

# PAVEL DROZDOV

Researcher in Mathematics and  
Mathematical Physics

## Profile

I mainly study the structures, inspired by physics, on the mathematical level. It has always been fascinating for me not only how effective the mathematical approach can be on the way toward cognition of Nature, but also how aesthetically logical and self-consistent it is *per se*. In my research work, I mostly use algebraic methods.

## Personal information

 **Citizenships:** Moldova; Russia

 **Residence:** Udine, Italy

## Contacts

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 (+39) 0432 55 84 49

 www.drozdov.site

 Google Scholar

 arXiv

 INSPIRE

 Scopus

 ORCID

 LinkedIn

## Research interests

### Mathematical Physics

(Super) Integrable systems

Discrete & Continuous

Mathematical structure of QFT

Conformal field theory

### Algebra

Lie algebras

Finite-dimensional

Infinite-dimensional

Nonlinear algebras

Deformation algebras

## Computer skills

- Maple
- Wolfram Mathematica
- $\text{\LaTeX}$

## Education

PH.D. DEGREE IN MATHEMATICAL AND PHYSICAL SCIENCES

2023 – present

**Università degli Studi di Udine**



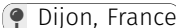
Department of Mathematics, Computer Science and Physics

- Thesis: Algebraic Methods for Discrete & Continuous Integrable Systems
- Supervisors: **Giorgio Gubbiotti (ext.)**, Stefano Ansoldi, Daniele Pranzetti

MASTER'S DEGREE IN MATHEMATICAL PHYSICS

2021 – 2023

**Université Bourgogne Franche-Comté**



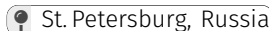
Institut de Mathématiques de Bourgogne

- Dissertation: Celestial Conformal Field Theory and its Generalizations
- Supervisor: Taro Kimura

BACHELOR'S DEGREE IN PHYSICS

2017 – 2021

**Peter the Great St. Petersburg Polytechnic University**



Institute of Physics and Mechanics

- Thesis: Proper Time in the Homogeneous Model of the Universe
- Supervisor: Alexander Lukyanenko

## Research experience

INFN ASSOCIATE RESEARCHER

2024 – present

**Istituto Nazionale di Fisica Nucleare**

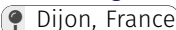


Research group “Mathematical Methods of Nonlinear Physics” (CSN4)

RESEARCH INTERN

Jun – Aug 2022

**Institut de Mathématiques de Bourgogne**



Topic of the internship: Algebraic Structure of CFT, Celestial Amplitudes

## Honors & awards

PH.D. SCHOLARSHIP

2023 – present

**Università degli Studi di Udine**

“STUDY IN SISSA” SHORT-TERM FELLOWSHIP

Mar – May 2024

**SISSA (International School for Advanced Studies)**

MATH4PHYS SCHOLARSHIP

2022 – 2023

**Université de Bourgogne**

ISITE-BFC SCHOLARSHIP

2021 – 2022

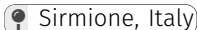
**Université Bourgogne Franche-Comté**

## (Co-) organization of conferences & scientific events

SYMMETRIES AND INTEGRABILITY  
OF DIFFERENCE EQUATIONS (SIDE15)

16 – 20 Jun  
2025

**Università degli Studi di Milano**



Member of the organizing committee

Part of SIDE — a regular conference series on integrability and symmetries of discrete systems, and related topics.

SUMMER SCHOOL “ASIDE15”

9 – 13 Jun 2025

**Università degli Studi di Milano**



Member of the organizing committee

Abecedarian of SIDE — summer school in the field of symmetries and integrability of difference equations, preceding the conference SIDE.

## Reviewer's work

Physica Scripta

## References

**Giorgio GUBBIOTTI**,  
*Università degli Studi di Milano*  
✉ giorgio.gubbiotti@unimi.it

**Taro KIMURA**,  
*Institut de Mathématiques de  
Bourgogne*  
✉ taro.kimura@u-bourgogne.fr  
🔗 kimura.pages.math.cnrs.fr

**Danilo LATINI**,  
*Università degli Studi di Milano*  
✉ danilo.latini@unimi.it

**Stefano ANSOLDI**,  
*Università degli Studi di Udine*  
✉ ansoldi@fulbrightmail.org

## Languages

- Russian Native
- English C1, IELTS – 7.0 (2020)
- Italian B2, UniUd exam (2026)
- French A2

## Personal interests

🏞️ Hiking 🏠 Travelling

🗄️ Personal knowledge management

## Date

January 31, 2026

## 📍 Research visits

- VISITING RESEARCHER  
**Università degli Studi di Milano**  
Department of Mathematics “Federigo Enriques”  
Scientific cooperation with G. Gubbiotti and D. Latini.  
12 – 25 Oct 2025  
📍 Milan, Italy
- VISITING PH.D. STUDENT  
**SISSA (International School for Advanced Studies)**  
Mathematics Area  
Attended Ph.D. level courses on integrability.  
Mar – May 2024  
📍 Trieste, Italy

## 📄 Publications

- **Recent preprints**
  - [1] P. Drozdov, G. Gubbiotti, and D. Latini. “Discrete-time maximally superintegrable systems and deformed symmetry algebras: the Calogero-Moser case”. 2026. arXiv: [2601.10625](#) [math-ph].
- **Published works**
  - [2] P. Drozdov, G. Gubbiotti, and D. Latini. “Explicit isomorphisms for the symmetry algebras of continuous and discrete isotropic oscillators”. In: *Phys. Scr.* 100.9 (2025), p. 095228. DOI: [10.1088/1402-4896/adf6f3](#). arXiv: [2505.15672](#) [math-ph].
  - [3] P. Drozdov and G. Gubbiotti. “Discrete-time systems in quasi-standard form and the  $\mathfrak{h}_6$  coalgebra symmetry”. In: *Phys. Scr.* 100.4 (2025), p. 045248. DOI: [10.1088/1402-4896/adb6fd](#). arXiv: [2410.22434](#) [math-ph].
  - [4] P. Drozdov and T. Kimura. “Structure of deformed  $w_{1+\infty}$  symmetry and topological generalization in Celestial CFT”. In: *Phys. Lett. B* 847 (2023), p. 138272. DOI: [10.1016/j.physletb.2023.138272](#). arXiv: [2306.11693](#) [math-ph].
  - [5] N. Gorobey, A. Lukyanenko, and P. Drozdov. “Energy conservation law in the closed Universe and a concept of the proper time”. In: *Universe* 6.10 (2020), p. 174. DOI: [10.3390/universe6100174](#).
  - [6] P. Drozdov and A. Lukyanenko. “The Density of Matter as a Cosmic Time in the Friedmann’s Expanding Universe.” Russian. In: *XLVIII “Week of Science SPbPU” conference proceedings*. Peter the Great St. Petersburg Polytechnic University. 2019, pp. 245–247.

## 📅 Selected conferences & events

- WAVES DYNAMICS, INTEGRABILITY AND BEYOND (WADIB)  
**Università di Cagliari**  
Talk “Explicit isomorphisms for the generalized algebra of symmetries of the isotropic harmonic oscillator”  
26 – 30 May 2024  
📍 Pula, Italy
- INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS  
**Université de Strasbourg**  
Poster “Two-photon coalgebra symmetry and discrete-time systems in quasi-standard form”  
1 – 6 Jul 2024  
📍 Strasbourg, France
- OPEN COMMUNICATIONS IN NONLINEAR MATHEMATICAL PHYSICS  
**International Society of Nonlinear Mathematical Physics**  
Talk “The two-photon coalgebra symmetry and discrete-time systems in quasi-standard form”  
23 – 29 Jun 2024  
📍 Bad Ems, Germany
- IMB MATHEMATICAL PHYSICS SEMINAR  
**Institut de Mathématiques de Bourgogne**  
Invited talk “Coalgebra symmetry and applications to discrete integrability”  
30 Apr 2024  
📍 Dijon, France
- WORKSHOP “NEW TRENDS IN NON-PERTURBATIVE GAUGE/STRING THEORY AND INTEGRABILITY”  
**Institut de Mathématiques de Bourgogne**  
27 Jun – 1 Jul 2022  
📍 Dijon, France