

Maurício Corrêa

*Full Professor of Geometry-
University of Bari-Italy*

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Personal information

Place and date of birth: Bom Jesus do Galho (Minas Gerais, Brazil); March 18th, 1980.

Professional address: Università degli Studi di Bari, Italy

ORCID iD

<https://orcid.org/0000-0002-5263-0966>

Education

2007–2010 **Ph.D. in Mathematics (Algebraic Geometry and Holomorphic Foliations)**, *Universidade Federal de Minas Gerais (UFMG)*, May 6, 2010, Belo Horizonte.

Thesis on: “*Algebraic integrability of holomorphic foliations and Poincaré problem*”, awarded the CAPES National Thesis Prize 2011 for the Best Ph.D. Thesis in Mathematics.

Advisor: Prof. *Marcio Gomes Soares*.

2005–2006 **Master Degree in Mathematics**, *Universidade Federal de Minas Gerais (UFMG)*, December 16, 2006.

Thesis on: “*On the non-existence of a codimension one holomorphic foliation transverse to a sphere.*”

Advisor: Prof. *Marcio Gomes Soares*.

2000–2004 **Bachelor Degree in Mathematics**, *Centro Universitario de Caratinga(UNEC)*, December 15, 2004, .

Present Position

2024– **Full Professor of Geometry**, *Università degli Studi di Bari Aldo Moro*, Bari, Italy.

Past Employment

2021–2024 **Associate Professor**, *Università degli Studi di Bari Aldo Moro*, Bari, Italy.

2018–2021 **Associate Professor**, *Universidade Federal de Minas Gerais (UFMG)*, Belo Horizonte, Brazil.

2013–2018 **Assitant Professor**, *Universidade Federal de Minas Gerais (UFMG)*, Belo Horizonte, Brazil.

2018–2021 **CNPq Research Fellow**, *Level 1D*, .

2013–2018 **CNPq Research Fellow**, *Level 2*, .

- 2010–2012 **Assitant Professor** , *Universidade Federal de Viçosa-UFV*, Viçosa, Minas Gerais, Brazil.
- 2006–2007 **Assistent professor**, *Universidade of Para de Minas-FAPAM*, Para de Minas, Minas Gerais, Brazil.
- 2002–2004 **High School Math teacher**, *Municipal School of Bom Jesus do Galho*, Bom Jesus do Galho, Brazil .

Visiting Positions

- 2019-2019 **Academic visitor**, *Università degli Studi di Ferrara*, Ferrara-Italy.
Visiting Prof. *Alex Massarenti*.
- 2018-2019 **Academic visitor**, *University of Oxford* , Geometry Group, Oxford-UK.
Visiting Prof. *Nigel Hitchin*. 2018.
- 2016-2017 **Visiting researcher**, *Universidade Estadual de Campinas(UNICAMP)*, Campinas-São Paulo, Brazil, GTAG - Gauge theory and algebraic geometry research group.
Visiting Prof. *Marcos Jardim*.

Qualifications

- Italian qualification for Full Professor(Professore Ordinario). Settore 01/A2 - Geometria e Algebra. 2023.
- Italian qualification for Associate Professor. Settore 01/A2 - Geometria e Algebra. 2020. (Abitolazione alle funzioni di professore di seconda fascia in Geometria.)
- Associate Professor-Federal University of Minas Gerais. Brazil. 2018.

Awards and Honours

- Italian qualification for Full Professor(Professore Ordinario). Settore 01/A2 - Geometria e Algebra. 2023.
- Selected Ramon y Cajal research fellowship. 2021-Spain.
- Italian qualification for Associate Professor. Settore 01/A2 - Geometria e Algebra. 2020.
- CNPq Research Productivity Grant: Level 1D-2019.
- Bolsa CNPq Pos-doc no Exterior-Oxford University, CNPq, 2018.
- FAPESP grant for visiting Researcher- 2016.
- CNPq Research Productivity Grant: Level 2- 2013.
- Affiliate Member of Brazilian Academy of Sciences- 2013-2017.
- CAPES National Thesis Prize 2011 for the Best Ph.D. Thesis in Mathematics-2011.
- Honorable Mention UFMG Thesis Grand Prize for the Best Ph.D. Thesis in the field of Exact Sciences. 2011.
- UFMG Thesis Prize for the Best Ph.D. Thesis in Mathematics-2011.
- II Prêmio Paulo Gontijo de Matemática-2011.

Short visit

- *March, 2009*: in Campinas-UNICAMP, visiting Prof. *Marcos Jardim*.
- *December, 2010*: in Campinas-UNICAMP, visiting Prof. *Marcos Jardim*.
- *March, 2013*: in Rio de Janeiro-IMPA, visiting Prof. *Henrique Bursztyn*.
- *August, 2013*: in Guanajuato-CIMAT-Mexico, visiting Prof. *Omegar Calvo Andrade*.
- *September, 2013*: in Sapporo-Japan, visiting *Tatsuo Suwa*.
- *October, 2013*: in Rio de Janeiro-IMPA, visiting Prof. *Carolina Araujo*.
- *December, 2013*: in Valladolid-Spain, visiting Prof. *Felipe Cano*.

- October, 2014: in Marseille-France, visiting Prof. *Jean-Paul Brasselet*.
- December, 2014: in Campinas-UNICAMP, visiting Prof. *Marcos Jardim*.
- May 2015: in Marseille-France, visiting Prof. *Jean-Paul Brasselet*.
- October 2015: in Sapporo-Japan, visiting Prof. *Tatsuo Suwa*.
- January, 2016: in Rio de Janeiro-IMPA, visiting Prof. *Carolina Araujo* and Prof. *Alex Massarenti*.
- August, 2016: in Sapporo-Japan, visiting Prof. *Tatsuo Suwa*.
- February, 2017: in Campinas-UNICAMP, visiting Prof. *Marcos Jardim*.
- October, 2017: in Rio de Janeiro-IMPA, visiting Prof. *Henrique Bursztyn*.
- January, 2018: in Rio de Janeiro-IMPA, visiting Prof. *Misha Verbitsky*.
- September, 2018: in Lima-Peru, visiting Prof. *Rudy Rosas*.
- November, 2018: in London-Imperial College, visiting Prof. *Alessio Corti*.
- November, 2018: in Edinburgh, Edinburgh University, visiting Prof. *Brent Pym*.
- January, 2019: in Ferrara-Italy, visiting Prof. *Alex Massarenti*.
- August, 2019: in Campinas-UNICAMP, visiting Prof. *Marcos Jardim*.
- January, 2020: in Rio de Janeiro-IMPA, visiting Prof. *Carolina Araujo*.
- agosto, 2023: in Belo Horizonte-UFMG, Brazil, visiting Prof. *Andre Contiero* and Prof. *Israel Vainsencher*.
- September, 2023: in Florence, Italy, University of Florence, visiting Prof. *Daniele Angela*.
- January, 2024: in Turin, Italy, Polytechnic University of Turin, visiting Prof. *Letterio Gatto*.

Scientific Activity

The branches of mathematics in which I am most interested are Algebraic and Complex Geometry, Singularity Theory and holomorphic distributions and foliations. I have also dedicated myself to the study of holomorphic Poisson geometry and supergeometry.

Research interests; Localization and residues of characteristic classes (Chern classes of foliations, Morita-Futaki invariants, Bott-Chern classes-GSV classes- logarithmic index); Localization theory on complex supermanifolds; Moduli spaces of holomorphic distributions and foliations; Algebro-geometric description of singular schemes of distributions and foliations; Birational geometry of foliations; Classification of distributions and foliations on Fano varieties. Normal forms for Singular Pfaff equations. Holomorphic Poisson geometry and co-Higgs sheaves.

Publications

1. M. Corrêa; M. Jardim, S. Marchesi, *Classification of the invariants of foliations by curves of low degree on the three-dimensional projective space*.
Revista Matemática Iberoamericana, 2023.
2. M. Corrêa, A. Molinuevo, F. Quallbrunn, *Families and unfoldings of singular holomorphic Lie Algebroids*.
Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, 2023.
3. M. Corrêa, I. Vainsencher *Enumerative geometry of Legendrian foliations: a Tale of Contact*. 2023. To appear on *Perspectives on four decades: Algebraic Geometry 1980-2020. In memory of Alberto Collino*.
Trends in Mathematics, Birkhäuser.
4. M. Corrêa, D. Machado, *A global residue formula for logarithmic indices of foliations*.
To appear in **Communications in Analysis and Geometry**, 2023.
5. M. Corrêa; M. Jardim, A. Muniz, *Moduli of Distributions via Singular Schemes*.
Mathematische Zeitschrift, 2022.
6. M. Corrêa, F. Lourenço, D. Machado, Antonio M. Ferreira, *On Gauss-Bonnet and Poincaré-Hopf type theorems for complex ∂ -manifolds*.
Moscow Mathematical Journal, 2021.

7. M. Corrêa, Antonio M. Ferreira, Misha Verbitsky, *Classification of holomorphic Pfaff systems on Hopf manifolds*,
European Journal of Mathematics, 2021.
8. M. Corrêa, M. Soares, A. Fernandez-Perez, *Brunella–Khanedani–Suwa variational residues for invariants currents*. **Journal of Singularities**, 2021.
9. M. Corrêa, O. Calvo-Andrade, M. Jardim, *Codimension one distributions and stable rank 2 reflexive sheaves on threefolds*.
Annals of the Brazilian Academy of Sciences. 2021.
10. M. Corrêa, V. Soares dos Reis, *A singular Darboux type theorem and non-integrable projective distributions of degree one*,
Boletín de la Sociedad Matemática Mexicana, 2021.
11. M. Corrêa, *Rational Morita equivalence for holomorphic Poisson modules*.
Advances in Mathematics. 2020.
12. M. Corrêa; O. Calvo-Andrade, M. Jardim, *Codimension one holomorphic distributions on projective three-spaces*.
International Mathematics Reserch Notices. 2020.
13. M. Corrêa; D. Machado, *GSV-index for holomorphic Pfaff systems*.
Documenta Mathematica. 2020.
14. M. Corrêa; T. Suwa. *Localization of Bott-Chern classes and Hermitian residues*.
Journal of the London Mathematical Society. 2020.
15. A. Cavalcante, M. Corrêa, S. Marchesi, *On holomorphic distributions on Fano threefolds*,
Journal of Pure and Applied Algebra. 2020.
16. M. Corrêa; D. Machado, *Residue formulas for logarithmic foliations and applications*.
Transactions of the American Mathematical Society. 2019.
17. M. Corrêa ; A. Muniz, *Polynomial bounds for automorphism groups of foliations*,
Revista Matemática Iberoamericana. 2019.
18. M. Corrêa; F. Lourenço, *Determination of Baum–Bott residues for Higher dimensional foliations*,
Asian Journal of Mathematics. 2019.
19. M. Corrêa; L. Câmara, *Residues for maps generically transversal to foliations*.
Proceedings of the American Mathematical Society, 2018.
20. C. Araujo, M. Corrêa, A. Massarenti, *Codimension one Fano distributions on Fano manifolds*,
Communications in Contemporary Mathematics, v.20, p.1750058 , 2018.
21. M. Corrêa; J-P. Brasselet, F. Lourenço, *Residues for flags of holomorphic foliations*,
Advances in Mathematics. vol. 320, n.7, 1158-1184, 2017.
22. M. Corrêa ; A. Fernandez-Perez; *Absolutely k -convex domains and holomorphic foliations on homogeneous manifolds* ,
Journal of the Mathematical Society of Japan, vol. 69, n.3, 1235-1246, 2017.
23. M. Corrêa ; A. Fernandez-Perez; O. Calvo-Andrade, *Higher codimensional holomorphic foliations with a Kupka set*.
International Journal of Mathematics, vol. 28, n.3, 2017.
24. M. Corrêa ; A. M. Rodriguez ; F. Brochero Martinez; *Poincaré problem for weighted projective foliations*.
Bulletin Brazilian Mathematical Society , 48, (2), 219-235, 2017.
25. M. Corrêa ; A. M. Rodriguez; *Residue formula for Morita–Futaki–Bott invariants on complex orbifolds -*
Comptes Rendus Mathématique. (354), 1109-1113, 2016.
26. M. Corrêa ; A. Fernandez-Perez; O. Calvo-Andrade, *On non-Kupka points of codimension one foliations on \mathbb{P}^3* .
Annals of the Brazilian Academy of Sciences. vol. 88, n.4, 2016.

27. M. Corrêa , *Rank two nilpotent co-Higgs sheaves on complex surfaces*, **Geometriae Dedicata**, 183, (1), 25-31, 2016.
28. M. Corrêa ; L. G. Maza, *Engel Theorem through singularities*. **Bulletin des Sciences Mathématiques**, 140, (6), 675-686. 2016.
29. M. Corrêa ; A. M. Ferreira; A. Fernandez-Perez, *Classification of holomorphic distributions on Hopf manifolds*. **Mathematische Annalen**. v. 365, (1) , 579-593, 2016.
30. M. Corrêa ; A. M. Rodriguez; M. G. Soares. *A Bott type residues formula for complex orbifolds*. **International Mathematics Research Notices**, (10), 2889-2911, 2016.
31. M. Corrêa ; M. Jardim ; R. Vidal . *On the Singular scheme of split foliations*, **Indiana University Mathematics Journal**, 64 No. 5 1359-1381, 2015.
32. M. Corrêa ; L. G. Maza, M. G. Soares, *Hypersurfaces Invariant by Pfaff Equations*, **Communications in Contemporary Mathematics**, 17, 1450051. 2015.
33. M. Corrêa ; G. N. Costa ; A. Fernandez-Perez ; R. Vidal . *Foliations by curves with curves as singularities*, **Annales de l'institut Fourier**, 64 n.4 , pg. 1781-1805- 2014.
34. M. Corrêa ; T. Fassarella, *On the order of the automorphism group of foliations*, **Mathematische Nachrichten** , 287, No 16, 1795-1803, 2014.
35. C. Araujo, M. Corrêa ; *On degeneracy scheme of maps of vector bundles and application to holomorphic foliations*, **Mathematische Zeitschrift** , v 276 , issue 1-2, pp. 505-515, 2013.
36. M. Corrêa ; M. Soares, *A note on Poincaré problem for quasi-homogeneous foliations*. **Proceedings of the American Mathematical Society**, v. 145, p. 1, 2012.
37. M. Corrêa ; M. Jardim . *Bounds for sectional genera of varieties invariant under Pfaff fields*. **Illinois Journal of Mathematics**, vol. 56-2, pg 343-352,2012
38. M. Corrêa ; Maza, L.G. ; M. G. Soares . *Algebraic integrability of polynomial differential r-forms*. **Journal of Pure and Applied Algebra**, v. 215, p. 2290-2294, 2011.
39. M. Corrêa Jr ; *An improvement to Lagutinskii-Pereira integrability Theorem*. **Mathematical Research Letters**, v. 18, p. 645-661, 2011.
40. M. Corrêa ; M. G. Soares ; *A Poincaré type inequality for one-dimensional multiprojective foliations*. **Bulletin Brazilian Mathematical Society** , v. 42, p. 485-503, 2011.
41. M. Corrêa Jr; *Darboux Integrability For Polynomial Vector Fields Invariant Under Action of Finite Group*, **Qualitative Theory of Dynamical Systems**, v. 11, p. 159-166, 2011.
42. M. Corrêa Jr ; M. G. Soares . *Counting hypersurfaces invariant by one-dimensional complex foliations*. **London Mathematical Society. Lecture Note Series**, v. 308, p. 104-113, 2010.
43. M. Corrêa Jr ; *Darboux–Jouanolou–Ghys integrability for one-dimensional foliations on toric varieties*. **Bulletin des Sciences Mathématiques**, v. 134, p. 693-704, 2010.

Surveys:

44. M. Corrêa; *On classification and moduli spaces of holomorphic distributions*. 2023. To appear in **Matematica Contemporanea**. Proceedings of the 2nd International Meeting of Young Researchers in Singularity Theory and Related Fields .
45. M. Corrêa; *Analytic varieties invariant by foliations and Pfaff systems*. To appear in **Handbook of Singularities Theory and Foliations**, 2024.

Submitted papers:

46. M. Corrêa, A. Muniz, *Holomorphic foliations of degree two and arbitrary dimension*. 2023. (arXiv:2207.12880v3).

47. M. Corrêa, O. Calvo-Andrade, J. Fonseca-Quispe. *Dimension two holomorphic distributions on four-dimensional projective space*. 2022. (arXiv:2207.08901).
48. M. Corrêa, L. Abath, A. M. Perez, *On Localization formulas for complex supermanifolds*, 2019. (arXiv:1909.13087).

Book

M. Corrêa, *Campos polinomiais e hipersuperfícies algébricas invariantes*, Lecturas Matemáticas . Lima-Peru, Departamento de Ciências, Sección Matemáticas v. 3, PUCP, 2017.

Experience as a supervisor

Ph.D. students:

2021– **Ph.D. Thesis**, *Alejandra Russi*, Bound for Milnor number for foliations with non-isolated singularities., Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with Gilcione Nonato(UFGM).

Concluded

2019– 2023 **Ph.D. Thesis**, *Emerson Lech Taipe Huamani* , On codimension one distributions with $c_1 = 0$ on Fano 3-folds, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .

2016–2020 **Ph.D. Thesis**, *Julio Leo Quispe*, Horrocks-Mumford Holomorphic Distributions, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with O. Calvo-Andrade(Centro de Investigación en Matemáticas (CIMAT)-Mexico)

2015–2018 **Ph.D. Thesis**, *Leonardo Abath*, Localizations formulas on complex supermanifolds, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with A. Miguel Pena

2015–2018 **Ph.D. Thesis**, *Alana Cavalcante*, Holomorphic distributions on Fano threefolds , Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .

2014–2017 **Ph.D. Thesis**, *Vinicius Soares dos Reis*, Normal forms for singular Pfaff systems, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .

2013–2016 **Ph.D. Thesis**, *Alan Muniz*, Polynomial bounds for automorphism groups of foliations, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .

2013–2016 **Ph.D. Thesis**, *Diogo Machado*, Residuos e classes características para folheações do tipo logarítmicas, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .

2013–2016 **Ph.D. Thesis**, *Fernando Lourenço*, Baum-Bott residues of flags of holomorphic foliations, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with Jean-Paul Brasselet(Institut de Mathématiques de Luminy UMR-France)

2012–2015 **Ph.D. Thesis**, *Arnulfo Miguel Rodriguez Pena*, Formulas residuais de tipo Bott e invariante de Futaki para orbifolds complexas , Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with Marcio Gomes Soares

2012–2014 **Ph.D. Thesis**, *Antonio Marcos Ferreira da Silva* , Classificação de distribuições holomorfas em variedades de Hopf , Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with Arturo Fernandez Perez

Present

2021–present **Ph.D. Thesis**, *Alejandra Russi*, Bounds for Milnor number of vector fields with non-isolated singularities, Universidade Federal de Minas Gerais-UFMG, Belo Horizonte .
Co-advised with Gilcione Nonato

Post-doctoral:

2015–2016 **Post-doc**, *Arnulfo Miguel Rodriguez Pena*, Universidade Federal de Minas Gerais-UFMG ,

Master students:

2020–2021 **Master Thesis**, *Gabriela Cristina de Sá*, Sobre a correspondência de Riemann-Hilbert., Universidade Federal de Minas Gerais-UFMG, Belo Horizonte.

2012–2013 **Master Thesis**, *Alana Nunes Pereira*, Determinacao de folheacoes projetivas pelo seu conjunto singular, Universidade Federal de Viçosa-UFV, Viçosa .

2012–2013 **Master Thesis**, *Michely Santos Oliveira*, Problema de Painlevé para campos de Pfaff, Universidade Federal de Viçosa-UFV, Viçosa .

2011–2012 **Master Thesis**, *Fernando Lourenço*, Teorema de Baum-Bott, Universidade Federal de Viçosa-UFV, Viçosa .

2011–2012 **Master Thesis**, *Vinicius Soares dos Reis*, Hipersuperfícies invariantes em dinâmica complexa, Universidade Federal de Viçosa-UFV, Viçosa .

Undergraduate students:

- Hildemar Falcão Neto. Calculo diferencial via 1-formas. 2018. ¹(UFMG)
- Clayton Cristiano Silva. Teorema de Bezout e Residuos de Abel. 2013. ²(UFV)
- Ygor Gouvea. Teorema de Seidenberg. 2012. (UFV).
- Michely Santos Oliveira. Introdução a geometria algébrica complexa. 2012.(UFV).

Participation in Committees for Phd Thesis:

- Member of the committee for the Ph.D. Thesis: *S-logarithmic components of the moduli space of foliations*, by Mariano Chehebar. Universidad de Buenos Aires. Advisor: Fernando Cukierman. 2023.
- Member of the committee for the Ph.D. Thesis: *Enumeração de superfícies em P^3 singulares ao longo de curvas redutíveis*, by Gilson Granja Ferreira Filho. UFMG. Advisor: Israel Vainsencher. 2023.
- Member of the committee for the Ph.D. Thesis: *Complete Intersection Curves in Biprojective Spaces*, by Maxwell da Paixão de Jesus Santos. UFMG. Advisor: Andre Contiero. 2023.
- Member of the committee for the Ph.D. Thesis: *Classification of holomorphic foliations via birational geometry*, By João Paulo Figueredo. IMPA. Advisor: Carolina Araujo. 2021.
- Member of the committee for the Ph.D. Thesis: *Codimension One Distributions of Degree 2 on the Projective Three-space*, by Hugo Alberto Galeano Anaya. UNICAMP. Advisor: Marcos Jardim. 2020.
- Member of the committee for the Ph.D. Thesis: *Instantons on Sasakian 7-manifolds*, by Luis Ernesto Portilla Paladines. UNICAMP. Advisor: Henrique N. Sá Earp. 2020.
- Member of the committee for the Ph.D. Thesis: *Espaco de Modulos de Triplas de Geodesicas Complexas no Espaco Hiperbolico Complexo de Dimensao 4*, by Tauan Lucas Amaral Brandão. Advisor: Nikolai Gusevskii. UFMG. 2019.
- Member of the committee for the Ph.D. Thesis: *Residuos de foliaciones holomorfas de codimensión uno*, by Jimmy Tamara. Advisor: Arturo Perez. IMCA-Peru. 2018.

UFMG: Federal University of Minas Gerais.

UFV: Federal University of Viçosa.

- Member of the committee for the Ph.D. Thesis: *Entropia de Volume ao longo de Fluxos do tipo Yamabe*, by Wilfredo Renato Lavado. Advisor: Ezequiel Barboza. UFMG. 2017.
- Member of the committee for the Ph.D. Thesis: *Monadas k -lineares sobre hipersuperfícies quadric* by Aydee Lopez Santana. Advisor: Simone Marchesi. UNICAMP. 2017.
- Member of the committee for the Ph.D. Thesis: *Sobre folheações complexas transversalmente afins em codimensão arbitraria*, by Liliana Olga Jurado Cerron. Advisor: Bruno Scardua. UFRJ. 2017.
- Member of the committee for the Ph.D. Thesis: *Sobre Gonalidade, Modelo Canônico de Curvas e Scrolls*, by Jairo Menezes e Souza. Advisor: Renato Vidal Martins. UFMG. 2017.
- Member of the committee for the Ph.D. Thesis: *Sobre o Grau de Componentes dos Espacos das Folheacoes Holomorfas de Codimensao um em CP^n* , by Daniel Carlos Leite. Advisor: Israel Vainsencher. UFMG. 2015.
- Member of the committee for the Ph.D. Thesis: *Curvas de contato no espaço projetivo*, by Eden Santana Campos Amorim. Advisor: Israel Vainsencher. UFMG. 2014.
- Member of the committee for the Ph.D. Thesis: *Weighted Projective Planes and Irreducible Components of the Space of Foliations*, by Ruben Edwin Lizarbe Monje. Advisor: Jorge Vitorio Pereira. IMPA. 2014.
- Member of the committee for the Ph.D. Thesis: *Darboux–Halphen–Ramanujan Vector Field on a Moduli of Calabi–Yau Manifolds*, by Younes Nikdelan. Advisor: Hossein Movasati. IMPA. 2014.
- Member of the committee for the Ph.D. Thesis: *Singularidades de feixes instantons em P^3* , by Michael Santos Gonzales Gargate. Advisor: Marcos Jardim. UNICAMP. 2014.
- Member of the committee for the Ph.D. Thesis: *Sobre distribuições e folheações holomorfas de codimensão maior do que um*, by Luis Guillermo Maza. Advisor: Marcio Gomes Soares. UFMG. 2010.

Teaching experience

- Differential Geometry, (University of Bari-Italy, 2024).
- Algebraic Topology, (University of Bari-Italy, 2024).
- Differential calculus, (University of Bari-Italy, 2023).
- Differential Geometry, (University of Bari-Italy, 2023).
- Mathematical-Computing Laboratory: Geometry with SageMath, (University of Bari-Italy, 2022).
- Differential calculus, (University of Bari-Italy, 2022).
- Differential Geometry, (University of Bari-Italy, 2022).
- Differential calculus, (University of Bari-Italy, 2021).
- Holomorphic foliations, (UFMG, 2020).
- Real analysis, (UFMG, 2020)³.
- Introduction to complex geometry, (UFMG, 2020).
- Differential calculus, (UFMG, 2019).
- Holomorphic foliations, (UFMG, 2019).
- Birrational geometry of holomorphic foliations, (UFMG, 2017).
- Holomorphic Tensors, geometric structures and foliations, (UFMG, 2015).
- Introduction to complex geometry, (UFMG, 2015).
- Riemannian Geometry, (UFMG, 2014).
- Differential Geometry, (UFMG, 2014).
- Birrational geometry of holomorphic foliations, (UFMG, 2014).
- General topology (UFMG, 2014).
- Introduction to complex geometry, (UFMG, 2013).
- Global theory of holomorphic foliations, (UFMG, 2013).
- Linear algebra, (UFMG, 2013).

- Real analysis III , (UFV, 2012)⁴
- Introduction to Riemann surfaces, (UFV, 2012).
- Real analysis, (UFV, 2011).
- Linear algebra, (UFV, 2010).
- Complex analysis, (UFV, 2010).
- Differential calculus, (UFV, 2010).
- Differential calculus, (FAPAN, 2007) ⁵.
- Linear algebra, (FAPAN, 2006).

Contribution as editor of scientific volumes

Matemática Contemporânea. Proceedings of the 2nd International Meeting of Young Researchers in Singularity Theory and Related Fields. 2023. Edited by Mauricio Corrêa, Nivaldo Grulha, Thais Dalbello, Camila Mariana Ruiz.

Invited lectures

- *Campos polinomiais e hipersuperfícies algébricas invariantes*, II Colóquio de Matemática da Região Norte, Universidade Federal do Amazonas - UFAM, Manaus-Brazil. 2014.
- *Introdução as classes características via teoria de Chern-Weil*, Programa de verão, Universidade Federal do Espírito Santos - UFES, Vitoria-Brazil. 2010.

Outreach Activities

- UFMG sub-coordinator of the teacher improvement program from public schools-PAPMEM-IMPA. From 2013 to 2016.
This is the High School Mathematics Teacher Improvement Program which consists of free training for mathematics teachers in Brazil, addressing issues related to high school.
- Coordinator of a project for the development of didactic material for the Linear Algebra course by CEAD (Coordination of Open and Distance Education). University of Viçosa-UFV. 2011.

Referee for

International Mathematics Research Notices. Mathematische Annalen. Advances in Mathematics. Journal of Differential Geometry. Bulletin of the London Mathematical. Mathematische Nachrichten. Manuscripta Mathematica. Journal of Algebra. Journal of Pure and Applied Algebra. International Journal of Mathematics. Journal of Singularities. Forum Mathematicum. Research in the Mathematical Sciences (RMS). Journal of Geometry and Physics. Annals of the Brazilian Academy of Science. Journal of Nonlinear Mathematical Physics. Rendiconti del Circolo Matematico di Palermo. Bulletin of the Brazilian Mathematical Society. Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas. Dynamical Systems: an International Journal. Canadian Journal of Mathematics. Taiwanese Journal of Mathematics. Symmetry, Integrability and Geometry: Methods and Applications (SIGMA). São Paulo Journal of Mathematical Sciences. Mediterranean Journal of Mathematics. Reviewer for MathSciNet and Zentralblat.

Talks as invited speaker in conferences and seminars

- XXIII Congress of the Unione Matematica Italiana, Pisa. 2023.
- BRAG seminar: celebrating Israel Vainsencher's post of Professor Emeritus of Mathematics at UFMG-

UFV: Federal University of Viçosa.
FAPAN: University of Para de Minas.

Enumerative geometry of Legendrian foliations: a Tale of Contact.. 2023.

- Brazilian Algebraic Geometry seminar- *Classification of distributions and foliations.* 2022.
- Seminario de Geometria Algebraica(online)- *Moduli spaces of reflexive sheaves and classification of distributions and foliations*, Universidad de Buenos Aires, Argentine. 2020.
- EDGE seminar Edinburgh-*Moduli spaces of reflexive sheaves and classification of distributions on \mathbb{P}^3* , Edinburgh, Scotland, 2018.
- Oxford Geometry and Analysis Seminar- *Classification of distributions on \mathbb{P}^3* , Oxford, England. 2018.
- The London Geometry and Topology seminar- *Moduli spaces of reflexive sheaves and classification of distributions on \mathbb{P}^3* , Imperial College, London, England. 2018.
- Special Session- Algebraic Geometry- The Third Pacific Rim Mathematical Association (PRIMA)-2017, *Codimension one holomorphic foliations on \mathbb{P}^3* , 2017, Oaxaca, Mexico.
- Special Session- Holomorphic Foliations and singularities- Mathematical Congress of the Americas-2017, *Localization of Bott-Chern classes and Hermitian residues*, 2017, Montreal, Canada.
- Algebraic Geometry session- 31th Brazilian Mathematical Colloquium. *Codimension one holomorphic foliations on \mathbb{P}^3* . , 2017. IMPA, Rio de Janeiro.
- Hyperbolicity in algebraic geometry. *On order of the automorphism group of foliations.* 2015. ICMC-USP, Ilha Bela -Sao Paulo.
- II Congreso de Geometria y Dinamica Compleja. *Residues for Morita-Futaki-Bott invariant.* 2015. PUC-Peru.
- XIII Escola de Algebra. *Algebro-geometric aspects of singular set of foliations.* 2014. DMA-UEM, Maringa.
- Mathematical Congress of the Americas 2013-MCA. *Holomorphic foliations determined by their singular schemes.* 2013. CIMAT-Mexico.
- 11th ALGA Meeting. *Numerical inequalities for flags of projective foliations.* 2011. Maresias, Sao Paulo .

Scientific Committees

- Co-organizer with Marcos Jardim, Ethan Cotterill, Eduardo Esteves, and Carolina Araujo, "Brazilian algebraic geometry seminar.", 2020-present,
- 5th Brazil-Chile-México Meeting on Singularities and 2nd Meeting on Foliations and Singularities-2020.
- IX Workshop on Algebraic Theory of Singularities and 1st International Meeting of young researchers in Singularity Theory and related fields-2020.
- 16th International Workshop on Real and Complex Singularities - 2020.
- 12th Mini-Workshop on Singularities, Geometry and Differential Equations, and 1st Meeting on Foliations and Singularities- 2019.

Research grants

As Principal Investigator:

- Obtained funding for research activities "Universal-FAPEMIG" , APQ-02495-18, 2019-2021. ⁶
- Obtained funding for research activities "Universal 2016" from CNPq with Alex Massarenti (UFF). 2016-2019.
- CNPq Development Research Productivity Grant: Level 1D. 2019-2021. ⁷
- CNPq Development Research Productivity Grant: Level 2. 2013-2018.
- Obtained funding for research activities. FAPESP grant for visiting Researcher- 2016.
- Obtained funding for research activities "PPM-FAPEMIG", 2013-2015.
- Obtained funding for research activities "CAPES National Ph.D. Thesis Prize", 2014-2018.

FAPEMIG: Research Support Foundation of the State of Minas Gerais.

CNPQ: Brazilian National Council for Scientific and Technological Development.

As a Member:

- Obtained funding for FAPES-Program for scientific technical visit “Residues for maps generically transversal to p-forms”, with Leonardo Câmara, 2023.
- Obtained funding for research activities “Prin 2022 Interactions between Geometric Structures and Function Theories”, 2023-2025.
- Obtained funding for research activities "Capes-cofecub", 2019-2022, with Marcos Jardim, Simone Marchesi, Renato Vidal, Michele Bolognesi, Jean Valles, Alex Massarenti, Daniele Faenzi.
- Obtained funding for research activities "PPM-FAPEMIG: Lefschetz Properties in the first cohomology of vector bundles", 2021-2023, with Charles Almeida.
- Obtained funding for research activities "PPM-FAPEMIG: Characteristic classes of singular varieties", 2021-2023, with Fernando Lourenço.
- Obtained funding for research activities "PPM-FAPEMIG: LHiDEA-Higher Derivation on Exterior Algebras", 2020-2022, with Andre Contiero.
- Obtained funding for research activities "MATH AMSUD project: GS&MS 21-MATH-06 – 2021 -2022", with Henrique N. Sa Earp, Marcos Jardim, Eric Loubeau, Elizabeth Terezinha Gasparim, Adrián Andrada.
- Obtained funding for research activities "Mathamsud" , 2014-2016 with Rogerio Mol, Gilcione Nonato, Marcio Soares, Arturo Perez, Lorena Lopez.

Memberships

- Unione Matematica italiana, since 2023.
- Member group GNSAGA of INdAM.
- Affiliate Member of Brazilian Academy of Sciences- 2013-2017. (Alumni).

Research groups

- *Interactions between Geometric Structures and Function Theories*. University of Bari.
- *Algebraic Geometry and Holomorphic Foliations*. University of Minas Gerais-UFMG.
- *Residues and localization of characteristic classes*. University of Lavras; University of Viçosa; University of Sao Joao del Rey. 2018-present.
(This is a research group formed by my former Ph.D. students based in the state of Minas Gerais(Brazil): Fernando Lourenço, Diogo Machado, and Miguel Rodriguez.)

Department and University services

- Member of the committee for credit recognition of the Ph.D. program of Mathematics of the University of Bari. 2023-present.
- Member of the Faculty Board of the Ph.D. Program in Computer Science and Mathematics at the University of Bari. 2022-present.
- Member of the Faculty Board of the Ph.D. Program in Mathematics at the University of Minas Gerais-Brazil. 2013-present.
- Member of the committee for admission to the Ph.D. program in Mathematics of the University of Minas Gerais-UFMG. 2014-2020.
- Coordinator of the “Núcleo de Assessoramento à Pesquisa (NAPq)-UFMG”. From 2017 to 2018.
- UFMG sub-coordinator of the teacher improvement program from public schools-PAPMEM-IMPA. From 2013 to 2016.
- Member of the student evaluation committee of the master’s program of the University of Minas-UFMG. 2015-2016.
- Elected member of the mathematics graduate program committee. University of Minas Gerais-UFMG.

2013-2015.

- General coordinator of the summer program in mathematics at the University of Minas Gerais-UFMG. 2014.
- General coordinator of the summer program in mathematics at the University of Viçosa-UFV. 2012.
- Local member of the evaluation committee for the mathematics olympiads of Brazilian public schools. University of Viçosa-UFV. Role: test grading. 2011.
- Elected member of the mathematics graduate program committee. University of Viçosa-UFV. 2011-2012.
- Coordinator of the project for the development of didactic material for the Linear Algebra course by CEAD (Coordination of Open and Distance Education). The material consisted of video lessons (slides, digital whiteboard). University of Viçosa. 2011.

■ Evaluation activities

- Member of the committee for a post-doc position at the University of Minas Gerais-UFMG. 2019.
- Member of the committee for a permanent position as assistant professor at the University of Campinas-UNICAMP. 2015.
- Member of the committee for a permanent position as assistant professor at the University of Parana-UFPR. 2013.
- Member of the committee for a permanent position as assistant professor at the University of Itajuba-UNIFEI. 2011.
- Evaluating research projects for The Sao Paulo Research Foundation-FAPESP, financing research projects based in the State of São Paulo-Brazil. 2013- Present.
- Evaluating research projects for the National Council for Scientific and Technological Development-CNPq, financing research projects based in Brazil.2013-2021.
- Evaluating research projects for the Coordination of Superior Level Staff Improvement-CAPES, financing research projects based in Brazil. 2013-2021.
- Evaluating research projects for the Pontificia Universidad Católica del Perú (PUCP), financing research projects based in Peru. 2016- Present.

■ Languages

- Mother tongue: *Portuguese*.
- English- Fluent.
- Italian - Fluent.
- Spanish - Intermediate.