



Name	Igor Taranenko
Position, Department/Faculty	Professor, Composite Structures and Aviation Materials, Rocket Space Technologies
Academic Degree, Academic Title	Candidate of Science in Engineering, Associate Professor
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Scopus Author ID:	[56439708200]
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ResearchGate:	[https://www.researchgate.net/profile/Igor-Taranenko?ev=hdr_xprf]

EDUCATION:

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

Kharkiv Aviation Institute, Engineer-Mechanics in Aviation Engines and Power Plants, 1996
National Aerospace University "KhAI", Philology, Applied Linguistics, 2020

Postgraduate/Doctoral studies:

PhD Thesis "The method of analysis thermal stressed state of skin panel stringers made of composites", Major – Design, Manufacturing and Testing of Aircrafts, 2011

Additional training, certification programs:

Certificate to the requirements of paragraph 147.A.105 Annex 4 to the Aviation Rules of Ukraine

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

Since 2021 up to now, Professor, Composite Structures and Aviation Materials Science department, National Aerospace University "KhAI", Kharkiv (Ukraine)

2011 – 2021, Associate Professor, Composite Structures and Aviation Materials Science department, National Aerospace University "KhAI", Kharkiv (Ukraine)

2015-2021 Dean of Faculty of Foreign Citizens, National Aerospace University "KhAI", Kharkiv (Ukraine)

2002 – 2011, Major Lecturer, Department of Aviation Materials Science, National Aerospace University "KhAI", Kharkiv (Ukraine)

1998 – 2002, junior lecturer, Department of Rocket-Space Engineering, Kharkiv Aviation Institute

Teaching Experience:

Experience of educational and teaching work (in years) – 27

Experience in International or National Projects:

RESEARCH ACTIVITIES:

Main Research Areas:

Design, Manufacturing, Testing of Aerospace Structures made of Polymeric Composites, Advanced Materials and Structures

Number of Publications (Scopus, WoS, others): 125

Scopus - 19

1. Gaidachuk, O., Taranenko, I., Nabokina, T., Kondratiev, A. (2025). Analysis of Shape Distortion of the Composite Reflector Antennas During Assembly. In: Altenbach, H., Gao, XW., Syngellakis, S., Cheng, A.HD., Lampart, P., Tkachuk, A. (eds) *Advances in Mechanical and Power Engineering II. CAMPE 2023. Lecture Notes in Mechanical Engineering*. Springer, Cham. P. 217–226 https://doi.org/10.1007/978-3-031-82979-6_22 (Scopus, WoS, RG).
2. Selected Problems of Solid Mechanics and Solving Methods. Chapter Topology Optimization Of Adhesively Bonded Double Lap Joint / Sergiy Kurennov, Kostiantyn Barakhov, Igor Taranenko, June 2024. – pp. 303–323. – https://link.springer.com/chapter/10.1007/978-3-031-54063-9_21. (Q2).
3. Sergei KURENNOV, Konstantin BARAKHOV, Olexander POLYAKOV, Igor TARANENKO. Application of genetic algorithm for double-lap adhesive joint design // *Archive of Mechanical Engineering*, 2023, Vol. 70, No. 1, pp. 27–42, DOI: 10.24425/ame.2022.144074. (Q2).
4. Kučera P., Kondratiev A., Píštěk V., Taranenko I., Nabokina T., Kaplan Z. Thin-walled open-profile composite beams under thermo-mechanical loading // *Composite Structures*. – 2023. 116844. <https://doi.org/10.1016/j.compstruct.2023.116844>. (Q1).

WoS - 7

1. Melnikov S., Taranenko I., Nabokina T., Kondratiev A. (2024). Process-Induced Stresses and Deformations of Hobe Block During Shrinkage and Cooling. In: Nechyporuk, M., Pavlikov, V., Krytskyi, D. (eds) *Integrated Computer Technologies in Mechanical Engineering - 2023. ICTM 2023. Lecture Notes in Networks and Systems*, vol 1008. P. 91–101. Springer, Cham. https://doi.org/10.1007/978-3-031-61415-6_8.
2. Kuritsyn A., Taranenko I., Miroshnikov V., Demenko V., Kondratiev A. (2024). Regression analysis of geometric parameters of "screw implant – maxillary segment" biomechanical system. In: Nechyporuk, M., Pavlikov, V., Krytskyi, D. (eds) *Integrated Computer Technologies in Mechanical Engineering - 2023. ICTM 2023. Lecture Notes in Networks and Systems*, vol 1008. pp 235–246. Springer, Cham. https://doi.org/10.1007/978-3-031-61415-6_20.

Category B

1. Taranenko, I. Analysis of tearing test results for joining tips of metal-composite joints // *Mech. Adv. Technol.* Vol. 8, No. 4 (103), 2024, pp. 440–449, DOI: [https://doi.org/10.20535/2521-1943.2024.8.4\(103\).313399](https://doi.org/10.20535/2521-1943.2024.8.4(103).313399), <https://journal.mmi.kpi.ua/article/view/313399>.
2. Taranenko, I. M. Analysis of tearing test results for joining tips of metal-composite joints / I. M. Taranenko, V.V. Seredenko // *Open information and computer integrated technologies*. – 2024.

- № 102, pp. 32-48. <https://doi: 10.32620/oikit.2024.102.02>.
3. Taranenko, I. M. Edge effects in composite beams / I. M. Taranenko // Open information and computer integrated technologies. – 2024. – № 100, pp. 58-66. <https://doi: 10.32620/oikit.2024.100.05>.
4. Taranenko, I. Exploring the possibility of undesirable manufacturing heritage reduction in parts made of composites and their joints / I. Taranenko, T. Kupriianova // Technology audit and production reserves (Chemical engineering: Chemical and technological systems). – 2024. – Vol. 1/3(75). – P. 24-28. – ISSN 2664-9969. – DOI: 10.15587/2706-5448.2024.299227.
5. Taranenko, I. M. Approach to determination stress-strain state of composite bars considering internal self-equilibrium stressed state / I. M. Taranenko // Aviation and Space Engineering and Technology. – 2024. – № 3(195). – pp. 24-33. – ISSN 1814-4225 (print), ISSN 2663-2012 (online). <https://doi: 10.32620/aktt.2024.3.02>.
6. Taranenko, I. M. Model of quality control at engineering preparation of metal-composite joints / I. M. Taranenko // Space technologies. Missile armament. – 2024. – Вип. 1 (121). – pp.114-119. – ISSN 2617-5525; e-ISSN 2617-5533, https://journal.yuzhnoye.com/ua/content_2024_1-ua/.

Monographs, Textbooks:

1. Karpov Ya.S., Ostapchuk V.V., Popova O.G., Taranenko I.M. Engineering material science. Metals, polymers, ceramics, composites: textbook / edited by Karpov Ya.S. – Kharkiv, National Aerospace University “Kharkiv Aviation Institute”, 2020. – 384 p., http://library.khai.edu/library/fulltexts/2021/complex/Karpov.Inzhenerne_Materialoznavstvo.pdf
2. Taranenko, M.Ye.; Bohachova, T.B. & Taranenko, I.M.: Chapter 7: Vibro-impulse loading – Perfectioning of metals processing with pressure. In: *Modern Manufacturing Processes and Systems, Vol. 1: Fundamentals*. Vrnjačka Banja (Serbia): SaTCIP Publisher Ltd. & Belgrade (Serbia): Faculty of Information Technology and Engineering (FITI), 2020, pp. 151–176. ISBN 978-86-6075-069-5.
3. Designing of airplane’s units made of composites [Text]: textbook / I. M. Taranenko.– Kh.: Nat. Aersp. Univer “Khark. Aviat. Inst.”, 2015.– 140 p.
4. Composite structures in aviation and rocket-space technologies [Text] : workbook / F. M. Gagauz, S. P. Kryvenda, O. O. Vambol, I. M. Taranenko, V. M. Pavlenko. – Kharkiv : National Aerospace University “Kharkiv Aviation Institute”, 2025. – 152 p. <http://dspace.library.khai.edu/xmlui/handle/123456789/8908>.
5. Ya. Karpov, V. Demenko, P. Lepikhin, O. Popova, V. Sikulskiy, A. Taran, I. Taranenko, T. Yastremska. Physical principles of structural materials selection. –Textbook. –Kharkiv: National aerospace university “Kharkiv aviation institute”, 2004 – 403 p.

Participation in Scientific Conferences:

1. Gagauz F.M., Taranenko I.M. Analysis of structural-manufacturing solutions of metal-composite heterogeneous joints considering their manufacturing distinctions / I International scientific-practical conference «Progressive Approaches in Science and Engineering », <https://isu-conference.com/progressive-approaches-in-science-and-engineering>, Copenhagen, Denmark, 23-23 July 2025.
2. Igor Taranenko. Studying the possibility of compensation of undesirable manufacturing warping in composite articles for aircrafts // Modern problems of development of the aerospace industry of Ukraine: engineering, business, law, 05 листопада 2024, National Aerospace University “KhAI”, (Kharkiv, Ukraine), pp. 254–259, <https://dspace.library.khai.edu/xmlui/handle/123456789/8336>, DOI: <https://doi.org/10.32620/EBL.24>.
3. Michael Bikov, Igor Taranenko, Tetyana Nabokina & Andrii Kondratiev. Prediction of Durability of

the Coatings of High-Loaded Friction Hinge Joints: Conference paper / Mathematical Modeling and Simulation of Systems (MODS 2024). – Lecture Notes in Networks and Systems ((LNNS, volume 1091)). – First Online: 07 September 2024. – P. 47–55. –

https://link.springer.com/chapter/10.1007/978-3-031-67348-1_4.

4. Gaidachuk, O., Kondratiev, A., Taranenko, I., Nabokina, T., Zaverukha, V. (2023). Method of Winding of Small-Diameter Pipes Using Vibration Effects. In: Arsenyeva, O., Romanova, T., Sukhonos, M., Biletskyi, I., Tsegelnyk, Y. (eds) Smart Technologies in Urban Engineering. STUE 2023. Lecture Notes in Networks and Systems, vol 807. pp 175–184. Springer, Cham.

https://doi.org/10.1007/978-3-031-46874-2_16.

5. Method of Winding of Small-Diameter Pipes Using Vibration Effects. Oleksandr Gaidachuk, Andrii Kondratiev, Igor Taranenko, Tetyana Nabokina, Yevhen Kryzhyvets // International Conference on Smart Technologies in Urban Engineering (STUE 2023): Smart Technologies in Urban Engineering, December 2023, pp. 175–184, DOI: 10.1007/978-3-031-46874-2_16.

TEACHING ACTIVITIES:

Courses Taught:

Materials Science (96 hrs), Aviation Materials (96 hrs), Engineering Materials Science (96 hrs), Electrotechnical Materials (108 hrs), Design of composite structural elements (58 hrs); Strength of composite structural elements (58 hrs); Mechanics of reinforced Materials (60 hrs); Design of composite structural elements (60 hrs); General principles of design in engineering (50 hrs); Design and analysis of articles made of composites (60 hrs); Design and analysis of composite structures joints (62 hrs), Technological Mechanics of Composite Structures (50 hrs), General design of Airplanes and Helicopters (50 hrs), Introduction to Major (Aerospace) (32 hrs), Professional English in Engineering (40 hrs)

Author Courses, Academic Programs: text

Methodological Materials, Textbooks:

1. Non-destructive inspection of composite structures [Electronic resource]: textbook / O. G. Popova, M. A. Shevtsova, I. M. Taranenko. – Kharkiv : National Aerospace University «Kharkiv Aviation Institute», 2023. – 77 p., http://library.khai.edu/library/fulltexts/metod/NDI_Composites.pdf.

2. Composites manufacturing technology [Electronic source] : textbook for laboratory courses. In 2 parts. Part 1 / O. O. Vambol, S. M. Purhina, I. M. Taranenko, M. A. Shevtsova. – Kharkiv : National Aerospace University «Kharkiv Aviation Institute», 2022. – 60 p.

3. Material Science [Electronic resource] : workbook / V. V. Ostapchuk, O. G. Popova, I. M. Taranenko. – Kharkiv : National Aerospace University «Kharkiv Aviation Institute», 2022. – 129 p., http://library.khai.edu/library/fulltexts/metod/Popova_Navch_Posibnyk_Zvity_Materialoznavstvo.pdf.

GRANTS AND PROJECTS:

Participation in International and National Projects:

International internship within the framework of the «Directional composites through manufacturing innovation (DiCoMI)» (Romania), European Commission’s Horizon 2020, grant No 778068, 2019, Scientific Researcher

2012 – 2016 FP7, WASIS Project of Composite Wafer Section of Airplane Fuselage Design, Scientific Researcher

2009 – 2011 – FR6, Triangular Rib Foot Stress Analysis, Scientific Researcher
2007 – 2010 FP6, Advanced Sensors and Novel Concepts for Intelligent and Reliable Processing in Bonded Repairs, Scientific Researcher
2007 – 2009 P-296 EOARD “Design of Composite Structures Joints”, Scientific Researcher

Grants, Scholarships, Academic Mobility Programs:

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Honorary Titles:

Distinctions, Awards, Prizes:

Honored Professor of National Aerospace University “KhAI”, 2022

Certificate of Honor Award of Kharkiv Region Council, 2023

Certificate of Honor Award of Kharkiv City Council, 2025

Membership in Professional Associations:

INTERNATIONAL ACTIVITIES:

Internships:

Cooperation with Foreign Universities:

Teaching/Lecturing Abroad:

Shenyang Aerospace University, Apr 2025, Delivering Lectures of Materials Science Course in English

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. Kučera P., Kondratiev A., Píštěk V., Taranenko I., Nabokina T., Kaplan Z. Thin-walled open-profile composite beams under thermo-mechanical loading // Composite Structures. – 2023. 116844. <https://doi.org/10.1016/j.compstruct.2023.116844>. (Q1)

2. Melnikov S., Taranenko I., Nabokina T., Kondratiev A. (2024). Process-Induced Stresses and Deformations of Hobe Block During Shrinkage and Cooling. In: Nechyporuk, M., Pavlikov, V., Krytskyi, D. (eds) Integrated Computer Technologies in Mechanical Engineering - 2023. ICTM 2023. Lecture Notes in Networks and Systems, vol 1008. P. 91–101. Springer, Cham.

https://doi.org/10.1007/978-3-031-61415-6_8.



Books, Chapters in Collective Monographs:

1. Sergei KURENNOV, Konstantin BARAKHOV, Olexander POLYAKOV, Igor TARANENKO. Application of genetic algorithm for double-lap adhesive joint design // Archive of Mechanical Engineering, 2023, Vol. 70, No. 1, pp. 27–42, DOI: 10.24425/ame.2022.144074. (Q2)
2. Taranenko, M.Ye.; Bohachova, T.B. & Taranenko, I.M.: Chapter 7: Vibro-impulse loading – Perfectioning of metals processing with pressure. In: *Modern Manufacturing Processes and Systems*, Vol. 1: *Fundamentals*. Vrnjačka Banja (Serbia): SaTCIP Publisher Ltd. & Belgrade (Serbia): Faculty of Information Technology and Engineering (FITI), 2020, pp. 151–176. ISBN 978-86-6075-069-5.

Links to Citation Database Profiles:

ADDITIONAL INFORMATION:

Language Proficiency:

Ukrainian, B2 level

English B2 level

IT Skills:

MS Office, Corel Draw, SolidWorks

Social and Community Activities: