Name	Yurii Krashanytsya
Position, Department/Faculty	Professor, department of aerodynamics, faculty of aircraft engineering
Academic Degree, **Academic Title**	Doctor of science, DD №000502, 10.02. 1999, HAC Ukraine Professor PR № 001949, 23. 12. 2002, ME&S Ukraine
Email:	**u.krashanitsa@khai.edu**
Scopus Author ID:	6506433016
Web of Science ResearcherID:	Yurii Krashanytsya OFO-4617-2025
ORCID iD:	0009-0006-5088-044X
Google Scholar:	Yurii Krashanytsya
ResearchGate:	Yurii Krashanytsya

EDUCATION:

Basic education (university, major, year of graduation):
KHAI, engineering of mechanics, 1970, U №885834, 11.02.1970, KHAI, 1970.

Postgraduate/Doctoral studies:
Postgraduate student, 1972 – 1975, FM №003563, 20.04.1977, Kyiv, KSU name after T. G. Shevchenko

Additional training, certification programs:
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WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):
KHAI: 1970 – 1972 – engineer of department of aero-hydrodynamics; 1972 – 1975 – postgraduate of department of aero-hydrodynamics; 1976 – 1979 – junior, senior lecture, reader of department of high mathematics; 1980 – 1999 – head of department of high mathematics; 2000 – 2008 – head of department of aero-hydrodynamics; 2009 to present - professor of department of aero-hydrodynamics

Teaching Experience:
KHAI: 1976 – 1999 – high mathematics; 2000 -2025 - aero-hydrodynamic;

Experience in International or National Projects:
1. Contract No. DZ/344-2007 “Development of a system for aerodynamic design of a light single-rotor helicopter”.

2. “Theoretical foundations and experimental methods of aerohydrodynamic and acoustic research of new objects of aviation and space technology, vehicles and engineering structures”. Head of research: Krashanytsia Yu. O. State registration numbers of topics: 0106U001041 (2009 – 2011); 0112U002134 (2012 – 2014).

RESEARCH ACTIVITIES:

Main Research Areas:

Research interests: mathematical models of initial-boundary value problems of aero-hydrodynamics, theory of elasticity and their numerical implementation based on the ideology of the boundary integral equation method. Author of more than 200 scientific publications and educational and methodological publications, author's certificates for inventions in the field of aerospace engineering, as well as copyrights for software products.

Number of Publications (Scopus, WoS, others):

more than two hundred and thirty

Monographs:

1. Krashanitsa, Yu. A., Antonov, A. M., Levin V. A. Initiation of detonation by means of concentrated energy supply and particular issues of vortex formation. Kyiv: ’Znannya”, 1983. – 17 p.
2. Krashanitsa, Yu. A., Kozorez, V. V., Rashkovan V. M. Conservation laws and boundary value problems in a magnetic field. Kyiv, 1992. - 24 p. (Prep. Academy of Sciences of Ukraine. V.M. Glushkov Institute of Cybernetics* 92-3)
3. Krashanitsa, Yu. A. Theory of generalized hydrodynamic potentials and the method of boundary integral equations in boundary value problems of hydrodynamics / / Yu.A. Krashanitsa / - K.: Naukova Dumka, 2013. - 215 p.
4. Krashanytsya, Y. Method of boundary integral equations for fluid applications. LAP LAMBERT Academic Publishing - Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany, 2013. — 238 p.
5. Krashanitsa, Yu. A. Vector-tensor analysis, potential theory and the method of boundary integral equations in initial-boundary value problems of aerohydrodynamics [text] / Yu.A. Krashanitsa. - K.: Nauk. dumka, 2016. - 225 p.

Textbooks:

1. Krashanytstya, Yu. A., Zabara, S. I. Elements of harmonic analysis. Textbook. – Kharkiv: Kharkiv Aviation Institute, 1981. - 120 p.
2. Krashanitsa, Yu. A. et al. Problems and solutions in higher mathematics. Kharkov, KhAI, 1994. 99 p.
3. Krashanitsa, Yu. A. et al. Workbook on higher mathematics for students of the State Aerospace University in four parts. Kharkov, 1997-2000.
4. Krashanitsa, Yu. A. et al. Lecture notes on the course of higher mathematics for students of the correspondence department of the State Aerospace University in three parts. Kharkov, 1997-2000.
5. Krashanitsa, Yu. A. et al. Workbook. Differential number of functions of one and several changing. / Kharkiv: KhAI. – 2001. – 145 p.
6. Krashanytsia, Yu. A. et al. Collection of problems on aerodynamics. - Kharkiv: National Aerospace University "Kharkov Aviation Institute", 2006. - 51 p.
7. Aerodynamic calculation of propeller-type wind turbines. Textbook for course design // A.I. Yakovlev, M.A. Zatuchnaya Edited by Yu. A. Krashanitsa / Kharkiv: KhAI. – 2001. 72 p..
8. Krashanitsa, Yu. A. et al. Higher Mathematics: Methods of Solving ProblemsLecture Notes. Kharkiv: KhAI. – 2001. 186 p.
9. Krashanitsa, Yu. A. et al. Two-stage aerospace horizontal launch systems / Kharkov. KhAI. – 2003. 127 p.
10. Krashanitsa, Yu. A., Sharoiko, D. P. Automation of theoretical and experimental research in aerohydrodynamics / Kharkiv: KhAI. – 2003. 128 p.
11. Krashanitsa, Yu. A. Aerohydrodynamics (basic laws and mathematical models) / Kharkiv: KhAI. - 2004. 287 p.
12. Krashanytsya, Y. et al. Collection of problems on aerohydrodynamics / Kharkiv: KhAI. – 2006. 51 p.

13. Krashanytsya, Y. Mathematical modeling and aero gas dynamic design of aerospace engineering objects, transportation equipment and engineering products / Kharkiv: KhAI. - 2025. 203 p.

Participation in Scientific Conferences:

The 1st All-Union School-Seminar "High-Speed Hydrodynamics" (Cheboksary, 1984); the Republican Scientific and Technical Conference "Experimental Research and Mathematical Models of Physicochemical Processes in Continuous Media" (Kharkov, 1985); the 6th All-Union Conference on Mechanics of Reacting Systems (Tomsk, 1986); the 6th All-Union Congress on Theoretical and Applied Mechanics (Tashkent, 1986); the All-Union School-Seminar of Young Scientists "Modern Problems of Fluid and Gas Mechanics" (Grozny - 1986. Irkutsk - 1988); the Republican Scientific and Practical Conference "Modeling and Study of Stability of Physical Processes" ("Knowledge", Kyiv, 1987-1992); Republican scientific conference "Differential and integral equations and their applications" (Odessa, 1997); V All-Union symposium "Method of discrete singularities in problems of mathematical physics" (Odessa, 1991);VI International Symposium “Aviation Technologies of the 21st Century: New Frontiers of Aviation Science” (Zhukovsky, MAKS-2001); European Conference of the Black Sea Economic Community “International Conference under the Auspices of the Organization of the Black Sea Economic Cooperation and in Cooperation with the ICBSS” (Kharkov, 2002); 3rd East European Conference on Wind Engineering EECWE’2002 (Kyiv, 2002); International scientific and technical conference "Design and production of aircraft and helicopters" (Kharkov, 2003); International Conference “Dynamics of Civil Engineering and Transport Structures and Wind Engineering” (Slovak Republic, 2003 – 2017), The World Congress “Aviation in the XXI-st Century”, (Kyiv, 2003 – 2016); XIY International Conference on Methods of Aerophysical Research (ICMAR – 2008) (Novosibirsk, 2008); International Science and Technology. conference “Problems of creation and safety of the life cycle of aviation technology” (Kharkiv, 2007 - 2008); Ukrainian Mathematical Congress (Kiev, 2009); International Schools-Seminars “Models and Methods of Aerodynamics” (RAS, NASU, Zhukovsky, Yevpatoria, 2009 – 2011); XIV International Conference “Modern Concepts of Scientific Research” (Moscow, 2015), International Scientific Conferences “Applied Problems of Aerohydromechanics and Heat and Mass Transfer” (Dnepropetrovsk, 2010 - 2018). International Congresses of Engine Engineers (Kharkov, Rybachye, Koblevo), International Symposiums “Methods of Discrete Singularities in Problems of Mathematical Physics of the Institute of Mechanical Engineering” (Kharkov–Kherson), International Conferences on Mathematical Modeling (Kherson), All-Ukrainian Scientific and Technical Conferences “Integrated Computer Technologies in Mechanical Engineering – ICTM” (Kharkov), International Scientific and Technical Conferences “Problems of Creation and Support of the Life Cycle of Aviation Equipment” (Kharkov), International Scientific and Practical Conference “Computer Hydromechanics” (Kyiv, 2008), International Mathematical Congress dedicated to the 100th anniversary of the birth of Academician N.N. Bogolyubov (Kiev, 2010), International Conference “Computer Modeling in High-Intensity Technologies” (KMNT-2010) (Kharkov, 2010), International Conference “Modern Problems of Mathematics and Its Applications in Natural Sciences and Information Technologies” on the occasion of the 50th anniversary of the Faculty of Mechanics and Mathematics of the V.N. Karazin Kharkiv National University (Kharkov, 2011), X All-Russian Congress on Fundamental Problems of Theoretical and Applied Mechanics (Nizhny Novgorod, 2011); 16^{tn} World Congress on Computational Mechanics (July 21-26, 2024. Vancouver, BC, Canada); International Scientific&Practical Conference “Renewable energy and energy efficiency in the XXI century” (Kyiv, 2022 – 2025).

TEACHING ACTIVITIES:

Courses Taught:

1. Differential and integral calculus of functions of one and several variables.
2. Vector analysis and principles of tensor calculus.
3. Aerodynamics and gas dynamics of aviation and rocket-space technology.
4. Numerical methods of continuum mechanics.
5. Mathematical modeling and numerical implementation of processes in objects of aviation and rocket-space technology.

Author Courses, Academic Programs:

Author's academic courses for training postgraduate students:
1. Aerodynamics and gas dynamics of aviation and rocket-space technology.
2. Numerical methods of continuum mechanics.
3. Mathematical modeling and numerical implementation of processes in objects of aviation and rocket-space technology.

Methodological Materials, Textbooks:
1. Krashanytstya, Yu. A., Zabara, S. I. Elements of harmonic analysis. Textbook. – Kharkiv: Kharkiv Aviation Institute, 1981. - 120 p.
2. Krashanitsa, Yu. A., Krasnov V. P., Shcherbakova Yu. A. Problems and solutions in higher mathematics. Kharkov, KhAI, 1994. 99 p.
3. Krashanitsa, Yu. A. et al. Workbook. Differential number of functions of one and several changing. / Kharkiv: KhAI. – 2001. – 145 p.
4. Aerodynamic calculation of propeller-type wind turbines. Textbook for course design // A.I. Yakovlev, M.A. Zatuchnaya Edited by Yu.A. Krashanitsa / Kharkiv: KhAI. – 2001. 72 p..
5. Krashanitsa, Yu. A. et al. Higher Mathematics: Methods of Solving ProblemsLecture Notes. Kharkiv: KhAI. – 2001. 186 p.
6. Gusynin V.P., Gusynin A.V., Krashanitsa Yu.A. Two-stage aerospace horizontal launch systems / Kharkov. KhAI. – 2003. 127 p.
7. Krashanitsa, Yu. A., Sharoiko D.P. Automation of theoretical and experimental research in aerohydrodynamics / Kharkiv: KhAI. – 2003. 128 p.
8. Krashanitsa, Yu. A. et al. Linear Algebra and Analytic Geometry: Workbook. – Kharkiv: KhAI, - 2009. – 140 p.
9. Krashanitsa, Yu.A. Aerohydrodynamics (basic laws and mathematical models) / Kh.: KhAI. - 2004. 287 p.
10. Krashanytsya, Y. et al. Collection of problems on aerohydrodynamics / Kharkiv: KhAI. – 2006. 51 p.

GRANTS AND PROJECTS:

Participation in International and National Projects:
text
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Grants, Scholarships, Academic Mobility Programs:
Member of the organizing committee and participation in the work 2nd International Conference “Dynamics of Civil Engineering and Transport Structures and Wind Engineering” (Zilinska university, Slovak Republic, 2003)

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Honorary Titles:
-

Distinctions, Awards, Prizes:
Excellent Education Worker of Ukraine, No. 71663, Order No. 256, March 25, 2005, Ministry of Education and Science of Ukraine

Membership in Professional Associations:
-

INTERNATIONAL ACTIVITIES:

Internships:

-

Cooperation with Foreign Universities:

1. Zilinska university, Slovak Republic, 2002 – 2003
2. Otto von Guericke University, Magdeburg, Germany, 2001 - 2003

Teaching/Lecturing Abroad:

-

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. Yu. A. Krashanytsya et al. Aerohydrodynamics at the Kharkiv Aviation Institute named after M. E. Zhukovsky - 75 years [Text] // Aerohydrodynamics: problems and prospects: collection of articles - Kh.: National Aerospace University named after N. E. Zhukovsky “Kharkiv. Aviation Institute”, 2004. - Pp. 5-11.
2. Ambrozhevich, A. V., Krashanytsya, Yu. A. Origins. Creative path. Creative activity / Academician Georgy Fedorovych Proskura: bibliographic collection - Kh.: National Aerospace University named after M. E. Zhukovsky “Kharkiv. Aviation Institute”, 2017. - 146 p.
3. Krashanytsya, Yu. A., Grischenko, V. A., Kirichenko, D. V., Surgaylo, M. L. Computer technologies of potential theory in boundary value problems of aerohydrodynamics // Aerohydrodynamics: problems and prospects: collection of articles / Ministry of Education and Science of Ukraine, National Aerospace University named after N. E. Zhukovsky "KhAI". - Kh., 2004. - P. 43 - 57.
4. Krashanytsya, Yu. A., Kirichenko, D. V. On one class of analytical solutions of the system of Navier-Stokes equations // Bulletin of the T. G. Shevchenko National University of Kyiv. Mathematics. Mechanics. - 2007. Issue 17/18. - P. 84 - 88.
5. Krashanitsa, Yu. A., Gaydaichuk, A. V. Aerodynamic complex of the National Aerospace University named after M. E. Zhukovsky "KHAI": 10 years in the status of National Heritage // Svit. - 2009. - No. 47/48 - P. 7.
6. Krashanitsa, Yu. A. et al. Problems and prospects of creating reusable suborbital spacecraft // Aerospace Technic and Technology. - 2011. - No. 2. - P. 20 - 26.
7. Krashanitsa, Yu. A. Development of hydrodynamic potentials theory and the method of boundary-integral equations in hydrodynamics problems [Текст] // International Russian-American Scientific Journal "Actual problems of aviation and aerospace systems", Kazan-Daytona Beach, №2(37), v.18, 2013.- Pp. 56-63. (US Library of Congress Catalog; (LCCN) - 98-646147, British Library Catalog; (LCCN) - 0133.473700)
8. Krashanytsya, Y. A., Amir Hoshmandi. Triangulation method of bearing surfaces of aircraft systems. Proceedings the YII Word Congress “Aviation in the XXI –st century”. Kyiv. Pp. 1.11.12 – 1.11.17.
9. Krashanitsa, Yu. A., Hoshmandy, A. Some results of experimental studies of aerodynamic characteristics of elements of aircraft carrier systems // Aerospace Technic and Technology. No. 6/141, 2017. — pp. 90-97.
10. Krashanitsa, Yu. A., Gaydaichuk, A. A. Microhydrodynamic characteristics of paint coating spread along a random surface // Open information and computer integrated technologies, No. 83, 2019. - pp. 98 – 105.
11. Krashanitsa, Yu. A., Gutorova, K.V. The method of gas-dynamic processing of details of objects of aerospace technology // Aerospace Technic and Technology. No. 1/153, 2019. — pp. 72 – 79.
12. Yuri Krashanitsa, Dmitro Zhyriakov. Numerical study of the aerodynamic characteristics of airfoil with high-lift devices // Aerospace Technic&Technology, 2023, № 1(185). С. 55 - 66. DOI: 10.32620//aktt.2023.1.06
13. Krashanytsya Yu. A. The method of boundary integral equations in nonlinear boundary value problems of viscous gas dynamics // Aerospace Technic and Technology. ISSN 1727-7337. 2025, № 4.
14. Krashanytsya Yu. A. Conservative boundary-value problems of the theory of elasticity and integral representations of solutions // Aerospace Technic and Technology. ISSN 1727-7337. 2025, № 5.

Books, Chapters in Collective Monographs:

1. Krashanitsa, Yu. A. Aerohydrodynamics (basic laws and mathematical models) / Kh.: KhAI. - 2004. 287 p.
2. Krashanitsa, Yu. A. Theory of generalized hydrodynamic potentials and the method of boundary integral equations in boundary value problems of hydrodynamics / / Yu.A. Krashanitsa / - K.: Naukova Dumka, 2013. - 215 p.
3. Krashanytsya, Y. Method of boundary integral equations for fluid applications. LAP LAMBERT Academic Publishing - Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany, 2013. — 238 p.
4. Krashanitsa, Yu. A. Vector-tensor analysis, potential theory and the method of boundary integral equations in initial-boundary value problems of aerohydrodynamics [text] / Yu.A. Krashanitsa. - K.: Nauk. dumka, 2016. - 225 p.
5. Krashanytsya, Y. Mathematical modeling and aero gas dynamic design of aerospace engineering objects, transportation equipment and engineering products / Kh.: KhAI. - 2025. 203 p.

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ADDITIONAL INFORMATION:

Language Proficiency:
A 2 – Elementary

IT Skills:
-

Social and Community Activities:
-