



|                                        |                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>                            | Iryna Voronko                                                                                                                                         |
| <b>Position, Department/Faculty</b>    | Associate Professor of Technology of Aircraft Manufacturing Department, National Aerospace University "Kharkiv Aviation Institute"                    |
| <b>Academic Degree, Academic Title</b> | PhD<br>Associate Professor of Technology of Aircraft Manufacturing Department                                                                         |
| <b>Email:</b>                          | <a href="mailto:i.voronko@khai.edu">i.voronko@khai.edu</a>                                                                                            |
| <b>Scopus Author ID:</b>               | 57476868700                                                                                                                                           |
| <b>Web of Science ResearcherID:</b>    | JXL-2389-2024                                                                                                                                         |
| <b>ORCID iD:</b>                       | 0000-0002-9689-6977                                                                                                                                   |
| <b>Google Scholar:</b>                 | <a href="https://scholar.google.com.ua/citations?hl=ru&amp;user=ooXT1Z0AAAAJ">https://scholar.google.com.ua/citations?hl=ru&amp;user=ooXT1Z0AAAAJ</a> |
| <b>ResearchGate:</b>                   | <a href="https://www.researchgate.net/profile/Iryna-Voronko/publications">https://www.researchgate.net/profile/Iryna-Voronko/publications</a>         |

## EDUCATION:

### Basic education (university, major, year of graduation):

1. Bachelor, junior mechanical engineer (2004 - 2008). National Aerospace University named after M. Ye. Zhukovsky "Kharkiv Aviation Institute" of the Ministry of Education and Science of Ukraine
2. Master, Research Engineer, Aircraft and Helicopter Technology (2008 - 2010). National Aerospace University named after M. Ye. Zhukovsky "Kharkiv Aviation Institute" of the Ministry of Education and Science of Ukraine

### Postgraduate/Doctoral studies:

Postgraduate studies, Ph.D., "Method for assigning modes of thermal pulse treatment with detonating gas mixtures in integrated CAD/CAE systems", (2010 - 2013). National Aerospace University named after M. Ye. Zhukovsky "Kharkiv Aviation Institute" of the Ministry of Education and Science of Ukraine

### Additional training, certification programs:

1. Scientific and pedagogical internship: Theory and practice of scientific and pedagogical approaches in education" ("ISMA" LATVIA, RIGA, 2022).
2. Participating in training program at the Faculty of Aeronautics and Astronautics, Department of Aeronautical Engineering of Istanbul Technical University (İTÜ), Türkiye from 17 July, 2023 till 21 July, 2023.

## WORK EXPERIENCE:

### Professional Career (Workplace, Years, Position):

2013 – 2014: Scientific associate of Technology of Aircraft Manufacturing Department  
 2015 – 2018: Assistant of Technology of Aircraft Manufacturing Department  
 2018 – 2020: Senior Lecturer of Technology of Aircraft Manufacturing Department  
 2020 – present: Associate Professor of Technology of Aircraft Manufacturing Department, National



Aerospace University "KhAI"

**Teaching Experience:**

Fundamentals of Aircraft Manufacturing and Maintenance, Fundamentals of 3D modelling, Technologies of Aircraft Manufacturing, Technologies of Protective Coating.

**Experience in International or National Projects:**

1. Participant of the European R&D project GINOP\_PLUSZ-2.1.1-21-2022-00225 "Development of an autonomous, compact electrical energy system tuned to energy production surfaces and the related production capacity". (Pannon Egyetem, Center for Research and Development of Technical Science, May 2022 – October 2023).
2. Visitor of the JEC World 2023 international composite materials exhibition in Paris (April 25-27, 2023).
3. Participant of the Scientific project D104-5/2023-P "Technological systems for the production and restorative repair of military equipment and components, provided by foreign partners or captured as trophies, aimed at addressing import substitution challenges and strengthening Ukraine's defense capability."

**RESEARCH ACTIVITIES:**

**Main Research Areas:**

- Investigation of the processes of hardening holes by the method of surface plastic deformation, namely, pneumatic impulse mandreling, to increase the fatigue life of structural elements made of titanium alloy.
- Search for rational parameters of the process of pneumatic impulse mandreling of titanium alloy holes in CAD/CAM/CAE systems. Work on the improvement of the pneumatic impulse device for mandreling when using it in the robotic complex system.
- The study of the mechanical processing features of metals and alloys in the manufacture of parts with strictly regulated dimensions.

**Number of Publications (Scopus, WoS, others):**

73

**Monographs, Textbooks:**

2

**Participation in Scientific Conferences:**

41

**TEACHING ACTIVITIES:**

**Courses Taught:**

Training courses for students of specialty G12 «Aerospace Engineering»:

– the first (bachelor's) level of higher education:

Computer-Aided Design of Technological Tooling;  
Technology of Aircraft Manufacturing (course project);  
Technologies of Aircraft Manufacturing (Machining);  
Fundamentals of Aircraft Manufacturing and Maintenance;  
Technologies of Protective Coatings.

– the second (master's) level of higher education:

Quality Management, Control and Testing in Aircraft Manufacturing Production.



**NATIONAL AEROSPACE UNIVERSITY  
«KHARKIV AVIATION INSTITUTE»**



– Supervision of bachelor's degree diploma projects

### Methodological Materials, Textbooks:

1. Special equipment and Technologies in Aviation Production [Electronic resource]: study guide / V. V. Kollierov, Yu. V. Diachenko, V. T. Sikulsky et al. – Kharkiv : National Aerospace University named after M. Ye. Zhukovsky "Kharkiv Aviation Institute", 2019. – 71 p.
2. Основи авіації і технології виробництва літальних апаратів (частина 1) [Текст] : навч. посіб. / І. В. Бичков, В. В. Воронько, К. В. Майорова та ін. – Харків : Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2020. – 72 с.
3. Технологія виготовлення деталей літальних апаратів з видаленням припуску. Ч. 1 [Електронний ресурс]: підручник / Ю. В. Д'яченко, В. Т. Сікульський, І. О. Воронько, О. К. Горлов, К. В. Майорова, С. Ю. Миронова, О. В. Шипуль. – Харків: Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2023. – 232 с.
4. Технологія виробництва деталей літальних апаратів розмірною обробкою [Електронний ресурс]: навч. посібник до лабораторного практикуму та практ. занять / Ю. В. Д'яченко, В. Т. Сікульський, І. О. Воронько, К. В. Майорова, С. Ю. Миронова – Харків: Нац. аерокосм. ун-т «Харк. авіац. ін-т», 2023. – 88 с.
5. Технологія, устаткування і оснащення для виготовлення деталей літальних апаратів з видаленням припуску [Електронний ресурс] : підручник / Ю. В. Д'яченко, В. Т. Сікульський, І. О. Воронько, О. К. Горлов, К. В. Майорова, С. Ю. Миронова, О. В. Шипуль. – Харків : Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2024. – 177 с.
6. Застела, О. М. Випробування літаків та їхніх систем в основних і спеціалізованих цехах авіапідприємства на різних стадіях виробництва [Електронний ресурс] : навч. посіб. / О. М. Застела, І. О. Воронько. – Харків : Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2024. – 208 с.

### SELECTED PUBLICATIONS:

#### Key Articles (Scopus, WoS, others):

1. Dulfan, A., & Voronko, I. (2021). Features of Spatial-Temporal Hierarchical Structures Formation. Lighting Engineering & Power Engineering, 60(2), pp. 66-70. <https://lepe.kname.edu.ua/index.php/lepe/article/view/467>
2. Andrii Galkin. Methods of Comparison of the Economic Order Quantity and Just-in-Time Restocking Technologies. The Case Study / Andrii Galkin, Velerii Levada, Volodymyr Kyselov, Oksana Hulchak, Dmytro Prunencko, Iryna Voronko // ORIGINAL RESEARCH ARTICLE in Operation and Economics in Transport. – UNIVERSITY OF ZILINA COMMUNICATIONS, 2022. – 24 (2). – pp. A 35-A 43. <https://doi.org/10.26552/com.C.2022.2.A35-A43>
3. Voronko, I., Voronko, V., Dyachenko, Y., & Shapar, S. (2023). Process Simulation of Hole Mandrelling in Steel Aircraft Parts. University of Pannonia, Faculty of Engineering: Hungarian Journal of Industry and Chemistry, 51(1), 1–7. <https://doi.org/10.33927/hjic-2023-01>
4. Vorobiov, I., Maiorova, K., Voronko, I., Skyba, O., & Komisarov, O. (2024). Mathematical models creation for calculating dimensional accuracy at the construction stages of an analytical standard using the chain method. Technology Audit and Production Reserves, 1(75). <https://doi.org/10.15587/2706-5448.2024.297732>
5. Lupkin, B., Maiorova, K., Pavlenko, O., Tolstoy, S., & Voronko, I. (2024). Experience and effectiveness of the no-loft linking shape and dimension method using laser optical systems in aircraft production. Technology Audit and Production Reserves, No 3/1 (77). <https://doi.org/10.15587/2706-5448.2024.307330>
6. Makeyev, V., Pushkarov, Y., Voronko, V., Raskoshnyi, A., & Voronko, I. (2024). Ways of Improving Accuracy Level for the Settings of Launches by Winged Aircraft. Lighting Engineering & Power Engineering, 63(3), 81–100. <https://doi.org/10.33042/2079-424X.2024.63.3.03>



7. Thread inspection using the waveline W800R PROFILOMETER: methodology for method verification / Maiorova, K., Kalinichenko, V., Bocharov, V., Voronko, I., Khayyam, N. // Aerospace Technic and Technology: collection of scientific papers / Ministry of Education and Science of Ukraine, National Aerospace University "Kharkiv Aviation Institute". – Kharkiv, 2024. – No. 2, 38-46 p. DOI: 10.32620/akt.2025.2.04.

#### **Books, Chapters in Collective Monographs:**

1. Воронько В. В. Области застосування безпілотних літальних апаратів / В. В. Воронько, І. О. Воронько // Сучасний стан проведення наукових досліджень у ІТ-технологіях, галузях електроніки, інженерії, нанотехнологіях та транспортній сфері: колективна монографія (1st ed.). / під ред. Валеренко Г.І. – Вінниця: Європейська наукова платформа, 2021. (Розділ VII) – С. 122-136. <https://doi.org/10.36074/csriteenat.ed-1.08>
2. Voronko, I.O. (2021). The main types of machining in the aircraft industry. In: European ways of the development of modern engineering research: Collective monograph. Riga, Latvia: "Baltija Publishing" pp. 55-87. [in Ukrainian]. <https://doi.org/10.30525/978-9934-26-142-8-3>

#### **Conferences (Scopus):**

1. Voronko V., Tkachenko I., Dyachenko Y., Voronko I., Zawistovskiy D. (2022) Methodology for Calculating the Productivity of Electrochemical Machining in Stationary Electrolyte. In: Nechyporuk M., Pavlikov V., Kritskiy D. (eds) Integrated Computer Technologies in Mechanical Engineering – 2021. ICTM 2021. Lecture Notes in Networks and Systems, vol 367, pp 47-56. Springer, Cham. [https://doi.org/10.1007/978-3-030-94259-5\\_5](https://doi.org/10.1007/978-3-030-94259-5_5)
2. Makeiev V., Pushkariov Y., Raskoshnyi A., Voronko I., Myronova S. (2022) Considering the Meteorological Elements for the Aerial Vehicles Flight by Using "Weight" Functions. In: Nechyporuk M., Pavlikov V., Kritskiy D. (eds) Integrated Computer Technologies in Mechanical Engineering – 2021. ICTM 2021. Lecture Notes in Networks and Systems, vol 367, pp. 133-144. Springer, Cham. [https://doi.org/10.1007/978-3-030-94259-5\\_13](https://doi.org/10.1007/978-3-030-94259-5_13)
3. Vorobiov I., Maiorova K., Voronko I., Boiko M., Komisarov O. (2022) Creation and Improvement Principles of the Pneumatic Manual Impulse Devices. In: Nechyporuk M., Pavlikov V., Kritskiy D. (eds) Integrated Computer Technologies in Mechanical Engineering – 2021. ICTM 2021. Lecture Notes in Networks and Systems, vol 367, pp. 178-191. Springer, Cham. [https://doi.org/10.1007/978-3-030-94259-5\\_17](https://doi.org/10.1007/978-3-030-94259-5_17)
4. Voronko, V.V., Dyachenko, Yu.V., Voronko, I.O., Zastela, O.M., Voronko, V.O.: Automation of the Pneumatic Impulse Mandreling Technological. In: Arsenyeva, O., et al. (eds.) Smart Technologies in Urban Engineering – 2022. STUE 2022, LNNS, vol. 536, pp. 569–580, Springer, Cham (2023). [https://doi.org/10.1007/978-3-031-20141-7\\_52](https://doi.org/10.1007/978-3-031-20141-7_52)
5. Voronko, I., Dyachenko, Yu., Voronko, V., Shapar, S., Dmytrenko, D. (2024). Hole Hardening in Steel Structures Using Impulse Mandrelling. In: Arsenyeva, O., et al. (eds.), STUE 2023, LNNS 807, Springer, Cham. P. 229-242. [https://doi.org/10.1007/978-3-031-46874-2\\_21](https://doi.org/10.1007/978-3-031-46874-2_21)
6. Sikulskyi, V., Maiorova, K., Shypul, O., Nikichanov, V., Kapinus, O., Tryfonov O., Voronko I. (2024) Algorithm for Selecting the Optimal Technology for Rapid Manufacturing and/or Repair of Parts. In: O. Lytvynov et al. (eds.) Integrated Computer Technologies in Mechanical Engineering – 2023. ICTM 2023, LNNS, V. 1008, 25–39 p. Springer, Cham. [https://doi.org/10.1007/978-3-031-61415-6\\_3](https://doi.org/10.1007/978-3-031-61415-6_3)
7. Dyachenko, Y., Voronko, I., Sikulskyi, V., Maiorova K., Shapar, S. (2025) Study of the Technological Parameters of Surface Plastic Deformation for Monolithic Aircraft Panels by the Impact-Drum Method. In: O. Lytvynov et al. (eds.) Integrated Computer Technologies in Mechanical Engineering 2024. ICTM 2024, LNNS 1474, pp. 429–440, 2025. Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-94852-7\\_36](https://doi.org/10.1007/978-3-031-94852-7_36)

#### **Conferences:**

1. Voronko Iryna. Methods of the Aviation Parts Nondestructive Testing on the Example of the Magnetic Particle Inspection / Iryna Voronko // Міжнародна науково-технічна конференція «Проблеми створення та забезпечення життєвого циклу авіаційної техніки»: тези доп. – Х.,



2020. – С. 28-29.

2. Li Faming (2023) The Present Situation and Countermeasures of Aircraft Flight Test / Li Faming & Iryna Voronko // Sectoral research XXI: characteristics and features: collection of scientific papers «SCIENTIA» with Proceedings of the V International Scientific and Theoretical Conference, February 3, 2023. Chicago, USA: European Scientific Platform, pp. 129-132. <https://doi.org/10.36074/scientia-03.02.2023>
3. Luo Zhicong (2023) Aircraft landing gear test for emerging loads / Luo Zhicong & Iryna Voronko // International scientific journal «Grail of Science», V Correspondence International Scientific and Practical Conference «Scientific Researches and Methods of Their Carrying Out: World Experience and Domestic Realities», February 17, 2023. Vinnytsia, Ukraine: NGO European Scientific Platform & Vienna, Austria: LLC International Centre Corporate Management, P. 389-390 <https://doi.org/10.36074/grail-of-science.17.02.2023.070>

### **Books, Chapters in Collective Monographs:**

1. Розроблення автоматизованого комплексу для прецизійного термоімпульсного оброблення детонувальними газовими сумішами: наукові матеріали [Текст] : монографія / С. І. Планковський, О. В. Шипуль, Є. В. Цегельник, О. В. Трифонов, К. В. Коритченко, О. О. Баранов, Ю. О. Сисоєв, В. О. Гарін, Є. О. Аксьонов, В. В. Комбаров, С. О. Заклінський ; за ред. С. І. Планковського. – Харків : Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2020. – 318 с.
2. Plankovsky, S., Popov, V., Shypul, O., et al.: Advanced thermal energy method for finishing precision parts. In: Gupta, K., Pramanik, A. (eds.) Advanced Machining and Finishing, pp. 527–575. Elsevier, Amsterdam (2021). <https://doi.org/10.1016/B978-0-12-817452-4.00014-2>

### **Links to Citation Database Profiles:**

<https://www.webofscience.com/wos/author/record/53829932>  
<https://www.scopus.com/authid/detail.uri?authorId=57476868700>  
<https://scholar.google.com.ua/citations?hl=ru&user=ooXT1Z0AAAAJ>

### **ADDITIONAL INFORMATION:**

#### **Language Proficiency:**

English, level B2. Certificate of the Pearson B2/2020/05/28/245, Foreign Languages Institute of Warsaw Management University, May 28, 2020.

#### **Computer Skills:**

Microsoft Word, Microsoft Excel, Microsoft Power Point, SolidWorks, Компас, CorelDRAW, Movavi.

#### **Social and Community Activities:**

highly-motivated, good communication skills, conscientious, hardworking, persistent, positive personality, enthusiastic.

