

CONTACT DETAILS	<p><a href="#">Instituto de Física de Cantabria (IFCA)</a>  Avenida de los Castros, s/n  E-39005 Santander  Cantabria, Spain</p>	<p>TEL +34 604 132 549  EMAIL <a href="mailto:bradkav@gmail.com">bradkav@gmail.com</a>  WEB <a href="http://bradkav.net">bradkav.net</a>  ORCID ID <a href="https://orcid.org/0000-0002-3634-4679">0000-0002-3634-4679</a></p>
DATE OF BIRTH	15th March 1989	NATIONALITY British
ACADEMIC HISTORY	<p><b>March 2020 - Present: IFCA, University of Cantabria, Santander</b>  María de Maeztu Unit of Excellence Post-doctoral Position  Supervisors: Dr. Rocío Vilar &amp; Dr. José M. Diego</p> <p><b>September 2017 - February 2020: GRAPPA, University of Amsterdam</b>  GRAPPA Post-doctoral Position  Supervisors: Dr. Gianfranco Bertone &amp; Dr. Christoph Weniger</p> <p><b>October 2014 - August 2017: LPTHE, Paris &amp; IPhT, CEA/Saclay</b>  NewDark ERC Post-doctoral Fellowship  Supervisor: Dr. Marco Cirelli</p> <p><b>September 2011 - September 2014: University of Nottingham, UK</b>  PhD, Particle Theory Group  PhD Thesis: <a href="#">“Confronting Astrophysical Uncertainties in the Direct Detection of Dark Matter”</a>  Supervisor: Dr. Anne M. Green</p> <p><b>September 2010 - June 2011: University of Cambridge, UK</b>  Master of Science (MSci): Theoretical Physics  Master’s thesis: “Wavepacket scattering simulations using GPGPU”</p> <p><b>September 2007 - June 2010: University of Cambridge, UK</b>  Bachelor of Arts (BA): Natural Sciences (Physical)  First class honours degree (ranked 13 out of 578).</p>	
RESEARCH INTERESTS	<p>My main interest is in the phenomenology of <b>particle dark matter</b> (DM). My primary focus has been on the <b>direct detection</b> of DM in underground laboratory experiments. I have previously demonstrated how the astrophysics and particle physics properties of a new DM particle could be robustly determined, and I continue to study novel signatures in the direct search for DM. With the advent of <b>gravitational wave (GW) astronomy</b>, I have begun focusing on the effects of DM on GWs from compact object mergers. In particular, I am interested in whether dense DM halos around <b>black holes (both primordial and astrophysical)</b> can be detected through their influence on merger rates and gravitational waveforms.</p>	
PUBLICATIONS ( <a href="#">LIST ONLINE</a> )	<p>52 publications (45 peer-reviewed). These include 5 single-author papers, 16 first-author papers, 5 papers published in <i>Physical Review Letters</i> and 5 contributions to White Papers.</p>	
SELECTED TALKS ( <a href="#">SLIDES ONLINE</a> )	<p>Invited Overview Talk, <a href="#">IRN Terascale Meeting</a> (Online), 5 November 2020  Title: <a href="#">“Constantly changing constraints on Primordial Black Hole Dark Matter”</a></p> <p><a href="#">IFCA Colloquium</a>, Santander, Spain, 7 October 2019  Title: <a href="#">“Dark Matter, Black Holes, Gravitational Waves and Werewolves”</a></p> <p>Invited Overview Talk, <a href="#">Dark Side of the Universe 2018</a>, Annecy, 25 June 2018  Title: <a href="#">“Signal Diversity and EFT in Dark Matter Direct Detection”</a></p> <p><a href="#">[Video]</a> Invited Overview Talk, <a href="#">DM-Stat Workshop</a>, Banff, 26 February 2018</p>	

	Title: <a href="#">“An Introduction to Dark Matter”</a>
TEACHING & SUPERVISION	<p>Astroparticle Physics Course for bachelor’s students (14 weeks; course design, lectures, TA sessions &amp; grading; Amsterdam University College, 2019).</p> <p>Theory Workshop for third-year bachelor’s students (4 weeks; lectures, examples classes &amp; project supervision in astroparticle physics; Institute for Theoretical Physics Amsterdam, 2018 &amp; 2019).</p> <p>GRAPPA Student Seminar series for first-year MSc students (4 weeks; lectures &amp; project supervision in astroparticle physics; University of Amsterdam, 2018).</p> <p>Individual student supervision:</p> <ul style="list-style-type: none"> <li>• Jose Maria Palencia (PhD), University of Cantabria, 2021-2025</li> <li>• Pratibha Jangra (PhD), University of Cantabria, 2020-2024</li> <li>• Abram Pérez Herrero (Masters), University of Cantabria, 2021-2022</li> <li>• Juan Cortabitarte Gutierrez (Masters), University of Cantabria, 2020-2021</li> <li>• Konstantinos Antoniadis (Masters), University of Amsterdam, 2019-2020</li> </ul>
AWARDS & PRIZES	<p><a href="#">Ramón y Cajal Fellowship 2021</a> ~235k€ (Agencia Estatal de Investigación, Spain), to begin at IFCA, Jan 2023.</p> <p><a href="#">FELLINI Fellowship for Innovation</a>, ~200k€ (INFN Marie Skłodowska-Curie CO-FUND Fellowship Programme), 2020 [Declined].</p> <p><a href="#">Institute of Physics (IOP) Astroparticle Physics Thesis prize</a>, 2016.</p> <p>Foundation Scholarship (for achieving a First class mark in all papers), University of Cambridge, UK, 2009, 2010, 2011.</p> <p>David Thompson Scholarship (for achieving a First class mark), University of Cambridge, UK, 2008.</p>
COMPUTER SKILLS ( <a href="#">CODE ONLINE</a> )	<p><i>Languages &amp; Software:</i> C/C++, CUDA (GPGPU programming), Fortran, Python, MATLAB, Mathematica, Git, high-performance computing, N-body simulation.</p> <p><i>Operating Systems:</i> Windows, Linux, Mac OS X.</p>
CONFERENCE ORGANISATION	<p><a href="#">Dark Matter 2021: From the Smallest to the Largest Scales (DM2021)</a>, Head of the Local Organising Committee (Virtual/Santander, 2021).</p> <p><a href="#">Gravitational Wave Probes of Fundamental Physics (GW4FP)</a>, Local Organiser (Amsterdam, 2019).</p> <p><a href="#">PHYSTAT Dark Matter</a>, Scientific Advisory Committee (Stockholm, 2019).</p> <p><a href="#">7th Amsterdam-Paris-Stockholm meeting</a> (2017).</p> <p>NewDark mini-workshops: ‘<a href="#">LCDM, Modified Gravity or new Dark Matter models?</a>’ (2017), ‘<a href="#">Dark Matter and Stars</a>’ (2016) and ‘<a href="#">Axion Theory and Searches</a>’ (2015) in Paris, France.</p>
OTHER RELEVANT EXPERIENCE	<p>Founder and current organiser of the ‘Dark Collaboration’ working group at IFCA, Santander, aiming to develop new project ideas and collaborations between the local Cosmology and High Energy Physics groups.</p>

Member of the Square Kilometer Array (SKA) ‘Gravitational Waves’ working group; Athena X-ray observatory ‘Physics Beyond the Standard Model’ working group; Laser Interferometer Space Antenna (LISA) Consortium; and Lunar Gravitational Wave Antenna (LGWA) working group.

Referee for grant proposals from the STFC (UK), ISF (Israel) and ERC; and for manuscripts in PRL, PRD, PRR, JCAP, EPJC, Physics of the Dark Universe, Open Journal of Astrophysics & Journal of Open Source Software.

Coordinating and editing publication of outreach article on the NewDark research group: ‘[Dark is the new black](#)’ (Scientia, 2016).

Journal Club organiser and chair at University of Nottingham (2013) and at GRAPPA, University of Amsterdam (2018-2020).

## REFEREES

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