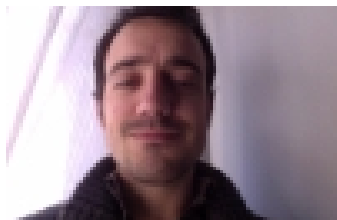


## Profile

### Personal



Name João Lopes Costa  
Department  
Category Assistant Professor  
Research group [Economics](#)  
Last update 2013-07-24 10:15:14

### Teaching and Research Interests

- Mathematical Relativity
- Geometrical Analysis
- Partial Differential Equations
- Optimization and Game Theory.

### Qualifications

Type	Course	Institution	Year
Doctorate degree	Matemática	University of Oxford	2010
Master degree	Matemática Aplicada	Instituto Superior Técnico - UTL	2004
Undergraduate degree	Matemática (Ensino de)	Faculdade de Ciências e Tecnologia - UNL	2001

### Contacts

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## Academic activities

### Courses

"Calculus I" (Coordinator)

"Calculus I" (Coordinator)

"Calculus I" (Coordinator)

"Calculus I" (Coordinator)

"Calculus I" (Coordinator)

"Calculus II"

"Calculus II"

"Mathematics and Numerical Methods for Economics and Finance I" (Coordinator)

"Mathematics and Numerical Methods for Economics and Finance I"

"Mathematics and Numerical Methods for Economics and Finance I" (Coordinator)

"Mathematics and Numerical Methods for Economics and Finance II" (Coordinator)

"Mathematics and Numerical Methods for Economics and Finance II" (Coordinator)

"Mathematics and Numerical Methods for Economics and Finance II" (Coordinator)

## Scientific Activities

### Scientific Articles in International Journals

Cardoso, V., Costa, J. L., Destounis, K., Hintz, P. & Jansen, A. (2018). Quasinormal modes and Strong Cosmic Censorship. Physical Review Letters. 120 (3), [Ciência-IUL](#), Indexada (SCOPUS)

Costa, J. L., Girão, P. M., Natário, J. & Drumond Silva, J. (2018). On the occurrence of mass inflation for the Einstein-Maxwell-scalar field system with a cosmological constant and an exponential price law . Communications in Mathematical Physics., [Ciência-IUL](#), Indexada (SCOPUS/ISI)

- Costa, J. L., Girão, P. M., Natário, J. & Silva, J. D. (2017). On the global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant: part 3. Mass inflation and extendibility of the solutions. *Annals of PDE*. 3 (1), [Ciência-IUL](#)
- Costa, J. L. & Franzen, A. T. (2017). Bounded energy waves on the black hole interior of Reissner-Nordström-de Sitter. *Annales Henri Poincaré*. 18 (10), 3371-3398, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L., Girão, P. M., Natário, J & Drumond Silva, J. (2015). On the global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant. Part 2: structure of the solutions and stability of the cauchy horizon. *Communications in Mathematical Physics*. 339 (3), 903-947, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, João L., Girão, Pedro M. , Natário, J. & Drumond Silva, Jorge (2015). On the global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant: I. Well posedness and breakdown criterion. *Classical and Quantum Gravity*. 32 (1), 015017, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L. (2015). A conjectura da censura cósmica forte: unicidade global para as equações de Einstein. *Boletim da Sociedade Portuguesa de Matemática*. 73, 1-18, [Ciência-IUL](#)
- Costa, João L. (2013). The spherically symmetric Einstein-scalar field system with positive and vanishing cosmological constant: a comparison. *General Relativity and Gravitation*. 45 (12), 2415-2440, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, João L., Alho, A & Natário, J (2013). The problem of a self-gravitating scalar field with positive cosmological constant. *Annales Henri Poincaré*. 14 (5), 1077-1107, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L., Alho, A. & Natário, J. (2012). Spherical linear waves in de Sitter spacetime. *Journal of Mathematical Physics*. 53 (5), [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Chrusciel, P. T., Costa, J. L. & Heusler, M. (2012). Stationary black holes: uniqueness and beyond. *Living Reviews in Relativity*. 15, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L. (2010). Proof of a Dain inequality with charge. *Journal of Physics A: Mathematical and Theoretical*. 43 (28), 285202, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L. (2010). On the classification of stationary electro-vacuum black holes. *Classical and Quantum Gravity*. 27 (3), 035010, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Chrusciel, P. T. & Costa, J. L. (2009). Mass, angular-momentum and charge inequalities for axisymmetric initial data. *Classical and Quantum Gravity*. 26 (23), 235013, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Chrusciel, P. T. & Costa, J. L. (2008). On uniqueness of stationary vacuum black holes. *Asterisque*. 321, 195-265, [Ciência-IUL](#), Indexada (SCOPUS/ISI)
- Costa, J. L. & Natário, J. (2005). Homogeneous cosmologies from the quasi-Maxwell formalism. *Journal of Mathematical Physics*. 46 (8), [Ciência-IUL](#), Indexada (SCOPUS/ISI)

## Conference Proceedings

- Costa, João L., Girão, Pedro M., Natário, J & Drumond Silva, Jorge (2015). Cauchy horizon stability and mass inflation with a cosmological constant. In *Spanish Relativity Meeting (ERE 2014): almost 100 years after Einstein's revolution.*, [Ciência-IUL](#)

Costa, João L. (2012). Towards the Einstein-Lambda-scalar field system in spherical symmetry. In Xx International Fall Workshop on Geometry and Physics., [Ciência-IUL](#)

Costa, João L. (2012). Linear and non-linear waves in de Sitter. In Towards New Paradigms: Proceeding of the Spanish Relativity Meeting 2011., [Ciência-IUL](#)

Costa, João L. (2010). Harmonic maps and black holes . In Journal of Physics: Conference Series ., [Ciência-IUL](#)

### Other publications

João Costa, Pedro Martins Girão, José Natário, Jorge Drumond Silva (2014) "On the global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant. Part 3: Mass inflation and extendibility of the solutions", Costa, João L., Girão, Pedro M., Natário, J & Drumond Silva, Jorge (2014). On the global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant. Part 3: Mass inflation and extendibility of the solutions. arXiv., [Ciência-IUL](#)

### International Communications

#### Keynote Speaker

Costa, João L. (2015). Global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant. RECENT ADVANCES IN MATHEMATICAL GENERAL RELATIVITY., [Ciência-IUL](#)

Costa, J. L., Alho, A & Natário, J (2012). The problem of a self-gravitating scalar field with positive cosmological constant. Spanish Relativity Meeting in Portugal 2012., [Ciência-IUL](#)

Costa, J. L. (2011). Towards the Einstein-scalar field system with positive cosmological constant. Third Minho Meeting on Mathematical Physics., [Ciência-IUL](#)

#### Invited

Costa, J. L. (2012). The Problem Of A Self-gravitating Scalar Field With Positive Cosmological Constant. CENTRA Seminar., [Ciência-IUL](#)

#### Panel / Poster

Alho, A, Costa, J. L. & Natário, J (2011). Linear spherical waves in de Sitter spacetime. XX International Fall Workshop on Geometry and Physics ., [Ciência-IUL](#)

#### Oral Presentation

Costa, João L. (2015). Cosmic no-hair for a self-gravitating scalar field . AMS-EMS-SPM International Meeting 2015., [Ciência-IUL](#)

Costa, João L. (2015). On strong cosmic censorship with a cosmological constant. EquaDiff2015., [Ciência-IUL](#)

Costa, João L. (2015). On strong cosmic censorship with a cosmological constant .  
<http://www.fields.utoronto.ca/programs/scientific/14-15/generalrelativity/singularities/>., [Ciência-IUL](#)

Costa, João L. (2014). Cauchy horizon stability and mass inflation with a cosmological constant. ERE2014., [Ciência-IUL](#)

Costa, João L. (2014). On Mass Inflation with a Cosmological Constant. Hyp2014., [Ciência-IUL](#)

Costa, J. L. (2012). The problem of a self-gravitating scalar field with positive cosmological constant. ESI Workshop: Dynamics of General Relativity; Black holes and Asymptotics., [Ciência-IUL](#)

Costa, J. L. (2012). The problem of a self-gravitating scalar field with positive cosmological constant. Workshop on Numerical and Mathematical Relativity at Oppurg., [Ciência-IUL](#)

Alho, A, Costa, J. & Natário, J (2011). Towards the Einstein-Lambda-Scalar field system in spherical symmetry. IV Black Holes Workshop 2011., [Ciência-IUL](#)

Costa, J. L., Alho, A & Natário, J (2011). Linear spherical waves in de Sitter spacetime. Spanish Relativity Meeting 2011., [Ciência-IUL](#)

## National Communications

### Keynote Speaker

Costa, João L. (2016). On strong cosmic censorship in the presence of a positive cosmological constant. Spanish Portuguese Relativity Meeting ., [Ciência-IUL](#)

### Invited

Costa, João L. (2016). Bounded energy waves in the black hole interior of Reissner-Nordström-de Sitter spacetimes. Seminário de Equações Diferenciais Parciais ., [Ciência-IUL](#)

Costa, João L. (2016). Bounded energy waves in the black hole interior of Reissner-Nordström-de Sitter spacetimes II. Seminário de Equações Diferenciais Parciais ., [Ciência-IUL](#)

### Oral Presentation

Costa, João L. (2016). On the decay of linear waves in Reissner-Nordström-de Sitter. IX Black Hole Workshop., [Ciência-IUL](#)

Costa, João L. (2016). Global uniqueness in general relativity: the strong cosmic censorship conjecture. Ciência 2016., [Ciência-IUL](#)

Costa, João L. (2015). Global Uniqueness in General Relativity. Open day of CMAT., [Ciência-IUL](#)

Costa, João L. (2015). Sobre a unidade curricular Análise Matemática II. Semana da Inovação Pedagógica no ISCTE-IUL 2015., [Ciência-IUL](#)

Costa, João L. (2014). The interior of black holes with a cosmological constant. VII Black Holes Workshop., [Ciência-IUL](#)

Costa, João L. (2013). Strong cosmic censorship with a cosmological constant. VI Black Holes Workshop., [Ciência-IUL](#)

## Other Activities

### Academic Management Positions

Coordenador da unidade curricular Matemática e Métodos Numéricos para Economia e Finanças I (2016/2016)

Coordenador da unidade curricular Análise Matemática I (2017/2017)

Membro da Comissão Pedagógica da Escola de Tecnologias e Arquitectura (2017/2019)

Subdirector do Departamento de Matemática (2017/2021)

Coordenador da unidade curricular Análise Matemática I (2018/2018)

Coordenador da unidade curricular Matemática e Métodos Numéricos para Economia e Finanças II (2018/2018)

Coordenador da unidade curricular Matemática e Métodos Numéricos para Economia e Finanças II (2019/2019)

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