UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type A post-doc fellowship

VICENTE FREITAS ANTUNES

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	FREITAS ANTUNES
Name	VICENTE
Date of birth	12/09/1976

PRESENT OCCUPATION

Appointment	Structure
Postdoctoral fellow	Centro Brasileiro de Pesquisas Físicas (CBPF), Rio de Janeiro, Brazil

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
PhD	Physics	Centro Brasileiro de Pesquisas Fisicas (CBPF), Brazil	2014
Master	Physics	Universidade Federal do Rio Grande do Sul (UFRGS), Brazil	2007
Bachelor	Physics	Universidade Federal do Rio Grande do Sul (UFRGS), Brazil	2005

Both the PhD in Physics at CBPF and the Master's degree in Physics at UFRGS receive maximum grade (grade 7) in the official ranking of Brazilian portgraduate programs carried out by the Brazilian Coordination for the Improvement Higher Education Personnel (CAPES). Cf. https://sucupira.capes.gov.br/sucupira/public/consultas/coleta/programa/quantitativos/quantitativoles.xhtml?areaAvaliacao=3&conceito=7&areaConhecimento=10500006

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REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	Fluent
Italian	Basic
Portuguese	Native

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2021-	Postdoctoral fellowship - Brazilian National Council for Scientific and Technological Development (CNPq), Institutional Capacitation Program (PCI).
2017	Postdoctoral fellowship - Brazilian National Council for Scientific and Technological Development (CNPq), Institutional Capacitation Program (PCI).
2015 - 2017	Postdoctoral fellowship - Brazilian Coordination for the Improvement Higher Education Personnel (CAPES) and Research Support Foundation of the State of Rio de Janeiro (FAPERJ) joint fellowship.
2015	Postdoctoral fellowship - Brazilian National Council for Scientific and Technological Development (CNPq), Institutional Capacitation Program (PCI).

TRAINING OR RESEARCH ACTIVITY

description of activity

Research in theoretical cosmology, general relativity, alternative theories of gravity, and foundations of cosmology and physics. Research focuses on (1) bouncing universe models based on modified theories of gravitation, such as those motivated by low energy effective models of quantum gravity, and (2) the

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global-local interplay in cosmology and its implications to the nature of the laws of physics, Mach's principle, baryogenesis, and the variation of the laws of physics on a cosmological scale.

PROJECT ACTIVITY

Year	Project
2021 -	Postdoctoral research project on theoretical and foundational questions in cosmology, focused on the time variation of the laws of physics, supported by a PCI grant from the Brazilian National Council of Scientific and Technological Development (CNPq). Supervisor: Mario Novello.
2017 - 2018	Postdoctoral research project on "gravitational baryogenesis models based on non-minimal couplings of the matter sector to gravity", supported by a PCI grant from the Brazilian National Council of Scientific and Technological Development (CNPq). Supervisor: Mario Novello.
2015 - 2017	"The cosmological influence on the laws of physics". Postdoctoral research project supported by the Brazilian National Council of Scientific and Technological Development (CNPq), the Brazilian Coordination for the Improvement of Higher Education Personnel (CAPES), and the Carlos Chagas Filho Foundation for Support to the Scientific Research in the State of Rio de Janeiro (FAPERJ). Supervisor: Mario Novello.

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
2017	Gravitational Baryogenesis	16th Brazilian School of Cosmology and Gravitation, Rio de Janeiro, Brazil
2017	Gravitational Baryogenesis in the Cosmological QCD Transitions	11th Spontaneous Workshop on Hot Topics in Cosmology, Cargèse, France
2015	Geometric Spin-2 Fields: Dark Sector and Bouncing Cosmology	9th Spontaneous Workshop on Hot Topics in Cosmology, Cargèse, France
2010	Gravitational Waves in Singular and Bouncing FLRW Universes	Mario Novello Symposium on Bouncing Cosmologies, Mangaratiba, Brazil

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PUBLICATIONS

Books

Articles in journals
1. M. Novello and V. Antunes. 2022. Mass generation and gravity. *Gravitation and Cosmology*. To appear in *Gravitation and Cosmology* 28.
2. V. Antunes, I. Bediaga and M. Novello. 2019. Gravitional baryogenesis without CPT violation. *Journal of Cosmology and Astroparticle Physics* 10: 076. arXiv:1909.03034
3. M. Novello and V. Antunes. 2018. Connecting the Cabbibo-Kobayashi-Maskawa Matrix to quark masses. arXiv:1804.00572
4. V. Antunes and M. Novello. 2017. Repulsive gravity induced by a conformally coupled scalar field implies a bouncing radiation-dominated universe. *General Relativity and Gravitation* 49: 55. arXiv:1703.03060
5. V. Antunes, I. Bediaga and M. Novello. 2016. Baryogenesis at the QCD scale from non-minimal coupling to gravity. arXiv:1611.07802.
6. V. Antunes and M. Novello. 2016. Spin-2 fields from torsion: Dark energy and bouncing cosmology. *Gravitation and Cosmology* 22: 1-9.
7. V. Antunes, E. Goulart and M. Novello. 2009. Gravitational waves in singular and bouncing FLRW universes. *Gravitation and Cosmology* 15: 191-198.
8. T. Emanuelli, V.F. Antunes and D.O.G. Souza. 1998. Characterisation of L-[3H]Glutamate Binding to Fresh and Frozen Crude Plasma Membranes Isolated from Cerebral Cortex of Adult Rats. *Biochemistry and Molecular Biology International* 44 (6): 1265-1272.

Congress proceedings

OTHER INFORMATION

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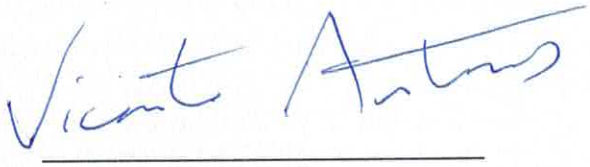
Substitute Professor of Physics at Univsersidade Federal do Rio de Janeiro, Brazil, from July 2018 to December 2018.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Rio de Janeiro, the 16th of May 2022



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