



<b>Name</b>	Serhii Kochuk
<b>Position, Department/Faculty</b>	Associate Professor, Department of Mechatronics and electrical engineering/ Faculty of Aircraft Control Systems
<b>Academic Degree, Academic Title</b>	Doctoral degree (PhD), Associate Professor
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<b>ResearchGate:</b>	<a href="https://www.webofscience.com/wos/author/record/MNO-4388-2025">https://www.webofscience.com/wos/author/record/MNO-4388-2025</a>

## EDUCATION:

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

Kharkov Higher Military Aviation Engineering School, electrical engineering, electrical- and instrumentation equipment, 1981

### Postgraduate/Doctoral studies:

Postgraduate study at the Zhukovsky Aviation Engineering Academy, Moscow

### Additional training, certification programs:

1. Social dimensions of European studies (180 hours). Jean Monnet Chair SCAES. January 16-28, 2023. Certificate №2023WS-0000119.
2. Course on basic (Cyber Hygiene 3 - 6 hours) and core (Cyber Hygiene 4 - 6 hours) Cybersecurity measures. Certificate №aUESqjp0Sq and Oj8Qv7QFK5, 6W4MtlbZn7. Military Institute of Telecommunications and Information. 2024

## WORK EXPERIENCE:

### Professional Career (Workplace, Years, Position):

[1976-1999] it was in service in air Arms of Ukraine.

[2000-2012] Director and CEO of printing companies of Ukraine.

[2012-2017] – Associate Professor of the Department of Aircraft Control Systems at National Aerospace University “Kharkiv Aviation Institute”.

[2017-2025] – Associate Professor of the Department Mechatronics and electrical engineering at National Aerospace University “Kharkiv Aviation Institute”.

### Teaching Experience:

32 years

### Experience in International or National Projects:



National Scientific Research Work:

[01.2015 – 30.12.17] Development of scientific foundations for rational management of the performance of automatic control systems for aerospace engineering objects under conditions of destabilizing influences (0115U000829)

[01.01.2021– 31.12.23] Algorithmic support of intelligent caravan systems with dynamic objects (0121U111612)

## **RESEARCH ACTIVITIES:**

### **Main Research Areas:**

Optimal and adaptive control systems, unmanned systems and autonomous control and guidance systems, automation of dynamic object control processes, monitoring of environmental parameters

### **Number of Publications (Scopus, WoS, others):**

more than 80

### **Monographs, Textbooks:**

1. Kochuk, S. B. Mathematical models of the aircraft as a control object [Text]: Textbook / S. B. Kochuk, S. M. Firsov, K. F. Fomichev. – Kharkiv: National Aerospace University "Kharkov Aviation Institute", 2016. – 74 p.

2. Fomichev K. F., Kochuk, S. B. Computer-integrated control systems: Textbook. – Kharkiv: National Aerospace University named after N. E. Zhukovsky (KhAI), 2022. – 76 p.

3 Kochuk, S. B., Nikitin, A. O., Gegera I. B. Design of small unmanned aerial vehicles: Textbook. – Kharkiv: National Aerospace University named after N. E. Zhukovsky (KhAI), 2024. – 101 p.

### **Participation in Scientific Conferences:**

1. APPROACHES TO SOLUTION OF THE PROBLEM OF COLLISION OF UNMANNED AIRCRAFT / A.S. Volkova, S.B. Kochuk // Globalization of scientific knowledge: international cooperation and integration of branches of science: materials of the IV International Student Scientific Conference, Ternopil, February 17, 2023 / NGO "Youth Science League". — Vinnytsia: NGO "European Science Platform", 2023. — P. 176-178. ISBN 978-617-8126-10-0 <https://doi.org/10.36074/liga-inter-17.02.2023>

2. AUTOMATION OF DESIGN OF UNMANNED AIRCRAFT / S.B. Kochuk, A.O. Nikitin // Quality, standardization and metrological support: [materials of the II international scientific and practical conference, Kharkiv - March 14-15, 2023] / edited by Dr. of Engineering, Prof. R. M. Trishcha, Ph.D., Assoc. Prof. G. S. Grinchenko. Ukrainian Engineering and Pedagogical Academy. Kharkiv: UIPA, 2023. — C. 86-87

3. METHODS OF MEASURING UAV FLIGHT PARAMETERS / S.B. Kochuk, A.O. Nikitin// Quality, standardization and metrological support: [materials of the II international scientific and practical conference, Kharkiv - March 14-15, 2023] / under the general editorship of Dr. of Engineering, Prof. R. M. Trishcha, Ph.D., Assoc. Prof. G. S. Grinchenko. Ukrainian Engineering and Pedagogical Academy. Kharkiv: UIPA, 2023. — P. 96-97

4. IMPROVEMENT OF CONDUCTING AVIATION SEARCH AND RESCUE OPERATIONS THROUGH THE USE OF TECHNICAL VISION SYSTEMS / O.O. Klimishen, A.O. Krasnorutsky, V.M. Kryvonos, S.B. Kochuk // Aviation, industry, society: materials of the IV International Scientific-Practical Conference (Kremenchuk, May 18, 2023) / Ministry of Internal Affairs of Ukraine, Kharkiv National University of Internal Affairs, Kremenchug Flight College, Science Park "Science and Security". – Kharkiv: KhNUVS, 2023. – C. 90-93.

5. DEVELOPMENT AND RESEARCH OF THE INTELLECTUAL CONTROL SYSTEM OF BDPS / D.O.



Shuvalov, S.B. Kochuk // Society and science in wartime: problems and features of development: materials of the 1st International Student Scientific Conference, Bilhorod-Dnistrovskyi, July 14, 2023 / NGO "Youth Science League". — Vinnytsia: NGO "European Science Platform", 2023. — P. 135-140. DOI 10.36074/liga-inter-14.07.2023

6. ANALYSIS OF THE IMPLEMENTATION OF THE HUMS CONCEPT FOR ASSESSING THE TECHNICAL CONDITION OF ONBOARD COMPLEXES OF NATO COUNTRIES / O.O. Klimishen, A.O. Krasnorutsky, S.B. Kochuk // Aviation, industry, society: materials of the V International Scientific and Practical Conference (Kremenchuk, May 16, 2024) / Ministry of Internal Affairs of Ukraine, Kharkiv. National University of Internal Affairs, Kremenchug. Flight College, Science Park "Science and Security". — Kharkiv: KhNUVS, 2024. — P. 37-40.

7. Stand for testing bldc motors / S.B. Kochuk, D.O. Shuvalov, E.A. Dyudilov E.A. // Abstracts of the XV International Scientific and Technical Conference "Information and Computer Technologies", Zhytomyr, March 28-29, 2025 – Zhytomyr: Zhytomyr Polytechnic Institute, 2025. - P. 324-325. <https://conf.ztu.edu.ua/wp-content/uploads/2025/04/povnyj-tekst.pdf>

8. The relevance of improving existing systems for monitoring and forecasting environmental parameters in areas of increased radiation hazard / S.B. Kochuk, O.M. Podorozhny // Current issues in the development of branches of science: collection of scientific papers with materials of the V International Scientific Conference, Zhytomyr, May 9, 2025 / International Center for Scientific Research. — Vinnytsia: LLC "UKRLOGOS Group", 2025. — C. 139-141. <https://archives.mcnd.org.ua/index.php/conference-proceeding/issue/view/09.05.2025/45>

## **TEACHING ACTIVITIES:**

### **ourses Taught:**

Automatic control theory, Aircraft equipment, Automatic control systems and flight and navigation systems of aircraft, Control system drives, Identification and modeling of dynamic systems, Design of mechatronic and unmanned systems, On-board systems of UAVs, Optimal and adaptive control systems, Intelligent control systems

### **Author Courses, Academic Programs:**

Computer-integrated technological processes and production (bachelor's educational program), Computer-integrated management in energy (bachelor's educational program), Computer-integrated automation and control systems (bachelor's educational program), Computer-integrated technological processes and production (master's educational program)

### **Methodological Materials, Textbooks:**

Syllabi for the courses: " Automatic Control Theory", "Identification and modeling of dynamic systems", "Mechatronic Systems ", "Design and modeling of unmanned systems", "On-board systems of UAVs"

#### Textbooks:

1. Kochuk, S. B. Special sections of the theory of automatic control [Electronic resource]: a tutorial for independent work / Firsov S. M., S. B. Kochuk, Yu. V. Bilokonska. – Kharkiv: National Aerospace University "Kharkiv Aviation Institute", 2019. – 134 p.
2. Kochuk, S. B. Laravel Framework for creating Internet resources [Electronic resource]: a tutorial for practical tasks and independent work / L. M. Lutai, S. B. Kochuk. – Kharkiv: National Aerospace University named after M. E. Zhukovsky "Kharkiv Aviation Institute", 2020. – 49 p.
3. Kochuk, S. B., Nikitin, A. O., Lutay, K. N. Identification of automation objects: Textbook. – Kharkiv: National Aerospace University named after N. E. Zhukovsky (KhAI), 2021. – 45 p.



4. Kochuk, S. B., Nikitin, A. O. Practical study of automation objects: Textbook. – Kharkiv: National Aerospace University named after N. E. Zhukovsky (KhAI), 2021. – 61 p.
5. Kochuk, S. B., Kisly, A. G. Equipment for automated technological and production processes: Textbook. – Kharkiv: National Aerospace University named after N. E. Zhukovsky (KhAI), 2021. – 93 p.

## SELECTED PUBLICATIONS:

### Key Articles (Scopus, WoS, others):

1. Functional stability of the plasma generator control system with sectioned cathode nodes in the ion plasma deposition mode of multicomponent nanostructured materials [Text] / S.M. Firsov, S.B. Kochuk, M.V. Breslavets, Y.V. Bilokonska, D.V. Slyusar// Journal Science Review 2(9) – W.: Poland, 2018. – Vol.1.– P. 38-42
2. Multifunctional table lamp controlled by the Arduino platform [Text] / S. B. Kochuk, D. A. Guzov International Scientific and Practical Conference “Integrated Computer Technologies in Mechanical Engineering” ICTM-2019 («Інтегровані комп’ютерні технології в машинобудуванні» ІКТМ-2019): Theses of the additional. – Kharkiv: National Aerospace University named after M. E. Zhukovsky “Kharkiv. Aviation Institute”, 2019. – Том 1. – P.128-131
3. Algorithmic Support of the System of Automatic Control of Longitudinal Movement of the Small Unmanned Aerial Vehicle Vertigo [Текст] / Artem Nikitin, Sergii Kochuk, Sergii Firsov Springer Nature Switzerland AG 2020 M. Nechyporuk et al. (Eds.): Integrated Computer Technologies in Mechanical Engineering, AISC 1113, pp. 1–12, 2020. [https://doi.org/10.1007/978-3-030-37618-5\\_8](https://doi.org/10.1007/978-3-030-37618-5_8). **(Scopus)**
4. APPLICATION OF WIRELESS COMMUNICATION AND TECHNICAL VISION TECHNOLOGIES TO IMPROVE AVIATION SEARCH AND RESCUE OPERATIONS / O.O. Klimishen, A.O. Krasnorutsky, S.B. Kochuk // Current status of scientific research and technologies in industry. 2023. No. 2 (24). – Kharkiv: KHIRES, 2023. – P. 25-31. . **(Category B scientific periodical in Ukraine)**
5. Algorithmic provision of contours guidance of unmanned systems / Seghii Kochuk, Roman Trishch, Artem Nikitin, Ivan Zhezhera, Olena Cherniak, Eduard Khomiak // In: Lytvynov, O., Pavlikov, V., Krytskyi, D. (eds) Integrated Computer Technologies in Mechanical Engineering - 2024. ICTM 2024. Lecture Notes in Networks and Systems, vol 1473. Synergetic Engineering, vol 1, 2025, Springer, pp 16-25 [https://doi.org/10.1007/978-3-031-94845-9\\_2](https://doi.org/10.1007/978-3-031-94845-9_2) **(Scopus Q4)**.
6. Building a model of the flow in a nozzle-follower valve of the HP-3 control pump to improve the stability of characteristics / Oleksandr Lytviak, Roman Trishch, Eduard Khomiak, S. Khomenko, I. Tiupa // Eastern-European Journal of Enterprise Technologies, 2025, №3/1 (135)), p. 51–57. <https://doi.org/10.15587/1729-4061.2025.329024>  
<https://journals.urau.ua/eejet/article/view/329024/322735> **(Scopus Q3)**.
7. APPLICATION OF GENETIC ALGORITHM FOR MODELING AND IDENTIFICATION OF UNMANNED AERIAL VEHICLE MOTION / Anton Panda, Roman Trishch, Artem Nikitin, Rafael Trujillo Torres, // MM SCIENCE JOURNAL 2025(3) I SEPTEMBER, p. 8546-8553  
[http://doi.org/10.17973/MMSJ.2025\\_09\\_2025040](http://doi.org/10.17973/MMSJ.2025_09_2025040) **(Scopus Q3)**.

### Links to Citation Database Profiles:

<https://orcid.org/0000-0003-1429-2246>  
<https://scholar.google.com/citations?user=Nw918UAAAAJ>  
<https://www.scopus.com/authid/detail.uri?authorId=57214221616>  
<https://www.webofscience.com/wos/author/record/MNO-4388-2025>



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## **ADDITIONAL INFORMATION:**

### **Language Proficiency:**

Ukrainian, English B1

### **IT Skills:**

Modeling of dynamic objects (SolidWorks, MatLab), work in customization environments (Mishin Planer) and programming of controllers (C++) of UAVs

### **Social and Community Activities:**

1. Work as part of the Accreditation Commission, Order of the Ministry of Education and Science No. 3014-2 dated 12.12.2018.
2. Leadership of the permanent student scientific circle "Mechatronics"