

# Garrett Goon

## Curriculum Vitae

### Personal

Name Garrett Lowell Goon  
Citizenship United States  
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### Employment

2019-Present **Research Associate**, Carnegie Mellon University.  
2018-2019 **Research Associate**, *DAMTP*, University of Cambridge.  
2017-2018 **Researcher**, *ITF*, Universiteit Utrecht.  
2016-2017 **Research Associate**, *IOP*, Universiteit van Amsterdam.  
2014-2016 **Research Associate**, *DAMTP*, University of Cambridge.

### Education

August 2014 **Ph.D. Physics**, *University of Pennsylvania*, Advisor: Mark Trodden.  
May 2011 **M.S. Physics**, *University of Pennsylvania*, Advisor: Mark Trodden.  
December 2008 **B.S. Physics**, *University of Maryland*.

### Publications

arXiv Number **Title**, *Authors*, Journal.  
[1909.05254](#) **A Universal Relation Between Corrections to Entropy and Extremality**, Garrett Goon, Riccardo Penco, *Phys. Rev. Lett.* 124, 101103.  
[1903.04409](#) **Primordial Non-Gaussianity**, P. Daniel Meerburg, Garrett Goon, et al..  
[1812.07571](#) **Shapes of gravity: Tensor non-Gaussianity and massive spin-2 fields**, Garrett Goon, Kurt Hinterbichler, Austin Joyce, Mark Trodden, *JHEP* 10 (2019) 182.  
[1802.01580](#) **The Effective Theory of Shift-Symmetric Cosmologies**, Bernardo Finelli, Garrett Goon, Enrico Pajer, Luca Santoni, *JCAP* 1805 (2018) 05, 060.  
[1712.06624](#) **Partially Massless Fields During Inflation**, Daniel Baumann, Garrett Goon, Hayden Lee, Guilherme L. Pimentel, *JHEP* 1804 (2018) 140.

- 1711.03737 **Soft Theorems For Shift-Symmetric Cosmologies**, *Bernardo Finelli, Garrett Goon, Enrico Pajer, Luca Santoni*, Phys.Rev. D97 (2018) 6, 063531 (Awarded Editor's Suggestion).
- 1611.02705 **Heavy Fields and Gravity**, *Garrett Goon*, JHEP 1701 (2017) 045.
- 1609.00723 **Superluminality, Black Holes and Effective Field Theory**, *Garrett Goon and Kurt Hinterbichler*, JHEP 1702 (2017) 134.
- 1606.02295 **Aspects of Galileon Non-Renormalization**, *Garrett Goon, Kurt Hinterbichler, Austin Joyce and Mark Trodden*, JHEP 1611 (2016) 100.
- 1412.6098 **Einstein Gravity, Massive Gravity, Multi-Gravity and Nonlinear Realizations**, *Garrett Goon, Kurt Hinterbichler, Austin Joyce and Mark Trodden*, JHEP 1507 (2015) 101.
- 1405.5532 **Spontaneously Broken Gauge Theories and the Coset Construction**, *Garrett Goon, Austin Joyce and Mark Trodden*, Phys.Rev. D90 (2014) 025022.
- 1402.5424 **Galileons Coupled to Massive Gravity: General Analysis and Cosmological Solutions**, *Garrett Goon, Emir Gumrukcuoglu, Kurt Hinterbichler, Shinji Mukohyama and Mark Trodden*, JCAP 1408 (2014) 008.
- 1303.1177 **Massive gravity coupled to DBI Galileons is ghost free**, *Melinda Andrews, Garrett Goon, Kurt Hinterbichler, James Stokes, Mark Trodden*, Phys. Rev. Lett. 111 (2013) 061107.
- 1203.3191 **Galileons as Wess-Zumino Terms**, *Garrett Goon, Kurt Hinterbichler, Austin Joyce, Mark Trodden*, JHEP 06 (2012) 004.
- 1201.0015 **Gauged Galileons From Branes**, *Garrett Goon, Kurt Hinterbichler, Austin Joyce, Mark Trodden*, Phys. Lett. B 714 (2012) 115-119.
- 1109.3450 **Galileons on Cosmological Backgrounds**, *Garrett Goon, Kurt Hinterbichler, Mark Trodden*, JCAP 1112 (2011) 004.
- 1103.6029 **New Class of Effective Field Theories from Embedded Branes**, *Garrett Goon, Kurt Hinterbichler, Mark Trodden*, Phys. Rev. Lett. 106 (2011) 231102.
- 1103.5745 **Symmetries for Galileons and DBI scalars on curved space**, *Garrett Goon, Kurt Hinterbichler, Mark Trodden*, JCAP 1107 (2011) 017.
- 1008.4580 **Stability and superluminality of spherical DBI galileon solutions**, *Garrett Goon, Kurt Hinterbichler, Mark Trodden*, Phys. Rev. D83 (2011) 085015.

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## Press

- July 2020 **Undisciplined**, *Gravity Falls*, Interview on Utah Public Radio discussing [1909.05254](#).
- May 2020 **Quanta Magazine**, *Black Hole Paradoxes Reveal a Fundamental Link Between Energy and Order*, Popular article featuring the results of [1909.05254](#).

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## Teaching

- 2009-2010 **Graduate Teaching Assistant**, Taught introductory physics laboratory courses.
- Fall 2010 **Graduate Teaching Assistant**, Led recitations for introductory physics courses.

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## Advising

2017-2018 **Co-supervisor**, Thomas Flöss, Master's student at Universiteit Utrecht.

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## Talks

- Date **Talk Title**, *Setting*, Location.
- May 2020 **Universal Corrections to Entropy and Extremality**, *EMPG Seminar*, University of Edinburgh.
- March 2020 **Linking Corrections to Entropy and Extremality**, *Pitt-PACC Seminar*, University of Pittsburgh.
- November 2019 **Linking Corrections to Entropy and Extremality**, *CERCA Seminar*, Case Western Reserve University.
- September 2019 **Linking Corrections to Entropy and Extremality**, *Theoretical Physics Seminar*, Columbia University.
- April 2019 **Tensor non-Gaussianity and Partially Massless Fields**, *GR Seminar*, DAMTP.
- March 2018 **Partially Massless Fields During Inflation**, *Southampton Workshop on Gauge Theory, Holography, and Black Holes*, University of Southampton.
- March 2018 **Partially Massless Fields During Inflation**, *Séminaire de physique des particules et de cosmologie*, IPhT Saclay.
- December 2018 **Shift Symmetries and Inflation**, *CotB Conference*.
- June 2017 **Giving Gravity a Mass**, *Nico van Kampen Colloquium in Theoretical Physics*, Universiteit Utrecht.
- November 2016 **Superluminality, Black Holes and EFT**, *Theory Seminar*, Universiteit Leiden.
- November 2016 **Superluminality, Black Holes and EFT**, *Theory Seminar*, Rijksuniversiteit Groningen.
- October 2016 **Superluminality, Black Holes and EFT**, *Cosmology Seminar*, Universiteit Utrecht.
- October 2016 **Superluminality, Black Holes and EFT**, *Cosmology Seminar*, EPFL.
- June 2016 **Superluminality, Black Holes and EFT**, *Conference Talk (15 mins)*, UKCosmo.
- June 2016 **Superluminality, Black Holes and EFT**, *DAMTP GR Seminar*, University of Cambridge.
- November 2015 **Superluminality, Black Holes and EFT**, *Cosmology Seminar*, University of Amsterdam.
- November 2015 **Superluminality, Black Holes, and EFT**, *Cosmology Seminar*, Oxford University.
- September 2015 **Superluminality and EFT**, *Conference Talk (20 mins)*, CosmoCruise 2015.
- March 2015 **Spontaneous Symmetry Breaking and Massive Gravity**, *Particle Theory Group Talk*, University of Nottingham.
- February 2015 **Coset Constructions and Modified Gravity**, *DAMTP GR Seminar*, University of Cambridge.

- November 2013 **Spacetime Symmetry Breaking and Galileons**, *Cosmology Lunch Seminar*, Princeton University.
- October 2013 **Symmetry Breaking and Galileons**, *Particle/Astrophysics and CERCA Seminar*, Case Western Reserve University.
- April 2013 **Galileons and Massive Gravity**, *Neighborhood Workshop on Astrophysics and Cosmology*, Pennsylvania State University.
- August 2012 **Galileons as Wess-Zumino Terms**, *Workshop on Cosmic Acceleration*, Carnegie Mellon University.
- April 2012 **Galileons as Wess-Zumino Terms**, *Case-Columbia-NYU-UPenn Semesterly Meeting*, NYU.
- November 2011 **Galileons on Curved Spaces: The Probe Brane Construction**, *Common Vision Workshop: Broken Translational Invariance From Fundamental Fields to Soft Matter*, University of Pennsylvania.

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## Professional Activities

**Referee**, for *Classical and Quantum Gravity*, *European Physics Journal C*, *JHEP*, *Physics Letters B*, *Physical Review D*, and *Physical Review Letters*.

**Conference Organizer**, for May 2019 *UK Cosmo* meeting at DAMTP, University of Cambridge .

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## Awards

March 2018 *Marie Skłodowska-Curie Actions* Seal of Excellence.

June 2017 *Universe Journal* Travel Award 2017.

March 2013 University of Pennsylvania School of Arts and Sciences (SAS) Dissertation Completion Fellowship.