

# ICRANet activities with Brazil

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# de Barros, Gustavo

## *Position:*

IRAP PhD – Fifth Cycle, 2006-09

## *Current position:*

Professor Adjunto Centro Universitário da Zona Oeste – OEZO



## *Publications:*

-) Patricelli, B.; Bernardini, M. G.; Bianco, C. L.; Caito, L.; de Barros, G.; Izzo, L.; Ruffini, R.; Vereshchagin, G. V.; "Analysis of GRB 080319B and GRB 050904 within the Fireshell Model: Evidence for a Broader Spectral Energy Distribution"; *The Astrophysical Journal*, 756 (2012), id. 16; DOI: 10.1088/0004-637X/756/1/16

-) Bianco, C. L.; Amati, L.; Bernardini, M. G.; Caito, L.; De Barros, G.; Izzo, L.; Patricelli, B.; Ruffini, R.; "The class of "disguised" short GRBs and its implications for the Amati relation"; *Memorie della Società Astronomica Italiana Supplement*, 21 (2012), 139.

-) Patricelli, B.; Bernardini, M. G.; Bianco, C. L.; Caito, L.; de Barros, G.; Izzo, L.; Ruffini, R.; Vereshchagin, G.; "High Energetic Gamma Ray Bursts and Their Spectral Properties Within the Fireshell Model"; *International Journal of Modern Physics: Conference Series*, 12 (2012), pp. 385-389; DOI: 10.1142/S2010194512006599.

-) Bianco, C. L.; Bernardini, M. G.; Caito, L.; De Barros, G.; Izzo, L.; Muccino, M.; Patricelli, B.; Penacchioni, A. V.; Pisani, G. B.; Ruffini, R.; "Needs for a new GRB classification following the fireshell model: "genuine short", "disguised short" and "long" GRBs"; *Proceedings of the Gamma-Ray Bursts 2012 Conference (GRB 2012)*. May 7-11, 2012. Munich, Germany.

-) de Barros, G.; Amati, L.; Bernardini, M. G.; Bianco, C. L.; Caito, L.; Izzo, L.; Patricelli, B.; Ruffini, R.; "On the nature of GRB 050509b: a disguised short GRB"; *Astronomy & Astrophysics*, 529 (2011), A130; DOI: 10.1051/0004-6361/201116659.

-) Caito, L.; Amati, L.; Bernardini, M. G.; Bianco, C. L.; de Barros, G.; Izzo, L.; Patricelli, B.; Ruffini, R.; "GRB 071227: an additional case of a disguised short burst"; *Astronomy and Astrophysics*, 521 (2010), A80; DOI: 10.1051/0004-6361/201014640.

-) Patricelli, B.; Bernardini, M. G.; Bianco, C. L.; Caito, L.; de Barros, G.; Izzo, L.; Ruffini, R.; "Black Holes in Gamma Ray Bursts"; *AIP Conference Proceedings*, 1279 (2010), pp. 406-408, DOI: 10.1063/1.3509327.

-) Bianco, Carlo Luciano; Bernardini, Maria Grazia; Caito, Letizia; de Barros, Gustavo; Izzo, Luca; Patricelli, Barbara; Ruffini, Remo; "Disguised Short Bursts and the Amati Relation"; *AIP Conference Proceedings*, 1279 (2010), pp. 299-301; DOI: 10.1063/1.3509290.

-) Ruffini, Remo; Aksenov, Alexey G.; Bernardini, Maria Grazia; Bianco, Carlo Luciano; Caito, Letizia; Chardonnet, Pascal; Dainotti, Maria Giovanna; de Barros, Gustavo; Guida, Roberto; Izzo, Luca; Patricelli, Barbara; Lemos, Luis Juracy Rangel; Rotondo, Michael; Hernandez, Jorge Armando Rueda; Vereshchagin, Gregory; Xue, She-Sheng; "The Blackholic energy and the canonical Gamma-Ray Burst IV: the "long," "genuine short" and "fake-disguised short" GRBs"; *XIII Brazilian School on Cosmology*

and Gravitation (XIII BSCG); AIP Conference Proceedings, 1132 (2009), pp. 199-266; DOI: 10.1063/1.3151839.

-) Ruffini, Remo; Aksenov, Alexey; Bernardini, Maria Grazia; Bianco, Carlo Luciano; Caito, Letizia; Dainotti, Maria Giovanna; de Barros, Gustavo; Guida, Roberto; Vereshchagin, Gregory; Xue, She-Sheng; "The canonical Gamma-Ray Bursts: long, "fake"- "disguised" and "genuine" short bursts"; AIP Conference Proceedings, 1111 (2009), pp. 325-332; DOI: 10.1063/1.3141569.

-) de Barros, G.; Aksenov, A.; Bianco, C. L.; Ruffini, R.; Vereshchagin, G.; "Fireshell versus Fireball scenarios"; AIP Conference Proceedings, 1065 (2008), pp. 234-237; DOI: 10.1063/1.3027919.

-) e Barros, G.; Bernardini, M. G.; Bianco, C. L.; Caito, L.; Dainotti, M. G.; Guida, R.; Ruffini, R.; "Is GRB 050509b a "genuine" short GRB?"; AIP Conference Proceedings, 1065 (2008), pp. 231-233; DOI: 10.1063/1.3027918.

-) Ruffini, Remo; Aksenov, Alexey G.; Bernardini, Maria Grazia; Bianco, Carlo Luciano; Caito, Letizia; Dainotti, Maria Giovanna; de Barros, Gustavo; Guida, Roberto; Vereshchagin, Gregory V.; Xue, She-Sheng; "The canonical Gamma-Ray Bursts and their "precursors""; AIP Conference Proceedings, 1065 (2008), pp. 219-222; DOI: 10.1063/1.3027915.

### *Meetings, conferences, seminars, schools:*

- 2006. November 28, December 17 – "Gravitational waves, relativistic astrophysics and cosmology" doctoral School, Institut Henry Poincaré – Université Pierre et Marrie Curie. Paris (France)
- 2006. December 11-15. "High Energy, Cosmology and Strings" Paris - France.
- 2007. February 25, March 3 - César Lattes Meeting on GRBs, black holes and supernovae. Rio de Janeiro – Brasil
- 2007. June 25-30. "X Italian-Korean Symposium on Relativistic Astrophysics", Pescara - Italia
- 2007. July 20-30. "IV Italian-Sino Workshop on Relativistic Astrophysics", Pescara - Italia
- 2007. September, 16-22 - National School of Astrophysics, 9o cycle, 2o course. Isola di San Servolo - Venezia (Italy)
- 2008. February, 10-15 - Observational evidences for Black-holes in the universe. Kolkata (India)
- 2008. February, 16-17 - Black-holes, Neutron Stars and Gamma ray bursts. Kolkata (India)
- 2008. June, 23-27 - Nanjing GRB conference. Nanjing (China)
- 2008. July, 8 -18 – Third Stueckelberg Workshop on Relativistic Field Theories. Pescara (Italy)
- 2008. July 20, August 2 - XIII Brazilian School of Cosmology and Gravitation. Rio de Janeiro (Brazil)
- 2008. September, 7-19 - Probing stellar populations out to the distant universe. Cefalù (Italy)
- 2009. May 2-5 – APS Physics April Meeting, Colorado
- 2009. 6th Italian-Sino Workshop – June 29-July 1, 2009 – Pescara (Italy)
- 2009. MG12 – 12-18 July 2009. Paris (France)
- 2009. May 26-29, The sun the stars the universe and general relativity, Fortaleza/Sobral (Brazil)
- 2009. September 14-18, The Shocking Universe - Gamma Ray Burst and High Energy Shock, San Servolo, Venice, Italy.
- 2010. The Second Galileo-Xu Guangqi meeting. July 12-17, 2010 Nice France
- 2010. Irap Ph.D. Erasmus Mundus school. September 6-24, 2010 Nice France

# Pereira, Jonas Pedro



## *Current position:*

Postdoctoral fellow at UFES (Vitória - ES)

## *Previous positions:*

Postdoctoral student at Towson University (Maryland, USA) from June 2015 to May 2016; fellowship: CNPq's Program "Science without borders" of the Brazilian government.

Postdoctoral student at UFABC (Santo André – SP)

fellowship: FAPESP

IRAP PhD – Erasmus Mundus

Second Cycle, 2011-2014

## *Publications:*

-) De Lorenci, V. A., Faúndez-Abans, M. , Pereira, J. P.; Testing The Newton Second Law in the Regime of Small Accelerations, *Astron. Astrophys.* 503, L1 (2009). IF: 5.185

-) De Lorenci, Vitorio A., Pereira, Jonas P.; Trirefringence in nonlinear metamaterials, *Phys. Rev. A* 86, 013801 (2012). IF: 2.765.

-) De Lorenci, Vitorio A., Klippert, R., Pereira, Jonas P., Shi-Yuan, Li; Multirefringence phenomena in nonlinear electrodynamics, *Phys. Rev. D* 88, 065015 (2013). IF: 4.506

-) De Lorenci, Vitorio A., Pereira, Jonas P.; One way propagation of light in Born- Infeld-like metamaterials, *Phys. Rev. A* 89, 043822 (2014). IF: 2.765.

-) Pereira, Jonas P., Mosquera Cuesta, Herman J., Rueda, Jorge A., Ruffini, R.; On the black hole mass decomposition in nonlinear electrodynamics, *Phys. Lett. B* 734, 396 (2014). IF: 3.718.

<http://adsabs.harvard.edu/abs/2014PhLB..734..396P>

-) Pereira, Jonas P., Rueda, Jorge A., Coelho, Jaziel G.; Stability of thin-shell interfaces inside compact stars, *Phys. Rev. D.* 90, 123011 (2014). <http://adsabs.harvard.edu/abs/2014PhRvD..90l3011P>; IF: 4.506

-) Pereira, Jonas P., Rueda, Jorge A.; Radial stability in stratified stars, *Astrophys. J.* 801, 19 (2015).

<http://adsabs.harvard.edu/abs/2015ApJ...801...19P>; IF: 5.909

-) Pereira, Jonas P., Rueda, Jorge A.; Energy decomposition within Einstein-Born- Infeld black holes, *Phys. Rev. D.* 91, 064048 (2015). <http://adsabs.harvard.edu/abs/2015PhRvD..91f4048P>; IF: 4.506

-) Coelho, Jaziel G., Pereira, Jonas P., and de Araújo, José C.N.; The influence of quantum vacuum friction on pulsars, *ApJ.* 823, 97 (2016), <http://adsabs.harvard.edu/abs/2016ApJ...823...97C>; IF: 5.909

-) Bittencourt, Eduardo, Pereira, Jonas P., Smolyaninov, Igor I., and Smolyaninova, Vera N.; The flexibility of optical metrics, *Class. Quantum Grav.* 33, 165008 (2016), <http://adsabs.harvard.edu/abs/2016CQGra..33p5008B>; IF: 2.837

-) Pereira, Jonas P., Overduin, James M., and Poyneer, Alexander J.; Sattelite test of the equivalence principle as a probe of Modified Newtonian Dynamics, *Phys. Rev. Lett.* 117, 071103 (2016), <http://adsabs.harvard.edu/abs/2016PhRvL.117g1103P>; IF: 7.645

- ) Pereira, Jonas P., Smolyaninov, Igor I., and Smolyaninova, Vera N.; Magnetic liquids under high electric fields as broadband optical diodes, *Phys. Rev. A* 94, 043852 (2016), <http://adsabs.harvard.edu/abs/2016PhRvA..94d3852P>; IF: 2.765
- ) Mosquera Cuesta, Herman J., Lambiase, Gaetano, and Pereira, Jonas P.; Probing nonlinear electrodynamics in slowly rotating spacetimes through neutrino astrophysics, in press in *Phys. Rev. D* (2017), <http://adsabs.harvard.edu/abs/2017arXiv170100431M>; IF: 4.506

*Meetings, conferences, seminars, schools:*

- XIV Brazilian School of Cosmology and Gravitation. Congress. Description: Participation, Mangaratiba, Brazil, on Gravitation and Cosmology. September 2010.
- EMJD School- Nice, France- 5-27 September 2011
- IRAP PhD EMJD Workshop- Les Houches, France- 2-6 October 2011
- EMJD School- Nice, France- 5-8 June 2012
- EMJD School- Nice, France- 3-19 September 2012
- EMJD School- Nice, France- 15-31 May 2013
- EMJD School- Nice, France- 2-20 September 2013
- Scientific interactions and studies in Nice- 3 April- 26 June 2014
- XIII Marcel Grossman Congress. Description: Participation, Stockholm, Sweden, on General Relativity. July 2012
- 27<sup>th</sup> Texas Symposium. Description: Talk given: Black hole mass decomposition in nonlinear electrodynamics and applications, Texas, USA, on Relativistic Astrophysics. December 2013.
- Zel'dovich - 100 Meeting. Description: Talk given: Black hole mass decomposition in nonlinear electrodynamics and some of its consequences, Minsk, Belarus, in honor of the 100th anniversary of Yakov Borisovich Zel'dovich. March 2014.
- Black Holes: the largest energy sources in the universe. Description: Talk given: Black hole mass decomposition in nonlinear electrodynamics and some of its consequences, Yerevan, Armenia, on the occasion of the 1st Scientific ICRANet, Meeting in Armenia. July 2014.
- 2<sup>nd</sup> César Lattes Meeting "Supernovae, Neutron Stars, Black Holes" Niteroi. Talk given: Radial Stability in Stratified Stars, Niteroi, Brazil. April 2015, "Physical insights into the radial stability in stratified stars"
- 7th IWARA-Gramado, Brazil, 9-13 October 2016; Talk given: STEP as a decisive test of MOND on Earth.

# Sversut Arsioli, Bruno



## *Current position:*

University of Trieste and INFN, via Valerio 2, I-34127 Trieste, Italy

## *Previous position:*

- Researcher at Instituto di Física Gleb Wathagin (IFGW) Universidade Estadual de Campinas (UNICAMP)

- Postdoc – ICRANet, 2017. Building Cooperation with IFGW-Unicamp and the Science Data Center ASI

- Postdoc – ASDC ASI & La Sapienza University of Rome

Ciência sem Fronteiras fellowship (Cnpq - Brazil ) Cycle, 2015

IRAP PhD – Erasmus Mundus - Second Cycle, 2011-2014

## *Publications:*

-) Chang, Y. -L. ; Arsioli, B. ; Giommi, P.; Padovani, P. ; Brandt, C. H., The 3HSP catalogue of extreme and high-synchrotron peaked blazars, *Astronomy & Astrophysics*, 2019, Volume 632, id.A77.

[https://www.aanda.org/articles/aa/full\\_html/2019/12/aa34526-18/aa34526-18.html](https://www.aanda.org/articles/aa/full_html/2019/12/aa34526-18/aa34526-18.html)

-) Chang, Y. -L. ; Arsioli, B. ; Giommi, P. ; Padovani, P. ; Brandt, C., VizieR Online Data Catalog: 3HSP blazars catalog, published in *Astronomy & Astrophysics*, 2019, Volume 632, id.A77.

[https://www.aanda.org/articles/aa/full\\_html/2019/12/aa34526-18/aa34526-18.html](https://www.aanda.org/articles/aa/full_html/2019/12/aa34526-18/aa34526-18.html)

-) Padovani, P.; Giommi, P.; Resconi, E.; Glauch, T.; Arsioli, B.; Sahakyan, N.; Huber, M., Dissecting the region around IceCube-170922A: the blazar TXS 0506+056 as the first cosmic neutrino source, *Monthly Notices of the Royal Astronomical Society*, 2018, Volume 480, Issue 1, p.192-203.

<https://academic.oup.com/mnras/article/480/1/192/5052376>

-) IceCube Collaboration ; Aartsen, M. G. ; Ackermann, M. ; Adams, J. ; Aguilar, J. A. ; Ahlers, M. ; Ahrens, M. ; Samarai, I. Al ; Altmann, D. ; Andeen, K. ; Anderson, T. ; Anseau, I. ; Anton, G. ; Argüelles, C. ; Arsioli, B. ; et al., *Science*, 2018, Volume 361, Issue 6398, pp. 147-151.

<https://www.science.org/doi/10.1126/science.aat2890>

-) Chang, Yu-Ling; Arsioli, Bruno; Giommi, Paolo; Padovani, Paolo, The 2WHSP catalog of VHE blazars, *The Fourteenth Marcel Grossmann Meeting On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories*, held 12-18 July 2015 in Rome, Italy. Edited by Massimo Bianchi, Robert T Jansen and Remo Ruffini. Published by World Scientific Publishing Co. Pte. Ltd., 2018. [https://www.worldscientific.com/doi/abs/10.1142/9789813226609\\_0392](https://www.worldscientific.com/doi/abs/10.1142/9789813226609_0392)

-) Chang, Y. -L.; Arsioli, B.; Giommi, P.; Padovani, P., 2WHSP: A multi-frequency selected catalogue of high energy and very high energy  $\gamma$ -ray blazars and blazar candidates, *Astronomy & Astrophysics*, 2017, Volume 598, id.A17, 12 pp. [https://www.aanda.org/articles/aa/full\\_html/2017/02/aa29487-16/aa29487-16.html](https://www.aanda.org/articles/aa/full_html/2017/02/aa29487-16/aa29487-16.html)

-) Chang, Y. -L. ; Arsioli, B. ; Giommi, P. ; Padovani ; P., VizieR Online Data Catalog: The 2WHSP catalog, published in *Astronomy & Astrophysics*, 2017, Volume 598, id.A17, 12 pp..  
[https://www.aanda.org/articles/aa/full\\_html/2017/02/aa29487-16/aa29487-16.html](https://www.aanda.org/articles/aa/full_html/2017/02/aa29487-16/aa29487-16.html)

-) Padovani, P.; Resconi, E.; Giommi, P.; Arsioli, B.; Chang, Y. L., Extreme blazars as counterparts of IceCube astrophysical neutrinos, *Monthly Notices of the Royal Astronomical Society*, 2016, Volume 457, Issue 4, p.3582-3592.  
<https://academic.oup.com/mnras/article/457/4/3582/2589022>

-) Arsioli, B. ; Fraga, B. ; Giommi, P.; Padovani, P. ; Marrese, P. M., 1WHSP: An IR-based sample of  $\sim$ 1000 VHE  $\gamma$ -ray blazar candidates, *Astronomy & Astrophysics*, 2015, Volume 579, id.A34, 11 pp.  
[https://www.aanda.org/articles/aa/full\\_html/2015/07/aa24148-14/aa24148-14.html](https://www.aanda.org/articles/aa/full_html/2015/07/aa24148-14/aa24148-14.html)

-) Arsioli, B. ; Fraga, B. ; Giommi, P. ; Padovani, P. ; Marrese, P. M., VizieR Online Data Catalog: 1WHSP: VHE  $\gamma$ -ray blazar candidates, published in *Astronomy & Astrophysics*, 2015, Volume 579, id.A34, 11 pp.  
[https://www.aanda.org/articles/aa/full\\_html/2015/07/aa24148-14/aa24148-14.html](https://www.aanda.org/articles/aa/full_html/2015/07/aa24148-14/aa24148-14.html)

-) Arsioli, B., Chang Y. L., Detecting New ray Sources Based on Multi-frequency Data , The Case of 1WHSPJ031423.9+061956, Proc. of the 2nd César Latter meeting , “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói- Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22.  
[https://www.researchgate.net/publication/300123693\\_Detecting\\_new\\_gamma\\_sources\\_based\\_on\\_multi-frequency\\_data\\_the\\_case\\_of\\_1WHSPJ0314239061956](https://www.researchgate.net/publication/300123693_Detecting_new_gamma_sources_based_on_multi-frequency_data_the_case_of_1WHSPJ0314239061956)

#### *Meetings, conferences, seminars, schools:*

- SIGRAV Graduate School in Contemporary Relativity and Gravitational Physics, Villa Olmo, Como (Italy), 21-26 May, 2012.
- 10th Agile Workshops ASDC, Rome Italy. 18, April, 2012.-Erasmus Mundus School, Nice, France, 5-8 June, 2012.
- Erasmus Mundus School, Nice, France, 3rd – 19th September, 2012.Presentation; Active Galactic Nuclei: Blazars
- Marcel Grossmann meeting, Stockholm, Sweden, 1st - 7th July, 2012.
- Magic AGN WG Meeting, Frascati, 11 to 14 February 2013 ASI Science Data Center, ESRIN
- Erasmus Mundus School, Nice, France, 15th - 31st May, 2013.Presentation; Active Galactic Nuclei; Selection scheme for building large samples of HSP blazars (Candidates for TeV detection).
- The 2013 yearly ICRANet Scientific Meeting on Relativistic Astrophysics; June 3-21st, Pescara, Italy & Rome, Italy).On the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations, in presence of Roy Kerr.

- Erasmus Mundus School, Nice, France, 2nd 21st September, 2013. Prepared Presentation; Active Galactic Nuclei; Building a large sample of HSP blazars, Statistical Properties, Fermi  $\gamma$ ray counterparts, and Candidates for TeV detection.
- Yerevan, Armenia - 1st Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014
- Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure International conference in honor of Ya. B. Zeldovich 100th Anniversary
- IRAP Ph.D. Erasmus Mundus School - February 2014 Nice Winter School- February, 23 -March, 2.
- Bologna High Energy Meeting (Boehme) 2014 – April 7th to 9th
- IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)
- 2nd César Lattes meeting , “Supernovae, Neutron Stars, Black Holes” , 2015, Niterói- Rio De Janeiro , April 13-18
- Cross-Match Day. Science Data Center – Agenzia Spaziale Italiana; ASDC ASI, 2015. Presentation: WHSP catalogs. Drops in the Ocean.
- MG14, July 12-18, 2015, Rome – IT: Presentation: Multifrequency Data for Unveiling gamma-ray sources.
- ICRANet Brazilian Science Data Center Symposium. Federal University of Rio Grande do Sul – UFRGS. September 03, 2015. Porto Alegre, Brazil. Presentation: Science Catalogs, an Example from ASDC.
- Adriatic Workshop: Supernovae, Hypernovae and Binary Driven Hypernovae, held at ICRANet, Pescara (Italy), June 28, 2016. Presentation: The isotropic gamma-ray background: Contribution from HSP blazars to the diffuse component.



# Gomes de Oliveira, Fernanda

## *Current position:*

Artificial Intelligence and Deep Learning Expert, Berlin, Germany.

## *Previous position:*

IRAP PhD – Erasmus Mundus

Third Cycle, 2012-2015



## *Publications:*

-) Ruffini, R. ; Rodriguez, J. ; Muccino, M.; Rueda, J. A.; Aimuratov, Y.; Barres de Almeida, U. ; Becerra, L. ; Bianco, C. L.; Cherubini, C. ; Filippi, S. ; Gizzi, D. ; Kovacevic, M.; Moradi, R.; Oliveira, F. G.; Pisani, G. B.; Wang, Y., The Astrophysical Journal, Volume 859, Issue 1, article id. 30, 17 pp. (2018).

<https://iopscience.iop.org/article/10.3847/1538-4357/aabee4>

-) Ruffini, R.; Rueda, J. A.; Muccino, M.; Aimuratov, Y.; Becerra, L. M.; Bianco, C. L.; Kovacevic, M.; Moradi, R.; Oliveira, F. G.; Pisani, G. B.; Wang, Y., On the Classification of GRBs and Their Occurrence Rates, The Astrophysical Journal, Volume 832, Issue 2, article id. 136, 24 pp. (2016).

<https://iopscience.iop.org/article/10.3847/0004-637X/832/2/136>

-) Fryer, C.L., Oliveira, F.G., Rueda, J.A., Ruffini, R., Neutron-Star-Black-Hole Binaries Produced by Binary-Driven Hypernovae, Physical Review Letters, Volume 115, Issue 23, id.231102, 2015.

<https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.115.231102>

-) R. Ruffini, M. Muccino, M. Kovacevic, F. G. Oliveira, J. A. Rueda, C. L. Bianco, M. Enderli, A. V. Penacchioni, G. B. Pisani, Y. Wang, and E. Zaninoni, "GRB 140619B: a short GRB from a binary neutron stars merger leading to the black hole formation", The Astrophysical Journal, Volume 808, Issue 2, article id. 190, 14 pp. (2015). <https://iopscience.iop.org/article/10.1088/0004-637X/808/2/190>

-) Oliveira, F. G.; Rueda, Jorge A.; Ruffini, R., "Gravitational Waves versus X-Ray and Gamma-Ray Emission in a Short Gamma-Ray Burst"; The Astrophysical Journal, Volume 787 (2014), 150; DOI: 10.1088/0004-637X/787/2/150. <https://iopscience.iop.org/article/10.1088/0004-637X/787/2/150>

-) Oliveira, F. G.; Rueda, Jorge A.; Ruffini, R., chapter in Gravitational Waves Astrophysics, Springer proceeding of the 3rd Session of the Sant Cugat Forum on Astrophysics, X, Gamma- rays and Gravitational Waves emission in a Short Gamma-ray Burst, 2014.

-) Oliveira, F. G.; Rueda, Jorge A.; Ruffini, R., Gravitational Waves Emission from the Short Gamma-Ray Burst 090227B pp.390-392. Nonlinear phenomena in complex systems. An Interdisciplinary Journal, Volume 17, Number 4, 2014. Proceeding of Zeldovich-100 meeting

<http://www.i-npcs.org/abstracts/vol2014no4.html>

-) M. Muccino, R. Ruffini, M. Kovacevic, F. G. Oliveira, J. A. Rueda, C. L. Bianco, M. Enderli, A. V. Penacchioni, G. B. Pisani, Y. Wang, and E. Zaninoni, GRB 140619B: a short GRB from a neutron star merger leading to the black hole formation, proceeding of Swift: 10 Years of Discovery, 2014.

*Meetings, conferences, seminars, schools:*

- Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014. Oral presentation: Gravitational Waves signals from Neutron Star Binary System.
- Yerevan, Armenia - 1<sup>st</sup> Scientific ICRA Net Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014. Oral presentation: Short-Gamma Ray Burst from Binary Neutron Star Merger and The orbital parameters of the Induced Gravitational Collapse
- IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France). Oral presentation: Gravitational Waves versus Electromagnetic Emission in a sGRB Burst.
- IRAP Ph.D. Erasmus Mundus School - February 2014 Nice Winter School- February, 23 - March, 2 – 2014 Oral presentation: Gravitational Waves versus Electromagnetic Emission in a sGRB Burst.
- Sant Cugat - Spain – Forum on Astrophysics: Gravitational Waves Astrophysics – April 22 – 25, 2014 Oral presentation: Gravitational Waves versus Electromagnetic Emission in a sGRB Burst.
- Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100th Anniversary. Oral presentation: Short-Gamma Ray Burst from Binary Neutron Star Merger.
- 2013 yearly ICRA Net Scientific Meeting on Relativistic Astrophysics – Pescara on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations June 3-19, 2013  
IRAP Ph.D. Erasmus Mundus school - September 2nd - 20st, 2013
- Second Bego Scientific Reencounter Meeting May 16th-31st, 2013 - University of Nice "Sophia Antipolis" (France). Oral presentation: Emission of Gravitational Waves from Neutron Stars originating from short GRB.
- September 3-21, 2012 - IRAP Ph.D. Erasmus Mundus School, Nice, France. Oral presentation: Emission of Gravitational Waves from Binary System.
- 2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22 Oral Presentation: Gravitational Waves Emission using the Effective-one-Body Formalism.
- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy. Oral presentation: Neutron Star Critical Mass and Short GRBs.
- 14<sup>th</sup> Italian-Korean Symposium on Relativistic Astrophysics, July 20-25, 2015, Pescara, Italy. Oral presentation: Final Stages of a Neutron Star Binary System.

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## *Publications:*

-) Castro, M.; D'Amico, F.; Braga, J.; Maiolino, T.; Pottschmidt, K.; Wilms, J.; "Confirming the thermal Comptonization model for black hole X-ray emission in the low-hard state"; *Astronomy & Astrophysics*, Volume 569 (2014), A82. DOI: 10.1051/0004-6361/201323290; IF: 5.185

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## *Meetings, conferences, seminars, schools:*

Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014

Yerevan, Armenia - 1<sup>st</sup>Scientific ICANet Meeting in Armenia:Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100<sup>th</sup> Anniversary – paid by Ferrara University

IRAP Ph.D. Erasmus Mundus School – February 2014 – February, 23 - March, 2 – 2014 Nice

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

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## *Publications:*

-) Giommi, Paolo; Perri, M.; Capalbi, M.; D'Elia, V.; Barres de Almeida, U.; Brandt, C. H.; Pollock, A. M. T.; Arneodo, F.; Di Giovanni, A.; Chang, Y. L.; Civitaresse, O.; De Angelis, M.; Leto, C.; Verrecchia, F.; Ricard, N.; Di Pippo, S.; Middei, R.; Penacchioni, A. V.; Ruffini, R.; Sahakyan, N.; Israyelyan, D.; Turriziani, S., X-ray spectra, light curves and SEDs of blazars frequently observed by Swift, Monthly Notices of the Royal Astronomical Society, 2021, Volume 507, Issue 4, pp.5690-5702.

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### *Meetings, conferences, seminars, schools:*

- IVOA Interoperability Workshop; 19--23 May 2014; Madrid, Spain

- First Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe; 30 June--4 July 2014; Yerevan, Armenia 2014
- IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches, France
- IVOA Interoperability Workshop - Spring 2015; 14--19 June, 2015; Sexten, Italy
- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories, 2015, July 12-18, Rome, Italy.
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## *Publications:*

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*Meetings, conferences, seminars, schools:*

- IRAP Ph.D. Erasmus Mundus School - February 2014 Nice Winter School- February, 23 - March, 2 – 2014
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- Yerevan, Armenia - 1<sup>st</sup> Scientific ICRA Net Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014
- Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014
- IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches, France
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## *Publications:*

-) Lobo, Iarley P.; Morais Graça, João Paulo; Capossoli, Eduardo Folco; Boschi-Filho, Henrique, A varying gravitational constant map in asymptotically AdS black hole thermodynamics, Physics Letters B, 2022, Volume 835, article id. 137559,

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*Meetings, conferences, seminars, schools:*

Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014

Yerevan, Armenia - 1<sup>st</sup>Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

9th Alexander Friedmann International Seminar - June 21th-27th 2015. Talk: "Peculiar Properties of 3D gravity, the Magueijo-Smolín model and other DSR-relativistic pictures with anti-de Sitter momentum space"

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy. Talk: "Geometric picture of DSR-relativistic theories with de Sitter and anti-de Sitter momentum spaces"

Quantum Gravity Meeting - July 20th-23rd 2015. Talk: "Geometric picture of DSR-relativistic theories with de Sitter and anti-de Sitter momentum spaces"

16th British Gravity Meeting, University of Nottingham, UK

Fourth Bego Rencontres, IRAP Ph.D. Erasmus Mundus school, May 30 - June 3, 2016, Villa Ratti, Nice

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*Meetings, conferences, seminars, schools:*

IRAP Ph.D. Erasmus Mundus School - February 2014 Nice Winter School -February, 23 - March, 2 – 2014;  
2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22;

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy;

Presentation: A Highly Precise Strong Lensing Model of the Galaxy Cluster RXJ2248, (Abell 1063) and Prospects for Cosmography, Young Researcher Meeting (contribution) — L’Aquila, Italy (October/2015);

Presentation: High precision strong lens modelling of CLASH-VLT/FF clusters. Dark Cosmology Centre (invited) — Copenhagen, Denmark (May/2015);

Presentation: High precision strong lensing modelling of CLASH-VLT/FF clusters. Science from the Frontier Fields (contribution) - Sexten, Italy (February/2015).

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## *Outcome Institution:*

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## *Publications:*

-) Bittencourt, Eduardo search by orcid; Gomes, Leandro G. search by orcid; Santos, Grasielle B., On the intrinsically flat cosmological models in a lattice, Classical and Quantum Gravity, 2022, Volume 39, Issue 22, id.225008, 17 pp., <https://iopscience.iop.org/article/10.1088/1361-6382/ac96c3>

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*Meetings, conferences, seminars, schools:*

Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100<sup>th</sup> Anniversary

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

"SIGRAV School: Gravity and the Quantum", 1-6 June 2014, Como, Italy.

"SW8: Hot topics in modern cosmology", 11-17 August 2014, Cargese, France.

"Conceptual and technical challenges for Quantum Gravity", 8-12 September 2014, Rome, Italy.

Rencontres du Vietnam. Scalar Perturbations in a Quasi-Friedmann Model With a Non-Null Weyl Tensor. 2015.

"Quantum Gravity Theory and Phenomenology", 20-23 July 2015, Rome, Italy.

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

Third Argentinian-Brazilian Meeting on Gravitation, Astrophysics and Cosmology. Thermal dimension of quantum spacetime. 2016.

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## *Publications:*

-) Pereira, Jonas P.; Coelho, Jaziel G.; de Lima, Rafael C. R., “Born-Infeld magnetars: larger than classical toroidal magnetic fields and implications for gravitational-wave astronomy”, *The European Physical Journal C*, Volume 78, Issue 5, article id. 361, 2018.

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## *Meetings, conferences, seminars, schools:*

Third Bego Rencontres -IRAP Ph.D. Erasmus Mundus school - September 8th-19th, 2014 Nice

Yerevan, Armenia - 1<sup>st</sup>Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

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## *Publications:*

-) J. G. Coelho, R. M. Marinho, M. Malheiro, R. Negreiros, D. L. Cáceres, J. A. Rueda, R. Ruffini; “Dynamical instability of white dwarfs and breaking of spherical symmetry under the presence of extreme magnetic fields”; *ApJ* 794, 86 (2014). <http://adsabs.harvard.edu/abs/2014ApJ...794...86C>, IF: 5.909

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*Meetings, conferences, seminars, schools:*

IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

Sant Cugat - Spain – Forum on Astrophysics: Gravitational Waves Astrophysics – April 22 – 25, 2014  
 Yerevan, Armenia - 1<sup>st</sup>Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

# Machado de Oliveira Fraga, Bernardo

## *Current Position:*

FAPERJ postdoctoral fellowship at CBPF



## *Previous position:*

- Postdoctoral student at CBPF
- Capes Postdoctoral Student at University of Rome "Sapienza" and International Center for Relativistic Astrophysics Network – ICRANet

## *Outcome Institution:*

IRAP PhD – Erasmus Mundus – First Cycle, 2010-2013

University of Rome "Sapienza" and International Center for Relativistic Astrophysics Network – ICRANet

## *Publications:*

-) Barres de Almeida, Ulisses; Fraga, Bernardo; Giommi, Paolo; Sahakyan, Narek; Gasparyan, Sargis; Brandt, Carlos. Long-Term Multi-Band and Polarimetric View of Mkn 421: Motivations for an Integrated Open-Data Platform for Blazar Optical Polarimetry, *Galaxies*, vol. 5, issue 4, p. 90 (2017).

<http://adsabs.harvard.edu/abs/2017Galax...5...90B>

-) Fraga, Bernardo M. O.; Barres de Almeida, Ulisses; Gasparyan, Sargis; Giommi, Paolo; Sahakyan, Narek. Time-Evolving SED of MKN421: a multi-band view and polarimetric signatures. *Frontiers in Astronomy and Space Sciences*, Volume 5, id.1 (2018).

<http://adsabs.harvard.edu/abs/2018FrASS...5....1F>

-) Arsioli, B.; Barres de Almeida, U.; Prandini, E.; Fraga, B.; Foffano, L. Extreme- and high-synchrotron-peaked blazars at the limit of Fermi-LAT detectability: the  $\gamma$ -ray spectrum of 1BIGB sources, *Monthly Notices of the Royal Astronomical Society*, Volume 480, Issue 2, p.2165-2177 (2018).

<http://adsabs.harvard.edu/abs/2018MNRAS.480.2165A>

-) Turriziani, S.; Fraga, B.; Giommi, P.; A new complete sample of X-ray selected Swift/SDSS faint blazars and blazar candidates, to be submitted to *A&A*, in preparation

-) Fraga, Bernardo; Giommi, Paolo; Turriziani, Sara A sample of Swift/SDSS faint blazars. *AIP Conference Proceedings*, Volume 1693, Issue 1, 2015

-) Arsioli, B.; Fraga, B.; Giommi, P.; Padovani, P.; Marrese, P. M. 1WHSP: An IR-based sample of  $\sim 1000$  VHE  $\gamma$ -ray blazar candidates, *Astronomy & Astrophysics*, Volume 579, id.A34, 11 pp., 2015, IF: 5.909

<http://adsabs.harvard.edu/abs/2015A%26A...579A..34A>

- ) Fraga, Bernardo M. O.; Argüelles, Carlos; Ruffini, Remo; Siutsou, Ivan. Semi-degenerate Self-Gravitating System of Fermion as Dark Matter on Galaxies i: Universality Laws, Proceedings of the MG13 Meeting on General Relativity, 2015
- ) Argüelles, Carlos R.; Ruffini, Remo; Fraga, Bernardo M. O. Critical configurations for a system of semi-degenerate fermions, Journal of the Korean Physical Society, Volume 65, Issue 6, pp.809-813., 2014, <http://adsabs.harvard.edu/abs/2014JKPS...65..809A>, IF: 0.445
- ) Argüelles, Carlos R.; Ruffini, Remo; Siutsou, Ivan; Fraga, Bernardo. On the distribution of dark matter in galaxies: Quantum treatments, Journal of the Korean Physical Society, Volume 65, Issue 6, pp.801-804, 2014, <http://adsabs.harvard.edu/abs/2014JKPS...65..801A>, IF: 0.445
- ) Ruffini, Remo; Argüelles, C. R.; Fraga, B. M. O.; Geralico, A.; Quevedo, H.; Rueda, J. A.; Siutsou, I. Black Holes in Gamma Ray Bursts and Galactic Nuclei, international Journal of Modern Physics D, Volume 22, Issue 11, 2013, IF: 1.963
- ) Fraga, Bernardo M. O.; Argüelles, Carlos R.; Ruffini, Remo. Self-Gravitating System of Semidegenerated Fermions as Central Objects and Dark Matter Halos in Galaxies, international Journal of Modern Physics: Conference Series, Volume 23, pp. 357-362, 2013.
- ) Fabris, Júlio C.; Fraga, Bernardo; Pinto-Neto, Nelson; Zimdahl, Winfried. Transient cosmic acceleration from interacting fluids, Journal of Cosmology and Astroparticle Physics, Issue 04, 2010, IF: 5.634
- ) Pinto-Neto, Nelson; Fraga, Bernardo M. O. Cosmic acceleration from interaction of ordinary fluids, General Relativity and Gravitation, Volume 40, Issue 8, pp.1653-1662, 2008, IF: 1.668

*Meetings, conferences, seminars, schools:*

- Erasmus Mundus School, Nice, France (09/2010).
- 25th Symposium of Relativistic Astrophysics Texas 2010, Heidelberg, Germany (12/2010).
- IRAP PhD. Erasmus Mundus Workshop, Recent News from the MeV, GeV and TeV Gamma-Ray Domains, Pescara, Italy (03/2011). Oral Presentation: Cosmological Constraint on 'ino' masses and quantum statistics
- IRAP PhD. Erasmus Mundus Workshop, From Nuclei to White Dwarfs and Neutron Stars, Les Houches, France (04/2011).
- Erasmus Mundus School, Nice, France (05/2011).
- Erasmus Mundus School, Nice, France (09/2011).
- 3rd Galileo-Xu Guangqi Meeting, Beijing, China (10/2011). Oral presentation: Self-Gravitating system of fermions as central objects and dark matter halos in galaxies.
- XIII Marcel Grossman Meeting, Stockholm, Sweden (07/2012). Oral presentation: Semi-degenerate self-gravitating system of fermions as Dark Matter on galaxies I: Universality laws.
- Erasmus Mundus School, Nice, France (09/2012). Oral presentation: Self-gravitating system of fermions as Dark Matter on galaxies.
- "Current Issues on Relativistic Astrophysics", Seoul, South Korea (11/12). Oral Presentation: Self-gravitating system of fermions as Dark Matter on galaxies.
- 7th Yearly ICRA Net scientific meeting on Relativistic Astrophysics on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein's equations, Pescara, Italy (06/2013). Oral

Presentations: Self-gravitating system of fermions as dark matter halos and central objects in galaxies; A multi-wavelength catalog of HSP blazars based on the WISE all-sky survey.

- 1st URCA meeting, Rio de Janeiro, Brazil (06/2013). Oral Presentations: Self-gravitating system of fermions as dark matter in galaxies; A multi-wavelength catalog of HSP blazars based on the WISE all-sky survey.

- 13th Italo-Korean Meeting, Seoul, South Korea - July 15-19 2013, Ewha Womans University, Oral presentation: Self-gravitating system of fermions as dark matter in galaxies.

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRA Net Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

- 2<sup>nd</sup> César Lattes Meeting "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

- Quasar at all cosmic epochs, April 2-7 2017, Padova, Italy. Time-Evolving SED of MKN421: a multi-band view and polarimetric signatures.

- CTA Physics Working Group meeting, April 18-20 2018, Barcelona, Spain. Analysis of DC-1 Extragalactic Data.

- Black Holes as Cosmic Batteries, September 12-15 2018, Foz do Iguaçu, Brazil. Invited Talk: MAGIC and the very high energy gamma-ray sky

# Silva Bittencourt, Eduardo Henrique

## Current position:

Adjoint Professor at UNIFEI



## Previous Position:

Postdoctoral student at UNIFEI

Capes Postdoctoral Student International Center for Relativistic Astrophysics Network – ICRANet and University of Rome "Sapienza"

## Outcome Institution:

Centro Brasileiro de Pesquisas Físicas – CBPF

## Publications:

- ) Bittencourt, Eduardo; Klippert, Renato ; Santos, Grasielle B. *Dynamical wormhole definitions confronted*. Classical and Quantum Gravity, v. 35, p. 155009, 2018.
- ) Bittencourt, E.; De Lorenci, V.A. ; Klippert, R. ; Ruiz, L.S. *Effective acoustic geometry for relativistic viscous fluids*. Physical Review D, v. 98, p. 064042, 2018.
- ) Bittencourt, Eduardo; Gomes, Leandro G ; Klippert, Renato. *Bianchi-I cosmology from causal thermodynamics*. Classical and Quantum Gravity (Print), v. 34, p. 045010, 2017.
- ) Bittencourt, E.; Camargo, G. H. S. ; De Lorenci, V. A. ; Klippert, R. *Controlled opacity in a class of nonlinear dielectric media*. Physical Review A, v. 95, p. 033826, 2017.
- ) Bini, Donato, Bittencourt, Eduardo, Geralico, Andrea, Jantzen, Robert T, *slicing black hole spacetimes*. International Journal of Geometric Methods in Modern Physics, Volume 12, Issue 7, id. 1550070, 2015. <http://adsabs.harvard.edu/abs/2015IJGMM..1250070B>
- ) Bini, D.; Bittencourt, E.; Geralico, A.; *Massless Dirac particles in the vacuum C-metric*; accepted for publication in Classical and Quantum Gravity <http://adsabs.harvard.edu/abs/2015arXiv150904878B>, IF: 2.837
- ) Carvalho, Gabriel G. ; Lobo, Jarley P. ; Bittencourt, Eduardo *Extended disformal approach in the scenario of rainbow gravity*, Physical Review D, v. 93, p. 044005, 2016; IF: 4.506. <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.93.044005>
- ) Bittencourt, E; Moschella, U. ; Novello, M. ; Toniato, J.'D. "More about scalar gravity" Physical Review D, v. 93, p. 124023, 2016 <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.93.124023>; IF: 4.506.
- ) Bittencourt, e; Pereira, Jonas P ; Smolyaninov, Igor I ; Smolyaninova, Vera N. "The flexibility of optical metrics" Classical and Quantum Gravity (Print), v. 33, p. 165008, 2016, IF: 2.837 <http://iopscience.iop.org/article/10.1088/0264-9381/33/16/165008>



- ) Santos, G.B. ; Bittencourt, E ; Salim, J.M. "Scalar perturbations in a Friedmann-like metric with non-null Weyl tensor". Journal of Cosmology and Astroparticle Physics, v. 2015, p. 013-013, 2015, IF: 5.634  
<http://iopscience.iop.org/article/10.1088/1475-7516/2015/06/013>
- ) Bittencourt, Eduardo; Lobo, Ianley P ; Carvalho, Gabriel G . "On the diffeomorphism invariance of the Dirac equation" Classical and Quantum Gravity (Print), v. 32, p. 185016, 2015, IF: 2.837  
<http://iopscience.iop.org/article/10.1088/0264-9381/32/18/185016>
- ) Novello, Mario ; Bittencourt, Eduardo. "Metric Relativity and the Dynamical Bridge: Highlights of Riemannian Geometry in Physics" Brazilian Journal of Physics (Impresso), v. 45, p. 756-805, 2015.  
<http://link.springer.com/article/10.1007/s13538-015-0362-7>, IF: 1.042

*Meetings, conferences, seminars, schools:*

2012 – Scientific visit to ICRANet

Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100<sup>th</sup> Anniversary

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

GR100 in Rio. Analogue models of gravity: now and then. 2015

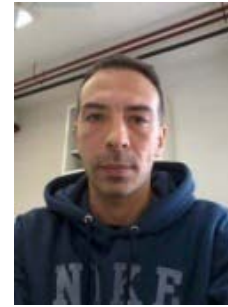
Einstein's Legacy. 2015.

6th Young Researcher Meeting. 2015.

GrACo III - Third Argentinian-Brazilian Meeting. The many facets of diffeomorphism transformations. 2016

XVI Brazilian School of Cosmology and Gravitation. Wormhole definitions revisited. 2017.

# Belvedere, Riccardo



## *Current Position:*

FAPERJ postdoctoral fellowship at CBPF

## *Previous Position:*

Capes Postdoctoral Student

ICRANet - Rio de Janeiro at CBPF

## *Outcome Institution:*

IRAP PhD – University of Rome "Sapienza"

## *Publications:*

-) R. Belvedere, K. Boshkayev, Jorge A. Rueda, R. Ruffini; "Uniformly rotating neutron stars in the global and local charge neutrality cases"; Nuclear Physics A 921, 33 (2014), IF: 1.258

<http://adsabs.harvard.edu/abs/2014NuPhA.921...33B>

-) R. Belvedere, Jorge A. Rueda, R. Ruffini; "Suitability of analytical formulas for the determination of the neutron star keplerian frequency and moment of inertia"; submitted to Phys. Rev. C.

-) R. Belvedere, J. A. Rueda, and R. Ruffini, "On the Magnetic Field of Pulsars with Realistic Neutron Star Configurations," ApJ 799, 23 (2015) <http://adsabs.harvard.edu/abs/2015ApJ...799...23B>, IF: 5.909

-) R. Belvedere, S. B. Duarte, Jorge A. Rueda, R. Ruffini; "Rapidly rotating neutron stars with extended hadronic nuclear models with delta-mesons"; in preparation.

-) R. Belvedere, R. Belvedere, J. A. Rueda, and R. Ruffini, "Realistic neutron star configurations and the magnetic field of pulsars"; proceedings of the 2nd ICRANet César Lattes Meeting - Supernovae, Neutron Stars and Black Holes, Rio de Janeiro, Brazil, April 13-18, 2015. Submitted to AIP Conference Proceedings.

-) R. Belvedere, J. A. Rueda, and R. Ruffini, "High-B pulsar class with not so high magnetic field"; proceedings of the XIV Marcel Grossmann Meeting, Rome, Italy, July 12-18, 2015. Submitted to WSPC Proceedings.

-) R. Belvedere, J. A. Rueda, R. Ruffini, High-B Pulsar Class with not so High Magnetic Field , Proc. of the 2nd César Lattes meeting, "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

*Meetings, conferences, seminars, schools:*

IRAP Ph.D. Erasmus Mundus School - February 2014 Nice Winter School -February, 23 - March, 2 - 2014

ICRA10, Rio de Janeiro, Brazil, April 7-11, 2014.

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

International Conference - Physics of Neutron Stars – 2014 Commemorating the 100th birthday of Yakov Borisovich Zel'dovich - July 28 — August 1, 2014, St. Petersburg, Russia

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22;

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

6th Young Researcher Meeting. 2015

Einstein's Legacy. 2015

GR100 in Rio. Analogue models of gravity: now and then. 2015

Third Argentinian-Brazilian Meeting.The many facets of diffeomorphisms. 2016.

GrACo III - Third Argentinian-Brazilian Meeting.The many facets of diffeomorphisms. 2016

XVI Brazilian School of Cosmology and Gravitation. Wormhole definitions revisited. 2017

# Martins de Carvalho, Sheyse



## *Current Position:*

Professor at UFT

## *Previous Position:*

Capes Postdoctoral Student

UFF - Universidade Federal Fluminense

IRAP PhD – Erasmus Mundus – First Cycle, 2010-2013

## *Outcome Institution:*

Erasmus Mundus Student

University of Rome “Sapienza”

## *Publications:*

-) S. M. de Carvalho, R. Negreiros, J. A. Rueda, and R. Ruffini, “Thermal evolution of neutron stars with global and local neutrality,” *Phys. Rev. C* 90, 055804 (2014), IF: 3.146

<http://adsabs.harvard.edu/abs/2014PhRvC..90e5804D>

-) Cáceres, D. L.; de Carvalho, S. M.; Coelho, J. G.; de Lima, R. C. R.; Rueda, Jorge A., “Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs”, *Monthly Notices of the Royal Astronomical Society*, Volume 465, Issue 4, 2017.

-) de Carvalho, S. M.; Negreiros, R.; Orsaria, M.; Contrera, G. A.; Weber, F.; Spinella, W., “Thermal evolution of hybrid stars within the framework of a nonlocal Nambu-Jona-Lasinio model”, *Physical Review C*, Volume 92, Issue 3, id.035810, 2015.

-) S. M. Carvalho, M. Rotondo, Jorge A. Rueda, R. Ruffini; “Relativistic Feynman-Metropolis-Teller treatment at finite temperatures”; *Physical Review C* 89, 015801 (2014), IF: 3.146

<http://adsabs.harvard.edu/abs/2014PhRvC..89a5801D>

-) S. M. de Carvalho, J. A. Rueda, and R. Ruffini, “On the cooling of globally-neutral neutron stars,” *Journal of Korean Physical Society* 65, 861 (2014). <http://adsabs.harvard.edu/abs/2014JKPS...65..861D>, IF: 0.445

-) S. M. de Carvalho, R. Negreiros, Jorge A. Rueda, R Ruffini, Thermal Evolution of Globally Neutral Neutron Stars, Proc. of the 2nd César Lattes meeting, “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

## *Meetings, conferences, seminars, schools:*

-Recent News from the MeV, GeV and TeV Gamma-Ray Domains, March 21-26, 2011 Pescara (Italy)

-From Nuclei to White Dwarfs and Neutron Stars, April 3-8, 2011 Les Houches (France)

-IRAP Ph.D. Erasmus Mundus school, May 25th - June 10th, 2011

- IRAP Ph.D. Erasmus Mundus school, September 5th - 16th, 2011

- Third Galileo - Xu Guangqi Meeting, October 11-15, 2011
- Erasmus Mundus School, Nice, France, 5-8 June, 2012.
- Marcel Grossmann meeting, Stockholm, Sweeden, 1st - 7th July, 2012
- Erasmus Mundus School, Nice, France, 3rd – 19th September, 2012.
- Current Issues on Relativistic Astrophysics - November 5-6, 2012 - Seoul (South Korea)
- 2013 yearly ICRA Net Scientific Meeting on Relativistic Astrophysics on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations June 3-19, 2013 – ICRA Net –
- 13th Italian-Korean meeting on Relativistic Astrophysics - July 15-19 2013, Ewha Womans University
- The first URCA meeting on Relativistic Astrophysics - ICRA Net Rio - 24-29 June 2013 – Rio de Janeiro 2012 December – Mission to Brazil
- Scientific collaboration with Jorge Rueda and Remo Ruffini on Pescara, Italy. (July, 2014)
- 2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22 (participation in local organizing committee)

# Penacchioni, Ana Virginia



## *Current position:*

Assistant researcher at Instituto de Fisica de La Plata (IFLP)  
- CONICET and Universidad Nacional de La Plata (UNLP),  
Argentina

## *Previous position:*

Siena University Postdoctoral Student

Agenzia Spaziale Italiana, ASI (ASDC), Rome, Italy

Capes Postdoctoral Student at Instituto Nacional de Pesquisas Espaciais – INPE Sao Jose dos Campos,  
Brazil

## *Outcome Institution:*

EMJD Student

University “Sapienza” of Rome

## *Publications:*

-) R. Ruffini, M. Muccino, M. Kovacevic, F. G. Oliveira, J. A. Rueda, C. L. Bianco, M. Enderli, A. V. Penacchioni, G. B. Pisani, Y. Wang, and E. Zaninoni, “GRB 140619B: a short GRB from a binary neutron stars merger leading to the black hole formation,” *ApJ* 808, 190, (2015), IF: 5.909

<http://adsabs.harvard.edu/abs/2015ApJ...808..190R>

-) L. Amati et al. ; “GAME: GRB and All-sky Monitor Experiment”; *Int.J. Mod.Phys.D23*, 1430010 (2014)

<http://adsabs.harvard.edu/abs/2014IJMPD..2330010A>, IF: 1.963

-) R. Ruffini, Y. Wang, M. Enderli, M. Muccino, M. Kovacevic, C. L. Bianco, A. V. Penacchioni, G. B. Pisani, and J. A. Rueda, “GRB 130427A and SN 2013cq: A Multi-wavelength Analysis of An Induced Gravitational Collapse Event,” *ApJ* 798, 10 (2015) <http://adsabs.harvard.edu/abs/2015ApJ...798...10R>, IF: 5.909

-) R. Ruffini, L. Izzo, M. Muccino, Jorge A. Rueda, C. Barbarino, C.L. Bianco, H. Dereli, M. Enderli, A.V. Penacchioni, G.B. Pisani, Y. Wang; “Induced Gravitational Collapse in the BATSE era: the case of GRB 970828”; *Astronomy Reports*, Volume 59, Issue 7, pp.626-638, IF: 0.805

<http://adsabs.harvard.edu/abs/2015ARep...59..626R>

-) Penacchioni, A.V., Braga, J., Castro, M., D’Amico, F., “Telescope performance and image simulations of the balloon-borne coded-mask protoMIRAX experiment”, *Journal JHEAP* 5-6, 2015, 22-29.

DOI: 10.1016/j.jheap.2015.01.001 <http://adsabs.harvard.edu/abs/2015JHEAp...5...22P>

-) João Braga , Flavio D’Amico, Manuel C. Ávila, Ana V. Penacchioni, José R. Sacahui, Valdivino A. de Santiago Jr., Fátima Mattiello-Francisco, Cesar Strauss, Márcio Fialho ; “The protoMIRAX Hard X-ray Imaging Balloon Experiment” *Astronomy & Astrophysics* 580, A108 (2015), IF: 5.185

<http://adsabs.harvard.edu/abs/2015A%26A...580A.108B>

- ) R. Ruffini, M. Muccino, C.L. Bianco, M. Enderli, L. Izzo, M. Kovacevic, A.V. Penacchioni, G.B. Pisani, J.A. Rueda, Y. Wang; "On binary-driven hypernovae and their nested late X-ray emission"; *Astronomy & Astrophysics*, 565, L10 (2014). <http://adsabs.harvard.edu/abs/2014A%26A...565L..10R>, IF: 5.185
- ) Penacchioni, A.V., Braga, J., Castro, M.A, Sacahui, J.R. D'Amico, F.; Telescope Performance And Image Simulations Of The Balloon-borne Coded-mask protoMIRAX Experiment, Proc. of the 2nd César Letter meeting, "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22
- Pisani, G. B.; Ruffini, R.; Aimuratov, Y.; Bianco, C. L.; Kovacevic, M.; Moradi, R.; Muccino, M.; Penacchioni, A. V.; Rueda, J. A.; Shakeri, S.; Wang, Y., "On the Universal Late X-Ray Emission of Binary-driven Hypernovae and Its Possible Collimation", *ApJ*, 833, 159P (2016), DOI: [10.3847/1538-4357/833/2/159](https://doi.org/10.3847/1538-4357/833/2/159), IF: 5.909
- Adriani, O. and the CALET collaboration, "CALET Upper Limits on X-Ray and Gamma-Ray Counterparts of GW151226", *ApJ*, 829L, 20A (2016), DOI: [10.3847/2041-8205/829/1/L20](https://doi.org/10.3847/2041-8205/829/1/L20), IF: 5.909
- ) Sacahui, J. R.; Penacchioni, A. V.; Braga, J.; Castro, M. A.; D'Amico, F., "MIRAX sensitivity for Gamma Ray Bursts", *JHEAp*...9...16S (2016), DOI: [10.1016/j.jheap.2015.12.002](https://doi.org/10.1016/j.jheap.2015.12.002)
- ) 2016: "MIRAX sensitivity for Gamma Ray Bursts", J.R. Sacahui, A.V. Penacchioni, J. Braga, M.A. Castro, F. D'Amico, *Journal of High Energy Astrophysics (JHEAP)*, Volumes 9-10, Pages 16-24. DOI: 10.1016/j.jheap.2015.12.002. <http://www.sciencedirect.com/science/article/pii/S2214404815000671>
- ) 2016: "Background and imaging simulations for the hard X-ray camera of the MIRAX mission", Castro, M.; Braga, J.; Penacchioni, A.; D'Amico, F.; Sacahui, R., *Monthly Notices of the Royal Astronomical Society (MNRAS)*, Volume 459, Pages 3917-3928., DOI: 10.1093/mnras/stw743. <https://academic.oup.com/mnras/article-abstract/459/4/3917/2623972/Backgroundand-imaging-simulations-for-the-hard-X?redirectedFrom=fulltext>
- ) 2016: "CALET Upper Limits on X-Ray and Gamma-Ray Counterparts of GW151226", Adriani, O.; [...] Penacchioni, A.; [...] and the CALET collaboration, *ApJ*, Volume 829, Issue 1, article id. L20, 5 pp., DOI: 10.3847/2041-8205/829/1/L20. <http://iopscience.iop.org/article/10.3847/2041-8205/829/1/L20/meta>
- ) 2016: "GRB 090510: A Genuine Short GRB from a Binary Neutron Star Coalescing into a Kerr-Newman Black Hole", Ruffini, R.; Muccino, M.; Aimuratov, Y.; Bianco, C. L.; Cherubini, C.; Enderli, M.; Kovacevic, M.; Moradi, R.; Penacchioni, A. V.; Pisani, G. B.; Rueda, J. A.; Wang, Y., *ApJ*, Volume 831, Issue 2, article id. 178, 17 pp., DOI: 10.3847/0004-637X/831/2/178. <http://iopscience.iop.org/article/10.3847/0004-637X/831/2/178/meta>
- 2016: "On the Universal Late X-Ray Emission of Binary-driven Hypernovae and Its Possible Collimation", Pisani, G. B.; Ruffini, R.; Aimuratov, Y.; Bianco, C. L.; Kovacevic, M.; Moradi, R.; Muccino, M.; Penacchioni, A. V.; Rueda, J. A.; Shakeri, S.; Wang, Y., *ApJ*, Volume 833, Issue 2, article id. 159, 12 pp., DOI: 10.3847/1538-4357/833/2/159. <http://iopscience.iop.org/article/10.3847/1538-4357/833/2/159/meta>
- 2016: "Energy calibration of CALET onboard the International Space Station", Asaoka, Y.; [...] Penacchioni, A. V.; [...] and the CALET collaboration, *Astroparticle Physics*, Volume 91, p. 1-10., DOI: 10.1016/j.astropartphys.2017.03.002. <http://www.sciencedirect.com/science/article/pii/S0927650517300786>
- 2017: "GRB 081024B and GRB 140402A: Two Additional Short GRBs from Binary Neutron Star Mergers", Aimuratov, Y.; Ruffini, R.; Muccino, M.; Bianco, C. L.; Penacchioni, A. V.; Pisani, G. B.; Primorac, D.; Rueda, J. A.; Wang, Y.,

The Astrophysical Journal, Volume 844, Issue 1, article id. 83, 15 pp., DOI:10.3847/15384357/aa7a9f.  
<http://iopscience.iop.org/article/10.3847/1538-4357/aa7a9f/pdf>

*Meetings, conferences, seminars, schools:*

IRAP Ph.D. Erasmus Mundus Workshop Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy. - Oral presentation: Telescope performance and image simulations of the coded-mask balloon-borne experiment protoMIRAX.

-Scientific collaboration with Prof. Ruffini. Pescara, Italy, 20-24 July, 2015

- 2015 High Energy Phenomena in Relativistic Outflows (HEPRO) V , La Plata, Argentina, October, 5th-8th, Oral presentation: Estimating GRB detection rate with MIRAX.

- 2017 São Paulo School of Advanced Science on High Energy and Plasma Astrophysics in the CTA Era (SPSAS-HighAstro), São Paulo, Brazil, May, 21st-31st, Participation as a student.



# Ivan Siutsou



## *Current Position:*

Researcher at ICRANet-Minsk

## *Previous Position:*

Capes Postdoctoral Student

ICRANet - Rio de Janeiro at CBPF

## *Outcome Institution:*

IRAP PhD

University of Rome "Sapienza"

## *Publications:*

-) Carlos R. Argüelles, Remo Ruffini, Ivan Siutsou, Bernardo Fraga; "On the distribution of dark matter in galaxies: quantum treatments"; J. Kor. Phys. Soc.; in press., IF: 0.445

<http://adsabs.harvard.edu/abs/2014JKPS...65..801A>

-) I. Siutsou, C. R. Argüelles, R. Ruffini; "Dark Matter Massive Fermions and Einasto Profiles in Galactic Haloes"; Astronomy Reports, V. 59, Issue 7, pp.656-666, IF: 0.805

<http://adsabs.harvard.edu/abs/2015ARep...59..656S>

-) U. Barres de Almeida, R. Ruffini, I. Siutsou; "Limits on Lorentz invariance violation from highly variable gamma-ray data of GRBs and Blazars"; in preparation.

-) A. Aksenov, I. Siutsou, G. Vereshchagin; "Electron-positron plasmathermalization in optically thick environment"; in preparation.

-) K. Boshkayev, D. Bini, J. Rueda, A. Geralico, M. Muccino, and I. Siutsou, "What can we extract from quasiperiodic oscillations?," Gravitation and Cosmology 20, 233 (2014), IF: 0.909

<http://adsabs.harvard.edu/abs/2014GrCo...20..233B>

-) K. Boshkayev, J. A. Rueda, R. Ruffini, and I. Siutsou, "General relativistic white dwarfs and their astrophysical implications," Journal of Korean Physical Society 65, 855 (2014), IF: 0.445

<http://adsabs.harvard.edu/abs/2014JKPS...65..855B>

## *Meetings, conferences, seminars, schools:*

- Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100<sup>th</sup> Anniversary

- 2<sup>nd</sup> César Lattes Meeting "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

# Zaninoni, Elena



## *Current position:*

Professor of Mathematics and Physics

## *Previous position*

Capes Postdoctoral Student

ICRANet - Rio de Janeiro at CBPF

## *Outcome Institution:*

INAF

Osservatorio Astronomico di Brera

## *Publications:*

- ) E. Zaninoni, M.G. Bernardini, R. Margutti, S. Oates, G. Chincarini; "Gamma-ray burst optical light-curve zoo: comparison with X-ray observations"; A&A 557, A12 (2014), IF: 5.185
- ) R. Ruffini, G. B. Pisani, M. Muccino, J. A. Rueda, C. L. Bianco, M. Enderli, L. Izzo, M. Kovacevic, A. V. Penacchioni, Y. Wang, E. Zaninoni; "GRB 090510: the tightest observed binary-driven hypernova"; submitted to ApJ.
- ) "GRB 140619B: a short GRB from a binary neutron star merger leading to black hole formation", Ruffini, R.; Muccino, M.; Kovacevic, M.; Oliveira, F. G.; Rueda, J. A.; Bianco, C. L.; Enderli, M.; Penacchioni, A. V.; Pisani, G. B.; Wang, Y.; Zaninoni, E. (2014arXiv1412.1018R; ApJ, Vol. 808, Issue 2, article id. 190, 14 pp. (2015) <http://adsabs.harvard.edu/abs/2015ApJ...808..190R>, IF: 5.909
- ) "Ten years of Swift: a universal scaling for short and long gamma-ray bursts (EX,iso-Egamma,iso-Epk)", Zaninoni, E.; Bernardini M. G.; Margutti R.; Amati L. (MNRAS), IF: 4.952  
<http://adsabs.harvard.edu/abs/2014styd.confE.120Z>
- ) "A new measurement of  $\omega_m$  from gamma-ray bursts", L. Izzo, M. Muccino, E. Zaninoni, L. Amati, M. Della Valle (A&A) arXiv:1508.05898 <http://adsabs.harvard.edu/abs/2015arXiv150805898I>, IF: 5.185
- ) Zaninoni, E.; Bernardini, M. G.; Margutti, R.; Amati, L., "Update on the GRB universal scaling EX,iso-E $\gamma$ ,iso-Epk with 10 years of Swift data", 2016, MNRAS, 455, 1375, <http://adsabs.harvard.edu/abs/2016MNRAS.455.1375Z>
- ) E. Zaninoni, M. G. Bernardini, R. Margutti L. Amati; Ten Years of Swift: a Universal Scaling for Short and Long Gamma-Ray Bursts (EX;iso - E;iso - Epk); Proc. of the 2nd César Letter meeting, "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22
- ) "Colour variations in the GRB 120327A afterglow", Melandri, A.; Covino, S.; Zaninoni, E.; et. al. 2017, A&A, 607, A29 <http://adsabs.harvard.edu/abs/2017A%26A...607A..29M>

*Meetings, conferences, seminars, schools:*

- December 2014: University of Rome "La Sapienza" (Rome, Italy), Osservatorio di Brera (Merate, Italy)
- January 2015: ICRANet - Pescara
  - July 2015: University of Rome "La Sapienza" (Rome, Italy), Osservatorio di Brera (Merate, Italy)
  - Seminar at Phys. Department La Sapienza Title: Gamma-ray burst optical light-curve zoo: comparison with X-ray observations.
  - Mission to Roma for scientific work 31/3/2014 – 09/04/2014
  - Workshop GRB in the multi-messenger era, Institut de Physique du Globe, Paris, June 16<sup>th</sup> to June 19<sup>th</sup> 2014
  - June 16-19th, 2014, International Workshop Gamma-Ray Bursts in the Multi-messenger Era, Paris, France. Posters: "Gamma-ray burst optical light-curve zoo: comparison with X-ray observations"; "The induced gravitational collapse and the binary driven hypernovae".
  - December 2014: University of Rome "La Sapienza" (Rome, Italy), Osservatorio di Brera (Merate, Italy)
  - December 2nd-5th, 2014 Swift: 10 Years of Discovery, Rome, Italy. Poster: "Ten years of Swift: a universal scaling for short and long gamma-ray bursts ( $E_{x,iso} - E_{\gamma,iso} - E_{pk}$ )".
  - Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014 - Talk: "Gamma-ray bursts and their X-ray and optical afterglow".
  - January 2015: ICRANet - Pescara
  - 2<sup>nd</sup> César Lattes Meeting "Supernovae, Neutron Stars, Black Holes", 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22
  - XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy. - Talk: "The GRB Universal Scaling  $E_{x,iso} - E_{\gamma,iso} - E_{pk}$  With Ten Years Of Swift Data".
  - July 2015: University of Rome "La Sapienza" (Rome, Italy), Osservatorio di Brera (Merate, Italy)

# Aharonian, Felix

## *Position:*

Capes Senior Visitor Professor to Brazil

## List of visits

### 1st year:

From December, 2013 to : January, 15 2014

### 2nd year:

Expected visit from October 19, 2015 to November 27, 2015

### 3rd year:

From February to March 2016



## *Outcome Institution:*

Max-Planck-Institut für Kernphysik

## *Publications and Joint activities:*

March 23, 2016, CBPF, Seminar: "Discovery of a PeVatron in the Galactic Center: Implications for the Physics of Black Holes and for Origin of Galactic Cosmic Rays"

From 28 February to 11 March and from 19 to 31 of March, 2016, UFSC, Mini course/Lectures: "Nonthermal High Energy Universe"; Seminar: "Nature's Extreme Accelerators Exploring the Nonthermal Universe with High Energy Gamma Rays"

## *Meetings, conferences, seminars, schools:*

2014: Scientific visit to ICRANet

The first URCA meeting on Relativistic Astrophysics - ICRANet Rio - 24-29 June 2013 – Rio de Janeiro

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

# Bisnovatyi Kogan, Gennady

## *Position:*

Capes Senior Visitor Professor to Brazil

## List of visits

### 1st year:

From June 15, 2014 to July 31, 2014

### 2nd year:

From June 1, 2015 to July 10, 2015

### 3rd year:

To be defined



## *Outcome Institution:*

Russian Space Research Institute – IKI

National Research Nuclear University – MEPhI

Moscow - Russia

## *Publications:*

G. S. Bisnovatyi-Kogan; “Strong shock in the uniformly expanding medium”; submitted, arXiv:1408.1918 <http://adsabs.harvard.edu/abs/2014arXiv1408.1918B>

## *Meetings, conferences, seminars, schools:*

2013 yearly ICRANet Scientific Meeting on Relativistic Astrophysics  
on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations  
June 3-19, 2013 – ICRANet

Mini course for graduate students "Accretion, neutron stars and black holes", 9 hours, Florianopolis

Speaker on the department colloquium "Gravitational lensing"

# Giommi, Paolo

## *Position:*

Capes Senior Visitor Professor to Brazil

## List of visits

1st year:

December 15/2013 - January 15/2014

August 8/2014 - August 31/2014

2nd year:

April 5/2015 - May 1/2015

August 1/2015 - August 31/2015

3rd year:

To be defined



## *Outcome Institution:*

ASDC - ASI Science Data Center

ASI - AGENZIA SPAZIALE ITALIANA

## *Publications:*

-) P. Padovani, P. Giommi; "A simplified view of blazars: the very high energy gamma-ray vision"  
MNRAS Lett. 446, 41 (2015). <http://adsabs.harvard.edu/abs/2015MNRAS.446L..41P>, IF: 4.952

-) B. Arsioli, B. Fraga, P. Giommi, P. Padovani, M. Marrese; "1WHSP: an IR-based sample of ~1000 VHE gamma-ray blazar candidates"; A&A 579, 34 (2015), IF: 5.185  
<http://adsabs.harvard.edu/abs/2015A%26A...579A..34A>

-) S. O. Kepler, I. Pelisoli, D. Koester, G. Ourique, S. J. Kleinman, A. D. Romero, A. Nitta, D. J. Eisenstein, J.E.S. Costa, B. Kulebi, S. Jordan, P. Dufour, Paolo Giommi; "New White Dwarf Stars in the Sloan Digital Sky Survey DataRelease 10"; MNRAS 446, 4078 (2015), IF: 4.952  
<http://adsabs.harvard.edu/abs/2015MNRAS.446.4078K>

-) Padovani, P., Petropoulou, M., Giommi, P., Resconi, E.; "A simplified view of blazars: the neutrino background"; MNRAS 452, 1877 (2015). <http://adsabs.harvard.edu/abs/2015MNRAS.452.1877P>, IF: 4.952

-) Giommi, P.; Padovani, P.; "A simplified view of blazars contribution to the X-ray and gamma-ray extragalactic backgrounds"; MNRAS 450, 2404 (2015), IF: 4.952  
<http://adsabs.harvard.edu/abs/2015MNRAS.450.2404G>

-) Giommi, P.; “Multi-frequency, multi-messenger astrophysics with Swift. The case of blazars”; JHEAP (2015); DOI: 10.1016/j.jheap.2015.06.001 <http://adsabs.harvard.edu/abs/2015arXiv150304863G>

-) Arsioli, B., Fraga, B., Giommi P., et al.; VizieR Online Data Catalog: 1WHSP: VHE gamma-ray blazar candidates; 2015yCat.35790034 <http://adsabs.harvard.edu/abs/2015yCat..35790034A>

-) J. L. Chang, B. Arsioli, P. Giommi and P. Padovani; “2WHSP: a multi-frequency based catalog of Very High Energy blazar candidates”; in preparation.

-) B. Arsioli, J. L. Chang, P. Giommi; “The X-ray spectral properties of 2WHSP blazars”; in preparation.

-) Giommi, P, Padovani, P., Arsioli B., Chang, J. L.; “2WHSP sources in the Fermi 2FHL catalog of VHE sources”; in preparation.

### *Meetings, conferences, seminars, schools:*

2013 yearly ICRANet Scientific Meeting on Relativistic Astrophysics on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations June 3-19, 2013 – ICRANet

The first URCA meeting on Relativistic Astrophysics - ICRANet Rio - 24-29 June 2013 – Rio de Janeiro

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

"Swift 10 years of discovery", 2-5 Dicembre 2014, Roma, Università Sapienza

invited speaker for plenary talk to the following future meetings:

- VLVnT -2015 : Very Large Volume Neutrino Telescope, 14-16 September 2015, Rome, Sapienza

- TeV Particle Astrophysics 2015, 26-30 October 2015, Kashiwanhoa (Tokyo), Japan

# Mathews, Grant



*Position:*

Capes Senior Visitor Professor to Brazil

*Outcome Institution:*

Professor, Theoretical Astrophysics and Cosmology

Director, Center for Astrophysics

at Notre Dame University (CANDU)

B.S., Michigan State University, 1972

Ph.D., University of Maryland, 1977

*Publications:*

*Meetings, conferences, seminars, schools:*

Scientific visit to ICRANet from April 30<sup>th</sup> to May 6<sup>th</sup>

Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.



# Rueda Hernández, Jorge Armando

## *Position:*

Assistant Professor at ICRA Net

Member of ICRA Net Faculty

Capes Senior Visitor Professor to Brazil



## List of visits:

### 1st year:

From December 15, 2013 to January 15, 2014

From August 1, 2014 to August 31, 2014

### 2nd year:

From April 12 2015 to May 12, 2015

## *Publications:*

- ) Gómez, L. Gabriel; Rueda, J. A., “Dark matter dynamical friction versus gravitational wave emission in the evolution of compact-star binaries”, *Physical Review D* 96, 063001, 2017.
- ) Cipolletta, Federico; Cherubini, Christian; Filippi, Simonetta; Rueda, Jorge A.; Ruffini, Remo, “Equilibrium Configurations of Classical Polytropic Stars with a Multi-Parametric Differential Rotation Law: A Numerical Analysis”, *Communications in Computational Physics* 22, 863, 2017.
- ) Cipolletta, F.; Cherubini, C.; Filippi, S.; Rueda, J. A.; Ruffini, R., “Last stable orbit around rapidly rotating neutron stars”, *Physical Review D* 96, 024046, 2017.
- ) Coelho, Jaziel G.; Cáceres, D. L.; de Lima, R. C. R.; Malheiro, M.; Rueda, J. A.; Ruffini, R., “The rotation-powered nature of some soft gamma-ray repeaters and anomalous X-ray pulsars”, *A&A* 599, A87, 2017.
- ) Cáceres, D. L.; de Carvalho, S. M.; Coelho, J. G.; de Lima, R. C. R.; Rueda, Jorge A., “Thermal X-ray emission from massive, fast rotating, highly magnetized white dwarfs”, *MNRAS* 465, 4434, 2017.
- ) Rueda, Jorge A.; Aimuratov, Y.; de Almeida, U. Barres; Becerra, L.; Bianco, C. L.; Cherubini, C.; Filippi, S.; Karlica, M.; Kovacevic, M.; Fuksman, J. D. Melon; Moradi, R.; Muccino, M.; Penacchioni, A. V.; Pisani, G. B.; Primorac, D.; Ruffini, R.; Sahakyan, N.; Shakeri, S.; Wang, Y., “The binary systems associated with short and long gamma-ray bursts and their detectability”, *IJMPD* 26, 1730016, 2017.
- ) R. Ruffini, M. Muccino, Y. Aimuratov, C. L. Bianco, C. Cherubini, M. Enderli, M. Kovacevic, R. Moradi, A. V. Penacchioni, G. B. Pisani, J. A. Rueda, and Y. Wang, “GRB 090510: a genuine short-GRB from a binary neutron star coalescing into a Kerr-Newman black hole,” *ApJ* 831, 178 (2016). <http://adsabs.harvard.edu/abs/2016ApJ...831..178R>, IF: 5.909
- ) Ruffini, J. A. Rueda, M. Muccino, Y. Aimuratov, L. M. Becerra, C. L. Bianco, M. Kovacevic, R. Moradi, F. G. Oliveira, G. B. Pisani, and Y. Wang, “On the classification of GRBs and their occurrence rates”, *ApJ* 832, 136 (2016). <http://adsabs.harvard.edu/abs/2016ApJ...832..136R>, IF: 5.909
- ) R. Ruffini, Y. Aimuratov, C. L. Bianco, M. Enderli, M. Kovacevic, R. Moradi, M. Muccino, A. V. Penacchioni, G. B. Pisani, J. A. Rueda, and Y. Wang, “Induced gravitational collapse in FeCO Core-Neutron star binaries and Neutron star-Neutron star binary mergers”, *IJMPA* 30, 1545023 (2015). <http://adsabs.harvard.edu/abs/2015IJMPA..3045023R>, IF: 1.699

- ) A. Mesquita, M. Razeira, R. Ruffini, J. A. Rueda, D. Hadjimichef, R. O. Gomes, and C. A. Z. Vasconcellos, “An effective field theory for neutron stars with many-body forces, strong– repulsion, and  $-K$  and  $\bar{K}$  condensation”, *Astronomische Nachrichten* 336, 880 (2015). <http://adsabs.harvard.edu/abs/2015AN....336..880M>, IF: 0.956
- ) R. Ruffini, M. Muccino, M. Kovacevic, F. G. Oliveira, J. A. Rueda, C. L. Bianco, M. Enderli, A. V. Penacchioni, G. B. Pisani, Y. Wang, and E. Zaninoni, “GRB 140619B: a short GRB from a binary neutron star merger leading to black hole formation”, *ApJ* 808, 190 (2015). <http://adsabs.harvard.edu/abs/2015ApJ...808..190R>, IF: 5.909
- ) Y. Wang, R. Ruffini, M. Kovacevic, C. L. Bianco, M. Enderli, M. Muccino, A. V. Penacchioni, G. B. Pisani, and J. A. Rueda, “Predicting supernova associated to gamma-ray burst 130427a”, *Astronomy Reports* 59, 667 (2015). <http://adsabs.harvard.edu/abs/2015ARep...59..667W>, IF: 0.956
- ) R. Ruffini, L. Izzo, C. L. Bianco, J. A. Rueda, C. Barbarino, H. Dereli, M. Enderli, M. Muccino, A. V. Penacchioni, G. B. Pisani, and Y. Wang, “Induced gravitational collapse in the BATSE era: The case of GRB 970828”, *Astronomy Reports* 59, 626 (2015). <http://adsabs.harvard.edu/abs/2015ARep...59..626R> IF: 0.805
- ) M. Muccino, R. Ruffini, C. L. Bianco, M. Enderli, M. Kovacevic, L. Izzo, A. V. Penacchioni, G. B. Pisani, J. A. Rueda, and Y. Wang, “On binary driven hypernovae and their nested late X-ray emission”, *Astronomy Reports* 59, 581 (2015). <http://adsabs.harvard.edu/abs/2015ARep...59..581M>, IF: 0.805
- ) L. Becerra, F. Cipolletta, C. L. Fryer, J. A. Rueda, R. Ruffini, “Angular Momentum Role in the Hypercritical Accretion of Driven Binary Hypernovae”, *ApJ* 812, 100 (2015). <http://adsabs.harvard.edu/abs/2015ApJ...812..100B>, IF: 5.909
- ) C. L. Fryer, F. G. Oliveira, J. A. Rueda, and R. Ruffini, “On the Neutron Star-Black Hole Binaries Produced by Driven Hypernovae,” *Phys. Rev. Lett.* 115, 231102 (2015). <http://adsabs.harvard.edu/abs/2015PhRvL.115w1102F>, IF: 7.645
- ) R. Belvedere, J. A. Rueda, and R. Ruffini, “On the Magnetic Field of Pulsars with Realistic Neutron Star Configurations,” *ApJ* 799, 23 (2015). <http://adsabs.harvard.edu/abs/2015ApJ...799...23B>, IF: 5.909
- ) R. Ruffini, Y. Wang, M. Enderli, M. Muccino, M. Kovacevic, C. L. Bianco, A. V. Penacchioni, G. B. Pisani, and J. A. Rueda, “GRB 130427A and SN 2013cq: A Multi-wavelength Analysis of An Induced Gravitational Collapse Event,” *ApJ* 798, 10 (2015). <http://adsabs.harvard.edu/abs/2015ApJ...798...10R>, IF: 5.909
- ) Pereira, Jonas P. and Rueda, Jorge A.; “Energy decomposition within Einstein-Born-Infeld black holes”, *Phys. Rev. D* 91, 064048 (2015). <http://adsabs.harvard.edu/abs/2015PhRvD..91f4048P>, IF: 4.506
- ) J. P. Pereira and J. A. Rueda, “Radial Stability in Stratified Stars,” *ApJ* 801, 19 (2015), IF: 5.909 <http://adsabs.harvard.edu/abs/2015ApJ...801...19P>
- ) S. M. de Carvalho, R. Negreiros, J. A. Rueda, and R. Ruffini, “Thermal evolution of neutron stars with global and local neutrality,” *Phys. Rev. C* 90, 055804 (2014), IF: 3.146 <http://adsabs.harvard.edu/abs/2014PhRvC..90e5804D>
- ) J. P. Pereira, J. G. Coelho, J. A. Rueda, R. Ruffini; “Stability of thin-shell interfaces inside compact stars”; *Phys. Rev. D* 90, 123011 (2014). <http://adsabs.harvard.edu/abs/2014PhRvD..90l3011P>, IF: 4.506
- ) J. P. Pereira, H. J. Mosquera Cuesta, J. A. Rueda, and R. Ruffini, “On the black hole mass decomposition in nonlinear electrodynamics,” *Physics Letters B* 734, 396 (2014), IF: 3.718 <http://adsabs.harvard.edu/abs/2014PhLB..734..396P>
- ) F. G. Oliveira, J. A. Rueda, and R. Ruffini, “Gravitational Waves versus X-Ray and Gamma-Ray Emission in a Short Gamma-Ray Burst,” *ApJ* 787, 150 (2014), IF: 5.909

<http://adsabs.harvard.edu/abs/2014ApJ...787..1500>

-) K. Boshkayev, D. Bini, J. Rueda, A. Geralico, M. Muccino, and I. Siutsou, “What can we extract from quasiperiodic oscillations?,” *Gravitation and Cosmology* 20, 233 (2014), IF: 0.909

<http://adsabs.harvard.edu/abs/2014GrCo...20..233B>

-) J. G. Coelho, R. M. Marinho, M. Malheiro, R. Negreiros, D. L. Cáceres, J. A. Rueda, R. Ruffini; “Dynamical instability of white dwarfs and breaking of spherical symmetry under the presence of extreme magnetic fields”; *ApJ* 794, 86 (2014). <http://adsabs.harvard.edu/abs/2014ApJ...794...86C>, IF: 5.909

-) R. Belvedere, K. Boshkayev, Jorge A. Rueda, R. Ruffini; “Uniformly rotating neutron stars in the global and local charge neutrality cases”; *Nuclear Physics A* 921, 33 (2014), IF: 1.258

<http://adsabs.harvard.edu/abs/2014NuPhA.921...33B>

-) R. Ruffini, M. Muccino, C.L. Bianco, M. Enderli, L. Izzo, M. Kovacevic, A.V. Penacchioni, G.B. Pisani, J.A. Rueda, Y. Wang; “On binary-driven hypernovae and their nested late X-ray emission”; *Astronomy & Astrophysics* 565, L10 (2014). <http://adsabs.harvard.edu/abs/2014A%26A...565L..10R>, IF: 5.185

-) S. M. Carvalho, M. Rotondo, Jorge A. Rueda, R. Ruffini; “Relativistic Feynman-Metropolis-Teller treatment at finite temperatures”; *Physical Review C* 89, 015801 (2014), IF: 3.146

<http://adsabs.harvard.edu/abs/2014PhRvC..89a5801D>

-) M. Razeira, A. Mesquita, C. A. Z. Vasconcellos, R. Ruffini, J. A. Rueda, R. O. Gomes; “Strangeness content of neutron stars with strong sigma-hyperon repulsion”; *Astronomische Nachrichten* 335, 739 (2014). <http://adsabs.harvard.edu/abs/2014AN....335..739R>, IF: 0.956

-) M. Razeira, A. Mesquita, C. A. Z. Vasconcellos, R. Ruffini, J. A. Rueda, R. O. Gomes; “Effective field theory for neutron stars with strong sigma-hyperon repulsion”; *Astronomische Nachrichten* 335, 733 (2014). <http://adsabs.harvard.edu/abs/2014AN....335..733R>, IF: 0.956

-) S. M. de Carvalho, J. A. Rueda, and R. Ruffini, “On the cooling of globally-neutral neutron stars,” *Journal of Korean Physical Society* 65, 861 (2014). <http://adsabs.harvard.edu/abs/2014JKPS...65..861D>, IF: 0.445

-) K. Boshkayev, J. A. Rueda, R. Ruffini, and I. Siutsou, “General relativistic white dwarfs and their astrophysical implications,” *Journal of Korean Physical Society* 65, 855 (2014), IF: 0.445

<http://adsabs.harvard.edu/abs/2014JKPS...65..855B>

### *Meetings, conferences, seminars, schools:*

- Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014

- Yerevan, Armenia - 1<sup>st</sup> Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014

- IRAP Ph.D. Erasmus Mundus Workshop - Supernovae, Gamma-ray bursts and the induced gravitational collapse May 11-16, 2014 - Les Houches (France)

- 2013 yearly ICRANet Scientific Meeting on Relativistic Astrophysics on the Occasion of the 50th Anniversary of the Kerr solution of the Einstein’s equations, June 3-19, 2013

The first URCA meeting on Relativistic Astrophysics - ICRANet Rio - 24-29 June 2013 – Rio de Janeiro

- 2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.

# Luchini Martins, Gabriel

## *Position:*

Capes Sabbatical Professor to Europe/Asia  
University of Bremen



## List of Visits

From: February 15, 2014 to April 15, 2014

From January 8, 2015 to March 8, 2015

## *Institution:*

Universidade Federal do Espírito Santo  
Centro de Ciências Exatas  
Departamento de Física

## *Publications:*

-) C. P. Constantinidis, G. Luchini, L.A. Ferreira, “A remark on the asymptotic form of BPS multi-dyon solutions and their conserved charges”, <http://arxiv.org/abs/1508.03049>  
<http://adsabs.harvard.edu/abs/2015arXiv150803049C>

-) Yves Brihaye, Adolfo Cisterna, Betti Hartmann, Gabriel Luchini; “From topological to non-topological solitons: kinks, domain walls and Q-balls in a scalar field model with non-trivial vacuum manifold”  
<http://xxx.lanl.gov/pdf/1511.02757.pdf>

## *Meetings, conferences, seminars, schools:*

2014 A first meeting with non-perturbative physics & solitons - *Research Training Group “Models of Gravity” Colloquium, ZARM, Bremen*

2014 The integral equations of Yang-Mills theory - *International Conference and Workshop “Group Theory and Knots”, International Institute of Physics, Natal*

2014 WE-Heraeus seminar on “The Strong Gravity Regime of Black Holes and Neutron Stars”, *Bad Honnef*

2014 Group Theory and Knots, *Natal*

# Mosquera Cuesta, Herman

## *Position:*

Capes Sabbatical Professor to Europe/Asia

At International Center for Relativistic Astrophysics Network – ICRANet

Visit from January 21, 2014, to June 21, 2014



## *Institution:*

International Center for Relativistic Astrophysics Network – ICRANet

## *Publications:*

-)Pereira, Jonas P.; Mosquera Cuesta, Herman J.; Rueda, Jorge A.; Ruffini, R.; “On the black hole mass decomposition in nonlinear electrodynamics”; Physics Letters B, 734 (2014), p. 396-402, IF: 3.60

<http://adsabs.harvard.edu/abs/2014PhLB..734..396P>

## *Meetings, conferences, seminars, schools:*

Zeldovich-100 Meeting, March 10-14, 2014, Minsk, Belarus - Subatomic particles, Nucleons, Atoms, Universe: Processes and Structure - International conference in honor of Ya. B. Zeldovich 100<sup>th</sup> Anniversary

# Rodrigo Picanço Negreiros



## *Position:*

Capes Sabbatical Professor to Europe/Asia  
At International Center for Relativistic Astrophysics Network –  
ICRANet

## List of visits:

From November 26, 2014 to December 7, 2014

From January 7, 2015 to February 15, 2015

## *Institution:*

Universidade Federal Fluminense  
Centro de Estudos Gerais  
Instituto de Física

## *Publications:*

-) J. G. Coelho, R. M. Marinho, M. Malheiro, R. Negreiros, D. L. Cáceres, J. A. Rueda, R. Ruffini; “Dynamical instability of white dwarfs and breaking of spherical symmetry under the presence of extreme magnetic fields”; *ApJ* 794, 86 (2014). <http://adsabs.harvard.edu/abs/2014ApJ...794...86C>, IF: 5.909

-) S. M. de Carvalho, R. Negreiros, J. A. Rueda, R. Ruffini; “Thermal evolution of neutron stars with global and local neutrality,” *Phys. Rev. C* 90, 055804 (2014), IF: 3.146  
<http://adsabs.harvard.edu/abs/2014PhRvC..90e5804D>

-) S. M. de Carvalho, R. Negreiros, Jorge A. Rueda, R. Ruffini; “Strange stars versus globally neutral neutron stars: structure and cooling”; to be submitted.

-) S. M. de Carvalho, R. Negreiros, M. Orsaria, G. A. Contrera, F. Weber and W. Spinella “Thermal evolution of hybrid stars within the framework of a non-local NJL model” Submitted to *Physical Review C*

## *Meetings, conferences, seminars, schools:*

2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18  
João Pessoa, April 21, Recife - Fortaleza, April 22

# Rangel Lemos, Luis Juracy

## *Position:*

IRAP PhD – Fifth Cycle 2006-2009

Capes Sabbatical Professor to Europe/Asia at International Center for Relativistic Astrophysics Network – ICRANet

## List of visits:

From April 3, 2014 to May 3, 2014

From October 15, 2014 to November 15, 2014



## *Institution*

Fundação Universidade Federal do Tocantins

## *Publications:*

-) L. Izzo, M. G. Bernardini, C. L. Bianco, L. Caito, B. Patricelli, L. J. Rangel Lemos, R. Ruffini; "On GRB 080916C and GRB 090902B observed by the Fermi satellite"; AIP Conf. Proc. 1279, 343 (2010).

<http://adsabs.harvard.edu/abs/2010AIPC.1279..343I>

-) L. J. Rangel Lemos, S. Casanova, S. R. Kelner, R. Ruffini; "Fermi's approach to the study of hadronic interactions"; AIP Conf. Proc. 966, 325(2008).

<http://adsabs.harvard.edu/abs/2008AIPC..966..325R>

-) L. J. Rangel Lemos, C. L. Bianco, H. J. Mosquera Cuesta, J. A. Rueda, R. Ruffini; "Luminosity function of BATSE GRBs whose prompt emission is not dominated by the P-GRB"; Proceedings of the 25th Texas Symposium on Relativistic Astrophysics. December 6-10, 2010.

<http://adsabs.harvard.edu/abs/2010tsra.confE.204R>

-) M. Constancio Jr, O. D. Aguiar, G. McCurrach Keiser, M. Malheiro, L. J. Rangel Lemos; "Do coupled nested pendula have the same Eigen frequencies as pendula in cascade?"; JINST (issn: 1748-0221), vol 9, T08006, 2014. <http://adsabs.harvard.edu/abs/2014JInst...9.8006C>, IF: 1.310

-) L. J. Rangel Lemos, E. Sales Silva; "Astrofísica Relativística, um panorama sobre os eventos mais energéticos do universo"; proceeding of the "I Semana Acadêmica da Física da UFT/Araguaína"; chapter 10; Nagô Editora e Livraria Ltda - Palmas-TO-Brazil; 2015; in press. ISBN: 978-85-64147-36-2

-) L. J. Rangel Lemos, C. L. Bianco, R. Ruffini, M. Malheiro; "Luminosity function of GRBs"; Compact Stars in the QCD Phase Diagram III (CSQCD III); published in 09/2013. Preprint: arxiv/astro-ph: 1309.3360

<http://adsabs.harvard.edu/abs/2013arXiv1309.3360R>,

-) L. J. Rangel Lemos, C. L. Bianco, R. Ruffini; "Luminosity function statistics applied in the fireshell model"; in preparation; it will be submitted to the ApJ; 2015.

-) L. J. Rangel Lemos, M. Malheiro; "Equation of motion of the 'n' coupled pendula"; in preparation; it will be submitted to the Applied Physics Letters; 2015.

-) L. J. Rangel Lemos, C. L. Bianco, R. Ruffini; Applying the luminosity function statistics in the fireshell model; Proc. of the 2nd César Latter meeting, “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22

*Meetings, conferences, seminars, schools:*

- 2011. The Third Galileo-Xu Guangqi meeting. October 11-15, Beijin (China)
- The 2<sup>nd</sup> Galileo - Xu Guangqi meeting, July 12-18, 2010. Hanbury Botanic Gardens Ventimiglia ( Italy) and Villa Ratti, Nice, France.
- The Shocking Universe - Gamma Ray Burst and High Energy Shock, 2009, September 14-18, San Servolo, Venice, Italy.
- XII Marcel Grossmann Meeting, 2009, July 12-18, Paris, France.
- 6th Italian-Sino Workshop in Relativistic Astrophysics, 2009, June 29 - July 1, Pescara, Italy.
- X Italian School of Astrophysics - `Probing Stellar Populations out to the Distant Universe', 2008, September 7-19, Cefalù Sicily, Italy.
- 2008 Nanjing GRB Conference, 2008, June 23-27, Nanjing, Chine.
- XIII Brazilian School of Cosmology and Gravitation, 2008, July 25-August 2, Mangaratiba, Rio de Janeiro, Brazil.
- III Stueckelberg Workshop on Relativistic Field Theories, 2008, July 8-18, Pescara, Italy.
- II Kolkata Conference on `Observational Evidence for Black Holes in the Universe', 2008, February 10-16, Kolkata, India.
- September 2007: IX National School of Astrophysics, Venice-Italy.
- July 2007: IV Italian-Sino Workshop on Relativistic Astrophysics, Pescara-Italy.
- June 2007: X Italian-Korean Symposium on Relativistic Astrophysics, Pescara-Italy.
- February 2007: Cesare Lattes Meeting on GRB's, Black Holes and Supernovae, Rio de Janeiro- RJ Brazil.
- November 2006: Courses and Workshops on Gravitational Waves, Relativistic Astrophysics and Cosmology - Emile Borel Center/IHP, Paris-France.
- 2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22
- ) I Encontro de Física do Entorno do Bico do Papagaio, Araguaína-TO-Brazil, september 1-7, 2014. I was the chair of the Organizing Committee.



# César Augusto Zen Vasconcellos

## *Position:*

Capes Sabbatical Professor to Europe/Asia  
At International Center for Relativistic Astrophysics Network – ICRANet

Visit from: June 16, 2014 to May 15, 2014



## *Institution:*

Universidade Federal do Rio Grande do Sul – UFRGS

## *Publications:*

- ) M. Razeira, A. Mesquita, C. A. Z. Vasconcellos, R. Ruffini, J. A. Rueda, R. O. Gomes; “Strangeness content of neutron stars with strong sigma-hyperon repulsion”; *Astronomische Nachrichten* 335, 739 (2014). <http://adsabs.harvard.edu/abs/2014AN....335..739R>, IF: 0.956
- ) M. Razeira, A. Mesquita, C. A. Z. Vasconcellos, R. Ruffini, J. A. Rueda, R. O. Gomes; “Effective field theory for neutron stars with strong sigma-hyperon repulsion”; *Astronomische Nachrichten* 335, 733 (2014). <http://adsabs.harvard.edu/abs/2014AN....335..733R>, IF: 0.956
- ) J. Rueda, R. Ruffini, M. Razeira, A. Mesquita, R.O. Gomes, C.A.Z. Vasconcellos, D. Hadjimichef, “The Role of Many-Body Correlations and the Direct Baryon Urca Process in the Cooling of Neutron Stars”, in preparation.
- ) A. Mesquita, M. Razeira, R. Ruffini, J.A. Rueda, D. Hadjimichef, R.O. Gomes, C.A. Zen Vasconcellos. “An Effective Field Theory for Neutron Stars with Many-Body Forces, Strong Sigma-Hyperon Repulsion and Kaon Condensation, in preparation.
- )R. Camargo, J. A. Rueda, R. Ruffini, C. A. Z. Vasconcellos; “Rapidly rotating neutron stars with strong sigma-hyperon repulsion”; in preparation.
- )R. Camargo, J. A. Rueda, R. Ruffini, C. A. Z. Vasconcellos; “The effects of hyperons on the structure of rapidly rotating neutron stars”; in preparation.
- ) C.A. Zen Vasconcellos, R. Ruffini, J. Rueda, M. Razeira, A. Mesquita, "A Relativistic Effective Field Theory for Neutron Stars, Pulsars and Magnetars"; in preparation.

## *Meetings, conferences, seminars, schools:*

- Third Bego Rencontres - IRAP Ph.D. Erasmus Mundus school - September 8<sup>th</sup>-19<sup>th</sup> 2014
- Yerevan, Armenia - 1st Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe - 30 June - 4 July 2014
- 2<sup>nd</sup> César Lattes Meeting “Supernovae, Neutron Stars, Black Holes”, 2015, Niterói - Rio De Janeiro, April 13-18 João Pessoa, April 21, Recife - Fortaleza, April 22
- XIV Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation, and Relativistic Field Theory, 2015, July 12-18, Rome, Italy.