Jonáš Dujava

Info, Links

Email: jonas.dujava@gmail.com
Birth: 2000 in Prešov, Slovakia
GitHub: jdujava
INSPIRE: J.Dujava.1

Prizes, Awards

The Highest Achievements:

EuPhO — Latvia 2019
Absolute Winner ★ [Results]

IPhO — Israel 2019
Silver Medal [top 25%]

Flawless Study Record
Obtained scholarships during both of the Bachelor's and Master's studies.

Other Achievements:

Top positions in various competitions (Physics, Mathematics, Informatics).

Slovak Youth Chess Championship — Slovakia 2015
Bronze Medal [Category U16]

Other Interests

Linux, Free Software
Optimizing my workflow by creating small handy scripts and customizing minimalistic software.

Tinkering with LaTeX
Creation of the TeXtured Template.

Volunteering
Organization of high-school physics and mathematics events.

Research Interests

While I am rather mathematically inclined — finding clear mathematical formulations helps me to reason about the structure of the theory and its implications — I greatly enjoy developing the physical intuition, and thinking about "the Big Picture" of fundamental physics.

My main research interests (with some experience) are:

Foundations of Quantum Field Theory
Both fundamental and mathematical aspects of Quantum Field Theory. Symmetries and application of Group Theory in QFT. Interest in the Functorial Approach to axiomatization of QFT, viewed as a formalization of the Path Integral intuition.

QFT in AdS and Conformal Field Theory
Understanding strongly coupled QFT in Anti–de Sitter spacetime through large N expansion and Conformal Field Theory methods.

Education

2019 to 2022 — B.Sc. in Physics
Charles University | Prague | Faculty of Mathematics and Physics → MFF
Overall study average: 1.00 (lower is better, best is 1.00)
Total ECTS credits: 219 (from which 16 are acknowledged in Master's)
[Transcript of Completed Study Requirements]

Bachelor's Thesis
Title: *Counting operators in Effective Field Theories* → PDF
Awarded: Honorable Mention (Dean's Award)

Description: Introduction to group-theoretic techniques used in computing the number of independent operators in Effective Field Theories.

Digital Repository: original text and reviews
arXiv: 2211.05759 [hep-th] GitHub: jdujava/CountingInEFT

2022 to 2025 — M.Sc. in Theoretical Physics
Charles University | Prague | Institute of Theoretical Physics → ITP
Overall study average: 1.00 (lower is better, best is 1.00)
Total ECTS credits: 159 (16 are acknowledged from Bachelor's)
[Transcript of Completed Study Requirements]

Master's Thesis
Title: *Strongly Coupled QFT in Anti–de Sitter Spacetime*

Description: Extending results on the (non-singlet) spectrum of the O(N) model at finite coupling in AdS spacetime. Involves careful development of essential methods and utilized concepts, such as more advanced topics in QFT formalism, Renormalization Group flow, large N expansion, Conformal Field Theory, and QFT in AdS.

Already finished and defended, will upload somewhere soon.

2025 to Present — pursuing PhD in Theoretical Physics
EPFL | Lausanne | Laboratory for Theoretical Fundamental Physics → LTFP
Starting in September 2025.

Preprints

Jonáš Dujava and Petr Vaško.
Finite-coupling spectrum of O(N) model in AdS. **2025**.
arXiv: 2503.16345 [hep-th] GitHub: jdujava/ONinAdS

Talks, Seminars

May 16th 2023 — Basel, Switzerland

Title: *Counting operators in EFT by the Hilbert series method*
Invited by: Prof. Dr. Admir Greljo
Presentation: CountingInEFT_presentation.pdf

Mar 27th 2025 — Geneva, Switzerland

Title: *Finite-coupling spectrum of O(N) model in AdS*
Invited by: Dr. Denis Karateev
Presentation: ONinAdS-talk.pdf

April 4th 2025 — Prague, Czech Republic

Title: *Finite-coupling spectrum of O(N) model in AdS*
IPNP CUNI — Seminar of Theoretical Particle Physics
Presentation: ONinAdS-seminar.pdf