

# Dr. Marcello Ortaggio

Curriculum Vitae (16.6.2015)

## Affiliation

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## Former affiliations (postdoc, years 2003-2007)

- Department of Fundamental Physics, University of Barcelona.
- Department of Physics, University of Trento.
- Institute of Theoretical Physics, Charles University in Prague.

## Education

- Ph.D. degree in Physics, University of Trento.
- Degree in Physics, University of Parma.

## Full list of publications in refereed journals

1. M. Ortaggio, J. Podolský, M. Žofka, *Static and radiating  $p$ -form black holes in the higher dimensional Robinson-Trautman class*, JHEP 1502 (2015) 045.
2. M. Ortaggio, *Asymptotic behaviour of Maxwell fields in higher dimensions*, Phys. Rev. D 90 (2014) 12, 124020.
3. M. Ortaggio, A. Pravdová, *Asymptotic behaviour of the Weyl tensor in higher dimensions*, Phys. Rev. D 90 (2014) 10, 104011.
4. M. Ortaggio, V. Pravda, A. Pravdová, *Algebraic classification of higher dimensional spacetimes based on null alignment*, Class.Quant.Grav. 30 (2013) 013001.
5. S. Hervik, M. Ortaggio, L. Wylleman, *Minimal tensors and purely electric or magnetic spacetimes of arbitrary dimension*, Class.Quant.Grav. 30 (2013) 165014.
6. M. Ortaggio, V. Pravda, A. Pravdová, *On the Goldberg-Sachs theorem in higher dimensions in the non-twisting case*, Class.Quant.Grav. 30 (2013) 075016.
7. M. Ortaggio, V. Pravda, A. Pravdová, H. S. Reall, *On a five-dimensional version of the Goldberg-Sachs theorem*, Class.Quant.Grav. 29 (2012) 205002.
8. A. Coley, S. Hervik, M. Ortaggio, L. Wylleman, *Refinements of the Weyl tensor classification in five dimensions*, Class.Quant.Grav. 29 (2012) 155016.
9. M. Ortaggio, V. Pravda, A. Pravdová, *On higher dimensional Einstein spacetimes with a warped extra dimension*, Class.Quant.Grav. 28 (2011) 105006.
10. M. Ortaggio, V. Pravda, A. Pravdová, *Type III and N Einstein spacetimes in higher dimensions: General properties*, Phys.Rev. D82 (2010) 064043.
11. M. Ortaggio, *Bel-Debever criteria for the classification of the Weyl tensor in higher dimensions*, Class. Quant. Grav. 26, 195015 (2009).

12. M. Ortaggio, V. Pravda, A. Pravdová, *On asymptotically flat algebraically special spacetimes in higher dimensions*, Phys. Rev. D 80, 084041 (2009).
13. M. Ortaggio, V. Pravda, A. Pravdová, *Higher dimensional Kerr-Schild spacetime*, Class. Quant. Grav. 26, 025008 (2009).
14. M. Ortaggio, J. Podolský, M. Žofka, *Robinson-Trautman spacetimes with an electromagnetic field in higher dimensions*, Class. Quantum Grav. 25, 025006 (2008).
15. V. Pravda, A. Pravdová, M. Ortaggio, *Type D Einstein spacetimes in higher dimensions*, Class. Quantum Grav. 24, 4407 (2007).
16. M. Ortaggio, V. Pravda, A. Pravdová, *Ricci identities in higher dimensions*, Class. Quantum Grav. 24, 1657 (2007).
17. M. Ortaggio and V. Pravda, *Black rings with a small electric charge: gyromagnetic ratios and algebraic alignment*, J. High Energy Phys. JHEP12(2006)054.
18. J. Podolský, M. Ortaggio, *Robinson-Trautman spacetimes in higher dimensions*, Class. Quantum Grav. 23, 5785 (2006).
19. M. Ortaggio, J. Podolský, and P. Krtouš, *Ultrarelativistic boost of spinning black rings*, J. High Energy Phys. JHEP12(2005)001.
20. M. Ortaggio, P. Krtouš, and J. Podolský, *Ultrarelativistic boost of the black ring*, Phys. Rev. D 72, 124031 (2005).
21. M. Ortaggio, *Comment on 'Electrovac pp-waves'*, Class. Quantum Grav. 22, 2811 (2005).
22. M. Ortaggio, *Higher dimensional black holes in external magnetic fields*, J. High Energy Phys. JHEP05(2005)048.
23. M. Ortaggio, *Ultrarelativistic black hole in an external electromagnetic field and gravitational waves in the Melvin universe*, Phys. Rev. D 69, 064034 (2004).
24. J. Podolský, M. Ortaggio, and P. Krtouš, *Radiation from accelerated black holes in an anti-de Sitter universe*, Phys. Rev. D 68, 124004 (2003).
25. J. Podolský and M. Ortaggio, *Explicit Kundt type II and N solutions as gravitational waves in various type D and O universes*, Class. Quantum Grav. 20, 1685 (2003).
26. M. Ortaggio and J. Podolský, *Impulsive waves in electrovac direct product spacetimes with  $\Lambda$* , Class. Quantum Grav. 19, 5221 (2002).
27. M. Ortaggio, *Impulsive waves in the Nariai universe*, Phys. Rev. D 65, 084046 (2002).
28. J. Podolský and M. Ortaggio, *Symmetries and geodesics in (anti-)de Sitter spacetimes with non-expanding impulsive waves*, Class. Quantum Grav. 18, 2689 (2001).

## Preprints

1. M. Ortaggio, V. Pravda, *Electromagnetic fields with vanishing scalar invariants*, arXiv:1506.04538 [gr-qc].

## Publications in proceedings

1. M. Ortaggio, A. Pravdová, *Asymptotic properties of gravitational and electromagnetic fields in higher dimensions*, J. Phys. Conf. Ser. 600 (2015) 1, 012052.
2. M. Ortaggio, V. Pravda, A. Pravdová, H. S. Reall, *On a five-dimensional version of the Goldberg-Sachs theorem*, Springer Proc. Phys. 157 (2014) 185-190.
3. S. Hervik, M. Ortaggio, L. Wylleman, *Electric and magnetic Weyl tensors in higher dimensions*, Springer Proc. Phys. 157 (2014) 287-290.

4. M. Ortaggio, V. Pravda, A. Pravdová, *Newman-Penrose formalism in higher dimension*, Proceedings of the 12th Marcel Grossmann Meeting on General Relativity, World Scientific (2012).
5. M. Ortaggio, V. Pravda, A. Pravdová, *On asymptotically flat algebraically special spacetimes in higher dimensions*, Proceedings of the 12th Marcel Grossmann Meeting on General Relativity, World Scientific (2012).
6. J. Podolský, M. Žofka, M. Ortaggio, *General Kundt and Robinson-Trautman spacetimes in higher dimensions*, Proceedings of the 12th Marcel Grossmann Meeting on General Relativity, World Scientific (2012).
7. M. Ortaggio, V. Pravda, A. Pravdová, *On Kerr-Schild spacetimes in higher dimensions*, AIP Conf. Proc. 1122, 364 (2009) (proceedings of the Spanish Relativity Meeting 2008, Salamanca, 2008), arXiv:0901.1561 [gr-qc].
8. M. Ortaggio, *Higher dimensional spacetimes with a geodesic, shearfree, twistfree and expanding null congruence*, 8. proceedings of 17th SIGRAV Conference (Turin, 2006), gr-qc/0701036.
9. M. Ortaggio, P. Krtouš, and J. Podolský, *Ultrarelativistic boosts of black rings*, proceedings of the 11th Marcel Grossmann Meeting on General Relativity (Berlin, 2006), edited by H. Kleinert, R.T. Jantzen and R. Ruffini, World Scientific, Singapore, 2008.
10. M. Ortaggio and J. Podolský, *Robinson-Trautman spacetimes in higher dimensions*, proceedings of the 11th Marcel Grossmann Meeting on General Relativity (Berlin, 2006), edited by H. Kleinert, R.T. Jantzen and R. Ruffini, World Scientific, Singapore, 2008.
11. M. Ortaggio, *Ultrarelativistic boost of spinning and charged black rings*, J. Phys. Conf. Ser. 33, 386 (2006) (proceedings of the Fourth Meeting on Constrained Dynamics and Quantum Gravity, Cala Gonone, 2005), gr-qc/0601093.

### Recently attended conferences (since 2013)

- Conference gravUACH 2015 (Valdivia, January 22-23, 2015). **Invited talk.**
- Spanish Relativity Meeting ERE 2014 (Valencia, September 1-5, 2014). **Talk.**
- Asymptotic Analysis in General Relativity (Grenoble, June 30-July 4, 2014).
- Workshop “Current Topics in Exact Solutions” (Gent, April 8-11, 2014). **Invited talk.**
- Britgrav 2014 (British Gravity) Meeting (Cambridge, March 31-April 1, 2014). **Talk.**
- Spanish Relativity Meeting ERE 2013 (Benasque, September 8-13, 2013). **Talk.**
- Gravity - New perspectives from strings and higher dimensions (Benasque, July 14-26, 2013).
- 20th International Conference on General Relativity and Gravitation (Warsaw, July 7-13, 2013). **Talk.**