

# Benjamin MUNTZ

## PERSONAL INFORMATION

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EMAIL: [benjamin.muntz@nottingham.ac.uk](mailto:benjamin.muntz@nottingham.ac.uk)

NATIONALITY: BRITISH & DANISH

DATE OF BIRTH: 13/07/1998

## EDUCATIONAL BACKGROUND

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### *Current*

SEPT. 2023 - **PhD Physics, University of Nottingham, UK**

APR. 2027 Project title: *From Quantum Gravity to Cosmology*

Supervisors: Prof. Antonio Padilla & Prof. Edmund Copeland

**Postgraduate Representative**

**Organiser of the Theoretical Physics Student Seminars (TPSS) series**

OCT. 2021 - **Elite Master Course in Theoretical and Mathematical Physics,**

SEPT. 2023 **Ludwig-Maximilians-Universität & Technische Universität München, Germany**

Passed with High Distinction, 1.2 average ([transcript](#))

MSc Project: *Moduli Stabilisation, Racetracks, and the Swampland Programme* (mark: 1.0)

Supervisor: Dr. Marco Scalisi

SEPT. 2017 - **MSci Physics with Theoretical Physics, Imperial College London, UK**

JUNE 2021 First Class Honours, 82.24% average ([transcript](#))

MSci Project: *Supergravity Branes with a Cosmological Constant* (mark: 90%)

Supervisor: Prof. Kellogg Stelle

**Callendar Prize for all-round excellence**

**Year 2-4 Dean's List for Academic Excellence (Top 10% of the year)**

**Year 4 Research Interfaces Best Overall Proposal and Pitch**

**Year 2 Science Article Runner-up Prize**

2014 - 2017 **Studentereksamen (HTX), H.C. Ørsted Gymnasiet i Lyngby, Denmark**

A-levels (A-fag): Mathematics, Physics, Chemistry, Danish, Technical Sciences

Selected for the Danish Academy for Talented Youth.

Average: 11.6/12 (12.3 with bonus).

## PUBLICATIONS (SEE [INSPIREHEP](#))

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- [1] A. Etkin, B. Muntz, A. Padilla, and F. Rassouli, "What can solve the cosmological constant problem?" (in preparation)
- [2] B. Muntz, "Dimensional Analysis as a Gauge Theory" (in preparation)
- [3] J. Khoury, B. Muntz, and A. Padilla, "A Lapse in the Cosmological Constant Problem with  $z = 1$  Deformations" (in preparation)
- [4] J. Khoury, B. Muntz, and A. Padilla, "A Lapse in the Cosmological Constant Problem" (in preparation)
- [5] S. Karamitsos and B. Muntz, "From Frame Covariance to the Swampland Distance Conjecture", (Dec. 2025), arXiv: [2512.07929](#) [[hep-th](#)] (Submitted to JHEP)
- [6] B. Muntz, A. Padilla, and P. M. Saffin, "Do we live on the End of the World?", *JHEP* **05**, (2025) 006, DOI: [10.1007/JHEP05\(2025\)006](#), arXiv: [2411.05912](#) [[hep-th](#)]
- [7] E. Babichev, C. Charmousis, B. Muntz, A. Padilla, and I. D. Saltas, "Horndeski speed tests with scalar-photon couplings", *JCAP* **01**, (2025) 041, DOI: [10.1088/1475-7516/2025/01/041](#), arXiv: [2407.20339](#) [[gr-qc](#)]
- [8] D. Lüst, J. Masias, B. Muntz, and M. Scalisi, "Starobinsky inflation in the swampland", *JHEP* **07**, (2024) 186, DOI: [10.1007/JHEP07\(2024\)186](#), arXiv: [2312.13210](#) [[hep-th](#)]

## WORK EXPERIENCE

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- APR. 2024 - **Board Member, The Danish Academy for Talented Youth**
- OCT. 2023 - **Mathematics and Physics Demonstrator, University of Nottingham**  
Physics Department: Year 2 Core Modules, Year 3 Core Modules, Principles of Dynamics, Quantum Dynamics, Symmetries and Action Principles, Theoretical Elementary Particle Physics.  
Mathematics Department: Year 1 Core Modules, Algebra.
- AUG. 2023 - **Mentor, Project Access**  
Volunteer work helping students from low-income or low opportunity backgrounds apply to university programmes and financial support for their studies.
- 2014 - 2024 **Volunteer, Ungdommens Naturvidenskabelige Forening**
- JULY-OCT. 2024 **Freelance Consultant, Pacific Light & Holography, Inc.**
- SEP. 2022 - **Research Student, Max Planck Institute for Physics**  
SEP. 2023 Working on Swampland Programme within the String Theory group. Supervised by Dr. Marco Scalisi and Priv.-Doz. Ralph Blumenhagen.
- APR. 2022 - **Teaching Assistant, Ludwig-Maximilians-Universität München**  
AUG. 2023 To Mathematical Methods, T1p Mechanics, T3 Electrodynamics.
- OCT. 2020 - **Physics Helpdesk, Imperial College London**  
MAY 2021
- AUG.-SEPT. 2019 **Scientific Assistant, ETH Zürich**  
Active Magnetic Shielding for the n2EDM Experiment at PSI, supervised by Prof. Klaus Kirch and Dr. Jochen Krempel.
- AUG. 2015 - **Mathematics Teacher, H.C. Ørsted Gymnasiet i Lyngby**  
AUG. 2017 Substitute teacher in Mathematics as well as organiser and main teacher for Elite Mathematics.
- SEP. 2015 - **Senior Mentor, Videnskabsklubben**  
JUN. 2016 Part of the first team of mentors at Videnskabsklubben, where I taught primatology as an after school activity for elementary school students.

## COMPETITIONS AND AWARDS

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### University of Nottingham, Department of Physics:

- MAR. 2023 **Physics Postgraduate Poster Competition: 1<sup>st</sup> prize.**

### Imperial College London, Department of Physics:

- JULY 2021 Callendar Prize for all-round excellence.  
2019-2021 Year 2-4 Dean's List for Academic Excellence (Top 10% of the year).  
MAR. 2021 Year 4 Research Interfaces Best Overall Proposal and Pitch.  
JAN. 2019 Year 2 Science Article Runner-up Prize.

### Others:

- NOV. 2025 The Claes Lindhardt Scientific Achievement Award.  
MAY 2018 **Intel ISEF, Pittsburgh, USA: 2<sup>nd</sup> prize in physics and astronomy.**  
JULY 2017 **49<sup>th</sup> International Chemistry Olympiad, Thailand: Bronze medal.**  
JULY 2017 **2<sup>nd</sup> Nordic Chemistry Olympiad, Sweden: Gold medal and 1<sup>st</sup> prize.**  
APR. 2017 **Unge Forskere, Denmark: 2<sup>nd</sup> prize in physical sciences.**  
APR. 2017 **Ungdommens Naturvidenskabelige Forening: Science communication prize.**  
OCT. 2016 **Mostratec Science Fair, Brazil: 1<sup>st</sup> prize in physics and astronomy.**  
MAR. 2016 **Unge Forskere, Denmark: 2<sup>nd</sup> prize in physical sciences.**

## INVITED TALKS

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- MAR. 2026 **String Phenomenology Seminar Series: "On the Geometry of Gravitational Effective Field Theories".**
- FEB. 2026 **University of Liverpool: "On the Geometry of Gravitational Effective Field Theories".**

- JAN. 2026 **IBS Daejeon:** *“Do we live on the End of the World?”*.
- NOV. 2025 **Nottingham University:** *“On the Geometry of Gravitational Effective Field Theories”*.
- OCT. 2025 **Kyoto University:** *“Do we live on the End of the World?”*
- JULY 2025 **PASCOS 2025, Durham:** *“Do we live on the End of the World?”*.
- MAY 2025 **Lund University:** *“What’s up with string theorists and why are they knee-deep in a swamp?”*.
- APR. 2025 **Fudan University:** *“Do we live on the End of the World?”*.
- APR. 2025 **Tsinghua University:** *“Do we live on the End of the World?”*.
- DEC. 2024 **Young Theorists Forum, Durham:** *“Do we live on the End of the World?”*.
- APR. 2024 **BritGrav 24, Queen Mary University of London:** *“Starobinsky inflation is in the Swamp-land”*.
- MAR. 2024 **Nottingham Centre of Gravity:** *“Starobinsky inflation is in the Swamp-land”*.

## GRANTS AND SCHOLARSHIPS

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- 2025 - 2026 **DAIWA Foundation Small Grant (£3,000)**  
**Great Britain Sasakawa Foundation (£2,250)**  
 To support a research collaboration between Nottingham University and Kyoto University in partnership with Prof. Antonio Padilla and Dr. Daniel Panizo.
- 2023 **MEXT Scholarship [Declined]**  
 Full scholarship to pursue a PhD at Kyoto University.
- 2021 - 2023 **Viet-Jacobsen Fonden (10,000 DKK)**  
**William Demant Fonden (15,000 DKK)**  
 To support my MSc studies at LMU and TUM.
- 2020 - 2021 **Augustinus Fonden (25,000 DKK)**  
**Louis Hansen Fonden (20,000 DKK)**  
 To support the continuation of study for my MSci at Imperial College London.

## OUTREACH EXPERIENCE

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- MAR. 2026 **The Danish Academy for Talented Youth:** *“Every universe everywhere all at once”*.
- MAR. 2026 **The Big Bang Conference, Denmark:** *“Every universe everywhere all at once”*.
- SEPT. 2025 **The Danish Academy for Talented Youth:** *“Every universe everywhere all at once”*.
- AUG. 2025 **TikTok:** Collaboration with science communicator Martin (@sindsygtspændende) resulting in three videos on topics in theoretical physics.
- MAR. 2025 **Weekendavisen:** I wrote the column article *“Jagten på intetheden”* (The pursuit of nothingness) for the Danish newspaper Weekendavisen explaining recent advancements in the Swamp-land programme and our modern understanding of nothingness in physics.
- SEPT. 2024 **The Danish Academy for Talented Youth:** *“Every universe everywhere all at once”*.
- AUG. 2024 **The Danish Academy for Talented Youth:** *“Arts and physics in conversation”*.
- JULY 2017 - JULY 2024 **Ungdommens Naturvidenskabelige Forening, Matematik Camp:** Head of teaching, lecturer, and author of chapters on linear algebra, topology, knot theory, and gauge symmetries.
- APR. 2023 **Denmark Tour:** I visited 12 educational institutions across Denmark to give a popular science talk titled *“Cosmic riddles and the Theory of Everything”*.
- JULY 2019 **Ungdommens Naturvidenskabelige Forening, Fysik Camp:** Lecturer and author of chapters on statistical physics and electromagnetism.
- MAR. 2019 **The Big Bang Conference, Denmark:** *“Atoms in  $N$  dimensions”* and *“Teaching talented students in middle school”*.
- JULY 2018 **The Danish Academy for Talented Youth Summer Camp:** Lecturer in quantum physics and physical chemistry.
- MAR. 2018 **Ungdommens Naturvidenskabelige Forening:** *“Knot theory”*.

## LANGUAGES

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FLUENT: English, Danish

COMPREHEND: German, Swedish, Norwegian, Japanese