Name	Olga SHYPUL
Position, Department/Faculty	Professor, Senior Researcher, Department of The Technology of Aircraft Manufacturing / Faculty of Aircraft Building
Academic Degree, Academic Title	Doctor habil. sc. ing., Professor
Email:	o.shipul@khai.edu
Scopus Author ID:	57192959380
Web of Science ResearcherID:	AAD-1985-2020
ORCID iD:	0000-0002-1356-5831
Google Scholar:	https://scholar.google.com/citations?user=qpxBYVEAAAAJ&hl=uk
ResearchGate:	https://www.researchgate.net/profile/Olga-Shypul/research

EDUCATION:

Basic education (university, major, year of graduation):
1994-2000: State Aerospace University 'Kharkiv Aviation Institute", higher education.
Specialization: Technology of Aircraft and Helicopter Manufacturing.
Qualification: Mechanical Engineer.

Postgraduate/Doctoral studies:
2000-2004: National Aerospace University "Kharkiv Aviation Institute", postgraduate studies.
Specialization: Technical Sciences – Flying Vehicles Design, Production and Testing.

2013-2016: National Aerospace University "Kharkiv Aviation Institute", postdoctoral studies.
Specialization: Technical Sciences – Physical and Technical Processes of Material Processing.

Additional training, certification programs:
- Certificate Nr KJ-A Nr. 23/05/210. Issue date: 20-05-2023. English Level (B2).
- Certificates of training in Ansys courses (2023).
- Certificates of Attendance Clarivate "Web of Science" webinars (2020, 2022).
- Certificates of Attendance BrightTALK "Scopus" webinars (2020).

WORK EXPERIENCE:

Professional Career:
01.01.2025–PRESENT: Head of the Academic Council of the University, Professor, Senior Researcher, The Technology of Aircraft Manufacturing Department, National Aerospace University "Kharkiv Aviation Institute".

01.09.2009–31.12.2024: Associate Professor, Senior Researcher, The Technology of Aircraft Manufacturing Department, National Aerospace University "Kharkiv Aviation Institute".

01.09.2007–01.09.2009: Assistant lecturer, The Technology of Aircraft Manufacturing Department,

National Aerospace University “Kharkiv Aviation Institute”.

01.04.2003–01.09.2010: Scientific associate, The Technology of Aircraft Manufacturing Department, National Aerospace University “Kharkiv Aviation Institute”.

Teaching Experience:
Aircraft manufacturing, CAD/CAM/CAE systems, Simulations of Physics Processes, Experimental Research Methods in Technology of Aircraft Production.

Experience in International or National Projects:
2024-2025: Project funded by the National Research Foundation of Ukraine.

2013-2025: Projecti funded by Ministry of Education and Science of Ukraine.

RESEARCH ACTIVITIES:

Main Research Areas:
The scientific bases of precision materials processing by intensive heat fluxes from detonating gases combustion in closed chambers, including, complex study of gas dynamics and heat exchange processes, the study of the electrical parameters of the developed high energy ignition system, the study of the material strength being under thermal pulse loads, the finite element simulation of gas mixtures combustion in different regimes. Plastic flow of metal, metal closed-die forging.

Number of Publications (Scopus, WoS, others):
93

Monographs, Textbooks:
6

Participation in Scientific Conferences:
22

TEACHING ACTIVITIES:

Courses Taught:
The Technology of Aircraft Manufacturing, CAD/CAM/CAE systems.

Author Courses, Academic Programs:
Simulations of Physics Processes, Experimental Research Methods in Technology of Aircraft Production.

Methodological Materials, Textbooks:
Guidelines for Implementing the bachelor’s degree Qualification Work in Specialty G12 “Aerospace Engineering”.

GRANTS AND PROJECTS:

Participation in International and National Projects:
1. Principal Investigator, “Increasing the Energy Efficiency and Safety of Plastics Thermal

Processing Using Numerical Simulation" funded by the European Union's Horizon 2020 program under grant agreement No. 871072 (EURIZON H2020 GA # EU-3034), 2024-2025.
2. Principal Investigator, "Creation of the Remote Gas Detonation Deminer" funded by the National Research Foundation of Ukraine, under grant agreement No. 2023.04/0027, 2024-2025.
3. Responsible Executor and Senior Researcher, "Development of the Software and Technical Support of Digital Twins of Processing Aircraft Parts by Detonating Gas Mixtures", National Aerospace University named after M. Ye. Zhukovskii "Kharkiv Aviation Institute", 2021-2022, Ministry of Education and Science of Ukraine, https://nrat.ukrintei.ua/searchdoc/0223U000869/
4. Responsible Executor and Senior Researcher, "Development of the Technologies and Technical Solutions for Automated Industrial Installations for Precision Processing of GTE Parts by Detonating Gas Mixtures", National Aerospace University named after M. Ye. Zhukovskii "Kharkiv Aviation Institute", 2019-2020, Ministry of Education and Science of Ukraine, https://nrat.ukrintei.ua/searchdoc/0221U101058/
5. Responsible Executor and Senior Researcher, "Development of an Automated Complex for Precision Thermal Pulse Processing with Detonating Gas Mixtures", National Aerospace University named after M. Ye. Zhukovskii "Kharkiv Aviation Institute", 2017-2018, Ministry of Education and Science of Ukraine, https://nrat.ukrintei.ua/searchdoc/0219U003579/
6. Responsible Executor and Senior Researcher, "Development and Research of the Technologies for Finishing of Aerospace Parts by Intensive Heat Fluxes", National Aerospace University named after M. Ye. Zhukovskii "Kharkiv Aviation Institute", 2013-2014, Ministry of Education and Science of Ukraine, https://nrat.ukrintei.ua/searchdoc/0215U006171/
7. Bi-lateral partner research projects under STCU Managing: National Aerospace University "Kharkiv Aviation Institute" and Boeing USA, 2003–2005.
8. Bi-lateral partner research projects under STCU Managing: National Aerospace University "Kharkiv Aviation Institute" and France Aerospace Agency, 2001–2003.

Grants, Scholarships, Academic Mobility Programs:

1. ERASMUS+ Staff Mobility for Teaching at Riga Technical University, Riga, Latvia. 14.10.2024 – 18.10.2024.
2. ERASMUS+ Staff Mobility for Training at International Department, University of Pannonia, Veszprem, Hungary. 21.05.2024 – 23.05.2024.
3. ERASMUS+ Staff Mobility for Training at Erasmus and International Mobility Office of Istanbul Technical University, Istanbul, Turkey. 17.08.2023 – 21.08.2023.
4. ERASMUS+ Staff Mobility for Teaching at Faculty of Power and Aeronautical Engineering, Warsaw University of Technology, Warsaw, Poland. 10.06.2019 – 14.06.2019.

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Distinctions, Awards, Prizes:

- Scholarship of the Cabinet of Ministers of Ukraine for young scientists, 2011.
- Gratitude of the Kharkiv Regional State Administration, 2023.
- Gratitude from the Mayor of Kharkiv, 2024.
- Gratitude from the Ministry of Education and Science of Ukraine, 2025.

Membership in Professional Associations: -

INTERNATIONAL ACTIVITIES:

Internships:
Post Doctorate Traineeship at Faculty of Mechanical Engineering, Budapest University of Technology and Economics (BME), Budapest, Hungary. 01.09.2012 – 28.02.2013.

Cooperation with Foreign Universities:
- Warsaw University of Technology, Warsaw, Poland.
- University of Pannonia, Veszprem, Hungary.

Teaching/Lecturing Abroad:
- Riga Technical University, Riga, Latvia, 2024

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. Tryfonov, O., Teodorczyk, A., Shypul, O., Rudy, W., Garin, V., Myntiuk, V., & Tkachenko, D. (2025). Numerical Study and Model Validation of Low-Pressure Hydrogen–Air Combustion in a Closed Vessel. Computation, 13(2), 54. Scopus, Q4 https://doi.org/10.3390/computation13020054
2. 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, v. 2025, n. 1. P. 113 – 125. Scopus, Q3 https://doi.org/10.32620/reks.2025.1.08
3. Shypul, O., Myntiuk, V., Tkachenko, D., Pavlenko, O., Brega, D., Tsegelnyk, Ye. Study of crack propagation in stress concentrator zones under thermal pulse loading in parts with casting defects. Aerospace Technic and Technology 2, 55–66 (2025). doi:10.32620/aktt.2025.2.06
4. Ruzaikin, V., Lukashov, I., Breus, A., Shypul, O. (2024). Ammonia adiabatic two-phase flow patterns in the horizontal tube. International Journal of Heat and Mass Transfer, 234, 126133. Scopus, Q1 https://doi.org/10.1016/j.ijheatmasstransfer.2024.126133.
5. Tryfonov, O., Shypul, O., Garin, V., Myntiuk, V., Tkachenko, D. (2024). Numerical Simulation Study of Hydrogen-Air Mixture Combustion in a Closed Chamber at Low Initial Pressure. Radioelectronic and Computer Systems, v. 2024, n. 4. P. 259 – 269. Scopus, Q3 https://doi.org/10.32620/reks.2024.4.21
6. Plankovskyy, S., Tsegelnyk, Y., Shypul, O., Romanova, T., Kombarov, V. Efficient Part's Shape and Its Placement in Closed Space Under Thermal Energy Treatment. International Journal of Mechatronics and Applied Mechanics, 2024, iss. 18, P. 264 – 273. Scopus, Q4 https://doi.org/10.17683/ijomam/issue18.31
7. Shypul, O., Garyn, V., Tryfonov, O., Myntiuk, V., Egedy, A. (2024). Study of Green Hydrogen-Air Mixture Formation in Closed Chamber with Given Composition. Hungarian Journal of Industry and Chemistry, 2024, v. 52, № 2. P. 57–62. Web of Science https://doi.org/10.33927/hjic-2024-19.
8. Pavlenko, O.A., Shypul, O.V., Myntiuk, V.B., Tkachenko, D.A., Brega, D.A.: Development of a conceptual model for a gas detonation deminer. Aerospace Technic and Technology 6, 70–79 (2024). doi:10.32620/aktt.2024.6.07
9. 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. 2023. Vol. 51, № 1. P. 35–42. Web of Science https://doi.org/10.33927/hjic-2023-06
10. Janda, M., Korytchenko, K., Shypul, O., Krivosheev, S., Yeresko, O., Kasimov, A. Optical and

electrical investigation of plasma generated by high-energy self-stabilized spark ignition system. Physics of Plasmas. 2023. Vol. 30, is. 5. Paper No. 053501. Scopus, Q1 https://doi.org/10.1063/5.0141261

11. Tryfonov, O., Shypul, O., Plankovskyy, S., & Garin, V. (2022). Constructions of the experimental-estimation model for releasing combustion products at thermal pulse processing. Eastern-European Journal of Enterprise Technologies, 6, no. 1 (120). P. 6–15. Scopus, Q4 https://doi.org/10.15587/1729-4061.2022.267798
12. Korytchenko, K., Shypul, O., Samoilenko, D., Varshamova, I., Lisniak, A., Harbuz, S., & Ostapov, K. (2021). Numerical simulation of gap length influence on energy deposition in spark discharge. Electrical Engineering & Electromechanics, (1), 35–43. Scopus, Q4 https://doi.org/10.20998/2074-272X.2021.1.06
13. Romanova, T., Pankratov, A., Litvinchev, I., Plankovskyy, S., Tsegelnyk, Y., Shypul, O. (2021). Sparsest packing of two-dimensional objects. International Journal of Production Research. Volume 59(13). P. 3900–3915. Scopus, Q1 https://doi.org/10.1080/00207543.2020.1755471
14. Romanova, T., Stoyan, Y., Pankratov, A., Litvinchev, I., Plankovskyy, S., Tsegelnyk, Y., Shypul, O. (2021). Sparsest balanced packing of irregular 3D objects in a cylindrical container. European Journal of Operational Research. Volume 291(1). P. 84–100. Scopus, Q1 https://doi.org/10.1016/j.ejor.2020.09.021

Books, Chapters in Collective Monographs:

1. Sparse 2D packing in thermal deburring with shock waves acting effects / S. Plankovskyy, T. Romanova, O. Shypul [et al.] // Human Assisted Intelligent Computing / ed. by M. S. Manshahia [et al.]. – Bristol : IOP Publishing, 2023. – P. 13-1–13-20. Scopus https://doi.org/10.1088/978-0-7503-4801-0ch13
2. Basic principles for thermoplastic parts finishing with Impulse Thermal Energy Method / S. Plankovskyy, O. Shypul, Y. Tsegelnyk [et al.] // Handbook of Research on Advancements in the Processing, Characterization, and Application of Lightweight Materials / ed. by K. Kumar [et al.]. – Hershey : IGI Global, 2022. – P. 49–87. Scopus https://doi.org/10.4018/978-1-7998-7864-3.ch003
3. Дисперсне компонування при фінішному обробленні детонувальними газовими сумішами : монографія / Ю. Стоян, С. Планковський, О. Шипуль [та ін.]. – Київ : Наукова думка, 2021. – 171 с. ISBN 978-966-00-1816-7 https://www.researchgate.net/publication/352769091_Dispersne_komponuvanna_pri_finisnomu_obroblenni_detonuvalnimi_gazovimi_sumisami
4. Advanced thermal energy method for finishing precision parts / S. Plankovskyy, V. Popov, O. Shypul [et al.] // Advanced Machining and Finishing / ed. by A. Pramanik, K. Gupta. – Amsterdam : Elsevier, 2021. – P. 527–575. Scopus https://doi.org/10.1016/B978-0-12-817452-4.00014-2
5. Розроблення автоматизованого комплексу для прецизійного термоімпульсного оброблення детонувальними газовими сумішами: наукові матеріали : моногр. / С. І. Планковський, О. В. Шипуль, Є. В. Цегельник [та ін.] ; за ред. С. І. Планковського. – Харків : Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2020. – 318 с. https://dspace.library.khai.edu/xmlui/handle/123456789/368
6. Сучасні методи фінішного очищення інтенсивними потоками енергії : монографія / О.В. Шипуль, Є.В. Цегельник, А.О. Гарін, та ін. – Х.: Нац. аерокосм. ун-т ім. М.Є. Жуковського «Харьк. авіац. ін-т», 2013. – 189 с. ISBN 978-966-662-308-2

Links to Citation Database Profiles:

1. https://www.webofscience.com/wos/author/record/1937182

2. https://orcid.org/0000-0002-1356-5831
3. https://www.scopus.com/authid/detail.uri?authorId=57192959380

ADDITIONAL INFORMATION:

Language Proficiency:
English – Upper Intermediate Level (B2).

IT Skills:
FEM Analyses: Ansys Workbench (Mechanical, CFX / CFD). CAD Programs: Solid Works.
Other Software: MS Word, Excel, CorelDRAW, Adobe Photoshop CS.

Social and Community Activities:
Qualified and Enthusiastic; Ability to Analytical Substantiation; Highly-Motivated; Good at Negotiation, Organization, Prioritization and goal setting, Project planning, Delegating; Ability to Communication, Leadership, Conflict management, Adaptability, Resourcefulness, Teamwork.