



Name	Oleh Tryfonov
Position, Department/Faculty	Associate Professor of the Department of Aircraft Production Technologies, National Aerospace University "Kharkiv Aviation Institute"
Academic Degree, Academic Title	PhD Associate Professor of the Department of Aircraft Manufacturing
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Scopus Author ID:	57192959255
Web of Science ResearcherID:	ADM-9546-2022
ORCID iD:	0000-0001-8058-8649
Google Scholar:	https://scholar.google.com/citations?view_op=list_works&hl=ru&user=C5nioKgAAAA
ResearchGate:	

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:

Internship under the program EWENT - East-West European Network on higher Technical education, Erasmus Mundus Action 2 Lot 8 (2012 – 2013). Warsaw University of Technology.

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

- 02.09.2013 – 30.11.2014 pp. Assistant Professor of the Department of Aircraft Production Technologies, National Aerospace University. M.Ye. Zhukovsky "KhAI"
- 01.12.2014 – 20.12.2016 pp. Senior Lecturer, Department of Aircraft Production Technologies, National Aerospace University. M.Ye. Zhukovsky "KhAI"
- 21.12.2016 – present Associate Professor of the Department of Aircraft Production Technologies, National Aerospace University. M.Ye. Zhukovsky "KhAI"

Teaching Experience:

- 02.09.2013 – 30.11.2014 pp. Assistant Professor





01.12.2014 – 20.12.2016 pp. Senior Lecturer
21.12.2016 – present Associate Professor

Experience in International or National Projects:

1. Executor, "Technological Systems for the Production and Restoration of Facilities and Components of Military Equipment Provided by Foreign Partners or Captured Equipment to Solve the Problems of Import Substitution and Strengthen the Defense Capability of Ukraine", M. Ye. Zhukovsky National Aerospace University "Kharkiv Aviation Institute", 2023-2025, Ministry of Education and Science of Ukraine <https://nrat.ukrintei.ua/searchdoc/0224U003065>
2. Executor, "Development of software and hardware support for digital twins for processing aircraft parts with detonating gas mixtures", M. Ye. Zhukovsky National Aerospace University "Kharkiv Aviation Institute", 2021- 2022, Ministry of Education and Science of Ukraine, <https://nrat.ukrintei.ua/searchdoc/0223U000869/>
3. Executor, "Development of technologies and technical solutions for automated industrial installations for precision machining of gas turbine engines with detonating gas mixtures", M. Ye. Zhukovsky National Aerospace University "Kharkiv Aviation Institute", 2019 – 2020, Ministry of Education and Science of Ukraine, <https://nrat.ukrintei.ua/searchdoc/0221U101058/>
4. Executor, "Creation of an automated complex of precision thermal pulse treatment with detonating gas mixtures", M. Ye. Zhukovsky National Aerospace University "Kharkiv Aviation Institute", 2017 – 2018, Ministry of NATIONAL RESEARCH FOUNDATION of UKRAINE Education and Science of Ukraine, <https://nrat.ukrintei.ua/searchdoc/0219U003579/>
5. Executor, "Development and Research of Technologies for Finishing Aerospace Equipment Parts with Intense Heat Flows", 2013 – 2014, National Aerospace University of the Ministry of Education and Science of Ukraine, <https://nrat.ukrintei.ua/searchdoc/0215U006171/>

RESEARCH ACTIVITIES:

Main Research Areas:

- finishing of materials using intense heat flows of combustible gases in closed chambers, particularly research on gas dynamics and heat transfer, fuel combustion modes, material strength characteristics under thermal and pulse loads, etc.;
- development of digital twins for fuel mixture generation systems.

Number of Publications (Scopus, WoS, others):

55

Monographs, Textbooks:

3

Participation in Scientific Conferences:

12

TEACHING ACTIVITIES:

Courses Taught:

Training courses for students of specialty 134 "Aviation, rocket and space technology":



- the first (bachelor's) level of higher education: CAE of Technological Processes.
- the second (master's) level of higher education: Issues of intellectual property and scientific and engineering developments; Simulation of physical processes.
- Supervision of bachelor's degree diploma projects

GRANTS AND PROJECTS:

Participation in International and National Projects:

1. The project "Increasing the Energy Efficiency and Safety of Plastics Thermal Processing Using Numerical Simulation", 01/05/2024 – 30/04/2025, EURIZON Fellowship Program "Remote research grants for Ukrainian researchers", funded by the European Union under grant agreement No. 871072. www.eurizon-project.eu

INTERNATIONAL ACTIVITIES:

Internships:

Internship under the program EWENT - East-West European Network on higher Technical education, Erasmus Mundus Action 2 Lot 8 (2012 – 2013). Warsaw University of Technology.

Cooperation with Foreign Universities:

- Warsaw University of Technology, Warsaw, Poland.

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. Plankovskyy, S., Tedorczyk, A., Shypul, O., Tryfonov, O., Brega, D. Determination of detonable gas mixture heat fluxes at thermal deburring. Acta Polytechnica. – 2019. – Vol. 59, No. 2. – Pp. 162 – 169. DOI:10.14311/AP.2019.59.0162 Scopus
2. Plankovskyy, S., Shypul, O., Zaklinskyy, S., Tryfonov, O. Dynamic method of gas mixtures creation for plasma technologies // Problems of atomic science and technology. Series: Plasma Physics. – 2018. – No. 5 (117). – P. 121-125. Scopus
3. Plankovskyy, S., Shypul, O., Tsegelnyk, Ye., Tryfonov, O., Golovin, I. Simulation of surface heating for arbitrary shape's moving bodies/ sources by using R-functions. Acta Polytechnica. – 2016. – Vol. 56, No. 6. – Pp. 472 – 477. Scopus
4. Krukovskiy, P.G. CFD model as a digital twin of the radiation state of the new safe confinement of the chernobyl NPP.[Text]/ Krukovskiy, P.G, Diadiushko, Y.V., Garin, V.O., Tryfonov, O.V., Kabanov, Y.Y. – Problems of Atomic Science and Technology, 2020, 128(4), c. 54-62. Scopus.
5. O. Tryfonov, O. Shypul, S. Plankovskyy, V. Garin, Numerical and experimental investigation of exhaust release at thermal pulse deburring, Eastern-European Journal of Enterprise Technologies, 6 (1), 6–15 (2022).
6. Tryfonov, O., Garyn, V., Tkachenko, D., Plankovskyy, S., Shypul, O. Development of a Digital Twin for Gas Mixing in a Generator // Hungarian Journal of Industry and Chemistry (2023), 51(1), C. 35–42 <https://doi.org/10.33927/hjic-2023-06>
7. Tryfonov, O.; Teodorczyk, A.; Shypul, O.; Rudy, W.; Garin, V.; Myntiuk, V.; Tkachenko, D. Numerical Study and Model Validation of Low-Pressure Hydrogen–Air Combustion in a Closed Vessel. Computation 2025, 13, 54. <https://doi.org/10.3390/computation13020054>
8. Dubinin, D., Korytchenko, K., Krivoruchko, Y., Tryfonov, O., Sakun, O., Ragimov, S. & Tryhub, V. (2024). Numerical studies of the breakup of the water jet by a shock wave in the barrel of the fire



extinguishing installation. Sigurnost, 66 (2), 139-150. <https://doi.org/10.31306/s.66.2.4>

9. TRYFONOV, Oleh et al. A numerical simulation study of hydrogen-air mixture combustion in a closed chamber at low initial pressure. Radioelectronic and Computer Systems, [S.l.], v. 2024, n. 4, p. 259-269, nov. 2024. ISSN 2663-2012. Available at: <http://nti.khai.edu/ojs/index.php/reks/article/view/reks.2024.4.21>. Date accessed: 10 mar. 2025. doi: <https://doi.org/10.32620/reks.2024.4.21>.

10. Shypul O., Garin V., Tryfonov O., Myntiuk <https://doi.org/10.33927/hjic-2024-19>., Egedy A. Study of green hydrogen-air mixture formation in a closed chamber with a given composition. Hungarian Journal Of Industry And Chemistry Vol. 52(2) pp. 57–62 (2024) DOI: <https://doi.org/10.33927/hjic-2024-19>

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. Plankovskyy, 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/ADM-9546-2022>

<https://www.scopus.com/authid/detail.uri?authorId=57192959255>

https://scholar.google.com/citations?view_op=list_works&hl=ru&user=C5nioKgAAAA

ADDITIONAL INFORMATION:

Language Proficiency:

English, level B2. Certificate Nr KJ-A Nr. 23/05/145, WYŻSZA SZKOŁA LINGWISTYCZNA W CZĘSTOCHOWIE, May 20, 2023).

IT Skills:

ANSYS Workbench (CFX, Fluent), CAD Programs: Solid Works.

Other Software: MS Word, Excel, CorelDRAW, Adobe Photoshop CS.

Social and Community Activities:

Qualified and enthusiastic professional with strong analytical reasoning skills; highly motivated; skilled in negotiation, organization, prioritization, goal setting, project planning, and delegation; effective communicator with proven abilities in leadership, conflict management, adaptability, resourcefulness, and teamwork.

