

Dr. Benito Marcote

Curriculum Vitae – January 2018

Joint Institute for VLBI ERIC (JIVE)
Oude Hoogeveensedijk 4
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Education

- 2011–2015 **Ph.D. in Physics**, *University of Barcelona, Spain, Excellent Cum Laude. International Doctor.*
THESIS: *Non-thermal emission from high-energy binaries through interferometric radio observations* (arXiv:1603.09276). Defended on 27 October 2015 and supervised by Marc Ribó and Josep M. Paredes.
- 2011–2012 **Master in Astrophysics, Particle Physics and Cosmology**,
University of Barcelona, Spain.
THESIS: *Low Frequency Radio Observations of Gamma-Ray Binaries* supervised by Josep M. Paredes
- 2006–2011 **Physics Degree**, *University of Cantabria, Spain, GPA – 8.4/10 (2.6/4).*
THESIS: *X-Ray Emission in Nearby Galaxies* supervised by Xavier Barcons

Languages

- Spanish Mother tongue
English Read, write and conversationally fluent

Computer skills

- OSs GNU/Linux, Mac OS
- Languages Python, C, Obj-C, Ruby, Java, Bash, HTML, CSS, Octave, Ada, Fortran
- Sci. packages AIPS, CASA, ParselTongue, Difmap, Sched, Xspec, QDP, Iraf, Maple
- Typesetting L^AT_EX, Vim, LibreOffice, iWork

Experience with Astronomical Observations

- Radio EVN, GMRT, LBA, VLA, LOFAR, WSRT, VLBA
- X-rays XMM-Newton
- TeV MAGIC
- Sources Gamma-Ray Binaries, Fast Radio Bursts, Colliding-Wind Binaries, High Mass X-Ray Binaries, Active Galactic Nuclei

Fellowships

- 2016–current **Support Scientist of the European VLBI Network (EVN)**, *Fellowship from the Netherlands Organisation for Scientific Research (NWO).*
SUPERVISOR: Zsolt Paragi
PLACE: Joint Institute for VLBI ERIC (JIVE), The Netherlands
- 2016 **Postdoctoral Fellowship from the South African Square Kilometre Array Project**, *(declined).*
SUPERVISOR: Vanessa McBride
PLACE: Cape Town University, South Africa

- 2011–2015 **Predoctoral Fellowship**, *Formación de Personal Investigador (FPI)*, Competitive national fellowship from the Ministry of Economy and Competitiveness of Spain (MINECO), BES-2011-049886.
 TITLE: High-energy phenomena in stellar objects. Theoretical and observational studies
 SUPERVISOR: Josep M. Paredes
 PLACE: University of Barcelona, Spain
- 07–09/2010 **JAIE-Intro**, *Introduction to research fellowship from the Spanish National Research Council (CSIC)*.
 TITLE: Quantum Mechanics and General Relativity in Early Universe
 SUPERVISOR: José Navarro Salas
 PLACE: Instituto de Física Corpuscular (IFIC)/University of Valencia, Spain
- 10/09–07/10 **Introduction to Research**, *Introduction to research fellowship from the University of Cantabria*.
 TITLE: X-Ray Astronomy
 SUPERVISOR: Xavier Barcons
 PLACE: Instituto de Física de Cantabria (IFCA)/University of Cantabria, Spain

Participation in Projects

- 2016–2019 **Multidisciplinary approach to high-energy processes in astrophysical outflows: theory and observations**, *R&D&I National Program of the Ministry of Economy and Competitiveness of Spain (MINECO)*, AYA2016-76012-C3-1-P, PI: J. M. Paredes.
 J. M. Paredes, V. Bosch-Ramon, J. Núñez, P. Munar-Adrover, **B. Marcote**, J. Moldón, F. L. Vieyro, G. E. Romero.
 Funding: 142,000 €
- 2013–2016 **Non-thermal high-energy processes in astrophysical outflows. Theory and multi-wavelength observations**, *R&D&I National Program of the Ministry of Economy and Competitiveness of Spain (MINECO)*, AYA2013-47447-C3-1-P, PI: J. M. Paredes.
 J. M. Paredes, S. Migliari, G. E. Romero, J. Moldón, P. Munar-Adrover, **B. Marcote**, X. Paredes-Fortuny, V. M. de la Cita, A. Comastri, R. Gilli, C. Vignali, J. A. Combi, R. K. Zamanov.
 Funding: 157,000 €

Publications

- Peer-reviewed articles
- ★ *On the origin of the gamma-ray binary 1FGL J1018.6–5856* 2018, submitted
B. Marcote, M. Ribó, J. M. Paredes, M. Y. Mao, P. G. Edwards. *A&A*
 - ★ *An extreme magneto-ionic environment associated with the fast radio burst source FRB 121102* 2018
 D. Michilli, A. Seymour, J. W. T. Hessels, L. G. Spitler, V. Gajjar, A. M. Archibald, G. C. Bower, S. Chatterjee, J. M. Cordes, K. Gourdji, G. H. Heald, V. M. Kaspi, C. J. Law, C. Sobey, E. A. K. Adams, C. G. Bassa, S. Bogdanov, C. Brinkman, P. Demorest, F. Fernandez, G. Hellbourg, T. J. W. Lazio, R. S. Lynch, N. Maddox, **B. Marcote**, M. A. McLaughlin, Z. Paragi, S. M. Ransom, P. Scholz, A. P. V. Siemion, S. P. Tendulkar, P. Van Rooy, R. S. Wharton, D. Whitlow. *Nature*, 553, 182
 * Appeared in the cover of Nature (11 January 2018).
 - ★ *Multi-messenger Observations of a Binary Neutron Star Merger* 2017
 B. P. Abbott, et al., including **B. Marcote** for the Euro VLBI Team. *ApJ*, 848, L12
 - ★ *Simultaneous X-ray, gamma-ray, and Radio Observations of the repeating Fast Radio Burst FRB 121102* 2017
 P. Scholz, S. Bogdanov, J. W. T. Hessels, R. S. Lynch, L. G. Spitler, C. G. Bassa, G. C. Bower, S. Burke-Spolaor, B. J. Butler, S. Chatterjee, J. M. Cordes, K. Gourdji, V. M. Kaspi, C. J. Law, **B. Marcote**, M. A. McLaughlin, D. Michilli, Z. Paragi, S. M. Ransom, A. Seymour, S. P. Tendulkar, R. S. Wharton. *ApJ*, 846, 80S

- ★ *FRB 121102 is coincident with a star forming region in its host galaxy* 2017
C. G. Bassa, S. P. Tendulkar, E. A. K. Adams, N. Maddox, S. Bogdanov, G. C. Bower, S. Burke-Spolaor, B. J. Butler, S. Chatterjee, J. M. Cordes, J. W. T. Hessels, V. M. Kaspi, C. J. Law, **B. Marcote**, Z. Paragi, S. M. Ransom, P. Scholz, L. G. Spitler, H. J. van Langevelde. *ApJL*, 843, L8
- ★ *A model for the repeating FRB 121102 in the AGN scenario* 2017
F. L. Vieyro, G. E. Romero, V. Bosch-Ramon, **B. Marcote**, M. V. del Valle. *A&A*, 602, A64
- ★ *Towards the origin of the radio emission in AR Scorpii, the first radio-pulsing white dwarf binary* 2017
B. Marcote, T. R. Marsh, E. R. Stanway, Z. Paragi, J. M. Blanchard. *A&A*, 601, L7
- ★ *The First Simultaneous X-ray/Radio Detection of the First Be/BH System MWC 656* 2017
M. Ribó, P. Munar-Adrover, J. M. Paredes, **B. Marcote**, K. Iwasawa, J. Moldón, J. Casares, S. Migliari, X. Paredes-Fortuny, *ApJL*, 835, L33
- ★ *A direct localization of a fast radio burst and its host* 2017
S. Chatterjee, C. J. Law, R. S. Wharton, S. Burke-Spolaor, J. W. T. Hessels, G. C. Bower, J. M. Cordes, S. P. Tendulkar, C. G. Bassa, P. Demorest, B. J. Butler, A. Seymour, P. Scholz, M. W. Abruzzo, S. Bogdanov, V. M. Kaspi, A. Keimpema, T. J. W. Lazio, **B. Marcote**, M. A. McLaughlin, Z. Paragi, S. M. Ransom, M. Rupen, L. G. Spitler, H. J. van Langevelde, *Nature*, 541, 58
* Appeared in the cover and in the News & Views section of Nature (5 January 2017).
- ★ *The Repeating Fast Radio Burst FRB 121102 as Seen on Milliarcsecond Angular Scales* 2017
B. Marcote, Z. Paragi, J. W. T. Hessels, A. Keimpema, H. J. van Langevelde, Y. Huang, C. G. Bassa, S. Bogdanov, G. C. Bower, S. Burke-Spolaor, B. J. Butler, R. M. Campbell, S. Chatterjee, J. M. Cordes, P. Demorest, M. A. Garrett, T. Ghosh, V. M. Kaspi, C. J. Law, T. J. W. Lazio, M. A. McLaughlin, S. M. Ransom, C. J. Salter, P. Scholz, A. Seymour, A. Siemion, L. G. Spitler, S. P. Tendulkar, R. S. Wharton, *ApJL*, 834, L8
* Appeared in the Research Highlight section of Nature Astronomy (2017, 1, 2, article 50)
- ★ *The Host Galaxy and Redshift of the Repeating Fast Radio Burst FRB 121102* 2017
S. P. Tendulkar, C. G. Bassa, J. M. Cordes, G. C. Bower, C. J. Law, S. Chatterjee, E. A. K. Adams, S. Bogdanov, S. Burke-Spolaor, B. J. Butler, P. Demorest, J. W. T. Hessels, V. M. Kaspi, T. J. W. Lazio, N. Maddox, **B. Marcote**, M. A. McLaughlin, Z. Paragi, S. M. Ransom, P. Scholz, A. Seymour, L. G. Spitler, H. J. van Langevelde, R. S. Wharton, *ApJL*, 834, L7
- ★ *FRB 150418: clues to its nature from European VLBI Network and e-MERLIN observations* 2016
M. Giroletti, **B. Marcote**, M. Garrett, Z. Paragi, J. Yang, K. Hada, T. W. B. Muxlow, C. C. Cheung, *A&A*, 593, L16
- ★ *Orbital and superorbital variability of LS I +61 303 at low radio frequencies with GMRT and LOFAR* 2016
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, J. D. Swinbank, J. W. Broderick, S. Markoff, R. Fender, R. A. M. J. Wijers, G. G. Pooley, A. J. Stewart, M. E. Bell, R. P. Breton, D. Carbone, S. Corbel, J. Eislöffel, H. Falcke, J.-M. Grießmeier, M. Kuniyoshi, M. Pietka, A. Rowlinson, M. Serylak, A. J. van der Horst, J. van Leeuwen, M. W. Wise, P. Zarka, *MNRAS*, 456, 1791
- ★ *A radio-map of the colliding winds in the very massive binary system HD 93129A* 2015
P. Benaglia, **B. Marcote**, J. Moldón, E. Nelán, M. de Becker, S. M. Dougherty, B. S. Koribalski, *A&A*, 579, A99

- ★ *Physical properties of the gamma-ray binary LS 5039 through low and high frequency radio observations* 2015
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, MNRAS, 451, 4578
- ★ *In quest of non-thermal signatures in early-type stars* 2015
J. Martí, P. L. Luque-Escamilla, J. Casares, **B. Marcote**, X. Paredes-Fortuny, M. Ribó, J. M. Paredes, J. Núñez, Ap&SS, 356, 277

Proceedings

- ★ *Review on the multiwavelength emission of the gamma-ray binary LS I +61 303* 2017
B. Marcote
Proceedings of the XII Multifrequency Behavior of High Energy Cosmic Sources Workshop held on June 12–17, 2017, in Palermo, Italy
- ★ *The origin of the Fast Radio Bursts, still an open question* 2017
B. Marcote, M. Giroletti, M. Garrett, Z. Paragi, J. Yuang, K. Hada, C. C. Cheung
XII Scientific Meeting of the Spanish Astronomical Society held on July 18–22, 2016, in Bilbao, Spain. p. 511
- ★ *Measuring the expansion velocity of the outflows of LS I +61 303 through low-frequency radio observations* 2017
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, J. D. Swinbank, J. W. Broderick, S. Markoff, R. Fender, R. A. M. J. Wijers, G. G. Pooley, A. J. Stewart, M. E. Bell, R. P. Breton, D. Carbone, S. Corbel, J. Eislöffel, H. Falcke, J.-M. Grießmeier, M. Kuniyoshi, M. Pietka, A. Rowlinson, M. Serylak, A. J. van der Horst, J. van Leeuwen, M. W. Wise, P. Zarka
6th International Meeting on High Energy Gamma-Ray Astronomy, AIPCP, 1792, 040018
- ★ *Physical properties of the gamma-ray binary LS 5039 through low and high frequency radio observations* 2015
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra
High Energy Phenomena in Relativistic Outflows V. AAA Workshop Series 8
- ★ *Orbital and superorbital variability of LS I +61 303 at low radio frequencies with GMRT and LOFAR* 2015
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, J. D. Swinbank, J. W. Broderick, S. Markoff, R. Fender, R. A. M. J. Wijers, G. G. Pooley, A. J. Stewart, M. E. Bell, R. P. Breton, D. Carbone, S. Corbel, J. Eislöffel, H. Falcke, J.-M. Grießmeier, M. Kuniyoshi, M. Pietka, A. Rowlinson, M. Serylak, A. J. van der Horst, J. van Leeuwen, M. W. Wise, P. Zarka
High Energy Phenomena in Relativistic Outflows V. AAA Workshop Series 8
- ★ *Discovering the colliding wind binary HD 93129A* 2014
B. Marcote, P. Benaglia, J. Moldón, E. Nelan, M. de Becker, S. M. Dougherty and B. S. Koribalski
PoS(EVN 2014)57 12th European VLBI Network Symposium and Users Meeting
- ★ *The changing morphology of the radio outflow of HESS J0632+057 along its orbit* 2014
B. Marcote, J. Moldón, M. Ribó, J. M. Paredes, Z. Paragi
PoS(EVN 2014)95 12th European VLBI Network Symposium and Users Meeting
- ★ *GMRT and LOFAR low frequency observations of the gamma-ray binaries LS 5039 and LS I +61 303* 2014
B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, J. Swinbank, J. Broderick, R. Fender, S. Markoff, R. Wijers
ASI Conference Series, 13, 29
- ★ *First LOFAR Observations of Gamma-Ray Binaries* 2012
B. Marcote, M. Ribó, J. M. Paredes, J. Swinbank, J. Broderick, R. Fender, S. Markoff, R. Wijers
HIGH ENERGY GAMMA-RAY ASTRONOMY: 5th International Meeting on High Energy Gamma-Ray Astronomy. AIPCP, 1505, 374–377

Telegrams/Circulars

- ★ *LIGO/Virgo G298048 - Record of all e-MERLIN results to date on SSS17a* 28/09/2017
J. Moldón, R. Beswick, Z. Paragi, I. Agudo, T. An, P. Bacon, C. Casadio, E. Chassande-Mottin, S. Frey, M. Giroletti, P. Jonker, M. Kettenis, **B. Marcote**, A. Szomoru, H. J. van Langevelde, J. Yang for the Euro VLBI Team. GCN 21940
- ★ *LIGO/Virgo G298048 - Further European VLBI Network (EVN) observations of SSS17a* 28/09/2017
Z. Paragi, J. Yang, **B. Marcote**, et al. for the Euro VLBI Team. GCN 21939
- ★ *LIGO/Virgo G298048: e-MERLIN upper limits on 5 GHz compact emission from SSS17a* 04/09/2017
J. Moldón, R. Beswick, Z. Paragi, I. Agudo, T. An, P. Bacon, C. Casadio, E. Chassande-Mottin, S. Frey, M. Giroletti, P. Jonker, M. Kettenis, **B. Marcote**, A. Szomoru, H. J. van Langevelde, J. Yang for the Euro VLBI Team. GCN 21804
- ★ *LIGO/Virgo G298048: European VLBI Network (EVN) upper limit on 5 GHz compact emission from SSS17a* 30/08/2017
Z. Paragi, I. Agudo, T. An, P. Bacon, R. Beswick, C. Casadio, E. Chassande-Mottin, S. Frey, M. Giroletti, P. Jonker, M. Kettenis, **B. Marcote**, A. Szomoru, H. van Langevelde, J. Yang for the Euro VLBI Team. GCN 21763
- ★ *EVN measurement of the FRB 150418 host galaxy candidate and its stability on VLBI scales* 16/04/2016
B. Marcote, M. Giroletti, M. Garrett, J. Yang, Z. Paragi, K. Hada, C. C. Cheung. ATel #8959
- ★ *EVN limits to compact milliarcsecond-scale radio emission from the proposed galaxy counterpart to FRB 150418* 24/03/2016
B. Marcote, M. Giroletti, M. Garrett, J. Yang, Z. Paragi, K. Hada, C. C. Cheung. ATel #8865

Other contributions

- ★ *Science with e-ASTROGAM (A space mission for MeV–GeV gamma-ray astrophysics)*
White paper, arXiv:1711.01265, to appear in Journal of High Energy Astrophysics. 2017
Contributed to the section “e-ASTROGAM contribution to unidentified gamma-ray sources”, J. M. Paredes, V. Bosch-Ramon & **B. Marcote**, p. 186

Theses

- ★ *Non-thermal emission from high-energy binaries through interferometric radio observations*
Ph.D. Thesis. University of Barcelona, Spain (arXiv:1603.09276) Oct. 2015
- ★ *Low Frequency Radio Observations of Gamma-Ray Binaries*
Master Thesis. University of Barcelona, Spain Sep. 2012
- ★ *Emisión en rayos X de galaxias cercanas (X-Ray Emission in Nerby Galaxies)*
Bachelor Thesis. University of Cantabria, Spain Jul. 2011

Collaborations As member of the MAGIC Collaboration, I appear as coauthor in ~60 papers (appeared mostly in peer-reviewed journals) published by the Collaboration. You can find all of them looking at SAO/NASA ADS.

Talks

- 15/11/2017 **Placing the gamma-ray binary 1FGL J1018.6–5856 within the Galaxy**, *B. Marcote*, Astrolunch talk at ASTRON/JIVE, Dwingeloo, The Netherlands.
- 12/09/2017 **The first localization of a Fast Radio Burst and resulting high-energy implications**, *B. Marcote*, contributed talk at the High-Energy Phenomena in Relativistic Outflows VI Conference, Moscow, Russia.

- 05/07/2017 **AR Scorpii, a low-mass binary with the first known radio pulsar white dwarf**, *B. Marcote*, *invited talk* at the Variable Galactic Gamma-Ray Sources, Tokyo, Japan.
- 14/06/2017 **Multiwavelength emission of the gamma-ray binary LS I +61 303**, *B. Marcote*, *invited talk* at the Multifrequency Behavior of High Energy Cosmic Sources, Palermo, Italy.
- 31/05/2017 **Localizing a Fast Radio Burst for the first time**, *B. Marcote*, contributed talk at The Labyrinth of the Unexpected: unforeseen treasures in impossible regions of phase space, Kerastari, Greece.
- 27/04/2017 **Fast Radio Bursts and their possible emission at high energies**, *B. Marcote*, *invited talk* at MAGIC Physics Spring Meeting, CERN, Switzerland.
- 17/04/2017 **A pulsar which is a white dwarf... in a binary system**, *B. Marcote*, astrolunch talk at ASTRON/JIVE, Dwingeloo, The Netherlands.
- 13/03/2017 **Localizing a Fast Radio Burst for the first time**, *B. Marcote*, talk at IFCA/UC, Santander, Spain.
- 06/02/2017 **Localizing a Fast Radio Burst for the first time**, *B. Marcote*, *invited talk* at the ICCUB Winter Meeting, Barcelona, Spain.
- 01/02/2017 **The Fast Radio Burster Localized!**, *B. Marcote*, astrolunch at ASTRON/JIVE, Dwingeloo, The Netherlands.
- 18/10/2016 **On the origin of Fast Radio Bursts and sub-millisecond localization**, *B. Marcote*, *invited talk* at the Departament de Física Quàntica i Astrofísica, University of Barcelona, Barcelona, Spain.
- 29/09/2016 **eEVN localization of millisecond transient signals**, *B. Marcote*, contributed talk at the NW3 Meeting, Nijmegen, The Netherlands.
- 22/09/2016 **Is FRB 150418 localized in WISE J0716-19? Clues from EVN observations**, *B. Marcote*, contributed talk at the 13th European VLBI Network Symposium, St. Petersburg, Russia.
- 14/07/2016 **Measuring the expansion velocity of the outflows of LS I +61 303 through low-frequency radio observations**, *B. Marcote*, contributed talk at the 6th International Symposium on High-Energy Gamma-Ray Astronomy (Gamma2016), Heidelberg, Germany.
- 26/05/2016 **Characterizing the outflows in the gamma-ray binary LS I +61 303 through low-frequency radio observations**, *B. Marcote*, contributed talk at the Cargèse School on Astrophysical Jets 2016, Cargèse, France.
- 03/11/2015 **Studies on high-energy binary sources through radio observations**, *B. Marcote*, talk at ASTRON, Dwingeloo, The Netherlands.
- 27/10/2015 **Non-thermal emission from high-energy binaries through interferometric radio observations**, *B. Marcote*, PhD Thesis defense, Barcelona, Spain.
- 07/10/2015 **Physical properties of the gamma-ray binary LS 5039 through low and high frequency radio observations**, *B. Marcote*, contributed talk at HEPRO V conference, La Plata, Argentina.
- 04/05/2015 **Absorption mechanisms in the gamma-ray binary LS 5039 from its full radio spectrum**, *B. Marcote*, *invited talk* at the Variable Galactic Gamma-ray Sources meeting, Heidelberg, Germany.
- 04/05/2015 **Orbital and superorbital variability of LS I +61 303 at low radio frequencies with GMRT and LOFAR**, *M. Ribó*, talk at the Variable Galactic Gamma-ray Sources Workshop, Heidelberg, Germany.
- 15/10/2014 **Gamma-ray binaries: from low frequencies to high resolution**, *B. Marcote*, Astrolunch talk at ASTRON, Dwingeloo, The Netherlands.
- 10/10/2014 **Discovering the Colliding Wind Binary HD 93129A**, *B. Marcote*, contributed talk at EVN Symposium, Cagliari, Italy.

- 08/07/2014 **Variable very-low frequency radio emission from the gamma-ray binary LS I +61 303**, *B. Marcote*, contributed talk at BeXRB 2014 meeting, Valencia, Spain.
- 10/12/2013 **The Low Frequency Emission for Gamma-Ray Binaries**, *B. Marcote*, contributed talk at The Metrewavelength Sky Conference, Pune, India.

Scientific Posters

- July 2016 **The origin of Fast Radio Bursts, still an open question**, *B. Marcote, M. Giroletti, M. Garrett, Z. Paragi, J. Yuang, K. Hada, C. C. Cheung*, Spanish Astronomical Society (SEA) Meeting, Bilbao, Spain.
- October 2015 **Orbital and superorbital variability of LS I +61 303 at low radio frequencies with GMRT and LOFAR**, *B. Marcote, M. Ribó, J. M. Paredes, C. H. Ishwara-Chandra, J. D. Swinbank, J. W. Broderick, S. Markoff, R. Fender, R. A. M. J. Wijers, G. G. Pooley, A. J. Stewart, M. E. Bell, R. P. Breton, D. Carbone, S. Corbel, J. Eislöffel, H. Falcke, J.-M. Grießmeier, M. Kuniyoshi, M. Pietka, A. Rowlinson, M. Serylak, A. J. van der Horst, J. van Leeuwen, M. W. Wise, P. Zarka*, HEPRO V, La Plata, Argentina.
- October 2014 **The changing morphology of the radio outflow of HESS J0632+057 along its orbit**, *B. Marcote, J. Moldón, M. Ribó, J. M. Paredes, Z. Paragi*, EVN Symposium, Cagliari, Italy.
- April 2013 **First LOFAR Observations of Gamma-Ray Binaries**, *B. Marcote, M. Ribó, J. M. Paredes, J. Swinbank, J. Broderick, R. Fender, S. Markoff, R. Wijers*, The Modern Radio Universe 2013, Bonn, Germany.
- July 2012 **First LOFAR Observations of Gamma-Ray Binaries**, *B. Marcote, M. Ribó, J. M. Paredes, J. Swinbank, J. Broderick, R. Fender, S. Markoff, R. Wijers*, 2012 Heidelberg International Symposium on High Energy Gamma-Ray Astronomy, Heidelberg, Germany.

Conferences, meetings and workshops

- 09/2017 **High-Energy Phenomena in Relativistic Outflows VI**, Moscow, Russia, contributed talk.
<https://hepro6.cosmos.ru>
- 07/2017 **Variable Galactic Gamma-Ray Sources (IV)**, Tokyo, Japan, invited talk.
http://www2.rikkyo.ac.jp/web/y_uchiyama/VGGRS2017/vggrs.html
- 06/2017 **Multifrequency Behavior of High Energy Cosmic Sources**, Palermo, Italy, invited talk.
<http://workshop2017.iaps.inaf.it/index.php>
- 05/2017 **The Labyrinth of the Unexpected: unforeseen treasures in impossible regions of phase space**, Kerastari, Greece, contributed talk.
<http://www.atnf.csiro.au/research/conferences/2017/Labyrinth>
- 04/2017 **MAGIC Physics Spring Meeting**, CERN, Geneva, Switzerland, invited talk.
<https://indico.mpp.mpg.de/event/5050/overview>
- 02/2017 **ICCUB Winter Meeting**, *Institute of Cosmos Sciences*, Barcelona, Spain, invited talk.
http://icc.ub.edu/webs/ICCUB_Winter_Meeting
- 09/2016 **13th European VLBI Network Symposium and Users Meeting**, *Institute of Applied Astronomy*, St. Petersburg, Russia, contributed talk.
<http://www.ipa.nw.ru/EVN2016>
- 07/2016 **XII Meeting of the Spanish Astronomical Society (SEA)**, SEA, Bilbao, Spain, poster.
<http://www.sea-astronomia.es/drupal/SEA2016>
- 07/2016 **6th International Symposium on High-Energy Gamma-Ray Astronomy (Gamma2016)**, MPI, Heidelberg, Germany, talk.
<https://www.mpi-hd.mpg.de/hd2016>
- 10/2015 **High-Energy Phenomena in Relativistic Outflows V (HEPRO V)**, IAR, La Plata, Argentina, talk and poster.
<http://hepro5.iar.unlp.edu.ar>

- 05/2015 **Variable Galactic Gamma-ray Sources Workshop**, *MPI*, Heidelberg, Germany, invited talk.
http://www.mpi-hd.mpg.de/astrophysik/HEA/conferences/binary_heidelberg_2015/pages/index.html
- 10/2014 **EVN Symposium**, *INAF*, Cagliari, Italy, talk and poster.
<http://evn2014.oa-cagliari.inaf.it/EVN2014>
- 07/2014 **BeXRB 2014 Meeting**, *UV*, Valencia, Spain, talk.
<https://sites.google.com/site/bexrb2014>
- 01/2014 **LOFAR TKP Meeting**, *API-UvA*, Amsterdam, The Netherlands, participant.
<http://www.transientskp.org/meetings/2014-01>
- 12/2013 **The Metrewavelength Sky Conference**, *NCRA-TIFR*, Pune, India, talk.
<http://mwsky.ncra.tifr.res.in/mwsky/>
- 04/2013 **The Modern Radio Universe 2013 Conference**, *MPI*, Bonn, Germany, poster.
<http://indico.mpifr-bonn.mpg.de/indico/conferenceDisplay.py?confId=21>
- 04/2013 **Variable Galactic Gamma-Ray Sources Workshop**, *UB*, Barcelona, Spain, participant.
<http://icc.ub.edu/congress/GRBINBCN>
- 11/2012 **Exploring the Non-thermal Universe with Gamma Rays Meeting**, *UB*, Barcelona, Spain, Local Organizing Committee.
<http://icc.ub.edu/congress/FAA60/>

Schools

- 09/2016 **Fourth LOFAR data processing school 2016**, *ASTRON*, Dwingeloo, The Netherlands.
<http://www.astron.nl/lofarschool2016>
- 05/2016 **Cargèse School on Astrophysical Jets 2016**, *IESC*, Cargèse, France.
<http://www.issibern.ch/cargese2016/index.php>
- 09/2013 **ERIS2013**, *ASTRON/JIVE*, Dwingeloo, The Netherlands.
www.astron.nl/eris2013
- 01/2013 **3rd MAGIC Software School**, *UB*, Barcelona, Spain.
- 11/2012 **2nd MAGIC Hardware Expert School**, *MAGIC*, La Palma, Spain.
- 05-06/2012 **13th Synthesis Imaging Workshop**, *NRAO*, Socorro, U.S.A..
www.aoc.nrao.edu/events/synthesis/2012

Research Stays

- 09-10/2014 **FPI stay at JIVE**, *Joint Institute for VLBI in Europe*, Dwingeloo, The Netherlands.
 Learning on VLBI reduction techniques with EVN experts
 SUPERVISOR: Zsolt Paragi
 DURATION: 64 days
- 08-10/2013 **FPI stay at API/UvA**, *Anton Pannekoek Institute*, Amsterdam, The Netherlands.
 Collaboration with the Transients Key Science Group of LOFAR
 SUPERVISOR: John Swinbank
 DURATION: 62 days
- 08-09/2012 **Stay at the NCRA**, *National Centre for Radio Astrophysics*, Pune, India.
 Learn the analysis of GMRT radio observations
 SUPERVISOR: C. H. Ishwara-Chandra
 DURATION: 16 days
- 01-03/2012 **FPI stay at API/UvA**, *Anton Pannekoek Institute*, Amsterdam, The Netherlands.
 Collaboration with Transients Key Science Group of LOFAR and theoretical group
 SUPERVISORS: Sera Markoff
 DURATION: 62 days

Lectures

19/10/2016 **The EVN Pipeline**, *ERIS School 2017*, ASTRON/JIVE, Dwingeloo, The Netherlands.

Teaching Activities

- Summer 2016 **Co-supervisor in the ASTRON/JIVE Summer Student Programme**, *2 months*.
The student Yuping Huang worked on *localizing fast transients with VLBI*.
- Spring 2015 **Fundaments of laboratory (Physics Laboratory)**, *36 hr*, laboratory and PC sessions.
Physics Degree, 1st course, University of Barcelona
- Fall 2014 **Astronomía (astronomy)**, *24 hr*, observational sessions.
Physics Degree, 2nd course, University of Barcelona
- Spring 2014 **Fonaments de Laboratori (Physics Laboratory)**, *30 hr*, laboratory and PC sessions.
Physics Degree, 1st course, University of Barcelona
- Spring 2014 **Astronomía (astronomy)**, *8 hr*, observational sessions.
Physics Degree, 2nd course, University of Barcelona
- Fall 2013 **Astronomía (astronomy)**, *8 hr*, observational sessions.
Physics Degree, 2nd course, University of Barcelona

Outreach Talks

12/08/2013 **El cielo menos conocido... de radio a rayos gamma**, *AstroSantander*, Centro Cultural Dr. Madrazo, Santander, Spain.

Outreach Publications

- 08/2017 **First light of the JIVE UniBoard Correlator**, *Benito Marcote on behalf of the JIVE Uniboard Correlator Team*, ASTRON News, Summer 2017, p. 8.
- 08/2017 **FRB 121102: A long time ago in a galaxy far-far away**, *J. Hessels, B. Adams, C. Bassa, A. Keimpema, H. J. van Langevelde, N. Maddox, Benito Marcote, Z. Paragi*, ASTRON News, Summer 2017, p. 12–13.

Other Activities

- March-April 2015 **Shift at the MAGIC Telescopes**, *3 weeks*, Shift Leader role.
MAGIC (Observatory of Roque de los Muchachos), La Palma, Spain.
- June 2014 **Shift at the MAGIC Telescopes**, *3 weeks*, Shift Leader role.
MAGIC (Observatory of Roque de los Muchachos), La Palma, Spain.
- June 2013 **Shift at the MAGIC Telescopes**, *4 weeks*, Operator role.
MAGIC (Observatory of Roque de los Muchachos), La Palma, Spain.

Accepted observing proposals

- October 2017 **European VLBI Network (EVN)**, *16 hr*, PI, project code EM132.
Unveiling the origin of the radio emission in the gamma-ray binary LS I +61 303
- September 2017 **Green Bank Telescope (GBT)**, *12 hr*, PI, DDT, project code GBT-17B-396.
Studying FRB 121102 at 5 GHz and improving its localization to pc scales
- August 2017 **European VLBI Network (EVN)**, *5 hr*, PI, ToO, RP029.
Localizing the bursts of FRB 121102 during an active period
- August 2017 **European VLBI Network (EVN)**, *4 hr*, co-PI, ToO, RP029.
An electromagnetic counterpart to the gravitational-wave event G298048

- July 2017 **Giant Metrewave Radio Telescope (GMRT)**, 18 hr, PI, 33_007.
Discovering the radio nebula associated with Geminga, one of the most energetic gamma-ray pulsar
- July 2017 **Giant Metrewave Radio Telescope (GMRT)**, 24 hr, co-PI, 33_056.
Deep interferometric and time-domain search for emission from radio-quiet gamma-ray pulsars: A pilot study
- June 2017 **Australian Long Baseline Array (LBA)**, 10 hr, PI, V565.
Resolving the enigmatic source 2XMM J160050.7–514245: An Extreme Radio Bright Colliding Wind Binary Candidate
- June 2017 **European VLBI Network (EVN)**, 22.5 hr, PI, EM131.
Unveiling the existence of wind collision regions on massive binary stars
- June 2017 **European VLBI Network (EVN)**, 16 hr, PI, EM130.
In quest of the origin of the Fast Radio Burst FRB 150418
- March 2017 **European VLBI Network (EVN)**, 16 hr, co-PI, ToO, RP027.
e-EVN follow-up of AGL J1914+1043
- March 2017 **The Low Frequency Array (LOFAR)**, 16 hr, PI, LC8_026.
The low-frequency emission of the persistent source associated with FRB 121102
- March 2017 **European VLBI Network (EVN)**, 8 hr, PI, EM129.
Exploring the puzzling origin of the radio nebula G70.7+1.2
- October 2016 **European VLBI Network (EVN)**, 72 hr, co-PI (PI: J. Hessels), EP103.
Proper Motion and Variability of FRB 121102
- October 2016 **European VLBI Network (EVN)**, 25 hr, co-PI (PI: Y. Maan), EM127.
Probing the off-pulse emission from pulsars B0525+21 and B2045–16
- October 2016 **MAGIC**, 25 hr, co-PI (PI: S. Inoue & J. Cortina), regular proposal.
Exploring fast radio bursts in the VHE and optical bands
- September 2016 **MAGIC**, +4 hr, co-PI (PI: S. Inoue & J. Cortina), ToO proposal.
ToO observations of the FRB repeater simultaneous with Arecibo and Effelsberg
- September 2016 **European VLBI Network (EVN)**, 17 hr, co-PI (PI: J. Hessels), ToO, RP026.
Pinpointing the Position of Fast Radio Burst FRB 121102
- June 2016 **Australian Long Baseline Array (LBA)**, 8 hr, co-PI (PI: T. Marsh), V548.
A unique radio emitting white dwarf binary
- June 2016 **Australian Long Baseline Array (LBA)**, 48 hr, PI, V454.
On the origin of the gamma-ray binary 1FGL J1018.6–5856
- June 2016 **European VLBI Network (EVN)**, 5 hr, PI, EM125.
Unveiling the radio counterpart of the possible gamma-ray binary HESS J1832–093
- May 2016 **The Low Frequency Array (LOFAR)**, 4.5 hr, PI, ToO, DDT6_002.
Cygnus X-1 in the hard state: the low frequency follow-up
- March 2016 **Chandra & Very Large Array (VLA)**, 2 hr, co-PI (PI: M. Ribó), SI0460.
Accretion/ejection coupling in the second Be/BH system
- March 2016 **European VLBI Network (EVN)**, 5 hr, co-PI (PI: M. Garrett), ToO, RG008.
e-VLBI observations of FRB 150418
- February 2016 **European VLBI Network (EVN)**, 14 hr, PI, EM121.
The possible connection of a compact radio source and an unidentified TeV source
- September 2015 **The Low Frequency Array (LOFAR)**, 36 hr, PI, LC5_022.
Multifrequency campaign with coordinated GMRT and LOFAR observations: First detailed study of a gamma-ray binary outburst at 150 MHz and search for extended emission
- July 2015 **Giant Metrewave Radio Telescope (GMRT)**, 30 hr, PI, 29_060.
Multifrequency campaign with coordinated GMRT and LOFAR observations: Probing the colliding-wind scenario in the gamma-ray binary LS I +61 303

- March 2014 **Chandra & Very Large Array (VLA)**, 6 hr, co-PI (PI: M. Ribó), SG0905.
Chandra proposal with coordinated VLA observation: Accretion/ejection coupling in the first Be/BH system
- October 2013 **European VLBI Network (EVN)**, 10 hr, PI, EM111.
Morphological changes of the extended emission of HESS J0632+057
- March 2013 **Westerbork Synthesis Radio Telescope (WSRT)**, 20 hr, PI, R13B012.
Multifrequency campaign with coordinated GMRT and WSRT observations: Unveiling the absorption mechanism in the gamma-ray binary LS 5039
- January 2013 **Giant Metrewave Radio Telescope (GMRT)**, 32 hr, PI, 24_001.
Multifrequency campaign with coordinated GMRT and WSRT observations: Understanding the low frequency phenomena in the gamma-ray binary LS 5039
- November 2012 **Westerbork Synthesis Radio Telescope (WSRT)**, 5 hr, PI, S12B003.
Is TYC 4051-1277-1 a new gamma-ray binary?
- January 2012 **Very Large Array (VLA)**, 3 hr, PI, 12B-061.
Search for radio emission from HD 215227: the newest gamma-ray binary candidate
- October 2011 **Westerbork Synthesis Radio Telescope (WSRT)**, 30 hr, PI, S11B/013.
Service time proposal: Search for radio emission from HD 215227: the newest gamma-ray binary candidate

Additional Information

- 2018–2020 **TAC Reader of the Australia Telescope National Facility (ATNF).**
- 2018 **Member of the RadioAstron Program Evaluation Committee (RPEC)**, for the 6th Announcement of Opportunity (January 2018).
- 2017– **Referee of e-MERLIN proposals.**
- 2017– **Referee of the journal MNRAS.**
- 2016–2017 **Co-organizer of colloquia at the ASTRON/JIVE institute.**
- 2014– **Member of the Spanish Astronomical Society (SEA).**
- 2014 **Online course: Introduction to Computational Thinking and Data Science**, edX-MITx, Honor Code Certificate, 9 weeks/15 hr.
- 2011–2015 **Member of the MAGIC Collaboration.**
- 2009–2012 **Member of AstroSantander**, association of amateur astronomers, Santander, Spain.
- 2004–2009 **Member of Agrupación Astronómica Cántabra**, association of amateur astronomers, Santander, Spain.
- 2006 **XVII Congreso Estatal de Astronomía**, national meeting of amateur astronomers, participant and local organizing committee, Santander, Spain.

Interests

- | | |
|----------------------|----------------|
| - Astronomy | - Astrophysics |
| - Physics | - Programming |
| - Painting & Drawing | - Photography |