



TECHNICAL UNIVERSITY OF KOŠICE
Faculty of Aeronautics



**NEW TRENDS IN AVIATION DEVELOPMENT
2023**

Preliminary schedule of the conferece

High Tatras - Starý Smokovec, Slovakia



NTAD Programme – Day 1

23.11.2023 – Thursday

07:30 – 08:30 Registration

08:30 – 08:40 Opening of the conference – Dean of the Faculty of Aeronautics, Technical University of Košice – assoc. prof. Ing. Peter Korba, PhD.

08:40 – 09:30 Session 1 – Session Chair – prof. Ing. R. Andoga, PhD.

08:40 – 09:30 Invited Talks

09:30 – 10:00 Coffee break

10:00 – 12:00 Session 2 – Session Chair – M.Eng. Ing. M. Košuda, PhD.

10:00 – 10:15 Effect of reduced minimum spacing application on capacity at Václav Havel Airport, Prague - *Terézia Pilmannová, Martin Slišchka, Stanislav Schmidt, Vladimír Machula*

10:15 – 10:30 The Ergonomic Design of the Tower Simulator Concept for the Training Needs of Air Traffic Control Students - *Anton Korniienko, Martin Kelemen, Jr., Ján Jevčák, Jr.*

10:30 – 10:45 The method of detecting dangerous attacks in the network operation of the flight training department against cyber threats - *Anton Korniienko, Róbert Rozenberg, Matej Antoško, Martin Kelemen Jr., Alica Tobisová*

10:45 – 11:00 Analysis of the Experimental Operation of the Mobile Aviation Weather Station at Svidník Airport - *Ladislav Choma, Jozef Sabo, Martin Kelemen Jr.*

11:00 – 11:15 Concept of Improved UAV Pilots Training - *Zoltán Szőke, Pavol Lipovský, Rudolf Jalovecký*



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11:15 – 11:30 Analysis of the introduction of artificial intelligence in the control of UAV - *Andrej Novák, Kristína Kováčiková, Frederik Chodelka, Patrik Velký*

11:30 – 11:45 The redundant attitude control system of MRC-100 PocketQube satellite - *Tibor Herman, Levente Dudás*

11:45 – 12:00 UAV Operators' Cognition and Automation: Comprehensive Measurements - *Omar ALHARASEES, Osama ADALI, Utku KALE*

12:00 – 14:00 Lunch

14:00 – 15:15 Session 3 – Session Chair – assoc. prof. Ing. P. Kurdel, PhD.

14:00 – 14:15 Assessment and evaluation of suitable aircraft for specific approved training organization - *Frederik Chodelka, Andrej Novák*

14:15 – 14:30 Residual fatigue life analysis of aircraft structural elements - *Dragi Stamenkovic, Ivana Vasovic Maksimovic, Mirko Maksimovic*

14:30 – 14:45 Optimization of sightseeing flights in the area of High Tatras - *Ľubomír Nosál*

14:45 – 15:00 Production of rotation angles for direct photogrammetric orientation - *Attila Varga, Tamás Jancsó, Bertalan Beszédes, Péter Udvardy*

15:00 – 15:15 Airline Occurrence Report Form Based on System-Theoretic Process Analysis - *Marek Šudoma, Andrej Lališ, Barbora Matějková*

15:15 – 15:45 Coffee break



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**15:45 – 17:00 Session 4 – Special Section „Integrated Model Airport “ –
Session Chair – Dr. T. Vas**

15:45 – 16:00 Aerodrome Controller's decision support for the approval of UAS operations - *Tímea Vas, Miroslav Kelemen, Róbert Rozenberg, Csaba Fekete, Matej Antoško, Matyas Palik*

16:00 – 16:15 Securing the Digital Sky: a scenario-driven study on the enhancement of cybersecurity in location-independent aerodrome control systems - *Gabor Horvath*

16:15 – 16:30 Extended Reality possibilities in Air Traffic Management - *Krisztián KÁROLY, Tamás Marlok, József Juhász, Máté Gajdos, Tibor Ágoston, András Német*

16:30 – 16:45 Environmental impacts of aviation and opportunities for "green" energy solutions - *Imre Pogácsás*

16:45 – 17:00 Seeing and avoiding drones - *Zoltán Dudás*

14:00 – 17:00 Poster Session – Session Chair – prof. Ing. L. Főző, PhD.

– Simulation and Analysis of the Change in the Radiation Characteristics of the Communication and Telemetry Antenna of the UAV Used as a Supplementary Rescue Device for SAR and HEMS - *Natália Gecejevová; Pavol Kurdel; Marek Češkovič; Antoni Kopyt*

– Alternative Fuels for Small-scale Turbojet Engines: A Review. - *Martin Schrötter, László Kavas, Béla Varga*

– Cracking of steel products during dip galvanizing - *Jacek Mendala; Robert Wieszala*

– Selected aspects of UAV group flight trajectory modeling - *Džunda, M., Michaela Bugnová, Melníková, L.*



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- Analysis of the aviation complex using the identification observer - *Róbert Bréda, Rudolf Andoga*
- Mobile Monitoring System for the Protection of the Area of Interest - *Jozef Galanda, Pavol Lipovský, Peter Hanák, Eduard Dolný, Ľuboš Guláš, Monika Blišťanová, Edína Jenčová, Jaroslav Kessler, Tibor Muszka*
- Possibilities of Using Predictive Analytics in the Aviation Industry - Case Study - *Edína Jenčová, Iveta Vajdová, Ján Mackulín*
- Application of sheet metal joining in transport - *Patrik Asnad, Peter Korba, Ladislav Fozo, Rudolf Andoga, Klamo Peter, Róbert Czako*
- The redundant AIS receiver of MRC-100 PocketQube satellite - *Tibor Herman, Levente Dudás*
- Assessment of the Possibility of Using Lignocellulosic Feedstock for the Production of Sustainable Aviation Fuels - *Anna Yakovlieva; Natália Gecejová; Stepan Zubenko; Serhiy Konovalov; Vasyl Boshkov*
- Problems of land occupation near airports in relation to environmental protection - *Wieszata Robert, Marcisz Marek, Kozuba Jarosław, Mendala Jacek*
- Digitalization in Aviation MRO Training - *Omar ALHARASEES, Muftah ABDALLA, Utku KALE*
- Assessment of the Risks of UAV Flights that Deter Wild Animals in Airport Areas - *Volodymyr Polishchuk, Miroslav Kelemen, Martin Kelemen, Jr., Matej Ščerba*
- Acquiring English Language Knowledge in Aircraft Maintenance - *Sekelova, I., Koscakova M., Sekelova, M., Knap, M.*



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- Safety Assessment of Cessna 172 Flight Procedures With System-Theoretic Process Analysis - *K. Grötschelová, A. Lališ, J. Řízek, M. Chopart*
- Potential of selected Industry 4.0 tools in the field of airport security screening - *P. Šváb, S. Čikovský, A. Vojtková and D. Blaško*
- Legal Challenges in Space Traffic Management - *Marian Podmajersky, Marek Kosuda, Pavol Hudak*
- Predictability of In-block Time Deviations: An Analysis of Operational Data, Tactical Flight Models and Meteorological Information - *Miroslav Spak, Vladimír Socha, Lenka Hanakova, Michal Matowicki*
- Enhancing Unmanned Aerial Systems Data Communication through Mobile Networks - *Dusek Radim, Kusmirek Stanislav, Socha Lubos, Hanakova Lenka*
- Alternative aviation fuel availability and demand - *Martina Koščáková, Ingrid Sekelová, Peter Koščák, Lenka Stanislavová*

19:00

Gala dinner and reception

End of Day 1



NTAD Programme – Day 2

24.11.2023 – Friday

08:00 – 08:30 Registration

08:30 – 09:45 Session 5 – Session Chair – Ing. M. Schrötter, PhD.

08:30 – 08:45 A STAMP-based Risk Register for Maintenance, Repair, and Overhaul organizations - *Natalia Guskova, Andrej Lališ, Ondřej Vítovec, Zdeněk Žďánský*

08:45 – 09:00 Analysis of the introduction of Prague-Kbely Airport as an alternative airport for low-cost companies to Václav Havel Airport - *Tomas Hoika, Zbyšek Korecki*

09:00 – 09:15 New Personality Evaluation of Pilot Candidates in Czech Air Force - *J. Ulvr, O. Mach, P. Račková, K. Rusnaková*

09:15 – 09:30 Concept of a rotary chair capable of inducing vestibular nystagmus for perspective usage in aviation training - *Daniel Urban, Vladimír Socha, Lenka Hanáková, Karel Hylmar, Stanislav Kušmírek*

09:30 – 09:45 Optimization of the Airport's Airbridge Operations and internal setting - *Petr Had, David Tolar, Jiří Volt, Slobodan Stojić*

09:45 – 10:15 Coffee break

10:15 – 12:30 Session 6 – Special Section „Doctoral“ – Session Chair – assoc. prof. Ing. M. Antoško, PhD.

10:15 – 10:30 Algorithmization of the training process of military flight training controllers - *Peter Kalavský, Mária Čechová, Matej Antoško, Lubomír Šuták, Alica Tobisová, Anton Kornienko*

10:30 – 10:45 Simulation of the impact of chaotic impulse and narrowband interference on the Galileo E5 signal - *Sebastián Čikovský, Peter Dzurovčin, Lucia Melniková*



NTAD Programme – Day 2

10:45 – 11:00 Verification of the New Standard Instrument Departure routes for Malacky Airport Using Flight Simulator - *Matej Antoško, Jozef Sabo, Ľubomír Šuťák, Mária Čechová, Anton Korniienko, Martin Kelemen*

11:00 – 11:15 Options for the recovery of human resource management in the aviation industry - *Peter Koščák, Lenka Stanislavová, Martina Koščáková*

11:15 – 11:30 Design Concept of Low Cost Magnetometric System for Small UAVs and CubeSats - *Adam Polakovič, Pavol Lipovský, Patrik Kašper, Jozef Novotňák, Martin Filko, Jaroslav Kessler*

11:30 – 11:45 The Possibilities of Using Generative Optimization in the Design of CubeSats Components - *J. Kessler, K. Semrád, M. Šmelko, T. Muszka*

11:45 – 12:00 Passenger's air ticket buying habits on flights from Poprad-Tatry and Košice to London Luton - *Marek Tomáš, Peter Hanák, Martin Kováč*

12:00 – 12:15 Selection of infection assessment site using fishbone Diagram - *Michal Hovanec, Branislav Rácek, Martin Vencel, Juraj Horkay, Samer Al-Rabeei*

12:15 – 12:30 Using Additive Manufacturing in Supply Chain Management in the Aerospace Industry - *Volodymyr Tymofiiv, Michal Hovanec, Peter Korba, Samer Al-Rabeei, Juraj Horkay*

12:30 Closing ceremony and lunch

End of the conference