

# Mykola Staryi

*Curriculum Vitae*

## PERSONAL DETAILS

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*Birth* 05.07.2000  
*Address* 01024 Ukraine, Kyiv-4, 3 Tereshchinkivska Str., room 335  
*Mail* staryimath@gmail.com, m.staryi@imath.kiev.ua

## EDUCATION

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**PhD Student, Mathematics** 2024 – present  
*Institute of Mathematics of NAS of Kyiv, Ukraine, Full-time*  
Main area: Representation theory of Lie algebras.  
Scientific advisors: Maryna Nesterenko (Dr.Sc. in Math)

**MSc. Theoretical and Mathematical Physics** 2022 – 2024  
*Kyiv Academic University, Full-time*  
Thesis title: Thermal correlation functions of system of anyons on a one-dimensional lattice.  
Scientific advisor: Nikolay Iorgov (Dr.Sc. in Phys).

**BSc. Quantum computers, calculations and information** 2018 – 2022  
*Taras Shevchenko National University of Kyiv*  
Thesis title: Applications of theoretical group methods to describe the evolution of the parameter of multiferroics.  
Scientific advisors: Anna Morozovska (Dr.Sc. in Phys)

## TEACHING EXPERIENCE

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**A head of the school astronomy club** 2021 - present  
*Liceum 59 in Kyiv, Part-time*

## TALKS AND POSTERS REPRESENTATIONS

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**Construction of realizations of the Lie algebra  $\mathfrak{sl}(2, \mathbb{C})$  using matrix representations** 26.12.2025  
*Symmetry and Integrability of Equations of Mathematical Physics*

**Differential equations invariant with respect to the algebra  $\mathfrak{sl}(2, \mathbb{C})$  and its contractions** 17.11.2025  
*XX International Scientific Conference in honour of the academician Mykhailo Kravchuk*

**Realizations of  $\mathfrak{sl}(2, \mathbb{C})$**  11.06.2025  
*International Conference of Young Mathematicians 2025*

**Introduction to Modular Forms**

06.01.2025

*Student seminar of the Department of Mathematical physics at the Institute of Mathematics of NAS of Ukraine*

**On modern applications of Lie algebras (Poster)**

24-26.09.2024

*Bogolyubov Kyiv Conference, "Problems of Theoretical and mathematical physics"*

**Gauge theories and integrable systems**

17.03.2023

*Student seminar of the Department of theoretical and mathematical physics at KAU*

**Applications of theoretical group methods to describe the evolution of the parameter of multiferroics**

03.11.2022

*Student seminar of the Department of Theoretical and Mathematical Physics at KAU*

## **PARTICIPATION AT THE INTERNATIONAL MATHEMATICAL SCHOOLS**

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**ICMU Summer School on Number Theory**

22-28.08.2025

*Babyn village, Ivano-Frankivsk Region, Ukraine*

**ICMU Winter School "Random matrices, random analytic functions, and non-linear PDEs"**

13-19.01.2025

*Chynadiyovo village, Zakarpattia, Ukraine*

**ICMU Summer School "Operator Algebras, Quantum Groups and Quantum Information Theory"**

04-10.08.2024

*Babyn village, Ivano-Frankivsk Region, Ukraine*

**Numbers in the Universe: recent advances in number theory and its applications**

07-11.08.2023

*Kyiv, Ukraine*

## **COURSES**

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**Lie algebras and its applications**

Fall 2022

M. Nesterenko

General Topology

Spring 2023

B. Feshchenko

QFT

Fall 2022 – Spring 2023

V. Gusynin

CFT

Spring 2023

N. Iorgov

Categories

Spring 2024

B. Feshchenko

ADHM model of instantons in gauge theories

Fall 2023

O. Gamayun,  
P. Gavrylenko,  
N. Grigoryev,  
Y. Zhuravliov

Representation theory

Fall 2024

E. Chapovskiy  
S. Koval

Bifurcation theory

Fall 2024

O. Burylko

Advanced sections of complex analysis

Spring 2025

S. Plaksa

Group analysis of differential equations

Fall 2025

V. Boyko

Sheaves and Cohomology

Fall 2025

P. Schapira

## SKILLS

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<i>Languages</i>	Ukrainian (mother tongue) Russian (fluent) English B2 German A2
<i>Software</i>	MATLAB, L <sup>A</sup> T <sub>E</sub> X

## REFERENCES

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*Vyacheslav  
Boyko* <https://www.imath.kiev.ua/~boyko/>

*Maryna  
Nesterenko* <https://www.imath.kiev.ua/~maryna/>

*Nikolay  
Iorgov* <https://scholar.google.com.ua/citations?user=RqxF21cAAAAJ>