



## Nataliia Zaichuk

**Work permit:** Ukrainian **Nationality:** Ukrainian **Date of birth:** 23/02/1975

**Place of birth:** Lutsk, Ukraine **Email address:** [n.zaichuk@lntu.edu.ua](mailto:n.zaichuk@lntu.edu.ua)

**Facebook:** [Наташа Зайчук \(Natalia Zaichuk\)](#)

**Work:** Lvivska 75, 43018 Lutsk (Ukraine)

### EDUCATION AND TRAINING

#### PHD OF MATERIALS SCIENCE

**Lutsk national technical university** [ 01/10/2000 – 2003 ]

**City:** Lutsk | **Country:** Ukraine | **Website:** <https://lntu.edu.ua/en> | **Field(s) of study:** Engineering, manufacturing and construction: • Mechanics and metal trades | **Final grade:** PHD OF MATERIALS SCIENCE

#### SPECIALIST IN MATERIALS SCIENCE

**Lutsk national technical university** [ 01/09/1995 – 01/07/2000 ]

**City:** Lutsk | **Country:** Ukraine | **Website:** <https://lntu.edu.ua/en> | **Field(s) of study:** Engineering, manufacturing and construction: • Mechanics and metal trades

### WORK EXPERIENCE

**LUTSK NATIONAL TECHNICAL UNIVERSITY** – Lutsk, Ukraine

**Name of unit or department:** Department of Materials Science - **Business or sector:** Education

**Link** <https://lntu.edu.ua/uk/struktura/cafedries/kafedra-materialoznavstva>

#### Associate professor

[ 01/12/2003 – 2026 ]

- scientific work;
- teaching work;
- teaching courses "Heat treatment", "Functional materials", "Biomaterials", "Surface engineering".

**NATIONAL AGENCY FOR QUALITY ASSURANCE IN HIGHER EDUCATION OF UKRAINE** – Kyiv, Ukraine

**Business or sector:** Other service activities

#### Expert

[ 2020 – 2026 ]

examination of educational programs in the field of Mechanical Engineering

**NATIONAL RESEARCH FUND OF UKRAINE** – Kyiv, Ukraine

#### Expert

[ 2020 – 2026 ]

Conducting expert reviews and evaluations of research projects.

**Ministry of Education and Science of Ukraine** – Kyiv, Ukraine

## Expert

[ 2022 – 2026 ]

Expertise of scientific research projects and scientific and technical (experimental) developments submitted for participation in competitions held by the Ministry of Education and Science of Ukraine, and reports on their implementation by thematic areas.

## LANGUAGE SKILLS

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**Mother tongue(s):** Ukrainian

**Other language(s):**

### English

**LISTENING** B2 **READING** B2 **WRITING** B1

**SPOKEN PRODUCTION** B2 **SPOKEN INTERACTION** B2

### Polish

**LISTENING** A1 **READING** A1 **SPOKEN PRODUCTION** A1

**SPOKEN INTERACTION** A1

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## SKILLS

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Microsoft Office / Microsoft Word / Microsoft Excel / Microsoft Powerpoint / Google Docs / Zoom / Organizational and planning skills / Team-work oriented

### Research skills

Reserch skills / Experimental study of the properties of metal alloys / Determination of hardness, microhardness / Study of metal structure / Microstructural analysis / Measurement and interpretation of results / Determination of metal chemical composition

## PUBLICATIONS

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[2026]

### **Determination of the Temperature Dependence of the Thermal Conductivity Coefficient of Plasma-Sprayed Coatings Based on Zirconium Dioxide in the Temperature Range up to 1100 °C**

**Authors:** Dmytro Borovyk, Yuriy Yevdokymenko, Alexander Kolotilo, Gennady Frolov, Oleksandr Terentyev, Serhiy Shymchuk, Naliia Zaichuk | **Journal Name:** Solid State Phenomena | **Volume, Issue and Pages:** Vol. 385; p. 45-52 | **Publisher:** © 2026 Trans Tech Publications Ltd. All Rights Reserved

[2025]

### **An innovative approach to non-contact cleaning of mini-ball bearings**

**Authors:** Kostyunik R., Mikosianchuk O., Stelmakh A., Kushchev A., Shymchuk S., Zaichuk N. | **Journal Name:** Journal of Engineering Sciences (Ukraine) | **Volume, Issue and Pages:** Vol. 12(2), pp. A10–A19. | **Publisher:** ©2014-2026 Sumy State University "Journal of Engineering Sciences"

[2025]

**Ensuring Heat Resistance of Aviation Materials Using Protective Coatings Based on ZrO<sub>2</sub>** Write here the description...

**Authors:** Oleksandr Umanskyi, Nataliia Zaichuk, Sergii Shymchuk, Ruslan Kostunik, Oleksandr Terentiev | **Journal Name:** Advanced Manufacturing Processes VI. Lecture Notes in Mechanical Engineering | **Volume, Issue and Pages:** pp 478–488 | **Publisher:** Springer, Cham.

[2025]

### **Advanced Approaches to Increase Wear Resistance of Aviation Equipment Parts at Elevated Contact Temperature Regimes of Dry Friction**

Authors: A. Umanskyi, O., Zaichuk, N., Shymchuk, S., Kostunik, R., Kushchev | Journal Name: Lecture Notes in Mechanical Engineering | Volume, Issue and Pages: p. 120-130 | Publisher: Springer, Cham

[2023]  
**Effect of Austempering Parameters on Microstructure and Tensile/Impact Behaviours of Micro-Alloyed TRIP-Assisted Steel**

Authors: Vadym Zurnadzhy\*, Vasily Efremenko, Hossam Halfa, Bohdan Efremenko, Alexander Azarkhov, Yuliia Chabak, Natalia Zaichuk | Journal Name: Materials Science Forum | Volume, Issue and Pages: Volume 1098, p. 3-12

[2023]  
**Improvement of Operational Parameters for High-Precision Tribosystems**

Authors: Stelmakh, A., Kostunik, R., Shymchuk, S., Zaichuk, N., Tkachuk, A. | Journal Name: Lecture Notes in Mechanical Engineering | Volume, Issue and Pages: pp. 370-379 | Publisher: Lecture Notes in Mechanical Engineering

[2023]  
**Improvement of operational parameters for precision rolling bearings by cleaning working surfaces from micro pollution of various nature**

Authors: Stelmakh A., Kostyunik R., Mikosianchyk O., Kushchev A., Ibraimov T., Sydorenko O., Zaichuk N., Shymchuk S. | Journal Name: Journal of Engineering Sciences | Volume, Issue and Pages: Vol. 10(1), pp. A31-A40

[2022]  
**CURRENT FUNCTIONAL MATERIALS FOR WEAR-RESISTANT CASTING: FROM MULTICOMPONENT CAST IRONS TO HYBRID HIGH-BORON ALLOYS**

Authors: Chabak, Y.G., Zurnadzhy, V.I., Golinskyi, M.A., Efremenko, V.G., Zaichuk, N.P., Petryshynets, I., Shymchuk, S.P. | Journal Name: Progress in Physics of Metals | Volume, Issue and Pages: V. 23 (4), pp. 583-612

[2021]  
**Structure and Properties of Surface Bandage Shelves for the Gas Turbine Engine's Blades**

Authors: Natalia Zaichuk, Sergii Shymchuk, Anatolii Tkachuk, Yurii Feshchuk, and Jacek Szczot | Journal Name: Lecture Notes in Mechanical Engineering | Volume, Issue and Pages: pp. 602-612

<https://orcid.org/0000-0001-6258-4820>

## PROJECTS

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[ 2025 – 2028 ]  
**ERASMUS+ CBHE Program "University Infrastructure for Workforce Development focusing on Twin Transition" (UniTwin)** Participant in the international project.

[ 2024 – 2025 ]  
**International Scientific Project STARS-CUT UA from NAWA at LNTU, Grant No. BNI-UE-2023-8** Participant in the international project.

[ 2020 – 2024 ]  
**ERASMUS+ CBHE Program "Boosting the Role of HEIs in the Industrial Transformation towards the Industry 4.0 Paradigm in Georgia and Ukraine" (HEin4.0)** Participant in the international project.

[ 2013 – 2016 ]  
**TEMPUS IV Program "Modernization of two cycles (Master's and Bachelor's) of competence-based curricula in Material Engineering according to the best practices of the Bologna Process" (MMATENG)** Participant in the international project.

## NETWORKS AND MEMBERSHIPS

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[ 2021 – 2026 ] Ukraine

**Ukrainian Materials Science Society, named by I.M. Frantsevich** Member

[ 2024 – 2027 ]

**Public organization International Foundation of Scientists and Educators** Member

[ 2019 ] Lutsk, Ukraine

**Member of the editorial board of the scientific collection “Scientific Notes”**

Link: [https://eforum.lntu.edu.ua/index.php/naukovi\\_notatky/uk](https://eforum.lntu.edu.ua/index.php/naukovi_notatky/uk)

## EXPERIENCE IN DEVELOPING EDUCATIONAL PROGRAMS

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### Experience in the development and advancement of educational programs

Since 2022, representative of the working group of the educational and professional program “Industrial Engineering and Management” for training specialists at the first (bachelor's) level of higher education.

Member of working groups for the educational and professional programs “Materials Science” for training specialists at the second (master's) level of higher education (2020, 2021), the educational and scientific program “Materials Science” for training higher education seekers at the third (educational and scientific) level (2019, 2020); the educational and professional program “Innovative Technologies and Materials” for training specialists at the first (bachelor's) level of higher education (2018).

Head of the project group (guarantor) of the educational and professional program “Materials Science” for bachelor's degree students (2017).

## RESEARCH INTERESTS:

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### Research Interests

Metallic and non-metallic materials with special properties, evaluation of the peculiarities of structure formation and properties of the materials under study; functional, tribotechnical, heat-resistant, and heat-resistant materials.