

Research Interests

My expertise lies at the interface between **Gravity**, **Cosmology** and **Particle Physics** where I develop and test new models and paradigms. I apply **field theory** techniques to gravity and cosmology to tackle some of the outstanding open questions in physics from the nature of gravity, its embedding in a consistent high energy completion, the origin and evolution of our Universe and the late-time acceleration of the Universe.

Current Appointments

- Since 2018 **Imperial College London**, *Theoretical Physics group*, London, UK, **Professor**.
- Since 2018 **Perimeter Institute for Theoretical Physics**, ON, Canada, **Simons Emmy Noether Visiting Fellow**.
- Since 2019 **Case Western Reserve University**, OH, USA, **Adjunct Professor of Physics**.

Past Academic Positions

- 2016 – 2018 **Imperial College London**, *Theoretical Physics group*, London, UK, **Reader**.
- 2017 – 2019 **Case Western Reserve University**, OH, USA, **Adjunct Associate Professor of Physics**.
- 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, **SNSF 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 **PhD from DAMTP**, *Cambridge University, UK*.
PhD Advisor: Prof. Anne-Christine Davis.
- 1998 – 2000 **MSc**, *Ecole Polytechnique of Paris, France*.
- 1996 – 2001 **MSc**, *physics at EPFL, Ecole Polytechnique of Lausanne, Switzerland*.

Grants & Fundings

- 2020 – 2025 Named as **2020 Simons Foundation Investigator**.
- 2020 – 2023 **Co-I on STFC Group Grant**, PI: Prof. Dan Waldram for the project "Imperial College Theoretical Physics Group, M-Theory, Cosmology and Quantum Field Theory."
- 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, Cosmology Beyond Einstein's Theory group.
- 2017 – 2020 **Co-I on STFC Group Grant**, PI: Prof. Dan Waldram 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."
- 2013 **PI on Emmy Noether Fellowship**, presented by the Perimeter Institute for Theoretical Physics.
- 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**.

Honors and Awards

- 2021 Invited as the 2021 London Mathematical Society Mary Cartwright Lecturer.
- 2020 Nominated for the **Outstanding Teaching award** at Imperial College London, student choice award.
- 2017, 18, 19, and 2020 Nominated for the **Outstanding Personal Tutoring award** at Imperial College London, student choice award.
- 2020 Named as a **Simons Foundation Investigator**.
- 2020 **Blavatnik Laureate**, (winner) in Physical Sciences and Engineering for the **Blavatnik Awards for Young Scientists in the UK**.
- 2018 **Adams Prize**, prize for contributions to Mathematics awarded by the University of Cambridge.
- 2018 **Blavatnik Finalist**, in Physical Sciences and Engineering for the inaugural Blavatnik Awards in the UK.
- 2017 **EPFL Alumni Award**.
- 2016 – 2021 **Royal Society Wolfson Merit Award**.
- 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.

Scientific Leadership

- 2021, **Chair** of the Physics and Cosmology Panel, NASA Hubble Fellowship Program.
- 2021, **External Expert**, committee in charge of selection of the Associate Professorship of Mathematical Physics Oxford, UK.
- 2021, **External Expert**, committee in charge of selection of the theoretical cosmology professor position at Paris Saclay, France.
- Since 2021, **Editor** for **Physics Reports**.
- Since 2020, **Judge** for the **Buchalter Cosmology Prize**.
- Since 2020, **Invited Member** of **FQXi**, the Foundational Questions Institute.
- 2020, **Panel Member** in charge of evaluation of the Faculty of Physics at the University of Vienna.
- **Selected Member** of **Voyage 2050 Topical Team**, Long-term planning of the ESA Science Programme.
- Member of the **LISA Cosmology** and **LISA Fundamental Physics** Working Groups.
- **Grant Review Panel** Member of:
 - STFC PPGP theory panel, main UK funding body, panel in charge of fundings in particle physics theory across the UK.
 - SNSF Eccellenza STEM panel, Swiss funding body.
 - NSF GRFP, US funding body.
 - ERC MSCA-IF, European funding body.
- **Reviewer** to multiple international grant applications (Israel, Chili, France, Sweden, ERC, NASA, UK).
- **Invited author** for volume on "**Encyclopedia of Cosmology**," to be published by World Scientific Publishers.
- **Board Member** for CQG and Universe MDPI.
- **Conference Organizer and SOC member**
 - 2021 **SOC** member of **Texas Symposium on Relativistic Astrophysics**, Prague, Czech Republic
 - 2021 **Moderator**, discussion session, online workshop on "**Current challenges in gravitational physics**"
 - 2021 **SOC** member of YITP long-term workshop on "**Gravity and Cosmology 2021/2022**", Kyoto, Japan
 - 2020 Co-Organizer of workshop on "**Gravitational scattering, inspiral, and radiation**", Galileo Galilei Institute for Theoretical Physics, Florence, [postponed to 2021 - remote]
 - 2019 Convener for Modified Gravity/Dark Energy section at COSMO2019, Aachen.
 - 2018 Convener for Gravity section at PASCOS2018, CWRU.
 - 2016 Co-Organizer of workshop on "Theoretical Cosmology in the Era of Large Surveys", Galileo Galilei Institute for Theoretical Physics, Florence.
 - 2014 Organizer of workshop on large scale tests of modified gravity, Lorentz Center, Leiden.
 - 2014 Organizer of workshop on Frontiers of Fundamental Physics, FFP14, Marseilles.
 - 2011 Co-Organizer of workshop on Modified Gravity, CWRU.
 - 2009 Organizer of Conference on the Cosmological Constant Problem, Perimeter Institute.

Teaching, Tutoring & Advising Experience

Lecturing Experience

- 2018, 2019 & 2020 **Advanced Classical Physics**, *Imperial College*, Lecturer.
Undergraduate and Master course, $\mathcal{O}(280)$ students.
- 2018 **Advanced Quantum Field Theory**, *Imperial College*, Lecturer for QFFF Master course (Quantum Fields and Fundamental Forces), $\mathcal{O}(40)$ students..
- 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.
- 2014 **Effective Field Theory**, *CWRU*, graduate course.
- 2013 **Modified Gravity**, *CWRU*, graduate course.
- 2012 **General Relativity**, *CWRU*, graduate and undergraduate course.
- 2012, 2013, 2014 & 2015 **Mathematical Methods for Physicists**, *CWRU*, graduate and undergraduate course.
- 2011 **Cosmology**, *Geneva University*, third year and master course.
- 2010 **Quantum Field Theory**, *Geneva University*, third year and master course.
- 2010 **General Relativity**, *Geneva University*, third year and master course.
- 2008 **General Relativity**, *Waterloo University*, fourth year and master course.

Invited Summer School Lecturer

- Jan. 2020 Mathematical Aspects of General Relativity ([Aotearoa GR2020](#)), New Zealand.
Other lecturers: Chruściel, Cvetic, Taubes and Witten.
- Sept. 2019 Heraeus Summer School ("Saalburg Summer School") for Graduate Students on "[Foundations and New Methods in Theoretical Physics](#)", Germany.
Other lecturers: Bjerrum-Bohr, Godazgar, Giulini and Perry.
- June 2019 [ISAPP summer school on "The dark side of the Universe,"](#) Heidelberg, Germany
- June 2018 [ICTP Summer School on Cosmology](#), Trieste, Italy.
Other lecturers: Komatsu, D'Eramo, Babak, Cardoso, Kleban, Sheth and Senatore.
- June 2018 Tohoku Summer School on Cosmology, Japan
- Sept. 2013 7th Aegean Summer School on "*Beyond Einstein's Theory of Gravity*," Paros, Greece
- July 2012 Yukawa Summer School on "*Massive Gravity*," Kyoto, Japan
- Aug. 2008 Nordita Summer School on "*de Sitter Cosmology*," Stockholm, Sweden

Postdoctoral Fellows Advisor

- Since 2020 **Dr. Mauro Pieroni**.
- Since 2020 **Dr. Mariana Carrillo Gonzalez**.
- Since 2020 **Dr. Andrei Khmelnitsky**.
- Since 2020 **Dr. Aaron Held**, *Royal Society Newton Fellow*.
- 2019–2021 **Dr. Sebastian Garcia-Saenz**, (*to start faculty position at SUSTech, China in 2021*).
- 2019–2020 **Dr. Victor Lekeu**, (*now postdoc at Potsdam, Max Planck Inst.*).
- 2018–2021 **Dr. Jun Zhang**, (*to start position at UIUC, USA*).

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

PhD Students Advisor

- Since 2020 **Aoibheann Margalit**, Co-Supervisor with Prof. Contaldi who is currently on leave.
- Since 2019 **Victor Pozsgay**, *Recipient of Imperial President Scholarship*.
- Since 2019 **Sumer Jaitly**, *Recipient of the QFFF Abdus Salam Prize*.
- 2016–2019 **Scott Melville**, (*now postdoc at Cambridge University, UK*).
 Recipient of Imperial President Scholarship and winner of the Best Student Talk Prize at BritGrav. Winner of the IoP Gravitational Physics Group PhD Thesis Prize.
- 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.

Service on External Thesis Committees (PhD Examiner Expert)

- Nov 2020 **Sanjay Bloor**'s PhD on "*Computational Quantum Field Theory and Global Fits of Effective Dark Matter Models*," Imperial College London.
- Sept 2020 **Leong Khim Wong**'s PhD on "*Motion in a Scalar Field*," University of Cambridge.
- Sept 2018 **Charles Mazuet**'s PhD on "*Cosmologies with massive gravitons and their properties*," Université de Tours.
- June 2017 **James J. Bonifacio**'s PhD on "*Aspects of Massive Spin-2 Effective Field Theories*," Oxford University.
- June 2017 **Erwan Allys**'s PhD on "*Au-delà des modèles standards en cosmologie*" (Beyond the Standard Models in Cosmology), Université Pierre et Marie Curie.
- Sept. 2016 **Pietro Guarato**'s PhD on "*Cosmological perturbations in massive gravity and bi-gravity*," Geneva University.
- Aug. 2016 **Johanna Nagy**'s PhD on "*Optical Development For The Spider Balloon-Borne CMB Polarimeter*," CWRU.
- June 2015 **Luke Keltner**'s PhD on "*UV properties of Galileons*," CWRU.
- Feb. 2014 **Maud Jaccard**'s PhD on "*Infrared Modifications of General Relativity and Nonlocal Massive Gravity*," Geneva University.
- Jan. 2014 **Martina Falco**'s PhD on "*Dynamics of Galaxy Clusters and their dynamics of galaxy clusters and their outskirts: beyond the virialization regime*," Copenhagen.
- Nov. 2013 **Marit Sandstad**'s PhD on "*Certain cosmological implications of a selection of modified theories of gravity*," University of Oslo.
- Sept. 2013 **George Zahariade**'s PhD on "*Massive gravity and scalar fields with derivative self-interactions*," Université Paris Diderot.
- Feb. 2011 **Umberto Cannella**'s PhD on "*Effective Field Theory Methods in Gravitational Physics and Tests of Gravity*," Geneva University.

Dissemination Activities

Invited Research Talks and Seminars for 2021

All talks remote for 2021.

- Aug [Amplitudes 2021](#), invited speaker, conference hosted at Niels Bohr Institute.
- June Invited Seminar Speaker, TIFR string group, Quantum Space-Time seminar series, India.
- May Invited Seminar Speaker, joint seminar between TU Wien and Uni Wien, Vienna, Austria.
- May London Mathematical Society Mary Cartwright Lecturer
- May Invited Seminar Speaker, IPM, Iran
- April Invited Speaker at Berkeley's joint Mathematical Sciences Research Institute and Berkley Mathematics Department Colloquium
- April Invited Colloquium Speaker [Chilloquium Harvard](#)
- April Invited Speaker at IHP conference on "[Gravitational waves: a new messenger to explore the universe](#)"
- March Speaker at [High Energy Theory Seminar](#), UPenn
- March Invited Speaker at [Zooming in on the Swampland workshop](#)
- March Invited Speaker at [Quantum Gravity workshop](#), Session on EFT of gravity, unitarity problem, Wilsonian vs non-Wilsonian UV completion
- Feb Invited Colloquium Speaker at [Heidelberg Joint Astronomical Colloquium](#)
- Jan Invited Seminar Speaker, [Theory HEP Seminar](#), McGill University
- Jan Invited Speaker, [Cosmology 2021: the rise of field theory](#), Cambridge

In addition to $\mathcal{O}(200)$ other invited research talks since 2005 available at following [link](#).

Outreach, Public Talks & Media Cover

I have contributed to the dissemination of Science through summer school, public talks, interviews and other outreach activities in Europe, North America, South America, Asia (Japan, India and Vietnam), New Zealand and Africa (Rwanda and South Africa). In addition my research has been featured internationally with dedicated articles and interviews including in [Brazil](#), [Finland](#), [France](#), [Italy](#), [Lithuania](#) [New Zealand](#), [Norway](#), [Portugal](#), [Romania](#), [Sweden](#), [UK](#) and in the [USA](#).

Other specific contributions include:

- 2020 Feature article in [Science & Vie](#) (Europe's number one scientific news magazine).
- 2020 Scientific expert for **Los Angeles Times** on movie Tenet [How real is the science in Christopher Nolan's 'Tenet'? We asked an expert](#) by Emily Zemler.
- 2020 Invited [Speaker and Panelist](#) to the **Art and Idea festival** "[HowTheLightGetsIn 2020](#)," London, Dehli, New York.
- 2020 [Quanta Magazine Q&A](#): "The Physicist Who Slayed Gravity's Ghosts".
- 2020 [New Scientist Cover Story](#): "What does gravity weigh?" invited article.
- 2020 Invited contribution for [Quanta Magazine](#), "[Why Gravity Is Not Like the Other Forces](#)," edited by Natalie Wolchover.
- 2020 Featured interview in [PhysicsWorld](#) podcast on careers in physics by Andrew Glester.
- 2020 Invited Speaker and Panelist for Symposium "[Game Changers: 9 Young Scientists Transforming Our World](#)" hosted by the New York Academy of Sciences.
- 2020 Saturday Feature article in [The Guardian](#), by Hannah Devlin.
- 2020 Featured interview in [New Zealand Main Radio](#).

- 2020 **New Scientist interview** for article on "What is Reality?"
- 2019 **Invited author** for volume on "**Encyclopedia of Cosmology**," to be published with World Scientific Publishers.
- 2019 Invited Panelist for **Women's day and 50 years of the EPFL**, Switzerland.
- 2018 **CERN EP letter** Newsletter of the EP department [Interview with Claudia de Rham](#).
- 2018 **Radio Lac**, "[Claudia de Rham, physicienne](#)," radio interview.
- 2018 **Swiss National Radio**, "[La gravitation au coeur du 18e colloque Wright à Genève](#)."
- 2018 **BBC the Naked Scientist**, interview on "[Hawking's recent work: The Information Paradox](#)"
- 2018 **Article Inside the Perimeter** [People of PI: Claudia de Rham, unstuck by gravity](#).
- 2018 YouTube video interview on "[Cosmology's Latest Puzzle: The Hubble Tension](#)"
- 2018 Interview for the James Whale show on **talkRADIO** on "[zero-point energy](#)"
- 2018 Panel discussion with high-school students, CERN, Geneva, Switzerland
- 2018 Invited public talk on gravitation, dark energy and cosmology for the "**2018 Wright Science Colloquium Series**," Geneva, Switzerland
- 2018 Invited plenary talk for the **Cambridge Science Week**, outreach meeting at the Cambridge Philosophical Society, UK on "What we don't know about the universe"
- 2018 Invited public talk for **Friends of Imperial** on "Understanding Gravity at All Scales"
- 2017 **Featured article** in the *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?](#)", featured interview
- 2017 Interview on **Gender and Physics** for **Ideas Roadshow**
- 2017 Interview for **Nature magazine** for article on implications of the recent neutron star merger discovery
- 2017 Invited article on the notion of time for Ringel Editorial Services.
- 2016 "[Gravitational Waves](#)," public talk, Euclid Tavern, Cleveland, USA
- 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
- 2015 Invited public **talk** for the "**100 year of General Relativity**" week-long Wright Colloquium series, Geneva, Switzerland
- 2015 Co-organizer and speaker at **TEDxCLE** event for the "**100 year of General Relativity**," Cleveland, OH
- 2014 **Le Monde**, "[La relativité générale à l'épreuve des tests](#)," by Philippe Pajot.
- 2013 **Nature**, "[Fat gravity particle gives clues to dark energy](#)," by Zeeya Merali.
- In addition to $\mathcal{O}(50)$ other invited public outreach talks and other press coverage articles.

Publications

Author ID: ResearcherID: P-9318-2015
ORCID ID: 0000-0002-6183-1030
Link to ORCID public record: orcid.org/0000-0002-6183-1030
InSpire author ID: [C.de.Rham.1](#)
Link to InSpire personal page: inspirehep.net/authors/1030566

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

Recent Submission

87. **“Positivity Bounds on Dark Energy: When Matter Matters”**
C. de Rham, S. Melville and J. Noller, arXiv:2103.06855 [astro-ph.co].

Research Papers Published in Peer-Reviewed Journals

86. **“A Square Peg in a Circular Hole: Choosing the Right Ansatz for Isolated Black Holes in Generic Gravitational Theories”**
Y. Xie, J. Zhang, H. O. Silva, **C. de Rham**, H. Witek and N. Yunes, Phys.Rev.Lett24 (2021), 126
85. **“QED positivity bounds”**
L. Alberte, **C. de Rham**, S. Jaitly and A. J. Tolley, arXiv:2012.05798 [hep-th], accepted for publication in PRD, in press.
84. **“Positivity Bounds and the Massless Spin-2 Pole”**
L. Alberte, **C. de Rham**, S. Jaitly and A. J. Tolley, Phys.Rev. D102 (2020), 125023
83. **“Causality in Curved Spacetimes: The Speed of Light & Gravity”**
C. de Rham and A. J. Tolley, Phys.Rev. D102 (2020) no.8, 084048.
82. **“New class of Proca interactions,”**
C. de Rham and V. Pozsgay, Phys.Rev. D102 (2020) no.8, 083508.
81. **“Black Hole Gravitational Waves in the Effective Field Theory of Gravity”**
C. de Rham, J. Francfort, J. Zhang, Phys.Rev. D102 (2020) no.2, 024079.
80. **“Positivity Constraints on Interacting Pseudo-Linear Spin-2 Fields”**
L. Alberte, **C. de Rham**, A. Momeni, J. Rumbutis and A. J. Tolley, JHEP 2007 (2020) 121.
79. **“Positivity Constraints on Interacting Spin-2 Fields”**
L. Alberte, **C. de Rham**, A. Momeni, J. Rumbutis and A. J. Tolley, JHEP 03 (2020) 097.
78. **“The Speed of Gravity”**
C. de Rham and A. J. Tolley, Phys.Rev.D 101 (2020) 6.
77. **“EFT of Interacting Spin-2 Fields”**
L. Alberte, **C. de Rham**, A. Momeni, J. Rumbutis and A. J. Tolley, JHEP 2001 (2020) 131.
76. **“Perturbations of Stealth Black Holes in DHOST Theories”**
C. de Rham and J. Zhang, Phys.Rev. D100 (2019) no.12, 124023.
75. **“Generalized Proca and its Constraint Algebra”**
J. Beltrán Jiménez, **C. de Rham** and L. Heisenberg, Phys.Lett.B802, 135244 (2020).

74. "[Spin-2 and the Weak Gravity Conjecture](#)"
C. de Rham, L. Heisenberg, A. J. Tolley, Phys.Rev. D100 (2019) no.10, 104033.
73. "[The gravitational rainbow beyond Einstein gravity](#)"
C. de Rham, International Journal of Modern Physics D, Vol. 28 (2019) 1942003.
72. "[Scalar Gravitational Radiation from Binaries: Vainshtein Mechanism in Time-dependent Systems](#)" F. Dar, C. de Rham, J. T. Deskins, J. T. Giblin, A. J. Tolley, Class. Quant. Grav. 36 (2019) no.2, 025008.
71. "[On the \(A\)dS Decoupling Limits of Massive Gravity](#)"
C. de Rham, Kurt Hinterbichler, Laura A. Johnson, JHEP 1809 (2018) 154.
70. "[Gravitational Rainbows,^a](#)"
C. de Rham and S. Melville, Phys. Rev. Lett. **121** (2018) 221101.
69. "[Positivity Bounds for Massive Spin-1 and Spin-2 Fields](#)"
C. de Rham, S. Melville, A. J. Tolley and S.Y. Zhou, JHEP 1903 (2019) 182.
68. "[Improved Positivity Bounds and Massive Gravity](#)"
C. de Rham, Scott Melville and Andrew J. Tolley, JHEP 1804 (2018) 083.
67. "[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.
66. "[Unitary NEC violation in \$P\(X\)\$ cosmologies](#)"
C. de Rham and Scott Melville, Phys.Rev. **D95** (2017) no.12, 123523.
65. "[Massive Galileon Positivity Bounds](#)"
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou, JHEP 1709 (2017) 072.
64. "[Positivity Bounds for Scalar Theories](#)"
C. de Rham, Scott Melville, Andrew J. Tolley and Shuang-Yong Zhou, Phys.Rev. **D96** (2017) no.8, 081702.
63. "[Graviton Mass Bounds,^b](#)"
C. de Rham, J. T. Deskins, A. J. Tolley and S.Y. Zhou, Rev.Mod.Phys. **89** (2017) no.2, 025004.
62. "[Caustics for Spherical Waves](#)"
C. de Rham and Hayato Motohashi, Phys. Rev. **D95** (2017) 6, 064008.
61. "[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.
60. "[Ostrogradsky in Theories with Multiple Fields](#)"
C. de Rham and Andrew Matas, JCAP 1606 (2016), 041.
59. "[The \$\Lambda_2\$ limit of massive gravity](#)"
C. de Rham, Andrew J. Tolley and Shuang-Yong Zhou, JHEP 1604 (2016) 188.
58. "[Non-compact nonlinear sigma models](#) "
C. de Rham, Andrew J. Tolley and Shuang-Yong Zhou, Phys. Lett. **B760** (2016) 579-583.

^a According to the Web of Science, these [hot papers](#), published in the previous two years, received enough citations to place them in the top 0.1% of papers in Physics.

^b According to the Web of Science, based on the most recent 10 years of publications, these [highly cited papers](#) received enough citations to place them in the top 1% of the academic field of Physics based on a highly cited threshold for the field and publication year.

57. "[Vielbein to the Rescue?](#)"
C. de Rham and A. J. Tolley, Phys. Rev. D 92 (2015) 2, 024024.
56. "[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.
55. "[Interactions of Charged Spin-2 Fields,](#)"
C. de Rham, A. Matas, N. Ondo and A. J. Tolley, Class. Quantum Grav. 32 (2015) 17, 175008..
54. "[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.
53. "[Ghosts & Matter Couplings in Massive \(bi-&multi-\)Gravity,](#)"
C. de Rham, L. Heisenberg and R. H. Ribeiro, Phys. Rev. D 90, 124042 (2014).
52. "[On couplings to matter in massive \(bi-\)gravity,](#) ^{a, c, d}"
C. de Rham, L. Heisenberg and R. H. Ribeiro, Class. Quantum Grav. 32 (2015) 035022.
51. "[Riding on irrelevant operators,](#)"
C. de Rham and R. H. Ribeiro, JCAP11(2014)016.
50. "[Generalized Galileon Duality,](#)"
C. de Rham, L. Keltner and A. J. Tolley, Phys. Rev. D 90, 024050 (2014).
49. "[Massive Gravity,](#) ^{a, b}"
C. de Rham, Living Rev. Rel. 17, 7 (2014).
48. "[New Kinetic Interactions for Massive Gravity?,](#)"
C. de Rham, A. Matas and A. J. Tolley, Class. Quant. Grav. 31, 165004 (2014).
47. "[Deconstructing Dimensions and Massive Gravity,](#) ^c"
C. de Rham, A. Matas and A. J. Tolley, Class. Quant. Grav. 31, 025004 (2014).
46. "[Galileon Duality,](#)"
C. de Rham, M. Fasiello and A. J. Tolley, Phys. Lett. B 733, 46 (2014).
45. "[Quantum Corrections in Massive Gravity,](#)"
C. de Rham, L. Heisenberg and R. H. Ribeiro, Phys. Rev. D 88, 084058 (2013).
44. "[Mixed Galileons and Spherically Symmetric Solutions,](#)"
L. Berezhiani, G. Chkareuli, C. de Rham, G. Gabadadze and A. J. Tolley, Class. Quant. Grav. 30, 184003 (2013).
43. "[Superluminality in the Bi- and Multi- Galileon,](#)"
P. de Fromont, C. de Rham, L. Heisenberg and A. Matas, JHEP 1307, 067 (2013).
42. "[Evidence for and obstructions to nonlinear partially massless gravity,](#)"
C. de Rham, K. Hinterbichler, R. A. Rosen and A. J. Tolley, Phys. Rev. D 88, no. 2, 024003 (2013).
41. "[Galileon Radiation from Binary Systems,](#)"
C. de Rham, A. Matas and A. J. Tolley, Phys. Rev. D 87, no. 6, 064024 (2013).

^aArticles selected by the Editorial Board of Classical and Quantum Gravity (CQG) as one of the journal's Highlights. Articles featured in the Highlights are chosen by the Board for their high interest, novelty and significance.

^dPublication selected by CQG for an 'insight' piece published in CQG+.

40. "**Nonrenormalization and naturalness in a class of scalar-tensor theories**,^b"
C. de Rham, G. Gabadadze, L. Heisenberg and D. Pirtskhalava, Phys. Rev. D **87**, no. 8, 085017 (2013).
39. "**Vainshtein Mechanism in Binary Pulsars**,"
C. de Rham, A. J. Tolley and D. H. Wesley, Phys. Rev. D **87**, no. 4, 044025 (2013).
38. "**Massive Gravity on de Sitter and Unique Candidate for Partially Massless Gravity**,"
C. de Rham and S. Renaux-Petel, JCAP **1301**, 035 (2013).
37. "**Cosmology and fundamental physics with the Euclid satellite**,"
L. Amendola *et al.* [Euclid Theory Working Group Collaboration], Living Rev. Rel. **16**, 6 (2013).
36. "**Chronology Protection in Galileon Models and Massive Gravity**,"
C. Burrage, C. de Rham, L. Heisenberg and A. J. Tolley, JCAP **1207**, 004 (2012).
35. "**On Black Holes in Massive Gravity**,^b"
L. Berezhiani, G. Chkareuli, C. de Rham, G. Gabadadze and A. J. Tolley, Phys. Rev. D **85**, 044024 (2012).
34. "**Mode Spectrum of the Electromagnetic Field in Open Universe Models**,"
J. Adamek, C. de Rham and R. Durrer, Mon. Not. Roy. Astron. Soc. **423**, 2705 (2012).
33. "**Massive Cosmologies**,^b"
G. D'Amico, C. de Rham, S. Dubovsky, G. Gabadadze, D. Pirtskhalava and A. J. Tolley, Phys. Rev. D **84**, 124046 (2011).
32. "**Helicity Decomposition of Ghost-free Massive Gravity**,"
C. de Rham, G. Gabadadze and A. J. Tolley, JHEP **1111**, 093 (2011).
31. "**Ghost free Massive Gravity in the Stückelberg language**,"
C. de Rham, G. Gabadadze and A. J. Tolley, Phys. Lett. B **711**, 190 (2012).
30. "**Cosmology of the Galileon from Massive Gravity**,"
C. de Rham and L. Heisenberg, Phys. Rev. D **84**, 043503 (2011).
29. "**de Sitter Galileon**,"
C. Burrage, C. de Rham and L. Heisenberg, JCAP **1105**, 025 (2011).
28. "**Nonlinear Dynamics of 3D Massive Gravity**,"
C. de Rham, G. Gabadadze, D. Pirtskhalava, A. J. Tolley and I. Yavin, JHEP **1106**, 028 (2011).
27. "**Resummation of Massive Gravity**,^b"
C. de Rham, G. Gabadadze and A. J. Tolley, Phys. Rev. Lett. **106**, 231101 (2011).
26. "**Cosmic Acceleration and the Helicity-0 Graviton**,^b"
C. de Rham, G. Gabadadze, L. Heisenberg and D. Pirtskhalava, Phys. Rev. D **83**, 103516 (2011).
25. "**Galileon inflation**,"
C. Burrage, C. de Rham, D. Seery and A. J. Tolley, JCAP **1101**, 014 (2011).
24. "**Generalization of the Fierz-Pauli Action**,^b"
C. de Rham and G. Gabadadze, Phys. Rev. D **82**, 044020 (2010).
23. "**Selftuned Massive Spin-2**,"
C. de Rham and G. Gabadadze, Phys. Lett. B **693**, 334 (2010).

22. "**DBI and the Galileon reunited**,^b"
C. de Rham and A. J. Tolley, JCAP **1005**, 015 (2010).
21. "**Cascading Gravity is Ghost Free**,"
C. de Rham, J. Khoury and A. J. Tolley, Phys. Rev. D **81**, 124027 (2010).
20. "**Massive gravity from Dirichlet boundary conditions**,"
C. de Rham, Phys. Lett. B **688**, 137 (2010).
19. C. de Rham, J. Khoury and A. J. Tolley, "**Flat 3-Brane with Tension in Cascading Gravity**,"
Phys. Rev. Lett. **103**, 161601 (2009).
18. "**Effective Field Theories and Matching for Codimension-2 Branes**,"
C. P. Burgess, D. Hoover, C. de Rham and G. Tasinato, JHEP **0903**, 124 (2009).
17. "**Cascading Gravity and Degravitation**,"
C. de Rham, Can. J. Phys. **87**, 201 (2009).
16. "**The Hierarchy Problem and the Self-Localized Higgs**,"
C. P. Burgess, C. de Rham and L. van Nierop, JHEP **0808**, 061 (2008).
15. "**Curvature corrections to the low energy effective theory in 6D regularized braneworlds**,"
T. Kobayashi, T. Shiromizu and C. de Rham, Phys. Rev. D **77**, 124012 (2008).
14. "**Cascading Gravity and Degravitation**,"
C. de Rham, S. Hofmann, J. Khoury and A. J. Tolley, JCAP **0802**, 011 (2008).
13. "**Cascading gravity: Extending the Dvali-Gabadadze-Porrati model to higher dimension**,^b"
C. de Rham, G. Dvali, S. Hofmann, J. Khoury, O. Pujolas, M. Redi and A. J. Tolley, Phys. Rev. Lett. **100**, 251603 (2008).
12. "**Exact Wave Solutions to 6D Gauged Chiral Supergravity**,"
A. J. Tolley, C. P. Burgess, C. de Rham and D. Hoover, JHEP **0807**, 075 (2008).
11. "**The Effective field theory of codimension-two branes**,"
C. de Rham, JHEP **0801**, 060 (2008).
10. "**Living on a dS brane: Effects of KK modes on inflation**,"
C. de Rham and S. Watson, Class. Quant. Grav. **24**, 4219 (2007).
9. "**Kicking the rugby ball: Perturbations of 6D gauged chiral supergravity**,"
C. P. Burgess, C. de Rham, D. Hoover, D. Mason and A. J. Tolley, JCAP **0702**, 009 (2007).
8. "**Scaling solutions to 6D gauged chiral supergravity**,"
A. J. Tolley, C. P. Burgess, C. de Rham and D. Hoover, New J. Phys. **8**, 324 (2006).
7. "**Mimicking Lambda with a spin-two ghost condensate**,"
C. de Rham and A. J. Tolley, JCAP **0607**, 004 (2006).
6. "**High-energy effective theory for orbifold branes**,"
T. Shiromizu, S. Fujii, C. de Rham and H. Yoshino, Phys. Rev. D **73**, 087301 (2006).
5. "**Gravitational waves in a codimension two braneworld**,"
C. de Rham and A. J. Tolley, JCAP **0602**, 003 (2006).
4. "**High-energy effective theory for a bulk brane**,"
C. de Rham, S. Fujii, T. Shiromizu and H. Yoshino, Phys. Rev. D **72**, 123522 (2005).

3. "[High-energy effective theory for matter on close Randall Sundrum branes](#),"
C. de Rham and S. Webster, Phys. Rev. D **72**, 064013 (2005).
2. "[High-energy theory for close Randall Sundrum branes](#),"
C. de Rham and S. Webster, Phys. Rev. D **71**, 124025 (2005).
1. "[Beyond the low energy approximation in braneworld cosmology](#),"
C. de Rham, Phys. Rev. D **71**, 024015 (2005).

Conference & Summer School Proceedings

7. "[Prospects for Fundamental Physics with LISA](#)"
E. Barausse et.al., arXiv:2001.09793 [gr-qc], doi 10.1007/s10714-020-02691-1.
6. "[Brane world gravity and cosmology](#),"
Anne-Christine Davis, Ph. Brax and **C. de Rham**, Proceedings for 26 Sep - 3 Oct 2009 Jijel, Algeria 3rd School on Theoretical Physics on "Gravitation: Theory and Experiment".
5. "[Introduction to Massive Gravity](#),"
C. de Rham, Proceedings for the 7th Aegean Summer School on "*Beyond Einstein's Theory of Gravity*," 2013, published in Lect. Notes Phys. **892**, 139 (2015).
4. "[Pulsar tests of Modified Gravity](#),"
C. de Rham, Proceedings for the "Rencontres du Vietnam on Cosmology and Gravitation," 2013.
3. "[Novel Probes of Gravity and Dark Energy](#),"
B. Jain, A. Joyce, R. Thompson, A. Upadhye, J. Battat, P. Brax, A. C. Davis and **C. de Rham et al.**.
2. "[Galileons in the Sky](#),"
C. de Rham, Comptes Rendus Physique **13**, 666 (2012).
1. "[Classical renormalization of codimension-two brane couplings](#),"
C. de Rham, AIP Conf. Proc. **957**, 309 (2007).