Name	Serhii Nesterenko
Position, Department/Faculty	Associate Professor, Department of Space Engineering and Nonconventional Power Sources, Faculty of Rocket and Space Engineering
Academic Degree, Academic Title	Ph.D. in Technical Sciences (1993), Associate Professor (2013)
Email:	s.nesterenko@khai.edu
Scopus Author ID:	7003533248
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ORCID iD:	0000-0002-7918-381X
Google Scholar:	https://scholar.google.com.ua/citations?user=JguBKokAAAAJ&hl=ru
ResearchGate:	

EDUCATION:

Basic education (university, major, year of graduation):
1980 – Engineer (Master's degree), National Aerospace University "KhAI", Specialty: Spacecraft Thrusters and Power Systems.

Postgraduate/Doctoral studies:
1993 – Ph.D., National Aerospace University "KhAI", Thesis: Mathematic model and calculation method of processes inside gas discharge high current hollow cathodes.

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):
1980-1987: Engineer, Department of Space Engineering and Nonconventional Power Sources, KhAI.
1981-1983: Assistant, Department of Space Engineering and Nonconventional Power Sources, KhAI.
1987-present: Assistant, Senior Lecturer, Associate Professor, Department of Space Engineering and Nonconventional Power Sources, KhAI.

Teaching Experience:
41 year

Experience in International or National Projects:
2002-2003. Participation in KhAI, Dnipro State University and Lanzhou Institute of Physics (PRC) project "Laboratory model of xenon ion propulsion system XIPS-200"

RESEARCH ACTIVITIES:

Main Research Areas:
Theory and modeling of processes in electric propulsion devices

Number of Publications (Scopus, WoS, others):
64 scientific papers; 1 article in Scopus

Monographs, Textbooks:
1 textbook, 6 manuals, 1 monogr.

Participation in Scientific Conferences:
19 International Conferences

TEACHING ACTIVITIES:

Courses Taught:
- Introduction in the specialty
- Electric gas dynamics
- Basic theory and functioning of plasma accelerators
- Design of electric propulsion systems

Author Courses, Academic Programs:
- Electric gas dynamics
- Design of electric propulsion systems

Methodological Materials, Textbooks:
1. S.Yu. Nesterenko. Calculation of plasma-ion thruster with radial magnetic field. Kharkiv, KhAI, 2005. – 41 p. (in Russian)
2. S.Yu. Nesterenko. Estimation of parameters of rocket systems purposed to launch to orbit and impulse inter-orbital maneuvers of spacecrafts. Kharkiv, KhAI, 2009. – 35 p. (in Ukrainian)
3. S.Yu. Nesterenko, Yu.O. Shepetov. Parameters choice of power and thrust systems for low thrust maneuvers. Kharkiv, KhAI, 2009. – 35 p. (in Ukrainian)
4. S.Yu. Nesterenko. Electric gas dynamics. Kharkiv, KhAI, 2012. – 216 p. (in Russian)

GRANTS AND PROJECTS:

Participation in International and National Projects:
2002-2003. Participation in KhAI, Dnipro State University and Lanzhou Institute of Physics (PRC) project "Laboratory model of xenon ion propulsion system XIPS-200"

INTERNATIONAL ACTIVITIES:

Cooperation with Foreign Universities:
2002-2003. Participation in KhAI, Dnipro State University and Lanzhou Institute of Physics (PRC) project "Laboratory model of xenon ion propulsion system XIPS-200"

SELECTED PUBLICATIONS:

1. A. Oranskiy, S. Nesterenko. The physical and mathematical model, the calculation method and results for the high-current hollow cathode. The 3rd Russian-German Conference on "Electric propulsion engines and their tecknical applications", Stuttgart, 19-23 July 1994. 37 – 43.
2. A. Oranskiy, S. Nesterenko. Two Dimension Effects In Ion Flow Inside Inter-Electrode Gap Of Plasma-Ion Thruster Ion Optical System. The 28th International Electric Propulsion Conference. Toulouse, 2003. 108-110
3. S. Nesterenko. Extended system of distribution function moments equations for rarified plasma description тези доп. Proc. Of the International Conf. And School on Plasma Physics and Controlled Thermonuclear Synthesis. Book of Abstracts. Alushta, 2004.108-110.
4. A. Oranskiy, S. Nesterenko. Mathematical Model and Calculation Method for Hollow Cathodes Lifetime Forecast. The 30th International Electric Propulsion Conf. Florence, Italy, 2007. 44–47.
5. S. Nesterenko, Peng Shuai. Modelling of the processes inside the nozzle of resistojet and arcjet with molecular propellant. Aerospace Technic and Technology, 2024, № 4, 1 (197) ISSN 2663-2012. 77-81.
6. S. Nesterenko, H. Dinparasti Saleh. Mathematical Model of Acceleration Stage of Magnetic Inductive Pulsed Plasma Thruster. The 32th International Electric Propulsion Conf. – Wiesbaden, Germany, 2011. 623 – 625
7. S. Nesterenko, S. Roshanpour, Le Quang Quyen, Ngo Dai Phong, S. Roshanpour. Effect of electrons non-mirror reflection from potential shield on plasma borders inside helicon and Hall effect thrusters. The 33th International Electric Propulsion Conf. Washington, D.C., USA, 2013. 5.
8. A.V. Loyan, S.Yu. Nesterenko, Guo Zongshuai, Huang Zhihao. Quasi-one-dimensional mathematical model of processes in Hall effect and plasma-ion thrusters. Open Information and Computer Integrated Technologies. No. 92. 2021. 41-54. https://doi.org/10.32620/oikit.2021.92.04
9. Nesterenko, S., Zhihao, H., Roshanpour, S. (2025). Compromise kinetic-fluid model of electrons dynamics in electric propulsion devices with closed electrons drift as an alternative to the hybrid PIC-Fluid method. Aerospace Technic and Technology, № 1 (201) ISSN 2663-2012 , 11. https://doi.org/10.32620/aktt.2025.1.03
10. Nesterenko, S., Roshanpour, S., Huang Zhihao (2025): Mathematical aspects of M unlimited angular model in electric propulsion. – The 2nd International scientific and practical conference "Challenges and Opportunities in Modern Scientific Research", Iss. 16: 208-213. https://doi.org/10.70286/ISU-24.04.2025
11. Nesterenko, S., Huang Zhihao. (2025): Electron-atom and electron-ion M-unlimited angular collision integrals in electric propulsion. – The 3rd International scientific and practical conference "Innovative Solutions in Science: Balancing Theory and Practice", Iss. 33: 224-229. https://doi.org/10.70286/EOSS-27.04.2025
12. Nesterenko, S., Huang Zhihao. (2025): Electron- electron M-unlimited angular Landau collision integrals in electric propulsion: problem and correction. – The 1st International scientific and practical conference "Scientific Research: Unveiling New Theories and Applied Solutions", Iss. 34: 211-220. https://doi.org/10.70286/EOSS-05.05.2025
13. Nesterenko, S. (2025): Ionization angular integrals in M-unlimited model in electric propulsion. – The 2nd International scientific and practical conference "Achievements of Science and Applied Research", Iss. 36: 239-245. https://doi.org/10.70286/EOSS-19.05.2025
14. Nesterenko, S., Huang Zhihao, Roshanpour, S. (2025): Parameters of the bipolar boundary layer

in electric propulsion thrusters with closed electron drift: M1+ angular model. – The 2nd International scientific and practical conference "Modern Scientific Research: Theoretical and Practical Aspects", Iss 37: 462-479. https://doi.org/10.70286/EOSS-26.05.2025

Books, Chapters in Collective Monographs:
A. Oranskiy, S. Nesterenko. Gas Discharge High Current Hollow Cathodes. Vol. 2. Theory and calculation. Kharkiv, KhAI, 2011. 153 (in Russian)

Links to Citation Database Profiles:
Scopus Author ID: 7003533248
Web of Science Researcher ID: OAJ-8055-2025
Google Scholar: https://scholar.google.com.ua/citations?user=JguBKokAAAAJ&hl=ru

ADDITIONAL INFORMATION:

Language Proficiency:
Ukrainian, Polish, Russian (native); English (free); Czeck, Slovak, Bulgarian (free reading); Korean (reading with vocabulary).

Social and Community Activities:
- Kharkiv Society of Polish Culture
- Kharkiv Society of Korean Culture
- Association of Koreans in Ukraine
- Political party: All-Ukrainian Union "Batkivshchyna"