

ROBERTO DE A. CAPISTRANO-FILHO

<i>Born</i>	October 18, 1985. João Pessoa, Paraíba
<i>Nationality</i>	Brazilian
<i>Address</i>	Avenida Professor Luiz Freire S/N Cidade Universitária 50740545 - Recife, PE - Brazil
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RESEARCH INTERESTS

<i>General</i>	Applied mathematics and PDEs
<i>Emphasis</i>	Well-posedness, control and stabilization of PDEs

PROFESSIONAL EXPERIENCE

<i>Assistant Professor</i>	<i>Since 2015</i>	DEPARTMENT OF MATHEMATICS, UNIVERSIDADE FEDERAL DE PERNAMBUCO, BRAZIL.
<i>Tenured since 2018</i>		DEPARTMENT OF MATHEMATICS, UNIVERSIDADE FEDERAL DE PERNAMBUCO, BRAZIL.
<i>Postdoc</i>	<i>Mar 2014 - Nov 2015</i>	DEPARTMENT OF MATHEMATICAL SCIENCES, UNIVERSITY OF CINCINNATI, USA.
<i>Postdoc</i>	<i>Jan 2023 - Jul 2023</i>	DEPARTMENT OF MATHEMATICAL, VIRGINIA TECH, USA.

EDUCATION

<i>Ph.D. in Mathematics</i>	<i>2012–2014</i>	Université de Lorraine, France Thesis: <i>Contrôle d'équations Dispersives pour les Ondes de Surfaces.</i> Adviser 1: Prof. Lionel ROSIER Adviser 2: Prof. Ademir PAZOTO
<i>Ph.D. in Mathematics</i>	<i>2010–2014</i>	Universidade Federal do Rio de Janeiro, Brazil <i>Control of dispersive equations for surface waves.</i> Adviser 1: Prof. Ademir PAZOTO Adviser 2: Prof. Lionel ROSIER
<i>M. Sc. in Mathematics</i>	<i>2008–2010</i>	Universidade Federal da Paraíba, Brazil <i>Well-posedness and stability of Kawahara equation.</i> Adviser: Prof. Fagner ARARUNA
<i>Bachelor degree</i>	<i>2004–2008</i>	Universidade Federal da Paraíba, Brazil B. Sc. in Mathematics.

AWARDS AND ACADEMIC DISTINCTIONS

<i>2022–2025</i>	Level-2 Researcher - CNPq, Brazil
<i>2022</i>	Chebyshev grant - ICM St. Petersburg, International Mathematical Union
<i>2018–2021</i>	Level-2 Researcher - CNPq, Brazil

2018

Open arms grant - ICM Rio de Janeiro, IMPA - SBM

EVALUATION COMMITTEES

MASTERS DEGREE

<i>Oct 2021</i>	Juan Ricardo Muñoz Galeano, Masters Degree in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Mar 2020</i>	Nemuel Rocha Lima, Masters Degree in Mathematics, Universidade Federal de Alagoas, Brazil.
<i>Mar 2018</i>	Elthon Matheus Araújo, Universidade Federal de Pernambuco, Brazil.
<i>Mar 2018</i>	Hugo Deleon Pereira de Medeiros, Universidade Federal de Pernambuco, Brazil.
<i>Apr 2017</i>	Jose Ribeiro de Sousa Neto, Masters Degree in Mathematics, Universidade Federal da Paraíba, Brazil.

PHD DEGREE

<i>Aug 2023</i>	Isadora Maria de Jesus, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Aug 2023</i>	Luan Soares de Sousa, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Aug 2020</i>	Milena Monique de Santana Gome, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Aug 2020</i>	Milena Monique de Santana Gome, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Feb 2019</i>	Charles Braga Amorim, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Mar 2018</i>	Lorena Brizza Soares Freitas, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Feb 2017</i>	Fernando Andres Gallego Restrepo, PhD in Mathematics, Universidade Federal do Rio de Janeiro, Brazil.
<i>Nov 2016</i>	Pammela Queiroz de Souza, PhD in Mathematics, Universidade Federal da Paraíba, Brazil.

PHD QUALIFYING EXAMS

<i>Set 2022</i>	Jandeilson Santos da Silva, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Set 2022</i>	Juan Ricardo Muñoz Galeano, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Jun 2021</i>	Ricardo Freire da Silva, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Jun 2021</i>	Jackellyny Dassy do Nascimento Carvalho, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
<i>Mar 2021</i>	Nemuel Rocha, qualifying exams, PhD in Mathematics, Universidade Federal de Alagoas, Brazil.
<i>Jul 2020</i>	Luan Soares de Sousa, qualifying exams, PhD in Mathematics, Universidade

Federal de Pernambuco, Brazil.

- Jul 2020* Marcos Paulo da Rocha, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
- Dec 2018* André Ventura Henriques dos Santos, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
- Aug 2018* Larissa Santos Machado, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
- Mar 2018* Francisco Gilberto de Souza, qualifying exams, PhD in Mathematics, Universidade Federal de Alagoas, Brazil.
- May 2017* Omar Stevenson Guzmán Rea, qualifying exams, PhD in Mathematics, Universidade Federal de Pernambuco, Brazil.
- Aug 2016* Charles Braga Amorim, qualifying exams, Ph.D. in Mathematics, Universidade Federal de Pernambuco, Brazil.

SELECTION COMMITTEES

- Mar 2019* R. A. Capistrano-Filho, A. Corcho and M. Panthee, public selection of professors for Department of Mathematics, 2019, Universidade Federal de Alagoas, Brazil.
- Nov 2018* R. A. Capistrano-Filho, D. J. Araujo and M. A. Soares, public selection of professors for Department of Mathematics, 2018, Universidade Federal de Pernambuco, Brazil.
- Mar 2018* R. A. Capistrano-Filho, F. W. Cruz and R. T. Bortoloti, public selection distance learning tutors, 2018, Universidade Federal de Pernambuco, Brazil.
- Mar 2018* J. Angulo, E. Barbosa and R. A. Capistrano-Filho, visiting professor, Universidade Federal de Alagoas, Brazil.
- May 2018* R. A. Capistrano-Filho, K. I. M. Oliveira and F. M. A. Vitorio, public selection of assistant professor, 2018, Universidade Federal de Alagoas, Brazil.

SELECT PUBLICATIONS

8. R. A. Capistrano-Filho, V. H. Gonzalez Martinez and J. R. Muñoz, Stabilization of the Kawahara-Kadomtsev-Petviashvili equation with time-delayed feedback, Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 1-27. doi:10.1017/prm.2023.92 (2023)
7. R. A. Capistrano-Filho, E. Cerpa and F. Gallego, Rapid Exponential Stabilization of a Boussinesq System of KdV-KdV Type, Communications in Contemporary Mathematics, Vol. 25, No. 03, 2150111 (2023)
6. R. A. Capistrano-Filho and A. Pampu, The fractional Schrödinger equation on compact manifolds: Global controllability results, Mathematische Zeitschrift, 301, pages 3817–3848 (2022).
5. R. A. Capistrano-Filho and M. Cavalcante, Stabilization and control for the biharmonic Schrödinger equation, Appl. Math. Optim. 84 (2021), 103-144.
4. R. A. Capistrano-Filho, A. F. Pazoto, and L. Rosier, Control of Boussinesq system of KdV-KdV type on a bounded interval, ESAIM Control Optimization and Calculus Variations 25 (2019) 58, 1-55.
3. R. A. Capistrano-Filho, F. A. Gallego and A. F. Pazoto, On the well-posedness and large-time behavior of higher order Boussinesq system, Nonlinearity 32 (2019) 1852–1881.

2. R. A. Capistrano-Filho and F. Gallego, Asymptotic behavior of Boussinesq system of KdV-KdV type, J. Differential Equations 265 (2018) 2341–2374.

1. M. C. Caicedo, R. A. Capistrano-Filho and B.-Y. Zhang, Neumann boundary controllability of the Korteweg-de Vries equation on a bounded domain, SIAM Journal on Control and Optimization, v. 55, p. 3503–3532, (2017).

ADVISING AND SUPERVISION

POST-DOCTORAL SUPERVISION

2021-2022 Victor Hugo Gonzalez Martinez - Universidade Federal de Pernambuco.

2020-2021 Andressa Gomes - Universidade Federal de Pernambuco.

2019-2021 Ademir Benteus Pampu - Universidade Federal de Pernambuco.

PHD STUDENTS

2022- Jandeilson Santos da Silva - expected to 2025 - Universidade Federal de Pernambuco.

2022- Juan Ricardo Munoz Galeano - expected to 2024 - Universidade Federal de Pernambuco.

2019-2023 Isadora Maria de Jesus - Well-posedness and stabilization theory for dispersive systems - Universidade Federal de Pernambuco.

2019-2023 Luan Soares - Some control results for the KdV-type equation - Universidade Federal de Pernambuco.

2016-2020 Milena Monique de Santana Gomes - Well-posedness and controllability of Kawahara equation in weighted Sobolev spaces - Universidade Federal de Pernambuco.

MASTERS STUDENTS

2022- Érick Caetano Alves do Nascimento - expected to 2024 - Universidade Federal de Pernambuco.

2022- Jefferson Henriques Bezerra - expected to 2024 - Universidade Federal de Pernambuco.

2020-2022 Juan Ricardo Muñoz Galeano - Well-posedness and controllability of the KdV-KdV type system- Universidade Federal de Pernambuco.

2016-2018 Hugo Deleon Pereira de Medeiros - Stabilization for a coupled system of KdV-KdV type system - Universidade Federal de Pernambuco.

2016-2018 Elthon Matheus Araújo - Well-posedness, controllability, and stabilization of KdV equation on the periodic domain - Universidade Federal de Pernambuco.

UNDERGRADUATE STUDENTS

2022-2023 Raffael Marinho de Arruda Feitosa - ODEs and applications - Universidade Federal de Pernambuco.

2021-2022 Daniel Alves de Lima - Control theory for PDEs- Universidade Federal de Pernambuco.

2020-2021 Guilherme Araújo - ODEs and applications in control theory - Universidade Federal de Pernambuco.

2020-2021 Mateus Ferreira de Melo - Control theory and PDEs - Universidade Federal de

Pernambuco.

2019-2020	Mateus Ferreira de Melo - Measure and integration - Universidade Federal de Pernambuco.
2018-2019	Mateus Ferreira de Melo - Functional analysis and applications - Universidade Federal de Pernambuco.
2018-2019	Rafael Marques Cavalcante Neto - Control theory applied in ODEs- Universidade Federal de Pernambuco.
2017-2018	Mateus Ferreira de Melo - Control theory applied in ODEs - Universidade Federal de Pernambuco.

RESEARCH GRANTS

2022 – 2025 · *Well-posedness, control, and stabilization for non-linear dispersive systems* - Grant: 59.400,00 Brazilian real
Agency: National Council for Scientific and Technological Development

2021 – 2022 · *Control Theory and Microlocal Analysis with Applications in Partial Differential Equations (MathAmSud)* - Grant: 175.000,00 Brazilian real
Agency: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior

2019 – 2021 · *Asymptotic behavior and control properties for nonlinear dispersive systems* - Grant: 20.000,00 Brazilian real
Agency: National Council for Scientific and Technological Development

2018 – 2021 · *Well-posedness, control, and stabilization for non-linear dispersive systems* - Grant: 39.600,00 Brazilian real
Agency: National Council for Scientific and Technological Development

OTHER INFORMATION

Scientific Short Visits

- Universidad de Chile, Santiago, Chile.
- Universidad Nacional de Colombia - Sede Manizales, Colombia
- Universidad Del Valle, Cali, Colombia.
- Universidade Federal de Minas Gerais, Minas Gerais, Brazil.
- Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.
- Universidade Federal de Alagoas, Maceió, Brazil.
- University of Cincinnati, USA.
- Sichuan International Studies University, SISU, China.
- Université de Strasbourg, UNISTRA, France.

ORGANIZATION OF EVENTS, SYMPOSIUM AND SECTIONS

Mar 2023	Mini-symposium on Recent developments on partial differential equations and applications at SIAM Southeastern Atlantic Section Annual Meeting - Blacksburg - Virginia - USA
Mar 2023	Recife Summer Workshop on Differential Geometry - Recife - Pernambuco - Brazil.

<i>Feb 2023</i>	I Symposium of Nonlinear Partial Differential Equations at UFPE - Recife - Pernambuco - Brazil.
<i>Jan 2023</i>	Special section "Control and Stabilization for Partial Differential Equations" on LACIAM - Rio de Janeiro - Brazil.
<i>Jun 2021</i>	III Summer Workshop of PDEs and Dynamical Systems - Recife - Pernambuco - Brazil.
<i>Feb 2020</i>	II Summer Workshop of PDEs and Dynamical Systems - Recife - Pernambuco - Brazil.
<i>Feb 2020</i>	I Summer Workshop of Geometry - Brazil.
<i>Feb 2019</i>	I Summer Workshop of PDEs and Dynamical Systems - Recife - Pernambuco - Brazil.
<i>Oct 2018</i>	Colóquio Pernambucano de Matemática - Recife - Pernambuco - Brazil.
<i>Feb 2017</i>	Recife Workshop on Control and Stabilization of PDEs - Recife - Pernambuco - Brazil.
<i>Nov 2023</i>	Invited Speaker, Twelfth Ohio River Analysis Meeting 2023 - <i>Fourier transform restriction phenomena and applications to control of dispersive equations</i> - Cincinnati - USA.
<i>Nov 2022</i>	Invited Speaker, 5th Workshop on Nonlinear Dispersive Equations 2022 - <i>Bourgain space and its applications in Control Theory</i> - Belo Horizonte - Brazil.
<i>Nov 2019</i>	Invited Speaker, 4th Workshop on Nonlinear Dispersive Equations 2019 - <i>Well-posedness of the fourth order nonlinear Schrödinger equation in non-standard domains</i> - Rio de Janeiro - Brazil.
<i>Jul 2019</i>	Invited Speaker, 1st Joint Meeting Brazil-France in Mathematics 2019 - <i>Stability and Global Questions for Biharmonic Schrödinger Equation</i> - Rio de Janeiro - Brazil.
<i>Feb 2019</i>	Short communication, ICMC Summer Meeting on Differential Equations - <i>Properties of the biharmonic nonlinear Schrödinger equation</i> - São Carlos - São Paulo - Brazil.
<i>Dec 2018</i>	Invited Speaker, Workshop on Inverse and control problems for physical systems ICoPS 2018 - <i>Properties of the biharmonic nonlinear Schrodinger equation</i> - Valparaíso - Chile.
<i>Aug 2018</i>	Short communication, ICM - <i>Global results on control and stabilization of fourth order NLS on $\mathbb{T}$</i> - Rio de Janeiro - Rio de Janeiro - Brazil.
<i>Dec 2017</i>	Short communication, ICAMI - <i>Critical Length Phenomenon For a Class of Dispersive Systems</i> - San Andres - Colombia.
<i>Jun 2016</i>	Short communication, Nonlinear PDE's @ IMPA - <i>Neumann boundary controllability of the Korteweg-de Vries equation</i> - Rio de Janeiro - Rio de Janeiro - Brazil.
<i>Jul 2015</i>	Invited Speaker, Theoretical, Numerical and Experimental Studies of Nonlinear Dispersive Water Waves - <i>Internal controllability results of the Korteweg-de Vries equation</i> - Tsinghua Sanya International Mathematics Forum - Sanya - China.
<i>Jan 2015</i>	Invited Speaker, Workshop on Control System and Identification Problems - <i>Boundary controllability of the Korteweg-de Vries equation</i> - Valparaíso - Chile.
<i>Oct 2014</i>	Short communication, The 34th Southeastern Atlantic Regional Conference on Differential Equation - <i>Some control results for the Boussinesq system of KdV-KdV type</i> - University of Memphis. Memphis - USA.

REFERENCES

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 Centre Universitaire de la Mi-Voix
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 CS 80699 -62228 Calais Cedex, France
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November 17, 2023