Name	Vitalii Myntiuk
Position, Department/Faculty	Associate Professor of Technology of Aircraft Manufacturing Department
Academic Degree, Academic Title	Candidate of Science (Ph.D.)
Email:	vitalii.myntiuk@khai.edu
Scopus Author ID:	57201067344
Web of Science ResearcherID:	Y-6751-2018
ORCID iD:	0000-0002-4047-0192
Google Scholar:	https://scholar.google.com/citations?hl=en&user=8L5b19YAAAAJ
ResearchGate:	https://www.researchgate.net/profile/Vitalii-Myntiuk

EDUCATION:

Basic education (university, major, year of graduation):
State Aerospace University “KhAI”, CAD in Aerospace Engineering, 1994

Postgraduate/Doctoral studies:
National Aerospace University “KhAI”, doctoral studies, Technical Sciences (Solid Mechanics), 2012–2015
National Aerospace University “KhAI”, postgraduate studies, Technical Sciences (Solid Mechanics), 1994–1997

Additional training, certification programs:
Structures Preprocessing. ANSYS certified professional
Structures Base Product Knowledge Technical. ANSYS certified professional
Structures Base Engineering Knowledge Technical. ANSYS certified professional
LS-DYNA Base Technical. ANSYS certified professional

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):
2025 – present — National Aerospace University “KhAI”, Associate Professor, Department of Aircraft Manufacturing Technology
2024 – 2025 — National Aerospace University “KhAI”, Associate Professor, Department of Aircraft and Helicopters Design
2005 – 2024 — National Aerospace University “KhAI”, Associate Professor, Department of Aircraft Strength
1997 – 2022 — National Aerospace University “KhAI”, Senior Researcher
1992 – 1997 — Kharkiv Aviation Institute, Researcher

Teaching Experience:
More than 20 years of teaching experience in courses related to aircraft structural strength.

Experience in International or National Projects:
Over 20 years of experience as a researcher, principal investigator, and supervisor in the

implementation of international, contract, and state-funded research projects.

RESEARCH ACTIVITIES:

Main Research Areas:
Buckling, nonlinear deformation and post-buckling of thin-walled structures;
Spectral and numerical approaches in computational mechanics;
Computational modeling and numerical simulation

Number of Publications (Scopus, WoS, others):
46 articles, including 13 indexed in Scopus

Monographs, Textbooks:
1 Monograph, 3 Textbooks

Participation in Scientific Conferences:
4 indexed in Scopus

TEACHING ACTIVITIES:

Courses Taught:
Mechanics of Materials;
Aircraft Structural Mechanics;
Theory of Elasticity
Buckling and Vibrations of Thin-Walled Structures;
Theory of Plates and Shells;
Theory and Practice of the Finite Element Method

Author Courses, Academic Programs:
Buckling and Vibrations of Thin-Walled Structures;
Theory of Plates and Shells;
Theory and Practice of the Finite Element Method

Methodological Materials, Textbooks:
“Stability of Elastic Systems. Part I: Introduction to the Theory of Elastic Stability”
“Use of Industrial Software Packages in Strength, Stability, and Vibration Analysis”
“Geometric characteristics of plane sections”

GRANTS AND PROJECTS:

Participation in International and National Projects:
1. Theoretical Foundations of Mathematical Modeling of Stability of Load-Bearing Structures of Aerospace Engineering, 2003. – 140 p. Reg. No. 0100U003434. Inv. No. 0203U008196.
2. Theoretical Foundations of the Boundary Condition Identification Method for the Study of Elastic Stability of Aerospace Load-Bearing Structures, 2006. – 173 p. Reg. No. 0103U005070. Inv. No. 0206U002451.
3. Theory and Numerical Implementation of the Boundary Condition Identification Method in Problems of Elastic Stability and Vibrations: Final Research Report, 2009. – 217 p. Reg. No. 0106U001061. Inv. No. 0209U005481.

4. New Mathematical Methods for the Study of Fields, States, and Processes in Continuum Mechanics for the Development of Modern Aerospace Technologies. Vol. 2. Boundary Condition Identification Method, 2012. – 184 p. Reg. No. 0109U001394. Inv. No. 0712U001251.
5. New Methods for the Study of Linearly and Nonlinearly Deformable Bodies Made of Composite Materials. Vol. 2. Mathematical Models, Methods of Their Analysis, and Numerical Implementation of Nonlinear Deformation of Thin-Walled Spatial Systems, 2013. – 94 p. Reg. No. 0112U002135. Inv. No. 0214U006196.
6. New Methods for the Study of Linearly and Nonlinearly Deformable Bodies Made of Composite Materials. Vol. 2. Mathematical Models, Methods of Their Analysis, and Numerical Implementation of Nonlinear Deformation of Thin-Walled Spatial Systems, 2014. – 142 p. Reg. No. 0112U002135. Inv. No. 0214U006196.
7. New Methods for the Study of Linearly and Nonlinearly Deformable Bodies Made of Composite Materials. Vol. 2. Mathematical Models, Methods of Their Analysis, and Numerical Implementation of Nonlinear Deformation of Thin-Walled Spatial Systems, 2015. – 160 p. Reg. No. 0112U002135. Inv. No. 0215U006163.
8. Methods for Constructing Analytical and Analytical-Numerical Solutions of Boundary Value Problems for Open and Closed Smooth and Ribbed Shells and Plates under Non-Uniform Primary Boundary Conditions, 2017. – 219 p. Reg. No. 0117U002502. Inv. No. 0718U003543.
9. Theoretical and Constructive Studies of Linear and Nonlinear Models of Thin-Walled Structural Elements, 2018. – 126 p. Reg. No. 0117U002502. Inv. No. 0219U003578.
10. Methods of Analysis of Linear and Nonlinear Mathematical Models of Thin-Walled Spatial Systems, 2019. – 96 p. Reg. No. 0117U002502. Inv. No. 0220U101091.
11. Development of Methods and Tools for Improving the Shock-Absorption System of Parachute Platforms to Prevent Damage to Airdropped Equipment, Reg. No. 0121U109604.
12. Increasing the Energy Efficiency and Safety of Plastics Thermal Processing Using Numerical Simulation. EURIZON FELLOWSHIP PROGRAMME. Remote Research Grants. Grant Agreement #EU-3034- A.

INTERNATIONAL ACTIVITIES:

Internships:
Erasmus Mundus program, project ACTIVE

Cooperation with Foreign Universities:
Czech Technical University in Prague, the Dept. of Mechanics, Biomechanics and Mechatronics

Teaching/Lecturing Abroad:
Research Visit

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):
1. Khalilov, S. A., & Myntiuk, V. B. (2018). Postbuckling Analysis of Flexible Elastic Frames. Journal of Applied and Industrial Mathematics, 12(1), 28–39. https://doi.org/10.1134/s1990478918010040
2. Myntiuk, V. B. (2018). Biot Stress and Strain in Thin-Plate Theory for Large Deformations. Journal of Applied and Industrial Mathematics, 12(3), 501–509. https://doi.org/10.1134/s1990478918030109
3. Kravchenko, S. G., & Myntiuk, V. (2020). Nonlinear Postbuckling Behavior of a Simply Supported, Uniformly Compressed Rectangular Plate. In Advances in Intelligent Systems and Computing (pp.

35–44). Springer International Publishing. https://doi.org/10.1007/978-3-030-37618-5_4
4. Myntiuk, V. B. (2020). Postbuckling of a Uniformly Compressed Simply Supported Plate with Free In-Plane Translating Edges. Journal of Applied and Industrial Mathematics, 14(1), 176–185. https://doi.org/10.1134/s1990478920010160
5. Shypul, O., & Myntiuk, V. (2020). Transient Thermoelastic Analysis of a Cylinder Having a Varied Coefficient of Thermal Expansion. Periodica Polytechnica Mechanical Engineering, 64(4), 273–278. https://doi.org/10.3311/ppme.14733
6. Plankovskyy, S., Myntiuk, V., Tsegelnyk, Y., Zadorozhniy, S., & Kombarov, V. (2020). Analytical Methods for Determining the Static and Dynamic Behavior of Thin-Walled Structures During Machining. In Advances in Intelligent Systems and Computing (pp. 82–91). Springer International Publishing. https://doi.org/10.1007/978-3-030-58124-4_8
7. Myntiuk, V. (2021). Spectral solution to a problem on the axisymmetric nonlinear deformation of a cylindrical membrane shell due to pressure and edges convergence. Eastern-European Journal of Enterprise Technologies, 5(7 (113)), 6–13. https://doi.org/10.15587/1729-4061.2021.242372
8. Tsegelnyk, Y., Tkachenko, D., Myntiuk, S., & Myntiuk, V. (2021). Spectral Methods Application in Problems of the Thin-Walled Structures Deformation. Journal of Applied and Computational Mechanics, Online First. https://doi.org/10.22055/jacm.2021.38346.3207
9. Sikulskyi, V., Maiorova, K., Garin, V., Myntiuk, V., & Sikulskyi, S. (2024). Modeling Hole Edge and Burr Formation During Drilling Using LS-DYNA. In Lecture Notes in Networks and Systems (pp. 123–136). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-61415-6_11
10. Myntiuk, V., Shypul, O., Tryfonov, O., & Tsegelnyk, Y. (2025). Axisymmetric problem of smoothing the surface of a viscous liquid by surface tension forces. Radioelectronic and Computer Systems, 2025(1), 113–125. https://doi.org/10.32620/reks.2025.1.08
11. Myntiuk, V., Tkachenko, D., Pavlenko, O., & Shypul, O. (2025). Simulating the Effect of Mine Explosion on a Remote Gas Detonation Deminer. In Lecture Notes in Networks and Systems (pp. 443–454). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-94852-7_37

Links to Citation Database Profiles:
https://www.scopus.com/authid/detail.uri?authorId=57201067344
https://www.webofscience.com/wos/author/record/Y-6751-2018
https://scholar.google.com/citations?hl=ru&user=8L5b19YAAAAJ
https://orcid.org/0000-0002-4047-0192

ADDITIONAL INFORMATION:

Language Proficiency:
English – Reading proficiency in academic literature

IT Skills:
ANSYS Mechanical, LS-DYNA, MSC Nastran, Patran, COSMOSM, Visual C++, Python, Maple, MS Office, et al.