Name	Denys Tkachenko
Position, Department/Faculty	Department of aircraft strength
Academic Degree, Academic Title	PhD
Email:	d.tkachenko@khai.edu
Scopus Author ID:	57463439000
Web of Science ResearcherID:	JVN-5047-2024
ORCID iD:	0000-0002-5006-6775
Google Scholar:	pbKDNrUAAAAJ
ResearchGate:	-

EDUCATION:

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

1. National Aerospace University “Kharkiv aviation institute”, aircraft strength department – bachelor’s degree, 2007-2011
2. National Aerospace University “Kharkiv aviation institute”, aircraft strength department – Master's degree (diploma with honour, ХА № 44052919), engineer-researcher, 2011-2013

Postgraduate/Doctoral studies:

National Aerospace University “Kharkiv aviation institute”– full-time postgraduate student, 2013 – 2017

Additional training, certification programs:

ANSYS Certified Professional: Structures, LS DYNA, Granta

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

2010-2011: Technician. Aerohydrodynamics Department of the National Aerospace University M.E. Zhukovsky "Kharkiv Aviation Institute"
2011-2017: Engineer. Aircraft manufacturing technology Department of the National Aerospace University M.E. Zhukovsky "Kharkiv Aviation Institute"
2017 – present: Lecturer. Strength of Aircraft Department of the National Aerospace University M.E. Zhukovsky "Kharkiv Aviation Institute"

2017 – 2022: Stress-strain analyst; MBU specialist in CADFEM Ukraine LLC
2022 – 2023: Technical consultant in ENERGORISK, LTD
2022 – present: Stress-strain analyst; MBU specialist in CADFEM UA LLC

Teaching Experience:

9 years

Experience in National Projects:

1. Theoretical and constructive studies of linear and non-linear models of thin-walled structural elements: Project ordered by the Government of Ukraine under state registration NR. 0117U002502, 2018
2. Analysis methods of the linear and non-linear mathematical models of a thin-walled spatial system:

Project ordered by the Government of Ukraine under state registration NR. 0117U002502, 2019
3. Development of software and hardware for digital twins of aircraft parts processing: Project ordered by the Government of Ukraine under state registration NR. 0121U109601, 2022
4. Project No. 2023.04/0027 of the National Research Foundation of Ukraine's competition 'Science for Strengthening Ukraine's Defense Capability

RESEARCH ACTIVITIES:

Main Research Areas:
mechanics of a deformable solid, in particular in the development of mathematical models for numerical experiments exploring the strength of structures; the study of detonation processes of gases and the impact of an explosive wave on power structures; the development of digital twins of control systems.
Number of Publications (Scopus, WoS, others):
22

Monographs, Textbooks:
-

Participation in Scientific Conferences:
8

TEACHING ACTIVITIES:

Courses Taught:
Mechanics of materials and constructions; Structural mechanics; Strength analysis of an aircraft; Elasticity, plasticity, and creep theories.

Author Courses, Academic Programs:
Structural mechanics in aerospace technology

Methodological Materials, Textbooks:
Geometric characteristics of plane sections [Text]: schoolbook . M. N. Grebennykov, V. B. Myntiuk, D. A. Tkachenko. – Kharkov: National aerospace university named after N. E. Zhukovsky “Kharkiv aviation institute”, 2021. – 105 p.

GRANTS AND PROJECTS:

Grants, Scholarships, Academic Mobility Programs:
EURIZON FELLOWSHIP PROGRAMME, EURIZON H2020 project, grant agreement 871072

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Honorary Titles:
-

Distinctions, Awards, Prizes:
-

Membership in Professional Associations:

-

INTERNATIONAL ACTIVITIES:

Internships:
2016: internship in Czech Technical University in Prague (the Dept. of Mechanics, Biomechanics and Mechatronics; Erasmus Mundus programme, project ACTIVE)
Cooperation with Foreign Universities:
Warsaw University of Technology, Faculty of Power and Aeronautical Engineering, Institute of Heat Engineering in a framework of EURIZON FELLOWSHIP PROGRAMME (Remote Research Grants, Grant Agreement #EU-3034) for a project titled "Increasing the Energy Efficiency and Safety of Plastics Thermal Processing Using Numerical Simulation."
Teaching/Lecturing Abroad:
-

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. S. A. Khalilov, D. A. Tkachenko, N. V. Bondareva, V. B. Myntiuk. Numerical study of basic systems in solving boundary value problemson a segment using spectral methods // Aerospace engineering and technology. - 2019. – Vol. 6(158). - P. 20–32. doi:10.32620/aktt.2019.6.04
2. Tkachenko D., Tsegelnyk Y., Myntiuk S., Myntiuk V. Spectral Methods Application in Problems of the Thin-Walled Structures Deformation, J. Appl. Comput. Mech., 8(2), 2022, 641–654. https://doi.org/10.22055/JACM.2021.38346.3207
3. Shypul, O., Garin, V., Tkachenko, D., Zaklinskyy, S., Tryfonov, O., Plankovskyy, S. (2023). Development of a Digital Twin of Reservoir Filling by Gas Mixture Component. In: Shkarlet, S., et al. Mathematical Modeling and Simulation of Systems. MODS 2022. Lecture Notes in Networks and Systems, vol 667. Springer, Cham. https://doi.org/10.1007/978-3-031-30251-0_7
4. Garin, V. Development of a digital twin of filling the tank with a gas mixture/ V. Garin, D. Tkachenko, O. Shypul, S. Zaklinskyy, O. Tryfonov, S. Plankovskyy // Aerospace engineering and technology. – 2022. – Vol. 5(183). – P. 40 – 50. doi:10.32620/aktt.2022.5.03
5. Shypul, O., Garyn, V., Tkachenko, D., Plankovskyy, S., & Tryfonov, O. (2023). Development of a Digital Twin for Gas Mixing in a Generator. Hungarian Journal of Industry and Chemistry, 51(1), 35–42. https://doi.org/10.33927/hjic-2023-06
6. Tryfonov, O., Shypul, O., Garin, V., Myntiuk, V., & Tkachenko, D. (2024). A numerical simulation study of hydrogen-air mixture combustion in a closed chamber at low initial pressure. Radioelectronic and Computer Systems, 2024(4), 259-269. doi:https://doi.org/10.32620/reks.2024.4.21
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

Books, Chapters in Collective Monographs:
-

Links to Citation Database Profiles:
https://orcid.org/0000-0002-5006-6775

http://www.scopus.com/inward/authorDetails.url?authorID=57463439000&partnerID=MN8TOARS
https://www.webofscience.com/wos/author/record/JVN-5047-2024
https://scholar.google.com.ua/citations?hl=ru&user=pbKDNrUAAAAJ

ADDITIONAL INFORMATION:

Language Proficiency:
Ukrainian, English B2, Russian

IT Skills:
Python

Social and Community Activities:
Deputy Dean, Coordinator of Student Groups