESENTATIONS OF PAPERS (15 min. with discussion)*

- 1. Joanna BOROWIECKA-JAMROZEK, Jan LACHOWSKI**  
THE INFLUENCE OF THE COMPOSITION AND THE PARTICLE SIZE ON PROPERTIES OF SINTERS PREPARED BY BALL MILLING AND HOT PRESSING
- 2. Dariusz KURCZYŃSKI, Piotr ŁAGOWSKI, Michał WARIANEK**  
INVESTIGATIONS OF THE COMBUSTION PROCESS IN A FIAT 1.3 MULTIJET ENGINE SUPPLIED WITH METHYL EXTRACTS OF OIL RAPESEED OIL
- 3. Grzegorz KOPECKI, Bogusław DOŁĘGA, Damian KORDOS, Tomasz ROGALSKI**  
PROPERTIES OF UNIVERSAL CONTROL SYSTEM FOR SMALL UAV
- 4. Łukasz WAŁEK, Tomasz ROGALSKI**  
METHODS OF UAV CONTROL IN THE PITCH CHANNEL WITH THRUST VECTORING USE

## SESSION „N” 11<sup>00</sup> – 12<sup>15</sup>

Chairmen of the session: **Rafał CHATYS**

### *PRESENTATIONS OF PAPERS (15 min. with discussion)*

- 1. Piotr SZMIDT, Łukasz NOCOŃ, Łukasz NOWAKOWSKI**  
OPTIMIZATION OF ANTI-TANK MISSILE CONTROL FOR LINEAR PID AND DISCONTINUOUS CONTROL
- 2. Jerzy GRAFFSTEIN**  
OPTIMAL FLIGHT TRAJECTORY SYNTHESIS FOR AN ANTI-COLLISION MANEUVER PERFORMED WITHIN ENVIRONMENT OF MOVING OBSTACLES
- 3. Jerzy GRAFFSTEIN, Piotr MASŁOWSKI, Albert ZAJDEL**  
THE IMPACT OF TIME STEP FLUCTUATION ON AUTOMATIC FLIGHT CONTROL – SELECTED ASPECTS
- 4. Marcin RYMAROWICZ, Robert SZALAJKO**  
ESTIMATION OF STRENGTH PARAMETERS OF LAMINATES WITH MODIFIED REINFORCEMENT CORE
- 5. Rafał CHATYS, Martinsh KLEINHOF, Juri PARAMONOV**  
MODELING THE RESIDUAL TENSILE STRENGTH AND THE RESIDUAL FATIGUE LIFE OF FIBRICUS COMPOSITE PRODUCED BY THE VACUUM METHOD

**12<sup>30</sup> The end of the congress**

**13<sup>00</sup> Lunch**

### INFORMATION FOR AUTHORS OF PAPER

- The time provided for presentation of paper is in sections A, B, C, D, F, G, H, I, K, L, M and N: 15 minutes (including discussion). The multimedia projector are available for speakers.
- Authors of papers presented during the poster sessions (E and J) are asked to prepare the posters; the surface provided for the poster is 841 x 594 mm (height x width – A1 format). The posters will be exhibited during session, at which the particular paper will be presented.

3. For the participants, who would like to arrive on the Congress the day before (on Tuesday) , there is opportunity of accommodation under terms of delegation (for additional charge). Please inform The Organizing Committee about this kind of necessity earlier.
4. We also inform that for all participants of the Congress there is free car park available.

**Hotel Uroczysko, Cedzyna 44D, 25-900 Kielce**

For any further information please visit the website: [klik.edu.pl](http://klik.edu.pl)