Rogério Jorge

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Education

01/2015
- 01/2019 **PhD**
Swiss Plasma Center (SPC) - EPFL, Lausanne Switzerland
Instituto de Plasmas e Fusão Nuclear (IPFN), APPLAuSE - IST, Lisboa Portugal
Thesis Title: *"A moment-based model for plasma dynamics at arbitrary collisionality"*, Advisors: Prof. Paolo Ricci, Prof. Nuno Loureiro

09/2010
- 10/2014 **Bachelor and Master's in Engineering Physics at Técnico Lisboa (IST), Portugal**
Main subjects: Nuclear Fusion, Kinetic Theory, General Relativity, Advanced Topics in Particle Physics, Astrophysics and Cosmology. Erasmus Scholarship 2014 at EPFL
Thesis Title: *"Simulation of Plasma Blobs in Realistic Tokamak Geometry",* Advisors: Prof. Nuno Loureiro, Prof. Paolo Ricci, Grade 19/20

Teaching Experience

Supervision of Master's Thesis

- Lorenzo Perrone, EPFL, 2018: *4-Dimensional Kinetic Scrape-off Layer Model*
- Baptiste Frei, EPFL, 2018: *"A full-F Gyrokinetic Model for the Tokamak Periphery at Arbitrary Collisionality"*
- Sonia Gamba, Politecnico de Milano, 2017: *"Analysis of Linear Instabilities in the Scrape-off Layer of a Tokamak Plasma through a Reduced Drift-Kinetic Model"*

Supervision of Semester Internships

- Lorenzo Perrone, EPFL, 2017: *"Parallel and Perpendicular Moment Description of Scrape-off Layer Instabilities"*
- Konovets Vyacheslav, EPFL, 2017: *"Modelling of Coulomb Collision Full-F Moment Description"*
- Nuno Teixeira, IST, 2017: *"Influence of Pitch-Angle Scattering in Electron Plasma Waves"*
- Antoine Baillod, EPFL 2017: *"Gyrokinetic Equations for Scrape-off Layer Plasmas"*
- Clara Pereira, IST, 2016: *"Magnetic Field Generation in Charged and Rotating Accretion Disks"*

Teaching Assistantship

- Advanced Physics I, 1st semester Physics, EPFL 2017-2018, 2018-2019
- Mathematical Analysis 1B, 2nd semester MAN, EPFL 2017-2018
- General Physics I and II, 1st and 2nd semester Mechanical Engineering, EPFL 2016-2017, 2016-2017
- Mechanics and Waves, 1st semester Engineering Physics, IST 2015-2016

Prizes

2018 **Publons Peer Review Award**
For placing on top 1% of reviewers in Physics on Publons' global reviewer database during the 2017-2018 Award year.

2017 **Outstanding Reviewer**
Plasma Physics and Controlled Fusion

2014 **Erasmus Scholarship**
Financial support from the European Union to spend 6 months at EPFL, Switzerland to conduct the research activities for the master thesis project

2011-2012 **"Novos Talentos em Matemática" from the Calouste Gulbenkian Foundation**
1 year scholarship given to students in their first 3 years of university studies to carry out a mathematical research activity under the guidance of a professor at their university. **Research Topic**: String Theory

Publications

First Author

- R. Jorge, B. Frei, P. Ricci, "Full-Coulomb Gyrokinetic Collision Operator", to be submitted to *Journal of Plasma Physics*

- R. Jorge, P. Ricci, S. Gamba, V. Konovets, N. Teixeira, L. Perrone, N. F. Loureiro, "Linear Theory of Electron-Plasma Waves at Arbitrary Collisionality", submitted to *Journal of Plasma Physics* (2018)

- R. Jorge, P. Ricci, N. Loureiro, "Theory of the Drift-Wave Instability at Arbitrary Collisionality", **Physical Review Letters** 121, 165001 (2018)

- R. Jorge, P. Ricci, N. Loureiro, "A Drift-Kinetic Analytical Model for SOL Plasma Dynamics at Arbitrary Collisionality", **Journal of Plasma Physics** 83, 6 (2017)

- R. Jorge, P. Ricci, F. Halpern, N. Loureiro, C. Silva, "Plasma Turbulence in the Scrape-off Layer of the ISTTOK Tokamak", **Physics of Plasmas** 23, 10 (2016)

- R. Jorge, E. Oliveira, J. Rocha, "Greybody factors for rotating black holes in higher dimensions", **Classical and Quantum Gravity** 32, 6 (2015)

Co-Author

- B. Frei, R. Jorge, P. Ricci, "A full-F gyrokinetic model for the tokamak periphery", in preparation (2018)

- J. P. S. Bizarro, H. Hugon, R. Jorge, "Quasilinear approach to ray tracing in weakly turbulent, randomly fluctuating media", **Physical Review E** 98, 2 (2018)

- G. Cardoso, R. Jorge, S. Nampuri, "Indefinite theta functions and black hole partition functions", **Journal of High Energy Physics** 2, 19 (2014)

Languages

Portuguese	native speaker
English	fluent
French	proficient

Conference Contributions and Invited Talks (1st Author)

04/2018	**Sherwood Meeting, Auburn AL, USA** *A gyrokinetic model for the tokamak periphery*	Invited Talk
10/2017	**17th European Fusion Theory Conference, Athens** *An analytical model for SOL plasma dynamics at arbitrary collisionality*	Invited Talk
11/2018	**60th Annual Meeting of the APS Division of Plasma Physics, Portland OR, USA** *A gyrokinetic model for the tokamak periphery*	Poster
09/2016	**21st Joint EU-US Transport Task Force Meeting, Leysin, Switzerland** *A Drift-Kinetic Model for Tokamak SOL Plasmas*	Poster
08/2016	**Swiss Physics Society Annual Meeting, Lugano, Switzerland** *A Drift-Kinetic Model for Tokamak SOL Plasmas*	Poster
10/2015	**European Fusion Theory Conference 2015, Lisbon, Portugal** *ISTTOK Scrape-off Layer Turbulent Regimes*	Poster
09/2014	**17th International Conference on Plasma Physics, Lisbon, Portugal** *Simulation of SOL turbulence in the ISTTOK tokamak*	Poster

Pre-Publication Peer Review

Verified reviews at Publons.com
- 13 manuscripts for Plasma Physics and Controlled Fusion
- 5 manuscripts for Journal of Plasma Physics
- 3 manuscripts for Nuclear Fusion
- 1 manuscripts for Journal of Fusion Energy

Other Activities

2017-2018	**Physics PhD Student Representative** EPFL Doctoral Program in Physics (EDPY)	EPFL, Switzerland
2017-2018	**Member of the Working Group for Teaching Assistantship** As PhD student representative, define the implementation of a directive concerning the attribution of ECTS to teaching assistantship tasks at EPFL.	EPFL
08/14 - 12/17	**Startup Co-founder & Web Developer** Online platform to match student and tutors according to their own schedule. NovaBase's Gameshifters 2014 winners: start-up 24h contest, 4000€ prize University of Lisbon award: 2014/2015, 5000€ prize **youtube.com/user/matmania1**	Portal da Sabedoria
2013-2014	**NFIST - IST Physics Student Section** Vice-President, Founder and Organizer of the IST Physics Career Week 2013 and 2014	IST, Portugal
2013	**Research Internship** Supersymmetry search with data Analysis of the LHC experiment, Cern	Laboratório de Instrumentação e Partículas (LIP), Lisbon, Portugal
2012-2013	**Scientific Initiation Studentship** Fluid Mechanics - Point particle simulation of a fluid vortex, code development in C++ and OpenGL.	IST - Mathematics Department
2002 - 2010	**Classical Guitar and Music Theory** Main subjects: Acoustics, Composition, Music Theory, Music History, Grade 18/20 1st prize classical guitar level V on the "International Contest of Fundão, Portugal" (2009)	Conservatory of Music David de Sousa, Figueira da Foz, Portugal
2018	**Music Teacher** Founder of the ACPns music school, and professor of music theory, guitar, ukelele and accordion	ACPns, Portuguese Association in Switzerland
2017	**Rubik's Cube** 3x3x3 personal record on official competitions: 41.43 seconds, 2x2x2 Record: 9.07 seconds	World Cube Association ID 2017JORG01