

**IULIA - CĂTĂLINA PLEȘCA**

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[dankemath@yahoo.com](mailto:dankemath@yahoo.com), [iulia.plesca@uaic.ro](mailto:iulia.plesca@uaic.ro)**INDUSTRY EXPERIENCE**

- April 2025 - present **Mathematician at Odeen Software**
- probabilities computations for game outcomes
  - Python simulations development
- January 2024 - April 2025 **Senior Data Science Consultant at EXL**
- analysis of fan behaviour in sport leagues
  - analysis of production chain for manufacturers
- December 2021 - December 2023 **Data Scientist at Amazon Iași**
- maintenance of data pipelines
  - causal models for customer behaviour development
- Mar 2021 - September 2021 **Data Science Intern at Amazon Iași**
- models for customer behaviour development
- Aug 2019 - Feb 2020 **Mathematician at Silicon Service Iași**
- algorithms development for a C++ mathematical library

**RESEARCH & TEACHING EXPERIENCE**

- December 2023 – present **Trainer at Silicon Service**
- creation of C# video training materials
  - creation of online C++/C# trainings
- Sept 2018 - August 2021 **Research Assistant at the Faculty of Mathematics of „Alexandru Ioan Cuza” University of Iași (UAIC)**
- May 2019 **Expert mathematician at Softwin**
- review of Mathematics textbook content
- Jan - Mar 2018 **Consultant at UAIC**
- preventing school abandonment in the Romanian Secondary Education project
- Feb, June 2019 **Research Assistant at the Faculty of Mathematics of UAIC**
- Research grant "**Combinatorial and Geometric Methods for Studying Arithmetic Invariants**"
- Sept 2013 - Sept 2016 **Teaching assistant at UAIC**
- 2022 – present – *Numerical Calculus* laboratories (MATLAB, Python)
  - 2026 – *Algebraic structures* exercise sessions
  - 2025 – present – *Algorithmics* laboratories (C++/Python)
  - 2023, 2025 – *Linear Algebra* exercise sessions
  - 2021 - Data Structures, Object Oriented Programming laboratories (C++/C#)
  - 2019 – 2020 – *Introduction to Mathematics* exercise sessions
  - 2016 – 2025 – *Euclidean/affine geometry* exercise sessions
  - 2015 – present - *Cryptography* laboratories (C++)
  - 2015 – 2017 - *Information technology* laboratories (Microsoft Office Package)
- Oct 2015 - present **Teaching assistant at UAIC**

**EDUCATION & TRAINING**

- Sept 2022 – present **PHD in Mathematics** at the Faculty of Mathematics UAIC
- Sept 2015 – Sept 2022 Advisors: prof. dr. Răzvan Lițcanu, prof. dr. Marius Tărnăuceanu
- Principal topics Group Theory, Algebraic Geometry, Commutative Algebra, Differential Equations
- Other subjects Object-oriented programming, Practice (Amazon - Machine Learning), Machine Learning
- Articles
- *Corrigendum and Addendum to Finite groups with integer harmonic mean of element orders* (with Marius Tărnăuceanu) - [doi.org/10.1142/S0219498826910019](https://doi.org/10.1142/S0219498826910019)
  - *Finite groups with integer harmonic mean of element orders* (with Marius Tărnăuceanu) [doi.org/10.1142/S0219498825500835](https://doi.org/10.1142/S0219498825500835)
  - *Almost and quasi-Leinster groups* (with Marius Tărnăuceanu) - [doi.org/10.2478/auom-2025-0031](https://doi.org/10.2478/auom-2025-0031)
  - *Almost abelian numbers* (with Marius Tărnăuceanu) - [doi.org/10.1017/S0004972724001126](https://doi.org/10.1017/S0004972724001126)
  - *Second Order Differential Operators with Algebraic Solutions* (with Răzvan Lițcanu) - [dx.doi.org/10.59277/mrar.2024.26.76.1.37](https://dx.doi.org/10.59277/mrar.2024.26.76.1.37)
  - *Algebraic Heun Operators with Tetrahedral Monodromy* - [doi.org/10.2478/auom-2022-0027](https://doi.org/10.2478/auom-2022-0027)

## Conferences organised

- *Arithmetic and Algebraic Geometry Week (Iași, September 2025)*
- *Sesiunea Națională de Comunicări Științifice Studentești (Iași, July 2017, 2019)*
- *Geometric and Combinatorial Methods in Number Theory (Iași, June 2016)*

## Conferences attended (talk/poster selection)

- **ICAPM 2025** (Iași) – *Harmonic mean of element orders*
- **WYRM 2025** (Iași) – *From Number Theory to Group Theory*
- **MACOS 2024** (Brașov) – *From Number Theory to Group Theory*
- **Ischia Group Theory 2024** (Ischia) – *Poster: From Number Theory to Group Theory*
- **The Tenth Congress of Romanian Mathematicians 2023** (Pitești) – *From Number Theory to Group Theory*
- **ICAPM 2023** (Iași) – *Number Theory Concepts in Group Theory*
- **WYRM 2023** (Iași) – *Algebraic differential operators*
- July 17-21, 2019 **2nd French-German Summer School “Galois Theory and Number Theory”**
  - *Algebraic Heun Operators – poster presentation*
- June 17-21, 2019 **Géométrie Algébrique en Liberté (Summer School + conference)**
  - *Algebraic Heun Operators – poster presentation*
- May 20-24, 2019 **The 27th National School on Algebra**
- Sept 11 - 22, 2017 **Instruments of Algebraic Geometry** (Summer School + conference)
- Aug 28 - Sept 1, 2017 **Motives for periods**
- Aug 1 - Sept 2, 2016 **Scuola Matematica Interuniversitaria**
- July 17 - 24, 2015 **French - German Summer School “Galois Theory and Number Theory”**
- Oct 2013 - July 2015 **Research Masters in Mathematics** at the Faculty of Mathematics, UAIC (10/10)

Dissertation thesis: **Graphs on Surfaces and Arithmetical Applications**

Supervisor: prof. dr. Răzvan Lițcanu

## Principal subjects covered

Functional Analysis, Measure Theory, Category Theory, Graph Theory, Differential Equations, Algebraic Geometry, Variation Calculus, Algebraic Topology

- July 2014 **Periods and Motives: “Feynman amplitudes in the 21st century” Summer school**
- Oct 2010 - July 2013 **Bachelor of Mathematics** at the Faculty of Mathematics UAIC (10/10)

Bachelor thesis: **Arithmetic Properties of Field Extensions**

Supervisor: pr. PHD Răzvan Lițcanu

## Principal subjects covered

Linear Algebra, Algebraic Structures, Real and Complex Analysis, Analytical and Euclidian Geometry, Differential Manifolds, Set Theory, Arithmetic and Combinatorics, Probabilities and Statistics, Cryptography, Optimization Theory, Programming

- Sept 2002 - June 2010 **Middle and High - School** at „**Emil Racoviță**” **National College Iași**

## SKILLS

## Computer

- C++, C#, Scala, SQL, MATLAB, Octave, Maple, Python, GAP, Git
- HTML, CSS
- LaTeX

## Languages

- **Romanian:** native
- **English:** proficient (2015 - Language Certificate - Faculty of Letters, 2009 - Test Of English as a Foreign Language - Internet Based Test (TOEFL IBT).
- **German:** beginner
- **Spanish:** intermediate

## ADDITIONAL INFORMATION

## Other articles

- *GIST and Ghrelin: To Be or Not to Be? (with Irene Alexandra Spiridon, Delia Gabriela Apostol Ciobanu, Simona Eliza Giușcă, Dan Ferariu, and Irina Draga Căruntu) - [doi.org/10.3390/diagnostics11081361](https://doi.org/10.3390/diagnostics11081361)*
- *Copeptin's Role in Traumatic Brain Injury: The Promising Quest for a New Biomarker (with Alina Săcărescu, Mihaela-Dana Turluc) - [dx.doi.org/10.1016/j.clineuro.2024.108432](https://doi.org/10.1016/j.clineuro.2024.108432)*

## Awards and prizes

- „**Sf. Dumitru**” **Award** - The University Anniversary (Iași, October 2013)
- **Silver Medal** - SEEMOUS (Blagoevgrad, 2011, 2012)

## Memberships

- **3<sup>rd</sup> Prize** - International Mathematics Competition (Blagoevgrad, August 2011)
- **Between 2011 and 2015** I was a **member** of the University Senate & of the Faculty Council.
- I am **managing** the Faculty Facebook Page