



<b>Name</b>	Natalia Savchenko
<b>Position, Department/Faculty</b>	Associate Professor, Department of Mechatronics and Electrical Engineering/Faculty of Aircraft Control Systems
<b>Academic Degree, Academic Title</b>	Ph. D. of Technical Science, Associate Professor
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<b>ResearchGate:</b>	

## EDUCATION:

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

Donbas State Engineering Academy, Automation of Technological Processes and Productions, 1996

### Postgraduate/Doctoral studies:

Postgraduate study at the National Technical University "Kharkiv Polytechnic Institute"

### Additional training, certification programs:

1. Donbas State Engineering Academy, Enterprise Economics, 2003.
2. Donbas National Academy of Civil Engineering and Architecture, Building and Civil Engineering, 2022
3. Advanced training at the Kharkov Aviation Institute (180 hours), 2025.  
Certificate PK02066769/01066-24.

## WORK EXPERIENCE:

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

[1997-1998] Teacher of Special Disciplines at Kramatorsk Professional School.

[1998-1999] Teacher of Special Disciplines at Kramatorsk State Engineering College.

[2000-2005] Teacher of Special Disciplines at Slavyansk Energy Construction College.

[2005-2010] Assistant of the Department of Automation of Production Processes at Donbas State Engineering Academy.

[2010-2016] Senior Lecturer of the Department of Computer Science and Information Technology at Donbas Institute of Engineering and Management

[2016-2018] Senior Lecturer of the Department of Municipal Building and Economy at Donbas National Academy of Civil Engineering and Architecture.

[2018-2021] Associate Professor of the Department of Municipal Building and Economy at Donbas National Academy of Civil Engineering and Architecture.

[2021-2023] – Associate Professor of the Department of Electrical Engineering at Donetsk National Technical University.

[2023-2025] – Associate Professor of the Department Mechatronics and Electrical Engineering at National Aerospace University "Kharkiv Aviation Institute".

**Teaching Experience:**

27 years

**Experience in International or National Projects:**

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**RESEARCH ACTIVITIES:****Main Research Areas:**

Renewable energy and energy storage systems, Smart Grid technologies in energy, Assessment of the energy efficiency of mobile power plants using renewable energy sources, Regulation of electrical load schedules.

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

more than 70 of which: Scopus – 9, WoS – 2.

**Monographs, Textbooks:**

Savchenko N.P. Regulatory schedule for the integration of a co-regulator with hybrid electrical supply systems / Current trajectory of the development of scientific and technological progress in Ukraine and the world: collective monograph / For the past. ed. T. A. Emel'yanova. – Lviv-Torun: Liga-Pres, 2021. – P. 349-388. (DOI: <https://doi.org/10.36059/978-966-397-247-3-12>).

**Participation in Scientific Conferences:**

1. Prospects for the stagnation of mechanical accumulators during the reconstruction or modernization of electrical power supply systems / N.P. Savchenko, A.V. Tretiak // Collection of materials from the international scientific and practical conference "Wielokierunkowosc Jako Gwarancja Postępu Naukowego". – Warszawa, Poland. 21 lutego 2020.– P.124-125.
2. Increased efficiency of robotic electrical power supply systems when mechanical accumulative energy is stagnant / N.P. Savchenko, A.V. Tretiak // Collection of materials from the international scientific and practical conference "Die wichtigsten vektoren für die entwicklung der wissenschaft". – Luxembourg. January 24, 2020.– pp. 68-71.
3. Efficiency of storage of hybrid accumulative energy in electrical boundaries / N.P. Savchenko, A.V. Tretiak // Collection of materials of the international scientific and practical conference "Do desenvolvimento mundial como resultado de realizaxes em cicncia e investigazgo cientfica" – Lisboa. 9 de outubro de 2020.– pp. 23-25.
4. Prospects for the widespread storage of solid-state gravitational accumulative energy in electrical boundaries / N.P. Savchenko, A.V. Tretiak, E.V. Lebedenko // Collection of materials from the international scientific and practical conference "Tendances scientifiques de la recherche fondamentale et appliquée" – Strasbourg. October 30, 2020. – pp. 111 – 112.
5. Prospects for the development of renewable energy in the rural state. / N.P.Savchenko. // Collection of materials of the International scientific and practical on-line conference "Problems of energy efficiency and automation in industry and agriculture", 11-12 leaf fall 2020. – Kropyvnytskyi: CNTU, 2020. – pp. 54–56.

6. Current methods for changing the imbalances of industrial workers in the minds of robots with a new model of the electricity market / N.P. Savchenko // Ricerche scientifiche e metodi della loro realizzazione: esperienza mondiale e realta domestiche: Raccolta di articoli scientifici "ΛΟΓΟΣ" con gli atti della II Conferenza scientifica e pratica internazionale (T. 2), Bologna, 12 November 2021. Bologna-Vinnytsia: Associazione Italiana di Storia Urbana & Piattaforma scientifica europea, 2021.– pp. 38–41.
7. Ecological technologies for accumulating electrical energy for power supply systems. / N.P.Savchenko // 3rd International Scientific and Practical Conference "Ecological problems of the excessive environment and rational environmental management in the context of the current development": collection of materials, 22 – 23 June 2020 r., m. Kherson. – pp. 549–552.
8. Routine analysis of mechanical accumulative energy using the energy recovery method / N.P. Savchenko // Collection of materials of the international scientific and practical conference "Grundlagen der modernen wissenschaftlichen" Forschung" – Zurich-Vinnytsia. 10. September 2021. – pp. 128 – 129.
9. Current methods for changing the imbalances of industrial workers in the minds of robots with a new model of the electricity market / N.P. Savchenko // Collection of materials of the international scientific and practical conference "Ricerche scientifiche e metodi" della loro realizzazione: esperienza mondiale e realta domestiche" – Bologna-Vinnytsia. November 12, 2021. – pp. 38 – 40.
10. Prospects for the development of mobile autonomous power supply systems in the face of an energy crisis / N.P. Savchenko, A.V. Tretiak // Collection of materials from the international scientific and practical conference "Débats scientifiques et orientations prospects du développement scientifique" – Paris. November 11, 2022. – pp. 64 – 66.
11. Optimization of complex hybrid energy supply systems by ensuring the principles of "active" power supply / N.P. Savchenko // Proceedings of the VI International Scientific and Technical Conference "Energy Efficiency and Energy Safety" Electrical Energy Systems (EEES-2022)". - Kharkiv: "Drukarnya Madrid". - 2022. – P. 72-73.
12. Prospects for the development of hybrid mobile power plants with modern energy sources / N.P. Savchenko, A.Yu. Kollarov // Collection of materials from the international scientific and practical conference "Education and science of today: intersectoral issues and development of sciences" - Cambridge. 09 December 2022. – pp. 112 – 113.
13. Energy-efficient technologies of "active" booth / N.P. Savchenko, O.S. Shvedchenko // International scientific and practical Internet conference "Electromechanical, information systems and nanotechnologies": collection of conference materials, November 18, 2022, Kiev. – P. 12 – 13.
14. Changing the imbalances of industrial enterprises using the method of local microgeneration for the use of mobile power plants / N.P. Savchenko // Collection of materials of the international scientific and practical conference "Scientific practice: modern and classical research" methods" – Boston. May 26, 2023. – pp. 142 – 143.
15. Analysis of operating modes of small hydroelectric power plants microgeneration berries for industrial workers / N.P. Savchenko // Collection of materials of the international scientific and practical conference "Theoretical and empirical scientific research: concept and trends" - Oxford. 23 June 2023. – pp. 104 – 105.
16. Hybrid autonomous power supply systems with a small hydroelectric power station / N.P. Savchenko // Collection of materials of the international scientific and practical conference "Débats scientifiques et orientations prospects du développement" scientifique" – Paris. 21 July 2023. – pp. 84 – 85.
17. New technologies in autonomous power supply objects / N.P. Savchenko, O.M. Dovgalyuk, O.M. Kosyuchenko // Collection of materials of the international scientific and practical conference "Scientific practice: modern and classical research methods" – Boston. 22 December 2023. – pp. 164 – 165.

18. Intelligent control in local electrical networks / O.M. Dovgalyuk, N.P.Savchenko, A.V. Tretiak // Abstracts of the XXXII International Scientific and Practical Conference MicroCAD-2024 "Information Technologies: Science, Engineering, Technology, Lighting, I'm healthy." - Kharkiv: NTU "KhPI". - 2024. - P. 110. <https://ndch.kpi.kharkov.ua/wp-content/uploads/2025/01/Zbirnik-tez-MicroCAD-2024.pdf>
19. Prospects for the development of energy systems with rose-energy generation in Ukraine / N.P.Savchenko, A.V.Tretiak, O.M. Dovgalyuk// Abstracts of the 76th scientific conference of professors, scientists, scientists, graduate students and university students. - Volume 1. – Poltava: National University named after Yuri Kondratyuk. - 2024. - pp. 98-99. <https://reposit.nupp.edu.ua/handle/PolNTU/15813>
20. Microgrid system with alternative energy sources in the form of mobile solar power plants/ N.P. Savchenko, O.M. Kosychenko, A.G. Kisliy // Collection of Scientific Papers "ΛΟΓΟΣ", (September 20, 2024; Paris, France), 118–120. <https://doi.org/10.36074/logos-20.09.2024.023>
21. Sonyachnaya installation "pyramid" for covering peaks in the schedule of the desired employee / N.P.Savchenko, A.V. Tretiak// Collection of scientific works of the VII International Scientific and Technical Conference "Energy Efficiency" and energy safety of electrical energy systems (EEES-2023)." – Kharkiv: NTU "KhPI".
22. Merezha MicroGrid based on low-power complex alternative energy systems / N.P.Savchenko// Collection of scientific proceedings of the VIII International Scientific and Technical Conference "Energy Efficiency and Energy Safety of Electric Power Systems (EEES-2024)". – Kharkiv: NTU "KhPI". – pp. 43-44.
23. Increased reliability of the work of autonomous power supply systems with updated energy sources. / O.M. Dovgalyuk, N.P.Savchenko, A.V. Tretiak// Collection of scientific proceedings of the International Symposium on PROBLEMS OF ELECTRIC POWER ENGINEERING, ELECTRICAL ENGINEERING AND ELECTROMECHANICS (SIEMA'2024) 24 - 25 June 2024 <https://repository.kpi.kharkov.ua/server/api/core/bitstreams/4ec1ea05-021e-40b5-ae89-53cd376193c2/content>
24. Efficiency of hybrid mobile power plants based on refurbished cores in Microgrid systems. / N.P.Savchenko, O.M. Dovgalyuk, A.V.Tretiak// Collection of scientific proceedings of the International Symposium on PROBLEMS OF ELECTRIC POWER ENGINEERING, ELECTRICAL ENGINEERING AND ELECTROMECHANICS (SIEMA'2024) 24 - 25 June 2024 <https://repository.kpi.kharkov.ua/server/api/core/bitstreams/4ec1ea05-021e-40b5-ae89-53cd376193c2/content>
25. IMPROVING THE RELIABILITY OF ELECTRICITY SYSTEMS IN TERRITORIAL COMMUNITIES OF UKRAINE/ O.M. Dovgalyuk, N.P.Savchenko// Information technologies: science, technology, technology, lighting, health: abstracts of the XXIII International Scientific and Practical Conference MicroCAD-2025, May 14-17, 2025 / per ed. prof. Sokola E.I. – Kharkiv: NTU "KhPI". - p.138.
26. ENERGY EFFICIENT BOODS AS THE MIDDLE OF MICROGRID SYSTEMS/ N.P. Savchenko, O.M. Dovgalyuk// Information technologies: science, technology, technology, lighting, health: abstracts of the XXIII International Scientific and Practical Conference MicroCAD-2025, May 14-17, 2025 / per ed. prof. Sokola E.I. – Kharkiv: NTU "KhPI". - p.159.
27. Peculiarities of the organization of dry hydrants in lighting warehouses in Ukraine/ S.V. Kozinenko, N.P. Savchenko // Scientific plant for the training of teachers in engineering, pedagogical and technological areas: materials of the VI All-Ukrainian scientific and practical online conference (May 15, 2025): collection of abstracts [for zag. ed. S.V. Onishchenka]. Zaporizhzhya: BDPU, 2025.- p.18-20.

28. Current mechanical accumulative energies / S.V.Makovy, N.P. Savchenko // Scientific plant for the training of teachers in engineering, pedagogical and technological areas: materials of the VI All-Ukrainian scientific and practical online conference (15 May 2025): collection of abstracts [for zag. ed. S.V. Onishchenka]. Zaporizhzhya: BDPU, 2025.- p.94-96.
29. Energy-efficient microgrid system with rose-energy generation from energy complexes of "active" budins / N.P. Savchenko, O.M. Dovgalyuk// Education and science of today: intersectoral issues and development of sciences: Collection of scientific papers "ΛΟΓΟΣ" with Proceedings of the VIII International Scientific and Practical Conference, Cambridge, May 9, 2025. Cambridge-Vinnytsia: P.C. Publishing House & UKRLOGOS Group LLC, 2025.- p. 280-282. DOI 10.36074/logos-05/09/2025.057
30. Photovoltaic station "half-pyramid" with double-sided solar panels/ N.P. Savchenko, A.V. Tretiak// Theoretical and practical aspects of modern scientific research: Collection of scientific papers "ΛΟΓΟΣ" with Proceedings of the VI International Scientific and Practical Conference, Seoul, August 1, 2025. Seoul-Vinnytsia: Case Co., Ltd. & UKRLOGOS Group LLC, 2025. - p. 100-103 DOI 10.36074/logos-01.08.2025.015

## TEACHING ACTIVITIES:

### Courses Taught:

Electrical systems and networks, Fundamentals of power supply, renewable energy and energy storage technologies, Fundamentals of designing hybrid power supply systems, Energy efficient technologies in power engineering, Intelligent Smart systems in power engineering, Control of power system modes, Methods and ways of managing power supply and electricity consumption, Project management in power engineering

### Author Courses, Academic Programs:

- 1.Computer-integrated management in energy (bachelor's educational program)
2. Electric power and energy efficient technologies (bachelor's educational program)

### Methodological Materials, Textbooks:

1. Lecture notes from the discipline "Electrical systems and circuits. Part 1" for students of specialty 141 "Electrical power engineering, electrical engineering and electromechanics" full-time and part-time studies / [school. Savchenko N.P.]. – Pokrovsk: DonNTU, 2022. – 128 p.
2. Methodical instructions to practical ones to take from the discipline "Electrical systems and connections" for students of specialty 141 Electrical power engineering, electrical engineering and electromechanics of lighting level "Bachelor" full-time and part-time navchannya / way of life N.P. Savchenko. – Pokrovsk: DonNTU, – 2022. – 73 p.
3. Methodical introductions to completing the control work from the discipline "Theory of Electric Drives. Part 1" for students of specialty 141 Electrical power engineering, electrical engineering and electromechanics of lighting level "Bachelor" full-time and part-time studies / [ education. Savchenko N.P.]. – Lutsk: DonNTU, 2022. – 26 p.
4. Methodical introductions to the completion of course work from the discipline "Theory of Electric Drives. Part 2" for students of specialty 141 Electrical power engineering, electrical engineering and electrical mechanics of lighting level "Bachelor" full-time and part-time studies / [ education. Savchenko N.P.]. – Lutsk: DonNTU, 2023. – 70 p.

5. Methodical introductions to the course project from the discipline "Electrical systems and connections. Part 2" for students of specialty 141 Electrical power engineering, electrical engineering and electrical mechanics of lighting level "Bachelor" full-time and part-time studies / [ education. Savchenko N.P.]. - Pokrovsk: DonNTU, 2022. – 128 p.
6. Methodical introductions to the final control work from the discipline "Electrical systems and connections" for students of the specialty 141 Electrical power engineering, electrical engineering and electromechanics of the lighting stage "Bachelor" of the day correspondence forms of learning / [ukl. Savchenko N.P.]. – Lutsk: DonNTU, 2023. – 37 p.
7. Methodical introductions to coursework from the discipline "Electric drive and heating systems." / [ukl. Savchenko N.P., Kisliy A.G.]. – Kharkiv: NAUHAI, 2025. – 65 p.

## **GRANTS AND PROJECTS:**

### **Participation in International and National Projects:**

No

### **Grants, Scholarships, Academic Mobility Programs:**

No

## **PROFESSIONAL ACHIEVEMENTS AND AWARDS:**

### **Honorary Titles:**

No

### **Distinctions, Awards, Prizes:**

No

### **Membership in Professional Associations:**

1. Licensing energy auditor of the State Agency for Energy Efficiency and Energy Saving of Ukraine
2. Member of the Civil Association "INTERNATIONAL FOUNDATION OF SCIENTISTS AND TEACHERS"

## **INTERNATIONAL ACTIVITIES:**

### **Internships:**

No

### **Cooperation with Foreign Universities:**

No

### **Teaching/Lecturing Abroad:**

No

## **SELECTED PUBLICATIONS:**

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

1. Savchenko N. A. Managing the load schedule of the administrative building taking into account emerging risks when connecting the kinetic energy storage to the power supply system / S. Yu. Shevchenko, N. A. Savchenko, A. V. Tretjak // *Електротехніка і електромеханіка*. – 2017. – №6. – С. 69 – 73. doi: 10.20998/2074-272X.2017.6.11. **(WoS)**
2. Savchenko N. Equalizing building load diagram by the method of random component compensation when connecting a group of kinetic energy storages to power supply system / N. Savchenko. // *Sciences of Donetsk National Technical University, series "Electrical Engineering and Energy"*. – Lutsk: DonNTU, 2021. – No. 1. – pp. 39–45. <https://doi.org/10.31474/2074-2630-2021-1-39-45>
3. Shevchenko. S. Devising a method for reducing active power corona losses based on changing the structural parameters of a power transmission line. / S. Shevchenko, E. Olubakinde, D. Danylchenko, I. Nazarenko, N. Savchenko, L. Shylkova. // *Eastern-European Journal of Enterprise Technologies, "Energy-saving technologies and equipment"*. – 2022. – No. 1(8(115))2022. – pp. 18–25. DOI: 10.15587/1729-4061.2022.253384. **(Scopus)**
4. Shevchenko. S. Determination of Energy Characteristics for Choice of Surge Arresters [Text] / S. Shevchenko, D. Danylchenko, S. Dryvetskyi, N. Savchenko, S. Petrov. In: Zaporozhets, A. (eds) *Systems, Decision and Control in Energy IV. Studies in Systems, Decision and Control*, vol 454. Springer, Cham. pp. 195-220, 2023. [https://doi.org/10.1007/978-3-031-22464-5\\_11](https://doi.org/10.1007/978-3-031-22464-5_11) **(Scopus)**
5. Savchenko N.P. Analysis of the effectiveness of the installation of mobile autonomous power plants in critical energy infrastructure [Text] / N.P. Savchenko // *Scientific proceedings of the Donetsk National Technical University, series "Electrical engineering and energy"* – Lutsk: DonNTU, 2022. – No. 2(27). – P. 15-19. <https://doi.org/10.31474/2074-2630-2022-2-15-19>
6. Savchenko, N. Mobile solar power plant "Pyramid" with a kinetic energy storage/ Savchenko, N., Tretiak, A., Dovgalyuk, O., Danylchenko, D., Syromyatnikova, T. // *Lecture Notes in Networks and Systems* This link is disabled., 2024, 996 LNNS, pp. 351–365 DOI: 10.1007/978-3-031-60549-9\_26 **(Scopus)**
7. Savchenko N. P., Dovgalyuk, O. M., Tretiak A. V.. "Autonomous microgrid system for household dwellers based on energy-efficient technologies with innovative energy sources." *Newsletter of the National Technical University "KhPI". Series: Energy: reliability and energy efficiency*, vip. 1 (10), Cherven 2025, p. 121-126. [https://doi.org/10.20998/EREE.2025.1\(10\).332574](https://doi.org/10.20998/EREE.2025.1(10).332574)

### Books, Chapters in Collective Monographs:

#### Links to Citation Database Profiles:

<https://orcid.org/my-orcid?orcid=0000-0001-7046-0633>

<https://scholar.google.com/citations?hl=uk&user=pGIVQxAAAAAJ>

<https://www.scopus.com/authid/detail.uri?authorId=57479426300>

<https://www.webofscience.com/wos/author/record/GRY-0718-2022>

### ADDITIONAL INFORMATION:

#### Language Proficiency:

Ukrainian C2, Deutsch

#### IT Skills:

Autocad, Matlab, Dakar

#### Social and Community Activities:

