

## CURRICULUM STUDIORUM OF GAETANO SICILIANO

- Academic positions:
  - from May 2012 to July 2013: Assistant Professor at Universidade Federal do ABC, Brazil.
  - from July 2013 to October 2015: Assistant Professor at Institute of Mathematics and Statistics, University of São Paulo (IME-USP, Brazil).
  - from October 2015 to February 2024: Associate Professor at Institute of Mathematics and Statistics, University of São Paulo (IME-USP, Brazil).
  - since February 2024: Associate Professor at Department of Mathematics, University of Bari (Uniba, IT).
- Awards and Qualifications:
  - Granted by the Brazilian National Council for Scientific and Technological Development, (Bolsa PQ, level 2) from 2012 to 2022.
  - Nominated for Grant by the Brazilian National Council for Scientific and Technological Development, (Bolsa PQ, level 1D) 2023 to 2027.
  - Italian National Scientific Qualification by MIUR, for Associate Professor, since 2015.
  - Italian National Scientific Qualification by MIUR, for Full Professor, since 2020.
- Languages: Italian (mother language), English, Spanish, Portuguese.

### 1. EDUCATION

1. Degree in Mathematics in 2005 at University of Bari (Italy), cum laude. Title of the dissertation:
  - *Metodi Variazionali Applicati ad un Sistema di Equazioni di Schrödinger e Maxwell.*Supervisors: prof. Donato Fortunato and Lorenzo Pisani.
2. PhD in Mathematics in 2009 at University of Bari (Italy). Title of the thesis:
  - *Some variational problems for field equations coupled with Maxwell equations.*Supervisor: prof. Lorenzo Pisani.
3. Post-doc from 1st December 2008 to 31th November 2009: research period at Departamento de Análisis Matemático, Universidad de Granada, Granada (Spain), under Grant D.R. n.13800 of University of Bari (Italy).
4. Post-doc from 1st March to 30th September 2010: Grant FAPESP 2010/00068-6 at Instituto de Matematica e Estatística - Universidade de São Paulo, São Paulo (Brazil).
5. Post-doc from October 2010 to April 2012 at Department of Mathematics, University of Bari (Italy).

### 2. TEACHING

1. Graduation: Courses of Calculo Diferencial e Integral I, II, V, Linear Algebra, Funções de várias variáveis.
2. Pos-grad: Métodos Topológicos em EDP, Métodos Variacionais.

### 3. COUNCILS, COMMISSIONS AND CONSULTING

1. Member of Selection and Grants Committee for the Pos-Graduation Program in Mathematics at IME-USP, from 25/09/2015 to 07/04/2017.
2. Member of the Committee of Pos-Graduation of the Mathematics Department at IME-USP, from 08/04/2017 to 15/03/2022.
3. Member of the Committee of International Relations at IME - USP, from 16/09/2016 to 31/01/2024.

4. Member of Council of Department of Mathematics at IME-USP, from 18/04/2017 to 15/05/2022.
5. Member of Research Council of IME - USP from 23/04/2022 to 31/01/2024.
6. President of the jury for the title of Associate Professor, candidate prof. Nataliia Goloshchapova, IME - USP 2021. Other members of the jury: prof. Fabio Natali (UEM), prof. Felipe Linares (IMPA), prof. Gabriela Planas (UNICAMP), prof. Marcone Pereira (IME- USP).
7. Committee of the 23rd, 26th and 28th Simposio Internacional de Iniciação Científica e Tecnológica USP.

#### 4. MEMBERSHIP

1. Member of Istituto Nazionale di Alta Matematica (INdAM), section GNAMPA (Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni) since 2007.
2. Member of the Brazilian Mathematical Society, since 2018.
3. Member of REPRISE - MIUR (Italy), since 2018.

#### 5. OTHERS INFORMATION

1. Visiting period at S.I.S.S.A, Dipartimento di Matematica Applicata "U. Dini" University of Pisa Roma, Granada (ES), Murcia (ES), University of Notre Dame at South Bend (INDIANA, USA) University of São Paulo, São Paulo (BR) and many other universities in Brazil, where he gave more than 30 seminars.
2. Participation in more than 30 Master and PhD. Examining Committee.
3. Participation in more than 70 Workshops, giving a talk in most of them.
4. Participation in international research projects.
5. Organisation of 6 international workshops.
6. Coordinator of the International Academic Agreement USP-Università di Verona, USP-Politecnico di Bari, USP-Università di Bari.
7. Referee for international journals.
8. Reviewer for MathSciNet and zbMATH.
9. Referee for some Brazilian and international research founding agencies.
10. Associate editor of the Open Access Journal of Mathematical and Theoretical Physics (eISSN: 2641-9335) since 23.02.2018

#### 6. PUBLICATIONS

##### Published Articles

- (1) L. Pisani, G. Siciliano, *Neumann condition in the Schrödinger-Maxwell system*, Topol. Methods Nonlinear Anal. **29** (2007), 251–264.
- (2) L. Pisani, G. Siciliano, *Note on a Schrödinger-Poisson system in a bounded domain*, Appl. Math. Lett., **21** (2008), 521–528.
- (3) D. Ruiz, G. Siciliano, *A note on the Schrödinger-Poisson-Slater equation on bounded domain*, Adv. Nonlinear Stud., **8** (2008), 179–190.
- (4) J. Bellazzini, C. Bonanno, G. Siciliano, *Magneto-static vortices in two dimensional Abelian Gauge Theories*, Mediter. J. Math., **3** (2009), 349–369.
- (5) P. d'Avenia, L. Pisani, G. Siciliano, *Dirichlet and Neumann problems for Klein-Gordon-Maxwell systems*, Nonlinear Anal. **71** (2009), e1985–e1995.
- (6) P. d'Avenia, L. Pisani, G. Siciliano, *Klein-Gordon-Maxwell systems in a bounded domain*, Discrete Contin. Dyn. Syst. A, **26** (2010), 135–149.
- (7) G. Siciliano, *Multiple positive solutions for a Schrödinger-Poisson-Slater system*, J. Math. Anal. Appl. **365** (2010), 288–299.
- (8) D. Ruiz, G. Siciliano, *Existence of ground states for a modified nonlinear Schrödinger equation*, Nonlinearity, **23** (2010), 1221–1233.
- (9) T. D'Aprile, G. Siciliano, *Magnetostatic solutions for a semilinear perturbation of the Maxwell equations*, Advances in Diff. Equations, **16** (2011) 5-6, 435–466.

- (10) J. Bellazzini, G. Siciliano, *Stable standing waves for a class of nonlinear Schrödinger-Poisson equations*, Z. Angew. Math. Phys., **62** (2011), 267–280.
- (11) J. Bellazzini, G. Siciliano, *Scaling properties of functionals and existence of constrained minimizers*, J. Funct. Anal. **261** (2011), 2486–2507.
- (12) L. Pisani, G. Siciliano, *Constrained Schrödinger-Poisson system with non constant interaction*, Comm. Contemporary Math., **15** (2013) 1, 1-18.
- (13) R. Ghini Bettiol, P. Piccione and G. Siciliano, *Equivariant bifurcation in geometric variational problems*, Progress in Nonlinear Differential Equations and Their Applications, **85**, 100–133. 2014, Springer International Publishing AG.
- (14) R. Ghini Bettiol, P. Piccione and G. Siciliano, *Deforming solutions of geometric variational problems with varying symmetry groups*, Transform. Groups **19** (2014), no. 4, 941–968.
- (15) L. Pisani and G. Siciliano, *Normalized solutions for a Schrödinger-Poisson system under a Neumann condition*, Progress in Nonlinear Differential Equations and Their Applications, **85**, 341–352. 2014, Springer International Publishing AG.
- (16) P. d’Avenia, L. Pisani and G. Siciliano, *Nonautonomous Klein-Gordon-Maxwell Systems in a Bounded Domain*, Adv. Nonlinear Anal., **3** (2014), suppl. 1, s37–s45.
- (17) R. Ghini Bettiol, P. Piccione, G. Siciliano, *On the equivariant implicit function theorem with low regularity and applications to geometric variational problems*, Proc. Edinburgh Math. Soc., **58** (2015), 53–80.
- (18) P. d’Avenia, G. Siciliano and M. Squassina, *On fractional Choquard Equations*, Math. Models Methods Appl. Sci., Vol. 25, No. 8 (2015) 1447–1476.
- (19) P. Cunha, P. d’Avenia, A. Pomponio, G. Siciliano, *A multiplicity result for Chern-Simons-Schrödinger equation with a general nonlinearity*, NoDEA **22** n. 6 (2015), 1831-1850.
- (20) G. M. Figueiredo, G. Siciliano, *A multiplicity result via Ljusternick-Schnirelmann category and Morse theory for a fractional schrödinger equation in  $\mathbb{R}^N$* , NoDEA, **23** (2016), no. 2, Art. 12, 22 pp.
- (21) G. M. Figueiredo and G. Siciliano, *Positive solutions for the fractional laplacian in the almost critical case in a bounded domain*, Nonlinear Analysis: Real World Applications **36** (2017), 89–100.
- (22) J.R. Santos Jr. and G. Siciliano *On a generalized Kirchhoff equation with sublinear nonlinearities*, Math. Methods Appl. Sci. **40** (2017), no. 10, 3493–3503.
- (23) E. G. Murcia and G. Siciliano, *Positive semiclassical states for a fractional Schrödinger-Poisson system*, Diff. Integral Equations, **30** (2017), no. 3-4, 231–258.
- (24) C.O. Alves, G.M. Figueiredo and G. Siciliano, *Ground state solutions for fractional scalar field equations under a general critical nonlinearity*, Comm. Pure Appl. Anal, **18** n. 5, (2019) 2199–2215.
- (25) G. M. Figueiredo, M. T. Pimenta and G. Siciliano, *Multiplicity results for the fractional laplacian in expanding domains*, Mediter. J. Math., **15** (2018), 23pp.
- (26) J.R. Santos Junior, G. Siciliano, *Positive solutions for a Kirchhoff problem with vanishing nonlocal term*, Jour. Diff. Eq., **265** (2018), 2034–2043.
- (27) A. Azzollini, A. Pomponio and G. Siciliano, *On the Schrödinger-Borni-Infeld System*, Bull. Braz. Math. Soc. (N.S.) **50** (2019), no. 1, 275–289.
- (28) G.M. Figueiredo, G. Siciliano, *Quasi-linear Schrödinger-Poisson system under an exponential critical nonlinearity: existence and asymptotic behaviour of solutions*, Arch. Math. **112** (2019), 313–327.
- (29) G. Siciliano, K. Silva, *The fibering method approach for a non-linear Schrödinger equation coupled with the electromagnetic field*, Publ. Mat. **64** (2020), 373–390. DOI: 10.5565/PUBLMAT6422001
- (30) E.G. Murcia and G. Siciliano, *Least energy radial sign-changing solutions for the Schrödinger-Poisson system in  $\mathbb{R}^3$  under an asymptotically cubic nonlinearity*, J. Math. Anal. Appl., **474** (2019), 544–571.
- (31) P. d’Avenia and G. Siciliano, *Nonlinear Schrödinger equation in the Bopp-Podolsky electrostatics: solutions in the electrostatic case*, J. Diff. Equations, **267** (2019) 1025–1065.

- (32) W. Cintra, J.R. Santos Junior, G. Siciliano, Antonio Suárez, *Existence results of positive solutions for Kirchhoff type equations via bifurcation methods*, *Math. Z.* **295** (2020), no. 3-4, 1143–1161.
- (33) J.R. Santos Junior, G. Siciliano, *On a generalized Timoshenko-Kirchhoff equation with sublinear nonlinearities*, *J. Math. Anal. Appl.* **480** (2019), pag. 123394
- (34) G. Siciliano, G. M. Figueiredo, *Normalized solutions for an horizontal transmission problem*, *Appl. Anal.* DOI: 10.1080/00036811.2020.1712371
- (35) V. Ambrosio, T. Isernia and G. Siciliano, *On a fractional  $p&q$ -Laplacian problem with critical growth*, "Nonlinear Phenomena: Theory and Applications", in *Minimax Theory and its Applications*, **4** (2019), No. 1, 1–19.
- (36) L. Biliotti, G. Siciliano, *A group theoretic proof of a compactness lemma and existence of nonradial solutions for semilinear elliptic equations*, *Ann. Mat. Pura e Appl.*, <https://doi.org/10.1007/s10231-020-01016-y>.
- (37) G.M. Figueiredo, G. Siciliano, *Existence and asymptotic behaviour of solutions for a quasilinear Schrödinger-Poisson system under a critical nonlinearity*, *Z. Angew. Math. Phys.* **71**, 130 (2020). <https://doi.org/10.1007/s00033-020-01356-y>
- (38) G.M. Figueiredo, U.B. Severo, G. Siciliano, *Multiplicity of positive solutions for a quasilinear Schrödinger equation with an almost critical nonlinearity*, *Adv. Nonlinear Stud.* **20** (2020), no. 4, 933–963.
- (39) Z. Liu, G. Siciliano, *A perturbation approach for the Schrödinger-Born-Infeld system: Solutions in the subcritical and critical case*, *J. Math. Anal. Appl.* **503** (2021), 125326.
- (40) E.G. Murcia, G. Siciliano, *Corrigendum to "Least energy radial sign-changing solution for the Schrödinger-Poisson system in  $\mathbb{R}^3$  under an asymptotically cubic nonlinearity"* [*J. Math. Anal. Appl.* **474** (2019) 544-571], *J. Math. Anal. Appl.* **507** (2022) 125756.
- (41) P. d'Avenia, L. Maia, G. Siciliano, *Hartree-Fock type systems: existence of ground states and asymptotic behavior*, *Journal of Differential Equations* **335**, (2022) 580 – 614.
- (42) J. R. Santos Junior, G. Siciliano, *Multiple solutions for some strongly degenerate second order elliptic equations*, *Asymptotic Analysis* **129** (2022) 261–272.
- (43) L. Gasiński, J. R. Santos Jr., G. Siciliano, *Positive solutions for a class of nonlocal problems with possibly singular nonlinearity*, *J. Fixed Point Theory Appl.* **24**, 65 (2022). <https://doi.org/10.1007/s11784-022-00982-5>
- (44) B. Mascaro, G. Siciliano, *Positive Solutions For a Schrödinger-Bopp-Podolsky system*, *Communications in Mathematics*, **31**, n. 1 (2023), 237–249.
- (45) D. G. Afonso, G. Siciliano, *Normalized solutions to a Schrödinger-Bopp-Podolsky system under Neumann boundary conditions*, *Comm. Contemporary Math.* **25** No. 2 (2023) 2150100 (20 pages).
- (46) G. Ramos de Paula, G. Siciliano, *Existence and limit behavior of least energy solutions to constrained Schrödinger-Bopp-Podolsky systems in  $\mathbb{R}^3$* , *Z. Angew. Math. Phys.* (2023) 74:56.
- (47) G. M. Figueiredo, G. Siciliano, *Multiple solutions for a Schrödinger-Bopp-Podolsky system with positive potentials*, *Math. Nachrichten* **296** (2023) 2332–2351.
- (48) G. Siciliano, K. Silva, *On the structure of the Nehari set associated to a Schrödinger-Poisson system with prescribed  $L^2$  norm: old and new results*, *Israel Journal of Math.* (2023) 1–49.
- (49) L. H. Soriano, G. Siciliano, *Existence and asymptotic behavior of solutions to eigenvalue problems for Schrödinger-Bopp-Podolsky equations*, *Electronic Journal of Differential Equations*, **2023** (2023), No. 66, pp. 1–18.
- (50) H. Ramos Quoirin, G. Siciliano, K. Silva, *Critical points with prescribed energy for a class of functionals depending on a parameter: existence, multiplicity and bifurcation results*, *Nonlinearity* **37** (2024), no. 6, 065010 (40pp).

## Proceedings

- (1) L. Pisani, G. Siciliano, *Some results on the Schrödinger-Poisson system in a bounded domain*. *Dynamic Systems and Applications*, Atlanta, Georgia, USA. 30 Maio – 2 Junho de 2007. (vol.

5, pp. 402 – 406). ISBN/ISSN: 1-890888-01-6.: Dynamic Publisher, Inc. (UNITED STATES), 2008. (double referee).

- (2) G. Siciliano, *A minimization problem for the Nonlinear Schrödinger-Poisson type Equation*, São Paulo J. Math. Sci. **5**, 2 (2011), 1–25.
- (3) P. d’Avenia, G. Siciliano and M. Squassina, *Existence results for a doubly nonlocal equation*, São Paulo J. Math. Sci., **9** n. 2 (2015), 311–324.
- (4) G. Siciliano, *Ground state solutions for Schrödinger-Born-Infeld equations*, Matemática Contemporânea, **51**, (2022), 162–179.
- (5) Humberto R. Quoirin, Gaetano Siciliano, Kaye Silva, *Critical points at prescribed energy level for Schrödinger-Bopp-Podolsky systems*, Matemática Contemporânea **56**, (2023), 4–19.

#### Submitted Articles

- (1) Q. Jiang, L. Li, S. Chen, G. Siciliano, *Ground state solutions for the nonlinear Schrödinger-Bopp-Podolsky systems with nonperiodic potentials*,
- (2) H. Melhora Santos, G. Siciliano, *critical Schrödinger-Bopp-Podolsky systems: solutions in the semiclassical limit*,
- (3) G. de Paula Ramos, G. Siciliano *Existence and concentration of semiclassical bound states for a quasilinear Schrödinger-Poisson system*,

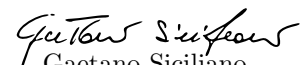
#### Book Chapters

- (1) G. Siciliano, *The Ljusternick-Schnirelmann Theory applied to a Schrödinger-Poisson system*, Lecture Notes of Seminario Interdisciplinare di Matematica, vol XIII - Recent Advances in Nonlinear PDEs Theory, A. Azzollini Ed. (2016) Pag 145 – 160.
- (2) G. Figueiredo, E.G. Murcia and G. Siciliano, *Variational Methods for Schrödinger Type Equations* in Current Trends in Mathematical Analysis and Its Interdisciplinary Applications, H. Dutta, L.D.R. Kovcinac, H. M. Srivastava Editors, Birkäuser 2019, pag. 565 – 645.
- (3) G. Siciliano, *Normalized solutions for Schrödinger type equations under Neumann boundary conditions*, Contemporary Math. **786** (2023), 141–184.

#### Other publications

- (1) G. Siciliano, *Alcuni problemi variazionali per equazioni di campo accoppiate con le equazioni di Maxwell*, Bollettino dell’Unione Matematica Italiana, Fascicolo Tesi di Dottorato, **3**, no. 1, Bologna, 2010, 83–86.
- (2) G. Siciliano, *Métodos Variacionais e Topológicos em Equações Diferenciais Parciais*, Notes for the Qualification for Associate Professor (IME-USP), 37 pp.
- (3) G. Siciliano, *Equações elípticas semilineares: uma introdução ao método variacional*, pag. 1-50, Notes of Minicourse, 4o Coloquio de Matemática da Região Centro-Oeste, Catalão (GO), 16 - 20 de Novembro de 2015.

Bari, May 9th 2024

  
Gaetano Siciliano