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CURRENT POSITION:

Professor Adjunto, Department of Mathematics PUC-Rio
Since Jan 2017

PREVIOUS POSITIONS

Assistant Professor, Department of Mathematics, UFSCar
May 2015 - Dec 2016

Postdoctoral fellow, Department of Mathematics, ICMC-USP
Supervisor: Prof. Eduardo V. Teixeira
Scholarship: CNPq-Brazil.
Dec 2014 - Apr 2015

Postdoctoral fellow, IMPA-Brazil
Scholarship: CNPq-Brazil.
Aug 2014 - Nov 2014

Postdoctoral fellow, CAMGSD-Lisbon
Scholarship: FCT-Portugal
Jan 2014 - Jul 2014

EDUCATION AND TRAINING

Ph.D. in Mathematics
Instituto Superior Técnico, Universidade de Lisboa
Title: Time-dependent mean-field games
Advisor: Diogo A. Gomes
Sep 2010 - Dec 2013

M.Sc. in Applied Mathematics
Universidade de São Paulo
Jan 2008 - Aug 2010

B.A. in Economics
Universidade de São Paulo
Feb 2001 - Dec 2004

AWARDS AND ACADEMIC DISTINCTIONS

Bolsista de Produtividade do CNPq
CNPq-Brazil
2018

Jovem Cientista do Estado do Rio de Janeiro
FAPERJ-Brazil
2018

Junior Associate Fellow
International Centre for Theoretical Physics (ICTP)
2017

Habilitation in Mathematics (Livre-Docência)
ICMC-USP
2016

PUBLICATIONS

PAPERS IN SCIENTIFIC JOURNALS

1. Regularity theory for the Isaacs equation through approximation methods
To appear in **Ann. Institut Henri Poincaré – A.N.**, 2018
2. Interior Sobolev regularity for fully nonlinear parabolic equations
With R. Castillo
Calc. Var. Partial Differential Equations 56 (2017), no. 5
3. Regularity for second-order stationary mean-field games
With V. Voskanyan
Indiana Univ. Math. J. 66 (2017), no. 1
4. Sharp Hessian integrability estimates for nonlinear elliptic equations: an asymptotic approach
With E. Teixeira
J. Math. Pures Appl. (9) 106 (2016) no. 4
5. Estimates for a class of slowly non-dissipative reaction-diffusion equations
With J. Fernandes
Rocky Mountain J. Math. 46 (2016), no. 3
6. Time dependent mean-field games in the superquadratic case
With D. Gomes and H. Sánchez-Morgado
ESAIM Control Optim. Calc. Var. 22 (2016) no. 2
7. Local regularity for mean-field games in the whole space
With D. Gomes
Minimax Theory Appl. 1 (2016) no. 1
8. Time-dependent mean-field games with logarithmic nonlinearities
With D. Gomes

SIAM J. Math. Anal. 47 (2015) no.5

9. Time-dependent mean-field games in the sub quadratic case
With D. Gomes and H. Sánchez-Morgado
Comm. Partial Differential Equations 40 (2015) no.1

BOOKS PUBLISHED

1. Regularity theory for mean-field game systems
With. D. Gomes and V. Voskanyan
Springer Verlag, 2016
2. Economic models and mean-field games theory
With D. Gomes and L. Nurbekyan
IMPA - Mathematical Publications Series, 2015

CHAPTERS IN BOOKS AND PROCEEDINGS

1. Asymptotic methods in regularity theory for nonlinear elliptic equations: a survey
With M. Santos
To appear in **PDE models for multi-agent phenomena**.
INdAM Series, Springer-Verlag
P. Cardaliaguet, A. Porretta and F. Salvarani (Eds.)
2. Regularity for mean-field games systems with initial-initial boundary conditions: the sub quadratic case
With D. Gomes
In **Dynamics, games and science**.
CIM Series in Mathematical Sciences, Springer-Verlag
J.-P. Bourguignon, R. Jeltsch, A. Pinto, M. Viana (Eds.), 2015

THESIS DIRECTION AND SUPERVISION

POST-DOCTORAL SUPERVISION

1. Ricardo Castillo
Department of Mathematics, UFSCar, 2016
Scholarship: CAPES-Brazil
Current position: Universidade Federal de Pernambuco, Brazil

DOCTORAL STUDENTS

1. Makson S. Santos
Department of Mathematics, PUC-Rio (since Dec 2017)
Tentative title: Three essays on regularity theory
Scholarship: Arquimedes Fund
2. Giane Cesari Rampasso
Department of Mathematics, UNICAMP (since Oct 2017)

Title: Regularity theory for degenerate diffusions

Scholarship: CNPq-Brazil

Expected date of defense: Feb. 2019

3. Pêdra Dariclêa Santos Andrade
Department of Mathematics, PUC-Rio (since Jan 2018)
Tentative title: Regularity theory for fully nonlinear mean-field games
Scholarship: CAPES-Brazil

MASTER STUDENTS

1. Lucas Fabiano Lima
Department of Mathematics, UFSCar, Dec 2016
Title: A mean-field game model of economic growth: an essay on regularity theory
Scholarship: CNPq-Brazil
2. David Stolnicki
Department of Mathematics, PUC-Rio (since Jan 2017)
Tentative title: Regularity theory for nonlocal elliptic PDEs
Scholarship: CNPq-Brazil
Co-advisor: Boyan Sirakov
3. João Victor Medeiros Domingos
Department of Mathematics, PUC-Rio (since Mar 2017)
Tentative title: Mean-field games and a priori estimates
Scholarship: CNPq-Brazil
4. Miguel Beltran Walker Ureña
Departamento de Matemática, PUC-Rio (since Oct 2018)
Scholarship: PUC-Rio

GRANTS AND RESEARCH PROJECTS

1. Regularity theory for partial differential equations
Rio de Janeiro Research Foundation (FAPERJ)
Jan 2018 - Dec 2021
Grant # E_03/2017/232321
2. Geometric regularity for nonlinear PDEs
National Council of Science and Technology
Jan 2018 - Dec 2021
Grant # 401560/2018-10

SELECTED COMMUNICATIONS AND LECTURES

1. Geometric regularity for (nonlinear) PDEs
International Centre for Theoretical Physics (ICTP)
Italy, Jul 2018

2. Geometric methods in regularity theory for partial differential equations
2018 Annual Meeting of the Israel Mathematical Union
Haifa, May 2018
3. Approximation and geometric methods in regularity theory for nonlinear PDEs
Imperial College London
London, Feb 2018
4. Holder regularity for asymptotically elliptic operators
Universidad de Buenos Aires
Buenos Aires, Dec 2017
5. Regularity theory for the Isaacs equation: an approximation method
31st Brazilian Mathematical Colloquium
Rio de Janeiro, Jul 2017
6. Geometric-tangential regularity for fully nonlinear equations
BIRS Workshop Mostly Maximum Principle
Banff, Apr 2017
7. Regularity theory for fully nonlinear mean-field games
INdAM Workshop PDE Model for Multi-Agent Phenomena
Rome, Dec 2016