CURRICULUM VITAE

Surname: **ZAPOROZHETS** First name: **OLEKSANDR**

Residence address in Kyiv: str. Aviakonstruktora Antonova, 2/32, korpus 2, app. 32, Kyiv, 03186, Ukraine
Residence address in Warsaw (permanent): ul. Stawy 11, 02-467, Warszawa, Poland

Affiliation and official address:
Łukasiewicz Research Network – Institute of Aviation (ILot), al. Krakowska 110/114, 02-256 Warsaw, Poland

Date and place of birth: **Nationality**: Ukraine
24 November 1956, Kyiv

Education:

Dr. Sc. thesis on "Development of Models and Methods of Information Provision for Environment Protection from Civil Aviation Impact", Kyiv, Kyiv International University of Civil Aviation	October 1997
PhD thesis on "Optimization of Aircraft Operational Procedures for MinimumEnvironment Impact", Kyiv, Kyiv Institute of Civil Aviation Engineers	December 1984
Engineer of Aircraft Maintenance, Mechanical Dept., Kyiv Institute of Civil Aviation Engineers	September 1972 to June 1978

Current Employment:

Institute of Aviation (ILot), Warsaw, Poland	Area Research Leader, Professor of the Research Organization Department	April 2022 – Present

Previous Employment:

National Aviation University, Kyiv, Ukraine	+ Leading Research Associate (Chief Researcher) of the Research Department of the NAU	July 2020 - February 2022
	+Vice Rector of the University in International Communication and Education	May 2018 - June 2020
	+Director of the Institute of Environmental Safety	September 2008 - May 2018
	+Head of the Chair of Human Safety	April 2001 - September 2008
	+Professor	September 1999 - April 2001
	+ Principal Research Fellow	February 1991 - September 1999
	+Senior Research Fellow	July 1986 - February 1991
	+ Research Fellow	October 1984 - July 1986
	+ Engineer-researcher	April 1978 - October 1984
Rzeszow University of Technology (PRz), Rzeszow, Poland	+ Professor PRz(educational studies for aviation subjects)	October 2014 - September of 2019

Areas of expertise:

(i) main field: Aircraft Noise, Third Party Risk and Air Pollution impact assessment and abatement at airports
(ii) other field: Environmental Protection from Civil Aviation Impact
(iii) current research interests: environment impact assessment, environmental risk analysis and control, flight safety, aviation security

Professional training and development:

Certificates	Organisation, Year
Scientific Basis for Air and Water Pollution Control	Institute of Atmosphere, St-Petersburg, Russia, 1992
Environmental Economics	United States Environmental Protection Agency, Environmental Education and Information Center of Ukraine, Kyiv, 1994
Environment and Transport. Environment Impact Assessment	European Bank for reconstruction and Development, Haskoning, NLR, ARUP, DHV Consultants, Kyiv, 1995

Main accomplishments:

Theoretical:

+Semiempirical Methods for Assessment of Aircraft Noise Exposure and Impact Around the Airports:

- Identification Task of Aircraft Noise Model
- Noise Radius Model for Aircraft Noise Assessment
- Sound Propagation Models (Air Absorption, Directivity Patterns, Lateral Attenuation, Acoustic Screen Effects)
- Overall Noise Model of the Airplane in Flight (TraNoi calculation tool)
- Aircraft Noise Exposure Model (IsoBella calculation tool)
- Aircraft Noise Impact Model

+Methods for Assessment of the Air Pollution Concentrations Around the Airports:

- Moving Sources Modelling (Point, Moving Point, Line) Based upon the Solutions of Semi-Empirical Turbulent Diffusion Equation
- Models of Exhausted Jets Based on Semi-Empirical Theory of Turbulent Jets
- Models of Aircraft Engine Emission (Engine Type, Engine Mode and Atmosphere Condition Influence)
- Local Air Quality Modelling for Airports (PolEmiCa calculation tool)

+Methods for Assessment of Third-Party Risk Around the Airports:

- Aircraft Crash Probability Model
- Aircraft Crash Location Model
- Aircraft Crash Consequences Model
- Third Party Risk model (3PRisk calculation tool)

+Numerical Methods for Optimization of the AircraftTrajectories and Flight Scenario for Minimum Noise and Air Pollution Impact around the Airports:

- Numerical Gradient Methods
- Pareto Analysis for Multi-Criteria Tasks Combined with $\Lambda\Pi_\tau$-Probing Method ($\Lambda\Pi_\tau$-Series Used);
- Entropy Methods for Complicated Systems

National and international projects:

Title of award	Sponsor and dates	Amount
Development of models of airplane maintenance in view of produced environment contaminations in the vicinity of the airport	Program of Ministry of Civil Aviation, 1978-1980	
Optimization of the characteristics of a noise and substantiation of the norms (standards) of extreme permissible emissions with the purpose of environment protection at aircraft maintenance and operation	Program of Ministry of Civil Aviation, 1981-1983	
Development of the technical requirements for acoustic simulations at complex aviation simulators	Program of Ministry of Civil Aviation, 1983-1984	
Development the methods and tools for onboard air condition system and its noise reduction at aircraft cabins	Tupolev Design Buro Program, 1985-1989	
Development of the calculation model for higher altitude aircraft emission assessment	Program of Ministry of Civil Aviation, 1990-1991	
Development of the normative documentation for environment-protection measures at the airports and territories nearest to them	Program of Ministry of Transport of Ukraine, 1994-1997	
Development and implementation in one of the airports of Ukraine of the aircraft noise monitoring system, the tool for calculation, forecasting and compensation of aircraft noise impact	Program of Ministry of Transport of Ukraine, 1993-1997	
Implementation of acoustic screens at the airports of Ukraine	Program of Ministry of Transport of Ukraine, 1993-1995	
To develop a tool for calculation of concentrations of air contamination produced by aircraft engine emissions	Program of Ministry of Transport of Ukraine, 1997-1998	
Analysis and development of the requirements for the aircraft fleet of domestic production on parameters of an ecology and fuel efficiency	Program of Ministry of Transport of Ukraine, 1995-1996	
Prediction of noise from aircraft	NATO collaborative project grant EST.CLG.974767 between NAU & University of Hull (United Kingdom), 1999-2001	20 000 Euros
Development of software tools for acoustic signal analysis and synthesis in aircraft cabins and its implementation in production	National Academy of Science of Ukraine, 2001-2003	

Aircraft noise prediction model improvement in a part of engine installation effect and noise propagation assessment	Silence® Project, Co-ordinator – SNECMA Moteurs, France, 2001-2004	90 000 Euros
X2-Noise activities	Co-ordinator – SNECMA Moteurs, 2003-2004	30 000 Euros
Application of matched asymptotic expansions for aerodynamic noise investigation	Dresden University of Technology, International Bureau BMBF, Germany	15 000 Euros
X3-Noise activities	Co-ordinator – SNECMA Moteurs, 2006-2009	35 000 Euros
Execution of the Environmental Impact Statement of implementation of the CNS/ATM systems in countries-members of the RADA	Robinson Aviation (RVA) Inc., USA, 2005	50 000 US$
Center of Environmental Problems of Airports activities of the National Aviation University	2006-2021, contracts with airports and airlines of the Ukraine for Environment Impact Assessment and Certification: **Ukraine**: Kyiv-Boryspil, Kyiv-Zhulyany, Kyiv-Svyatoshyn, Kyiv-Gostomel, Lviv, Zaporizhzhja, Lviv, Odesa, Dnipro, Harkiv, Mykolaiv, Simpheropil, Kerch, Poltava, Uzhgorod, IvanoFrankivsk, Vinnytsja, Kirovograd, Donetsk **Lithuania**: Vilnius, Kaunas, Klaipeda **Uzbekistan**: Tashkent **Russian Federation**: Moskow – Domodedovo, Sheremetjevo, Vnukovo, Zhukovskii; St.-Peterburg–Pulkovo, Perm, Minerlnyje Vody	~5 mln hryvnas for Ukraine
Research of the impact of physical and biological factors on the state of atmospheric air	Ministry of Environmental Protection of Ukraine, 2009-2011	0,5 mln hryvnas
Aviation Noise Research Network and Coordination, X-NOISE EV	Co-ordinator – SNECMA Moteurs, 2010-2015	35 000 Euros
Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis (TEAM_Play)	Co-ordinator – DeutschesZentrumfuerLuft- und Raumfahrt e. V. (DLR), Germany, 2010-2012	100 000 Euros
Feasibility study on the integration of third-party risk near airports into "IMPACT" (Integrated Aircraft Noise and Emissions Modelling Platform)	Contract with EUROCONTROL No. 14-110962-E, Co-ordinator ENVISA SAS (22, rue Oberkampf, F-75011 Paris, France), 2015	25 000 Euros
Perspectives for the Aeronautical Research in Europe (PARE)	Grant Agreementof European Commission №: 769220, Research & Innovation - Participant Portal, Division of H2020 for all technical projects and grant agreements, 2016-2017 Mobility for Growth, Coordination and support action, 2017-2020	120 000 Euros
Aviation Noise Impact Management through Novel Approaches (ANIMA)	Grant Agreementof European Commission №: 769627, H2020-MG-2017-SingleStage-INEA, 2017-2021	100 000 Euros

(LTO) noise and emissions of supersonic aircraft (SENECA)	Grant Agreement of European Commission №: 101006742, H2020-MG-2018-2019-2020, 2020-2024	200 000 Euros
Environmentally Friendly Aviation for All Classes of Aircraft (EFACA)	Grant Agreement of European Commission №: 101056866, HORIZON-CL5-2021-D5-01-05, 2023-2026	81 500 Euros

Honours & Awards:

- Silver medal for achieved successes in development of a national economy of the USSR: Scientific Base and Results of Research of Acoustics Laboratory Institute of Civil Aviation Engineers in the Field Environmental Protection, 1987, Main Committee of the Exhibition of National Economy Achievements
- Certificate of Honour of the Ministry of Education and Science of Ukraine (2006)
- Gratitude of the Kyiv City State Administration (1999)
- Gratitude of the Cabinet of Ministers of Ukraine (2011)
- Science Award of the Sustainable Aviation Research Society (SARES) in 2016

Memberships:

- **Member of the Committee on Aviation and Environment Protection** (CAEP) of the International Civil Aviation Organization (ICAO) – nominated by Civil Aviation Authority of Ukraine in October 2009, till February 2020
- **Member of the European Aviation and Environment Working Group** of the European Civil Aviation Conference (ECAC) – European Regional Division of the ICAO, 2010 – till now
- **Member of Ukrainian Grouping of Acousticians**, Contact Person with European Acoustic Association in 1999-2009
- **Member of Sustainable Aviation Research Society** (SARES), 2015 – till now, Science Award of the SARES in 2016

Editorial activities:

- Applied Acoustics
- International Journal of Sustainable Aviation
- International Journal of Aviation Science and Technology
- Noise Mapping Journal

Doctoral supervisions:

- **Head of the Specialized Academic Council** of the NAU (on adoption by Ministry of Education and Science of Ukraine) for the Defense of Candidate's and Doctoral Dissertations in the specialty "Environmental Safety" since 2004 till 2021, supervisor of 6 Doctoral and 7 Candidate's Dissertations (Thesis) in subjects of Aviation, Environment Protection and Occupational Safety.

Publications

Number of papers in refereed journals: > 40
Number of papers in various journals: >300
Number of communications to scientific meetings: > 100
Number of Books (monographs, Chapters in books and manuals): > 30 (>10 in English, all other in Russian and Ukrainian)

Web addresses of relevant author profiles and Authors ID

ORCID Profile: https://orcid.org/0000-0002-7580-0921
Scopus Profile: h-index = 9; Citations: 310; Documents: 41. Author ID: 7003591678
https://www.scopus.com/authid/detail.uri?authorId=7003591678

GoogleScholar Profile: h-index = 15 (10); Citations: 880 (559); Documents: 310 (121).
https://scholar.google.com.ua/citations?user=7i0CLhYAAAAJ&hl=en
Researchgate: h-index = 10; Citations: 464; Research Interest Score 470.1; Documents: 88. Author ID: 7003591678
https://www.researchgate.net/profile/Oleksandr-Zaporozhets

Oleksandr Zaporozhets

13.09.2023