CURRICULUM VITAE ET STUDIORUM

Anastasiia Rozhok

Born in Ufa, Russia on 6th January 1996
Via Monte Zovetto 16 int.1

16145 Genova GE, Italy

Cell phone number: +39 347-772-2218 (Italy)

e-mail:

anastasiia.rozhok@edu.unige.it

rozhok_anastasiya@mail.ru

https://rubrica.unige.it/personale/UUZDXVlo

Researcher at the University of Genoa, Polytechnic School (Department of Mechanical, Energy, Managerial and Transportation Engineering)

Degrees

- PhD Degree at the University of Genoa, Department of Mechanical, Energy, Logistics Engineering and Engineering Management. Field(s) of study: autonomous security, risks, complex modelling and simulation systems, environmental safety, Industry 4.0. Genoa, Italy
- Master Safety Engineering Degree graduating summa cum laude from the University of Genoa. Fields of study: Safety Engineering, Transportation and Logistics from the Department of Mechanical, Energy, Logistics Engineering and Engineering Management. EQF level 8. 01/09/2017 – 31/08/2019 – Genoa, Italy
- Master Safety Engineering Degree graduating summa cum laude from Bauman Moscow State Technical University. Analysis and management of man-made and natural risks. Fields of study: Research and modelling of industrial processes. EQF level 8. 01/09/2017 – 31/08/2019 – Moscow, Russia
- Bachelor of Safety Engineering Degree graduating *summa cum laude* from Bauman Moscow State Technical University. Fields of study: Ecology and Industrial Safety. EQF level 7. 01/09/2013 – 31/08/2017 – Moscow, Russia
- Diploma of Gymnasium № 3 graduating *summa cum laude*, 31/05/2013 – Ufa, Russia

Languages

Mother tongue: Russian

Other languages

	Understanding		***Spoken***		***Written***
	Listening	*Reading*	*Interaction*	*Production*	
English	C1	C1	C1	C1	C1
Italian	B1	B1	B1	B1	B1

Based on the Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR) for levels Basic (A), Independent (B), and Proficient (C).

CURRICULUM VITAE

Anastasiia Rozhok graduated with honours in 2013 from the gymnasium with a profound study of English and technical sciences. She won a grant for free full-time study at Bauman Moscow State Technical University, where she graduated in 2017 with a bachelor's degree in industrial safety with excellent grades. Her bachelor thesis was on methods for purifying water for drinking purposes.

In 2017, Anastasiia Rozhok won the Bauman Moscow State Technical University and the University of Genoa double degree grant. In 2019 she graduated with honour in Safety Engineering for Transport, Logistics and Production (Classe LM-26 - Classe delle lauree magistrali in ingeneria della sicurezza) from the Department of Mechanical, Energy, Logistics Engineering and Engineering Management at the University of Genoa, Genoa, Italy, and also graduated with honours in Master's degree in Fire and Industrial Safety from Bauman Moscow State Technical University in Moscow, Russia.

In 2019 she won the Cycle XXXV PhD Scholarship at the University of Genoa – Department of Mechanical, Energy, Logistics Engineering and Engineering Management in the program Model, Machine and Systems Engineering.

During her studies, he actively participates in various engineering conferences, such as IEEE, IOP, AIP, and others.

Her research interests focus on the study, development, and implementation of complex modelling and simulation systems for the environmental, safety, and security fields, including autonomous security, risks, and Industry 4.0.

Her current research is focused on the application of smart UAVs to the security field. It is very pertinent since it has multiple applications in several fields of study, in the management field, storage processes, and industrial logistics, for safety and security. It

is also relevant for environmental applications. It focuses on the study of the autonomous UAVs, which in the first phase of the study is applied for safety and security, in particular for the surveillance of large areas, which could be both for safety such as patrolling of natural or protected areas, or also security of the port area industries.

Her future research will focus on creating a system of interaction between various virtual and real-world programs and libraries to help engineers from different fields work directly on a project rather than spending time developing each individual model, and for potential users who can participate in the creation of a product or system using its virtual model - a digital twin.

Courses taught

During her PhD studies at the University of Genoa, as well as during her missions at Bauman Moscow State Technical University, Anastasiia Rozhok taught several courses as a practicum, and participated in academic activities as a lecturer and assistant professor, in particular:

- PRINCIPLES OF INDUSTRIAL SAFETY ENGINEERING (CODE: 90455) at the University of Genoa (Subject taught in English, lecturer)
- SUPPLY CHAIN RESILIENCY (CODE: 90471) at University of Genoa, (Subject taught in English, assisting)
- INDUSTRIAL PLANTS FOR ENERGY (CODE: 86644) at the University of Genoa (Subject taught in English, assisting)
- DYNAMIC MATHEMATICAL MODELLING IN ENERGETICS at Bauman Moscow State Technical University, Department of Ecology and Industrial Safety (Subject taught in English, practicum)
- DIGITAL CONTROL AND MANAGEMENT OF TECHNICAL SYSTEMS at Bauman Moscow State Technical University, Department of Ecology and Industrial Safety (Subject taught in English, practicum)
- SAFETY ENGINEERING at Bauman Moscow State Technical University, Department of Ecology and Industrial Safety (Subject taught in English, practicum)

Training and research activities

Anastasiia Rozhok is a Guest Editor of Electronics-IF: 2.690 Special Issue "Mentor Program: Transition to Industry 4.0 in Emerging Domains: Methodology and Case Studies" https://www.mdpi.com/journal/electronics/special_issues/4801HW9F34

She attended the training course of anyLogistix in Paris, France, October 21-23, 2019.

Anastasiia Rozhok was the keynote speaker at the World Congress of Science, Engineering and Technology (WCOSET) on March 8, 2021, organised by the Faculty of Mechanical Engineering Universiti Teknologi MARA.

Organized the training and research activities of the Bauman Moscow State Technical University Youth Space Center at the XXIV edition of the Summer School dedicated to Francesco Turco, in Brescia, Italy on September 11 - 13th, 2019.

She was a conference reviewer for the American Institute of Physics (AIP) Publishing.

Organized the XXVII Summer school "Francesco Turco" “Unconventional Plants: Technologies, Tools and Methodologies for emerging domains”, Riviera dei Fiori, 7-9 September 2022, including as a reviewer of scientific publications.

Presented projects on end-to-end technologies in the "Green Economy" track at the "Archipelago 2121" project-educational intensives from the Ministry of Science and Higher Education of the Russian Federation. Reports: "Complex equipment for leaching followed by extraction of valuable components from industrial waste", Digital and technological platform "Materials as a service for footprint mitigation - MSF", "Knowledge, technology and product lifecycle management system to minimize the ecological footprint GreenPLM"

Worked as a translator for scientific publications for the Department of International Education and Scientific Collaboration at Bauman Moscow State Technical University, Moscow, Russia.

Assisted editor-in-chief of the journal "Herald of the Bauman Moscow State Technical University, Series Natural Sciences" in collaboration with Elsevier.

Participated in the working group "Services and Platforms for Contextual Knowledge Formation and Development of Eco-Competences" of the Econet market of the National Technology Initiative for the development of training programs for the development of skills in eco-technologies and eco-innovations.

PUBLICATION LIST

[1] Adorni, Emanuele, Anastasiia Rozhok, and Roberto Revetria. "Application of Airships in the Surveillance Field." Transactions on Engineering Technologies: International MultiConference of Engineers and Computer Scientists 2021. Singapore: Springer Nature Singapore, 2022.

[2] Emanuele, Adorni, et al. "An Agenda on the Employment of AI Technologies in Port Areas: The TEBETS Project." Advances and Trends in Artificial Intelligence. Theory and Practices in Artificial Intelligence: 35th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems, IEA/AIE 2022, Kitakyushu, Japan, July 19–22, 2022, Proceedings. Cham: Springer International Publishing, 2022.

[3] Anastasiia, Rozhok, Adorni Emanuele, and Revetria Roberto. "Using novative UAVs to support maritime emergency operations." The International Maritime Transport and Logistic Journal 11 (2022): 52-57.

[4] Adorni, E., Rozhok, A., Revetria, R., & Ivanov, M. (2021, October). Literature Review on Drones Used in the Surveillance Field. In Proceedings of the International MultiConference of Engineers and Computer Scientists 2021 IMECS 202.

[5] Adorni, E., Rozhok, A., Revetria, R., & Suchev, S. (2022, March). Conceptual Design of the Emergency Energy Supply System for a New Generation of Airships. In 2022 4th International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE) (pp. 1-6). IEEE.

[6] Bogdanova, Y., Rozhok, A., & Tatarinov, V. (2019, March). Improving of operating efficiency of fire brigades during the suppression of peat fires by introducing a unit for bioactivating drinking water into a water supply concept (an example of Tver region). In IOP Conference Series: Materials Science and Engineering (Vol. 492, No. 1, p. 012022). IOP Publishing.

[7] Guizzi, G., Revetria, R., & Rozhok, A. (2020). Augmented Reality and Virtual Reality: From the Industrial Field to Other Areas. Enabling Technologies for the Successful Deployment of Industry 4.0, 67-83.

[8] Morra, E., Damiani, L., Revetria, R., Rozhok, A., & Olten, S. W. I. T. Z. E. R. L. A. N. D. (2019, June). A case study of a digital twin for designing intermodal railways operations for a maritime terminal. In 17th International Industrial Simulation Conference (pp. 98-101).

[9] Rozhok, A. P., Storozhenko, A. S., Valiaeva, A. V., Sushchev, S. P., Ugarov, A. N., & Revetria, R. (2021, September). Methods of monitoring the Ground-Climate-Pipeline system in sections with hazardous processes. In IOP Conference Series: Earth and Environmental Science (Vol. 864, No. 1, p. 012022). IOP Publishing.

[10] Rozhok, A. P., Storozhenko, A. S., Valiaeva, A. V., Sushchev, S. P., Ugarov, A. N., & Revetria, R. (2021, September). Organizational measures to ensure continuous monitoring of the Ground-Climate-Pipeline system. In IOP Conference Series: Earth and Environmental Science (Vol. 864, No. 1, p. 012024). IOP Publishing.

[11] Rozhok, A. P., Storozhenko, A. S., Valiaeva, A. V., Sushchev, S. P., Ugarov, A. N., & Revetria, R. (2021, September). Requirements for the automated monitoring system to reduce environmental risk during operation of trunk pipelines. In IOP Conference Series: Earth and Environmental Science (Vol. 864, No. 1, p. 012049). IOP Publishing.

[12] Rozhok, A. P., Storozhenko, A. S., Valiaeva, A. V., Sushchev, S. P., Ugarov, A. N., & Revetria, R. (2021, September). Software for risk assessment based on the data processing of monitoring the state of the Ground-Climate-Pipeline system. In IOP Conference Series: Earth and Environmental Science(Vol. 864, No. 1, p. 012023). IOP Publishing.

[13] Rozhok, A. P., Zykova, K. I., Suschev, S. P., & Revetria, R. (2021, July). The use of digital twin in the industrial sector. In IOP Conference Series: Earth and Environmental Science(Vol. 815, No. 1, p. 012032). IOP Publishing.

[14] Rozhok, A., & Tatarinov, V. (2019, March). The application of dynamic risk analysis methods for safety improvement on highways located near or on the territory of hydraulic engineering dams. In IOP Conference Series: Materials Science and Engineering (Vol. 492, No. 1, p. 012005). IOP Publishing.

[15] Rozhok, A., Adorni, E., & Revetria, R. (2022, April) UAVs as Means to Provide First Aid Kits to Lost at Sea Victims. In PESARO 2022 : The Twelfth International Conference on Performance, Safety and Robustness in Complex Systems and Applications (AIRIA) ISBN: 978-1-61208-943-0

[16] Rozhok, A., Sushchev, S., Tatarinov, V., & Revetria, R. (2019, December). Mathematical model for the calculation of dynamic risk analysis of emergencies at hydraulic structures. In AIP Conference Proceedings (Vol. 2195, No. 1, p. 020048). AIP Publishing LLC.

[17] Rozhok, A., Sushchev, S., Tatarinov, V., & Revetria, R. (2019, November). Risk analysis technique for emergency situations of man-made character during the transportation of dangerous goods by road transport to the cosmodrome. In AIP Conference Proceedings (Vol. 2171, No. 1, p. 090003). AIP Publishing LLC.

[18] Surmin, A., Rozhok, A., Damiani, L., Giribone, P., & Revetria, R. (2018). Investigation about Use of Drone in a Patrol Purpose and Applicability of this Surveillance Particularly to Existing Legislation. In Proceedings of the World Congress on Engineering and Computer Science (Vol. 2).

[19] Valerevich, D. A., Tatarinov, V. V., Chuprikov, S. A., Strakhov, M. D., Dutov, A. S., & Rozhok, A. (2022, March). Analysis of Algorithms for Detecting the Spectral Peaks of Bragg Diffraction Gratings in Fiber-optic Measuring Systems. In 2022 4th International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE) (pp. 1-5). IEEE.

[20] Valiaeva, A. V., Storozhenko, A. S., Rozhok, A. P., & Lyakhovich, D. N. (2021, September). Probabilistic model of penetration of biological agents through filtering devices. In IOP Conference Series: Earth and Environmental Science(Vol. 864, No. 1, p. 012056). IOP Publishing.

[21] Viktorovich, T. V., Serov, S., Konstantinovich, N. V., Dutov, A. S., & Rozhok, A. (2022, March). The Impact of Fiber Reinforcement on the Strength Characteristics of Concrete Used For the Construction of Hydraulic Structures. In 2022 4th International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE) (pp. 1-5). IEEE.

[22] Vozvakhov, I. A., Strakhov, M. D., Ershov, V. A., Agapov, M. Y., Tatarinov, V. V., & Rozhok, A. (2022, March). Moving Objects Tracking Method Based on Discharged Optical Flow. In 2022 4th International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE) (pp. 1-5). IEEE.

Genoa, February 10th, 2023

Anastasiia Rozhok