

# Guillaume Payeur

Physics MSc Student at McGill University

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## About me

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I am a Physics Master's student at McGill University, working under the supervision of Robert Brandenberger and Evan McDonough. I love learning, I'm hardworking and committed to my dream of becoming a physicist, and I'm an easy-going and playful person. I've conducted research in theoretical cosmology and in applications of machine learning to physics.

## Degrees

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- **Champlain College (CEGEP)**  
*Pure and Applied Science* 2017 - 2019
- **McGill University (BSc)**  
*Honours Math & Physics* 2019 - 2023  
– GPA: 3.98/4

## Publications

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3. Guillaume Payeur, Evan McDonough, and Robert Brandenberger. SwampLand Conjectures Constraints on Dark Energy from a Highly Curved Field Space, May 2024. [arXiv:2405.05304](https://arxiv.org/abs/2405.05304) [astro-ph, physics:gr-qc, physics:hep-ph, physics:hep-th] <https://arxiv.org/abs/2405.05304>
2. Edward W. Kolb, Andrew J. Long, Evan McDonough, and Guillaume Payeur. Completely dark matter from rapid-turn multifield inflation. *Journal of High Energy Physics*, 2023(2):181, February 2023 [https://link.springer.com/article/10.1007/JHEP02\(2023\)181](https://link.springer.com/article/10.1007/JHEP02(2023)181)
1. Guillaume Payeur, Étienne Artigau, Laurence Perreault Levasseur, and René Doyon. Correlated read noise reduction in infrared arrays using deep learning. *The Astronomical Journal*, 163(6):292, may 2022 <https://iopscience.iop.org/article/10.3847/1538-3881/ac69d2>

## Academic Awards & Scholarships

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### FRQNT Master's Training Scholarship

Amount: 40000\$

McGill University  
Fall 2023 - Winter 2025

### NSERC Canada Graduate Scholarship – Master's program

Amount: 17500\$

McGill University  
Fall 2023 - Winter 2024

### Trottier Space Institute Graduate Fellowship

Amount: 2000\$

McGill University  
Fall 2023 - Winter 2025

### First Class Honours in Mathematics and Physics

McGill University  
Fall 2019 - Winter 2023

### NSERC Undergraduate Student Research Award

Amount: 6000\$

University of Victoria  
Summer 2021

## Wing Hing Chang Scholarship in Science

*Amount: 800\$*

McGill University  
*Fall 2021 - Winter 2022*

## Dean's Honour List

McGill University  
*Fall 2020 - Winter 2021*

## Bourse Hors UdeM

*Amount: 4000\$*

University of Montreal  
*Summer 2020*

## Faculty of Science Scholarship

*Amount: 700\$*

McGill University  
*Fall 2020 - Winter 2021*

## Dean's Honour List

McGill University  
*Fall 2019 - Winter 2020*

## Dean's List

Champlain College  
*Winter 2018*

## Dean's List

Champlain College  
*Fall 2018*

## Talks

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### 2. Readout Noise & Machine Learning

*IREX End-of-Summer Presentations*

Montreal  
*Summer 2020*

### 1. Completely Dark Matter & the de Sitter Swampland Conjecture

*WITP Summer Symposium*

Winnipeg  
*Summer 2022*

## Teaching

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### Course Teaching assistant

*Gave 3 tutorials and 1 exam review session*

McGill - PHYS 142 Electromagnetism and Optics  
*Winter 2024*

### Course Teaching assistant

*Gave 1 course lecture and 4 tutorials*

McGill - PHYS 251 Honours Classical Mechanics 1  
*Fall 2023*

## Events

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### Astromatic 2022

*Classified in second place*

Montreal  
*Summer 2022*