

Imperial College London
Physics Department, Theoretical Physics Group
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Professor

Research Interests

My expertise lies at the interface between **Gravity**, **Cosmology** and **Particle Physics** where I develop and test new models and paradigms.

- **Early Universe Cosmology**: Probing signatures of the Early Universe be it for inflation or its alternatives.
- **Dark Energy**: What is the source of the late-time acceleration of the Universe ?
- **Cosmological Constant Problem**: Understanding the effect from vacuum energy of particle physics on cosmological scales.
- **Behaviour of Gravity**: Deriving alternatives to General Relativity with an emphasize on theoretical consistency and quantum stability.
- **Tests of Gravity**: Gravitational Waves, Lab, Solar System, Astrophysical and Cosmological signatures and tests of Gravity and screening mechanisms.
- **UV Completeness**: Understanding the low-energy restrictions to the existence of a standard high energy completion and consequences to Cosmology and Particle Physics.

According to some measures (excluding self-citations), I have been recently **ranked as the top author** across all fields in inspires since 2010 (see table 10 of [1803.10713](#)).

Appointments

Since 2018 **Imperial College London**, *Theoretical Physics group*, London, UK, **Professor**.

Since 2017 **Case Western Reserve University**, OH, USA, **Adjunct Associate Professor of Physics**.

2018 – 2020 **Perimeter Institute for Theoretical Physics**, ON, Canada, **Visiting Fellow**.

Past Academic Positions

2016 – 2018 **Imperial College London**, *Theoretical Physics group*, London, UK, **Reader**.

2011 – 2016 **Case Western Reserve University**, *Department of Physics*, Cleveland, OH, USA, **Assistant Professor**, (tenure-track) then **Associate Professor**, (tenured).

2010 – 2011 **Geneva University**, *Department of Theoretical Physics*, Geneva, Switzerland, **Assistant Professor**.

2006 – 2009 **McMaster University**, *Hamilton, Canada*.
& **Perimeter Institute for Theoretical Physics**, *Waterloo, Canada*.
Joint postdoctoral position in Cosmology

2005–2006 **McGill University**, *Physics Department*, Montreal, Canada.
Postdoctoral position in Cosmology

Education and Training

- 2002–2005 **Cambridge University, Cambridge, UK.**
Department of Applied Mathematics and Theoretical Physics. PhD in Cosmology obtained in Feb. 2006 on "braneworld Cosmology Beyond the Low-Energy Limit"
- 2000–2001 **EPFL, Swiss Institute of Technology, Lausanne, Switzerland.**
Master degree in Physics obtained in July 2001
- 1998–2000 **Ecole Polytechnique of Paris, France.**
Engineer degree in Physics obtained in July 2000

Funding History

- 2017–2022 **PI on ERC Consolidator Grant**, for the project "Massive Gravity and Cosmology"
- 2017–2021 **PI on Simons Foundation**, 'Origins of the Universe' program,
- 2017–2020 **Co-I on STFC Group Grant**, PI: Prof. Jerome Gauntlett for the project "Imperial College Theoretical Physics Group, M-Theory, Cosmology and Quantum Field Theory."
- 2016–2021 **PI on Royal Society Wolfson Merit Award**
- 2016 **Co-I on DOE Department Grant**, PI: Prof. Glenn Starkman for the project "Theoretical Particle Physics at the Frontiers."
- 2013–2016 **Co-I on DOE Department Grant**, PI: Prof. Glenn Starkman for the project "Theoretical Particle Physics at the Frontiers."
- 2012–2013 **PI on ACES Advance Opportunity Grant**, for the project "Recent Developments in Massive Gravity."
- 2010–2014 **PI on Swiss National Foundation Professorship Grant**, for the project "Challenging the cosmological paradigm."
- 2007 & 2008 **Ontario MRI Canadian PDF fellowship**

Prizes & Fellowships

- 2018 **Adam Prize**, prize for contributions to Mathematics awarded by the University of Cambridge. Previous winners include J. C. Maxwell, J. J. Thomson, A. Salam and S. Hawking
- 2018 **Blavatnik Awardee**, in Physical Sciences and Engineering for the inaugural Blavatnik Awards in the UK
- 2018 **Perimeter Institute Visiting Fellow**, Perimeter Institute for Theoretical Physics.
- 2017 **Simons Foundation Award**, 'Origins of the Universe' program
- 2017 **EPFL alumni award**, "In recognition of the professor whose brilliant research has made her a world reference in the field of cosmology"
- 2017 **Nominated for best Tutor** at Imperial College London, student choice award
- 2016 **Royal Society Wolfson Merit Award**
- 2013 **Emmy Noether Fellowship**, Perimeter Institute for Theoretical Physics.
- 2004 **Fellow of the Cambridge Overseas Society**
- 2002 – 2004 **Irene Hallinan Scholarship**, awarded from Girton College, Cambridge
- 2000 **"Medaille de la Defence National,"** awarded from the French Polytechnique School
- 1998 **"Adrien Tschumy,"** Prize for the top Student across all fields at the EPFL

Teaching Experience

Lecturer

- 2018 **Advanced Classical Physics**, *Imperial College*, Lecturer.
- 2018 **Advanced Quantum Field Theory**, *Imperial College*, Lecturer for QFFF Master course (Quantum Fields and Fundamental Forces).
- 2017 **Math Analysis**, *Imperial College*, Tutorials.
- 2017 **Vector Calculus**, *Imperial College*, Tutorials.
- 2016 **Mechanics**, *Imperial College*, Tutorials.
- 2016 **Field Theory in Curved Spacetime**, *CWRU*, graduate reading course, PHYS429.
- 2015 **Mathematical Methods for Physicists**, *CWRU*, graduate and undergraduate course, PHYS349/449.
- 2014 **Effective Field Theory**, *CWRU*, graduate course, PHYS560.
- 2014 **Mathematical Methods for Physicists**, *CWRU*, graduate and undergraduate course, PHYS349/449.
- 2013 **Modified Gravity**, *CWRU*, graduate course, PHYS560.
- 2013 **Mathematical Methods for Physicists**, *CWRU*, graduate and undergraduate course, PHYS349/449.
- 2012 **General Relativity**, *CWRU*, graduate and undergraduate course, PHYS465/365.
- 2012 **Mathematical Methods for Physicists**, *CWRU*, graduate and undergraduate course, PHYS349/449.
- 2011 **Cosmology**, *Geneva University*, third year and master course, 14P013.
- 2010 **Quantum Field Theory**, *Geneva University*, third year and master course, 14P027.
- 2010 **General Relativity**, *Geneva University*, third year and master course, 14P003.
- 2008 **General Relativity**, *Waterloo University*, fourth year and master course, AMATH 475/675, PHYS 476.

Advisor

○ Postdoctoral Fellows

Since 2018 **Dr. Jun Zhang**.

Since 2018 **Dr. Lasma Alberte**.

2017–2018 **Dr. David Pirtskhalava**, (*now research professor at NYU, USA*).

2017–2017 **Dr. Shuang–Yong Zhou**, (*now faculty at USTC, China*).

2013–2016 **Dr. Stefano Anselmo**, (*now postdoc at IAP, Paris, France*).

2012–2014 **Dr. Raquel Ribeiro**, (*then postdoc at Queen Mary London, UK*).

2010–2011 **Dr. Clare Burrage**, (*now faculty at Nottingham University, UK*).

Non-official mentoring Matteo Fasiello (2011–2014), Jose Beltràn (2011), Lukas Hollenstein (2010–2011) and Rajeev Kumar Jain (2010–2011).

o Graduate Students

Since 2016 **Scott Melville**, (*now postdoc at Cambridge University, UK*).

Recipient of Imperial President Scholarship and winner of the Best Student Talk Prize at BritGrav

2012–2016 **Andrew Matas**, (*now postdoc at AEI Max Planck Institute for Gravitational Physics, Postdam, Germany*).

Recipient of NSF Graduate Student Fellowship.

2010–2014 **Lavinia Heisenberg**, (*now assistant professor at ETHZ, Switzerland*).

Recipient of the J. Wurth prize for the best PhD work and of the Springer Thesis Award.

Non-official mentoring of Pengfei Li (2015–2016), Chi Tian (2015), Saurabh Kumar (2014–2015), Jennings Tate Deskins (since 2013), Nicholas Ondo (2011–2017) and Julian Adamek (2011).

PhD Examiner expert

Sept 2018 **Charles Mazuet's** PhD defence on "*Cosmologies with massive gravitons and their properties*"

June 2017 **James J. Bonifacio's** PhD defence on "*Aspects of Massive Spin-2 Effective Field Theories*"

June 2017 **Erwan Allys's** PhD defence on "*Au-delà des modèles standards en cosmologie*" (Beyond the Standard Models in Cosmology)

Sept. 2016 **Pietro Guarato's** PhD defence on "*Cosmological perturbations in massive gravity and bi-gravity*"

Aug. 2016 **Johanna Nagy's** PhD defence on "*Optical Development For The Spider Balloon-Borne CMB Polarimeter*"

June 2015 **Luke Keltner's** PhD defence on "*UV properties of Galileons*"

Feb. 2014 **Maud Jaccard's** PhD defence on "*Infrared Modifications of General Relativity and Nonlocal Massive Gravity*"

Jan. 2014 **Martina Falco's** PhD defence on "*Dynamics of Galaxy Clusters and their dynamics of galaxy clusters and their outskirts: beyond the virialization regime*"

Nov. 2013 **Marit Sandstad's** PhD defence on "*Certain cosmological implications of a selection of modified theories of gravity*"

Sept. 2013 **George Zahariade's** PhD defence on "*Massive gravity and scalar fields with derivative self-interactions*"

Feb. 2011 **Umberto Cannella's** PhD defence on "*Effective Field Theory Methods in Gravitational Physics and Tests of Gravity*"

Summer Schools

June 2018 Invited lecturer at ICTP Summer School on Cosmology, Trieste, Italy, on theme of "Dark Energy/Modified Gravity"

June 2018 Invited lecturer at Tohoku Summer School on Cosmology, Japan

Sept. 2013 Lecturer at the 7th Aegean Summer School on "*Beyond Einstein's Theory of Gravity*," Paros, Greece

July 2012 Main lecturer at the Yukawa Summer School on "*Massive Gravity*," Kyoto, Japan

Aug. 2008 Main lecturer at the Nordita Summer School on "*de Sitter Cosmology*," Stockholm, Sweden

Aug. 2007 Mentor at the "*International Summer School for Young Physicists*," (ISSYP), Waterloo, Canada

■ Panels, Boards and Committees

- **STFC Panel Member**, PPGP theory panel, grant reviews.
- **ERC Panel Member**, grant reviews.
- **Reviewer** for the NSF Graduate Research Fellowship Program.
- **Board Member** for CQG and Universe MDPI
- **Referee** for Mod.Phys. Lett., PRL, PLB, JCAP, JHEP, PRD, NJP, CQG, JPHYSA, Mathematical Review, Universe MDPI and Journal of General Relativity and Gravitation
- **Head's Council Member** of "Laurel School" (primary and secondary school for girls in Cleveland, OH, USA, with emphasis in STEMMs) – provided feedback and vision on teaching methods, science immersion and development opportunities.
- **Conference Organizer**
 - June 2018 Convener for Gravity section at PASCOS2018
 - March–May 2016 Organizer of workshop on "Theoretical Cosmology in the Era of Large Surveys", Galileo Galilei Institute for Theoretical Physics, Florence
 - July 2014 Organizer of workshop on large scale tests of modified gravity, Lorentz Center, Leiden
 - July 2014 Organizer of workshop on Frontiers of Fundamental Physics, FFP14, Marseilles
 - May 2011 Organizer of workshop on Modified Gravity, CWRU
 - May 2009 Organizer of Conference on the Cosmological Constant Problem, Perimeter Institute
- **Committee Member**
 - Since 2017 Member for QFFF Course review panel, Imperial College
 - Since 2016 Member of the QFFF MSc team, Imperial College
 - 2014–2016 Graduate Recruiting committee (Chair), CWRU
 - 2014–2016 Undergraduate Recruiting committee, CWRU
 - 2014–2016 Faculty search committee, CWRU
 - 2011–2016 Qualifier Exam committee, CWRU
 - 2011–2016 Graduate Admissions committee, CWRU
 - 2010-2011 College des Professeurs, Geneva University
- Regular Seminar and Journal Club organizer at CWRU, Geneva University, Perimeter Institute and McGill University.

■ Professional Developments

- Followed course on [Making Teaching More Inclusive](#), Imperial College London, UK
- Followed course on [Introduction to Personal Tutoring](#), Imperial College London, UK
- Followed course on [Unconscious Bias](#), Imperial College London, UK
- Actively participated at several workshops on Best Recruitment Techniques, both at Imperial College London UK and at CWRU, USA
- Participant at workshop series on "[To Tenure and Beyond: Building an International Career in STEM](#)," CWRU, USA
- [UCITE fellow](#) (fellow of the Center for Innovation in Teaching), CWRU, USA

Press Coverage

- 2018 **Radio Lac**, "[Claudia de Rham, physicienne](#)", radio interview
- 2018 **Swiss National Radio**, "[La gravitation au coeur du 18e colloque Wright à Genève](#)," radio interview
- 2018 **Imperial Press**, "[Imperial physicist wins first-of-its-kind science prize](#)," by Hayley Dunning
- 2017 **ALUMNIST**, the magazine for EPFL graduates "[Claudia de Rham, exploratrice de l'Univers](#)"
- 2017 **New Scientist**, interview for article on "[Dark energy is mutating, with grave consequences for the cosmos](#)"
- 2017 **Swiss National Radio**, one-hour long interview, "[Rencontre avec Claudia de Rham, une spécialiste du cosmos](#)"
- 2017 **Through the Wormhole with Morgan Freeman**, Season 8, episode 1, "[Is the Force with Us?](#)"
- 2017 **Imperial College News**, "[Expanding horizons: throwing new light on dark energy](#)" by Daniel Warren
- 2016 **Swiss National Television**, "[L'astrophysicienne lausannoise Claudia de Rham effectue des recherches sur l'univers et la gravitation à Londres](#)" report by Laurent Burkhalter
- 2016 **L'Hebdo**, (Swiss Magazine), "[La scientifique suisse qui relativise Einstein](#)" adaptation by Gian Pozzy
- 2016 **Die Zeit**, (German Newspaper), "[Sie denkt weiter als Einstein](#)" by Hanna Wick
- 2016 **Physics World**, "[Might gravity have mass?](#)," by Matthew Francis
- 2014 **Le Monde**, "[La relativité générale à l'épreuve des tests](#)," (General relativity to the test) by Philippe Pajot
- 2013 **Nature**, "[Fat gravity particle gives clues to dark energy](#)," by Zeeya Merali
- 2013 **Swedish Populär Astronomi**, "[Tyngre tyngdkraft tar oss bortom Einstein](#)," (Heavier gravity takes us beyond Einstein) by Fawad Hassan, Mikael von Strauss & Angris Schmidt-May
- 2007 **Royal Astronomical Society of Canada** "[A moment with Dr. Claudia de Rham](#)," by Philip Mozel

Outreach

- Nov 2018 Invited public talk on gravitation, dark energy and cosmology for the "**2018 Wright Science Colloquium Series**," Geneva, Switzerland
- Nov 2018 Panel discussion with high-school students, CERN, Geneva, Switzerland
- March 2018 Invited plenary talk for the **Cambridge Science Week**, day-long outreach meeting at the Cambridge Philosophical Society, UK on "What we don't know about the universe"
- March 2018 Invited public talk for **Friends of Imperial** on "Understanding Gravity at All Scales"
- March 2018 Invited plenary speaker for the **Spring-Meeting of the German Physical Society 2018** in Wuerzburg, Germany.
- Nov 2017 Interview on **Gender and Physics** for **Ideas Roadshow**
- Oct 2017 Interview for **Nature magazine** for article on implications of the recent neutron star merger discovery
- July 2017 Insights student interviews, (interview for high school students), Imperial College London, UK
- June 2017 A level and GCSE Project Open Days Peek into research talk, Imperial College London, UK
- March 2017 "*Our Accelerating Universe*," research frontiers talk, Imperial College London, UK
- Jan 2017 Invited article on the notion of time for Ringel Editorial Services
- June 2016 "*Gravitational Waves*," public talk, Euclid Tavern, Cleveland, USA
- Jan 2016 "*Our Accelerating Universe*," PHYS 166 contribution, CWRU, USA
- Nov 2015 Invited public **talk** for the "**100 year of General Relativity**" week-long Wright Colloquium series, Geneva, Switzerland
- Nov 2015 Co-organizer and speaker at TEDxCLE event for the "**100 year of General Relativity**", Cleveland, OH
- Oct 2015 "*Testing General Relativity*," public talk for the Origin Scholars, CWRU, USA
- May 2015 Panelist at public event on "*big questions in cosmology*", University of Pennsylvania
- Jan 2015 "*Surfing between Science and Fiction*," invited talk at the Science Center of Cleveland prior projection of the movie "Interstellar"
- Oct 2014 "*Our Accelerating Universe and Extra-Dimensions*," PHYS 166 contribution, CWRU, USA
- Sept 2014 Radio interview for the "*Cleveland Confidential Radio*", Cleveland, USA
- May 2014 "*Our accelerating Universe*," public talk for Geek Girls club of the region of Waterloo, Canada
- Nov 2013 "*Beyond Einstein Gravity*," public talk for the Origin Scholars, CWRU, USA
- Oct 2013 "*Our Accelerating Universe and Extra-Dimensions*," PHYS 166 contribution, CWRU, USA
- May 2013 "*From Particles to String Theory*," invited public talk, Morges Hospital, Switzerland
- Nov 2012 "*Our Universe and extra dimensions*," invited talk at astronomy club, CWRU, USA
- Oct 2012 "*Our Accelerating Universe and Extra-Dimensions*," PHYS 166 contribution, CWRU, USA
- May 2012 "*Our Universe as a Hot Dog*," public talk, Happy Dog, Cleveland, USA

- March 2012 "*Senior Supervisor for Saturday Sciences Fun*," Kenyon College, for 50 school girls, USA
- Feb 2012 "*Interview for movie on time travel*," Cleveland, USA
- Jan 2012 Panellist and Speaker for 5th Annual Midwest Conference for Undergraduate Women in Physics, CWRU
- June 2011 Public colloquium on "*Notre Univers Enigmatique*," Morges Hospital, Switzerland
- June 2010 Interview on the **speed of light** at the "*Radio Suisse Romande*", Switzerland
- Fall 2007 Dark matter Outreach video for high school students. Interviewee and scientific advisor
- May 2007 Public Lecture on Extra spatial dimensions, Black Hole session, Perimeter Institute, Canada
- 2006 – 2008 French to English translation of "*Cosmologie Primordiale*," by J. P. Uzan and P. Peter
- 2000 – 2001 Involved in outreach at the science museum "Espace des Inventions", (Lausanne). Designed and wrote a pedagogical guide for teachers.

Talks

2018

- Nov Invited Seminar Speaker, University of Geneva, Switzerland
- Sept Invited Speaker, Origins of the Universe Meeting, Simons Foundation Meeting, NY, USA
- July Invited Plenary speaker, 42nd COSPAR Scientific Assembly, Pasadena, CA, USA
- June Invited Plenary speaker, Tohoku workshop, Japan
- June Invited Plenary speaker, PASCOS2018, Cleveland, USA
- May Invited speaker, Solvay-PI-APC workshop on Cosmological Frontiers in Fundamental Physics, Brussel, Belgium
- May Invited seminar at CENTRA, Lisbon, Portugal
- April [Invited seminar](#) at the University of Amsterdam, for GRAPPA (Cosmology group and the Astroparticle group) and for String Theory group
- April "How light is Gravity?", Invited seminar speaker at ITS-ETH, Zurich, Switzerland
- Feb "Beyond Einstein Gravity", [invited plenary speaker](#), **YKIS2018 symposium**, Kyoto, Japan

2017

- Dec "Beyond Einstein", invited plenary speaker, XXIII Christmas Workshop, IFT Madrid, Spain
- Dec "Remaining Positive", invited seminar speaker, King's College London, UK
- Nov "Remaining Positive", invited seminar speaker, Queen-Mary University London, UK
- Sept "Beyond Einstein", invited plenary speaker, Spanish-Portuguese relativity Meeting, Malaga, Spain
- June "Unitary Cosmological Bounce", invited speaker, workshop on "Bounce Scenarios in Cosmology," Perimeter Institute for Theoretical Physics, Canada
- June "Remaining Positive in Cosmology", invited seminar speaker, Oxford, UK
- June "Remaining Positive in Cosmology", invited seminar speaker, CERN, Switzerland
- June "Remaining Positive in Cosmology", invited seminar speaker, Heidelberg University, Germany
- May "Remaining Positive in Cosmology", invited seminar speaker, Albert Einstein Institute, Postdam-Golm, Germany
- May "Unitary Cosmological Bounce", invited speaker, workshop on "Bangs, Bounces, Black Holes, and Bubbles: Where General Relativity Meets Cosmology," Princeton, USA
- May "Graviton Mass Bounds", invited speaker, Origin of Mass2017, University of Southern Denmark
- April "EFT for Cosmology", invited speaker, UK Cosmology Meeting, Portsmouth, UK
- March "Remaining positive in Cosmology", invited colloquium, Geneva University, CH
- March "EFTland for Cosmology", invited colloquium, Cambridge University, UK
- Feb "EFTland for Cosmology", invited seminar, Sussex University, UK
- Feb "Beyond Einstein", invited speaker, "Methodology and Epistemology in Cosmology Conference", Irvine, USA

Jan "Pulsar tests of gravity", invited speaker, "Testing Gravity 2017", Vancouver, Canada

2016

- Nov "What is the graviton mass", invited colloquium, Southampton, UK
Sept "Beyond Einstein Gravity", invited plenary talk, 50th anniversary of the Brazilian Physical Society, Natal, Brazil
July "How light is gravity", invited plenary talk, PPC2016, Sao Paulo, Brazil
Jan "Our Accelerating Universe and Modified Gravity", invited colloquium, Cornell, USA
Jan "Nature of Gravity in the IR", invited colloquium, Caltech, USA

2015

- Oct "The Λ_2 -decoupling limit of massive gravity", invited contribution, University of Chicago, USA
Sept "Thriving from the vacuum", invited seminar, University of Pennsylvania, USA
Aug "Modified Gravity", plenary talk, "50 years of CMB", Quy Nhon, Vietnam
Aug "Tests of Gravity", plenary talk, "Hot Topics in Gravity and Cosmology", Quy Nhon, Vietnam
April "Modified Gravity and LSS", invited contribution at the "LSST Dark Energy Science Collaboration Theory and Joint Probes Working Group Meeting," Pittsburgh University, USA
April "Review on Superluminalities", invited key speaker, Workshop on "Superluminality in Effective Field Theories for Cosmology," Perimeter Institute, Waterloo, Canada. Remote contribution
March "Massive gravity", invited key speaker, Workshop on "Extended Theories of Gravity," Nordita, Stockholm, Sweden
March "Our Accelerating Universe and Modified Gravity", invited colloquium, Stockholm University, Sweden

2014

- Nov "Cosmology & massive gravity", invited key speaker, JGRG24 conference, IPMU, Tokyo, Japan
Nov "Dark Gravity", invited colloquium, Nagoya, Japan
Nov "FLRW solutions in massive gravity", Mini-workshop on 'around massive gravity', Nagoya, Japan
July "Review of Screening Mechanisms", Lorentz workshop on non-linear tests of the modified, Universe, Netherlands
June "Modified Gravity", invited talk at the PPC201 conference, University of Guanajuato, Mexico
April "What can we learn from modifying gravity?", colloquium, Perimeter Institute, ON, Canada
April "Galileon Duality", invited seminar, UPenn, USA
April "Our accelerating Universe and Modified Gravity", invited colloquium, Indiana University USA

2013

- Dec "Galileons and Massive Gravity", talk at Miami 2013, Miami USA
- Nov "Cosmology with Massive Gravity", invited colloquium, Oslo, Norway
- Sept "Dark Energy and Modified Gravity", invited talk at COSMO 2013, Cambridge, UK
- Aug "Pulsar tests of modified gravity", invited plenary talk Rencontres du Vietnam 2013
- July "Deconstructing Gravity", invited talk at the workshop on "Cosmological Frontiers in Fundamental Physics," Perimeter Institute, Waterloo, Canada
- May "Pulsars tests of Massive Gravity", Hot topics in Modern Cosmology Workshop, Cargèse, France
- April Invited review talk on modified gravity at "Novel Probes of Gravity and Dark Energy Workshop", UPenn, USA
- April "Pulsar Tests of Modified Gravity", invited seminar, Maryland University, USA
- April "Massive Gravity and Cosmology", invited seminar, University of Pittsburgh, USA
- April "Evidence for and Obstructions to Partially Massless Gravity", invited talk, Cook's Branch Workshop, Texas, USA

2012

- Nov "Our Accelerating Universe", invited colloquium, Oberlin College, USA
- Aug "Partially Massless Gravity", invited speaker, Workshop on Cosmic Acceleration, Carnegie Mellon, Pittsburgh, USA
- Aug "Non-Renormalization Theorem", invited contribution, particle group meeting, Perimeter Institute, Waterloo, Canada
- Aug "Partially Massless Gravity", invited talk, Molecular Workshop on Massive Gravity, Yukawa Institute, Kyoto, Japan
- July "EFT in Massive Gravity", invited speaker, workshop on Field and String Theory, Yukawa Institute, Kyoto, Japan
- July "Partially Massless Gravity", invited speaker, 13th Marcel Grossman Meeting, Stockholm, Sweden
- May "Massive Gravity on de Sitter", invited seminar, Columbia University, NY, USA
- May "Our Universe as a Hot Dog", public talk, Happy Dog, Cleveland, USA
- May "Massive Gravity on de Sitter", Hot topics in Modern Cosmology Workshop, Cargèse, France
- May "Massive Gravity and Cosmology", colloquium, University of Chicago, USA
- April "Partially Massless Gravity", East Coast Gravity Meeting, Syracuse, USA
- April "Massive Gravity and Cosmology", invited High Energy Theory Seminar, University of Michigan, USA
- April "Theoretical developments in bounding gravity in extra dimensions", invited contribution to the APS meeting invited session on "Testing Gravity on Cosmic Scales"
- March "Consistency of Massive Gravity", invited seminar, Minnesota University, MN, USA
- Jan "Closed Timelike Curves in Massive Gravity", workshop on Coming Opportunities in Physical Cosmology, ASU, USA

+ more than 100 invited talks.

Publications

Recent Submission

73. “**Positivity Bounds for Massive Spin-1 and Spin-2 Fields**”
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou arXiv:1804.10624 [hep-th].

Published Papers

72. “**Scalar Gravitational Radiation from Binaries: Vainshtein Mechanism in Time-dependent Systems**”
Furqan Dar, **C. de Rham**, J. Tate Deskins, John T. Giblin, Andrew J. Tolley, CQG in press [arXiv:1808.02165 [hep-th]].
71. “**On the (A)dS Decoupling Limits of Massive Gravity**”
C. de Rham, Kurt Hinterbichler, Laura A. Johnson, JHEP 1809 (2018) 154 [arXiv:1807.08754 [hep-th]].
70. “**Gravitational Rainbows**”
C. de Rham, Scott Melville, Phys. Rev. Lett. 121 (2018) 221101 [arXiv:1806.09417 [hep-th]].
69. “**Improved Positivity Bounds and Massive Gravity**”
C. de Rham, Scott Melville and Andrew J. Tolley, JHEP 1804 (2018) 083 [arXiv:1710.09611 [hep-th]].
68. “**UV complete me: Positivity Bounds for Particles with Spin**”
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou, JHEP 1803 (2018) 011 [arXiv:1706.02712 [hep-th]].
67. “**Unitary NEC violation in $P(X)$ cosmologies**”
C. de Rham and Scott Melville, Phys.Rev. **D95** (2017) no.12, 123523 [arXiv:1703.00025 [hep-th]].
66. “**Massive Galileon Positivity Bounds**”
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou, JHEP 1709 (2017) 072 [arXiv:1702.08577 [hep-th]].
65. “**Positivity Bounds for Scalar Theories**”
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou, Phys.Rev. **D96** (2017) no.8, 081702 [arXiv:1702.06134 [hep-th]].
64. “**Graviton Mass Bounds**”
C. de Rham, J. Tate Deskins, Andrew J. Tolley and Shuang-Yong Zhou, Rev.Mod.Phys. **89** (2017) no.2, 025004, [arXiv:1606.08462 [hep-th]].
63. “**Caustics for Spherical Waves**”
C. de Rham and Hayato Motohashi, Phys. Rev. **D95** (2017) 6, 064008, [arXiv:1611.05038 [hep-th]].
62. “**Cosmology and fundamental physics with the Euclid satellite,**”
L. Amendola *et al.* [Euclid Theory Working Group Collaboration], Living Rev. Rel. **16**, 6 (2013), new edition [arXiv:1606.00180 [astro-ph.CO]].
61. “**Ostrogradsky in Theories with Multiple Fields**”
C. de Rham and Andrew Matas, JCAP 1606 (2016), 041 [arXiv:1604.08638 [hep-th]].

60. **"The Λ_2 limit of massive gravity"**
C. de Rham, Andrew J. Tolley and Shuang-Yong Zhou, JHEP 1604 (2016) 188 [arXiv:1602.03721 [hep-th]].
59. **"Non-compact nonlinear sigma models "**
C. de Rham, Andrew J. Tolley and Shuang-Yong Zhou, Phys. Lett. **B760** (2016) 579-583 [arXiv:1512.06838 [hep-th]].
58. **"Vielbein to the Rescue?"**
C. de Rham and A. J. Tolley, Phys. Rev. D 92 (2015) 2, 024024, [arXiv:1505.01450 [hep-th]].
57. **" New Kinetic Terms for Massive Gravity and Multi-gravity: A No-Go in Vielbein Form,"**
C. de Rham, A. Matas, and A. J. Tolley, Class. Quantum Grav. 32 (2015) 215027, [arXiv:1505.00831 [hep-th]].
56. **"Interactions of Charged Spin-2 Fields,"**
C. de Rham, A. Matas, N. Ondo and A. J. Tolley, Class. Quantum Grav. 32 (2015) 17, 175008 , [arXiv:1410.5422 [hep-th]].
55. **"Stable FLRW solutions in Generalized Massive Gravity,"**
C. de Rham, M. Fasiello and A. J. Tolley, Int. J. Mod. Phys. D 23, 1443006 (2014), Special Issue on Modified Gravity and Effects of Lorentz Violation, [arXiv:1410.0960 [hep-th]].
54. **"Ghosts & Matter Couplings in Massive (bi-&multi-)Gravity,"**
C. de Rham, L. Heisenberg and R. H. Ribeiro, Phys. Rev. D 90, 124042 (2014) [arXiv:1409.3834 [hep-th]].
53. **"On couplings to matter in massive (bi-)gravity,^{a, b, c}"**
C. de Rham, L. Heisenberg and R. H. Ribeiro, Class. Quantum Grav. 32 (2015) 035022 [arXiv:1408.1678 [hep-th]].
52. **"Riding on irrelevant operators,"**
C. de Rham and R. H. Ribeiro, JCAP11(2014)016 [arXiv:1405.5213 [hep-th]].
51. **"Generalized Galileon Duality,"**
C. de Rham, L. Keltner and A. J. Tolley, Phys. Rev. D **90**, 024050 (2014) [arXiv:1403.3690 [hep-th]].
50. **"Massive Gravity,^{a, d}"**
C. de Rham, Living Rev. Rel. **17**, 7 (2014) [arXiv:1401.4173 [hep-th]] (invited review article).
49. **"New Kinetic Interactions for Massive Gravity?,"**
C. de Rham, A. Matas and A. J. Tolley, Class. Quant. Grav. **31**, 165004 (2014) [arXiv:1311.6485 [hep-th]].
48. **"Deconstructing Dimensions and Massive Gravity,"^b**
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