

MARÍA BENITO

PERSONAL INFORMATION

Born on 1989, in Asturias, Spain

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<https://mariabenitocst.github.io/>

ACADEMIC HISTORY

2019 **Postdoctoral Researcher**, National Institute of Chemical Physics and Biology (NICPB), Tallinn (Estonia)

EDUCATION

2015-2019 **Instituto de Física Teórica, Universidade Estadual Paulista, São Paulo (Brazil)**
Ph.D
Supervisor: Prof. Dr. Fabio Iocco
Title: *Dark Matter in the Milky Way: Uncertainties on its Distribution and Implications on its Particle Nature*

2013-2014 **Instituto de Física Teórica, Universidad Autónoma de Madrid, Madrid (Spain)**
M.S. in Elementary Particles and Cosmology
Supervisors: Prof. Dr. Fabio Iocco & Dr. Miguel Pato
Title: *A Determination of the Dark Matter Density Structure in the Milky Way*

2007-2013 **Universidad Autónoma de Madrid, Madrid (Spain)**
5-year Degree of Physics

1996-2006 **Conservatorio Profesional de Música del Nalón, Sama de Langreo (Spain)**
Studies in violin, *Grado Elemental* (4 years) & *Grado Medio* (6 years)

RESEARCH INTERESTS

Dark Matter in galaxies: galaxy kinematics and dynamics, mass modelling of galaxies. Dark Matter phenomenology in astrophysical environments. Galaxy formation and evolution. Multi-messenger astronomy. Statistics.

FELLOWSHIPS & SCHOLARSHIPS

2015-2019 CAPES (Coordenação de Aperfeiçoamento de Nível Superior) fellow at Instituto de Física Teórica, UNESP, São Paulo (Brazil)

September 2014 Multidark Summer Student at IFT-UAM/CSIC, Madrid (Spain)

2011-2012 Erasmus Grant at Humboldt Universität zu Berlin, Berlin (Germany)

2007-2008 Excellence Grant to enter University by the Comunidad de Madrid (Spain)

SCIENTIFIC VISITS

<i>August, September 2019</i>	Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali di Frascati (INFN-LNF), Frascati (Italy)
<i>May-July 2019</i>	Gran Sasso Science Institute (GSSI), L'Aquila (Italy)
<i>April 2019</i>	Leibniz Institute for Astrophysics Potsdam (AIP), Potsdam (Germany)
<i>May, June 2018</i>	DESY, Zeuthen (Germany)
<i>January 2018</i>	CIEMAT, Madrid (Spain)
<i>July 2017</i>	DESY, Zeuthen (Germany)

TALKS

INVITED TALKS

<i>September 2019</i>	Next Frontiers in the Search for Dark Matter at Galileo Galilei Institute, Florence (Italy) “ <i>The Dark Matter distribution of the Milky Way (its uncertainties and their effect on the determination of new physics)</i> ”
<i>July 2019</i>	Talk at INFN - Laboratori Nazionali di Frascati (LNF), Frascati (Italy) “ <i>The Effect of Galactic Uncertainties on Particle Dark Matter Constraints</i> ”
<i>March 2019</i>	Seminar at University of Oslo, Oslo (Norway) “ <i>Determining the Distribution of Dark Matter in the Milky Way</i> ”
<i>December 2018</i>	Seminar at University of Turin, Turin (Italy) “ <i>Milky Way Dark Matter Density Profile</i> ”
<i>December 2018</i>	Talk at LAPTh, Annecy (France) “ <i>Milky Way Dark Matter Density Profile</i> ”
<i>December 2017</i>	Seminar at Institute for Theoretical Particle Physics and Cosmology, RWTH Aachen University, Aachen (Germany) “ <i>An Estimate of the Dark Matter Profile in the Galactic Bulge Region</i> ”

CONFERENCES & WORKSHOPS

<i>July 2019</i>	CYGNUS 2019 workshop at La Sapienza University, Roma (Italy) “ <i>Particle Dark Matter constraints: the effect of Galactic uncertainties</i> ”
<i>May 2019</i>	Talk at IFCA-CSIC, Santander (Spain) “ <i>The Effect of Galactic Uncertainties on Particle Dark Matter Constraints</i> ”
<i>April 2019</i>	Talk at Leibniz Institute for Astrophysics Potsdam (AIP), Potsdam (Germany) “ <i>Dark Matter in the Milky Way: Distribution, Uncertainties and the Impact for the Search of New Physics</i> ”
<i>February 2019</i>	JSPS-FAPESP Workshop on Dark Energy, Dark Matter and Galaxies at Universidade de São Paulo (USP), São Paulo (Brazil) “ <i>Searching for New Physics (and Dark Matter): Implications of Uncertainties in the Determination of Dark Matter Distribution in the Milky Way</i> ”
<i>November 2018</i>	II South American Dark Matter Workshop at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil) “ <i>The Effect of Galactic Uncertainties on Particle Dark Matter Constraints</i> ”

- October 2018* **The Puzzle of Dark Matter, Assembling the Pieces** at DESY, Hamburg (Germany)
“Particle Dark Matter Constraints: the Effect of Galactic Uncertainties”
- May 2018* **Tensions in the LCDM Paradigm** at Mainz Institute for Theoretical Physics (MITP), Mainz (Germany)
“Testing Modified Gravity Theories with the Milky Way”
- March 2018* **Reunião Temática Workshop** at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil)
“Status of Large Magellanic Cloud Studies with CTA”
- May 2017* **South American Dark Matter Workshop** at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil)
“An Estimate of the Dark Matter Profile in the Galactic Bulge Region”
- November 2016* **XIII Workshop on New Physics in Space** at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil)
“An Estimate of the Dark Matter Profile in the Galactic Bulge Region”
- October 2016* **III Dark Matter Day in São Paulo** at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil)
“Dark Matter Distribution in the Galactic Bulge”
- June 2016* **School on Dark Matter** at IFT-UNESP/ICTP-SAIFR, São Paulo (Brazil)
“Dark Matter Distribution in the Milky Way: a Departure from Classical Analyses”

POSTERS

- July 2017* **IAU Symposium 334 Rediscovering our Galaxy** at Telegrafenberg, Potsdam (Germany)
“An Estimate of the Dark Matter Profile in the Galactic Bulge Region”

EVENT ORGANIZATION

- September 2019* **Autumn Institute 2019: Directional Sub-GeV Dark Matter Detection** at INFN-Laboratori Nazionali di Frascati, Frascati (Italy)
<https://agenda.infn.it/event/19972/>

PROFESSIONAL MEMBERSHIPS

- Member of the CTA collaboration (since January 2017)

TECHNICAL SKILLS

- **Data Analysis:** γ -ray data analysis with CTOOLS; DS9, CLUMPY
- **Programming:**
 - Experienced: PYTHON, C++, Unix OS, Bash Shell, L^AT_EX
 - Familiar: C, Mathematica, IDL, MATLAB
 - Encountered: Fortran90, MPI, HTML

LANGUAGES

- Mother tongue: Spanish

- Fluent: English, Portuguese