

MAX REINHOLD JAHNKE

PERSONAL INFORMATION

Born in Brazil, 13 March 1985
email jahnke@dm.ufscar.br
website <https://www.dm.ufscar.br/~jahnke/>

EDUCATION

Aug 2013–Dec 2018 University of São Paulo, Brazil
School: Institute of Mathematics and Statistics.
Ph.D. Dissertation: *Top-degree solvability in hypocomplex involutive structure and the cohomology of left-invariant involutive structures on compact Lie groups.*
Advisor: Prof. Paulo D. CORDARO.
Doctor of Philosophy in Applied Mathematics

Sep 2017–Dec 2017 Temple University, United States of America
School: Department of Mathematics
Research project: *Topics in Global Analysis, Geometry and Algebraic Topology.*
Supervisor: Prof. Gerardo A. MENDOZA.
Research Internship

Aug 2011–Aug 2013 University of São Paulo, Brazil
School: Institute of Mathematics and Statistics.
Master's Thesis: *Gevrey Asymptotics and Applications to Ordinary Differential Equations.*
Advisor: Prof. Paulo D. CORDARO.
Masters of Science in Applied Mathematics

Aug 2007–Jul 2011 University of São Paulo, Brazil
School: Institute of Mathematics and Statistics.
Senior thesis: *Topics in Differential Topology.*
Advisor: Prof. Manuel V. de P. GARCIA.
Bachelor of Science in Mathematics

ACADEMIC POSITIONS

Jan 2019–present Federal University of São Carlos, Brazil
School: Department of Mathematics.
Project: *Normalization and solvability in Denjoy-Carleman classes of vector fields near trapped orbits.*
Supervisor: Prof. Gustavo HOEPEFNER.
Postdoctoral Researcher in Mathematics

Jan 2022–May 2022 Rutgers University, New Brunswick, USA
School: Department of Mathematics.
Project: *Top-degree local solvability for CR hypersurfaces.*
Supervisor: Prof. Xiaojun HUANG.
Visiting Scholar

Jan 2020–Jan 2021 Rutgers University, Camden, USA
School: Department of Mathematics.
Project: *Levi-flat CR structures on compact Lie groups.*
Supervisor: Prof. Howard JACOBOWITZ.
Visiting Scholar

LIST OF PUBLICATIONS WITH PEER REVIEW PROCESS

Research Article G. HOEPEFNER, M. R. JAHNKE, V. NOVELLI. *Normalization, optimal regularity, and solvability in Gevrey classes of vector fields near trapped orbits.* To appear at Proceedings of the AMS.

Research Article M. R. JAHNKE. *Elliptic involutive structures on compact Lie groups.* To appear at Annali della Scuola Normale Superiore di Pisa, Classe di Scienze. DOI: [10.2422/2036-2145.202105_066](https://doi.org/10.2422/2036-2145.202105_066)
[ArXiv:1911.13200](https://arxiv.org/abs/1911.13200)

Research Article P. D. CORDARO and M. R. JAHNKE. *Top-degree global solvability in CR and locally integrable hypocomplex structures.* (2021). The Journal of Geometric Analysis (2021). DOI: [10.1007/s12220-020-00573-1](https://doi.org/10.1007/s12220-020-00573-1)

Research Article N. BRAUN RODRIGUES, G. CHINNI, P. D. CORDARO and M. R. JAHNKE. *Lower order perturbation and global analytic vectors for a class of globally analytic hypoelliptic operators.* (2016) Proceedings of the American Mathematical Society, 144(12), 5159–5170. DOI: [10.1090/proc/13178](https://doi.org/10.1090/proc/13178).

DOCTORAL DISSERTATION AND MASTER'S THESIS

Doctoral
Dissertation

M. R. JAHNKE. (2018). *Top-degree solvability for hypocomplex structures and the cohomology of left-invariant involutive structures on compact Lie groups*. (Doctoral dissertation). University of São Paulo, São Paulo, Brazil. DOI: [10.11606/T.45.2019.tde-25032019-092801](https://doi.org/10.11606/T.45.2019.tde-25032019-092801).

Master's Thesis

M. R. JAHNKE. (2013). *A equação de Euler e a análise assintótica de Gevrey*. (Master's Thesis). University of São Paulo, Brazil. DOI: [10.11606/D.45.2013.tde-07022014-205830](https://doi.org/10.11606/D.45.2013.tde-07022014-205830).

SUBMITTED PUBLICATIONS WITH PEER REVIEW PROCESS

Research Article

H. JACOBOWITZ, M. R. JAHNKE. *Levi-flat CR structures on compact Lie groups*. [ArXiv:2106.09182](https://arxiv.org/abs/2106.09182) Submitted.

ONGOING PROJECTS

Research Project

G. ARAÚJO, I. A. FERRA, M. R. JAHNKE and L. F. RAGOINETTE. *On finiteness of the cohomology spaces of involutive systems on compact manifolds*. In preparation. Manuscript with 27 pages available upon request.

Research Project

G. ARAÚJO, M. R. JAHNKE. *Hypoelliptic abelian involutive structures*. Ongoing project.

OTHER PUBLICATIONS

Complete Work in
Conference
Proceedings

P. D. CORDARO and M. R. JAHNKE. (2012). *Expansão Assintótica em Classes de Gevrey*. Atas do VI Simpósio de Iniciação Científica e Pós-graduação do Instituto de Matemática e Estatística da Universidade de São Paulo, São Paulo, Brazil.

Complete Work in
Conference
Proceedings

M. V. P. GARCIA, S. R. L. GARCIA and M. R. JAHNKE. (2008). *O teorema de Arzelà-Ascoli e aplicações à análise*. Atas do IV Simpósio de Iniciação Científica e Pós-Graduação do IME-USP, São Paulo, Brazil.

Extended Abstract
in Conference
Proceedings

J. M. P. SOLER, A. H. RIBEIRO and M. R. JAHNKE. (2017). *A produção da cerveja produzindo conhecimento*. Anais do 3º Congresso de Graduação da Universidade de São Paulo, Pró-Reitoria de Graduação – PRG.

GRANTS AND SCHOLARSHIPS

FAS-FAPESP

Jun 2019 – Present Postdoctoral Research Fellowship
Fellowship in Brazil from São Paulo Research Foundation.

BEPE-FAPESP

Jan 2020 – Jan 2021 Postdoctoral Research Fellowship
Fellowship from São Paulo Research Foundation to visit Rutgers University.

PNPD-CAPES

Jan 2019– May 2019 Postdoctoral Research Fellowship
Fellowship from Coordination for the Improvement of Higher Education Personnel.

PDSE-CAPES

Sep 2017–Dec 2017 Research Internship Abroad Scholarship
Scholarship from Coordination for the Improvement of Higher Education Personnel.

CNPq

Feb 2014–Jan 2018 Ph.D. Graduate Scholarship
Scholarship from National Council of Technological and Scientific Development.

CNPq

Aug 2011–Jul 2013 MSc. Graduate Scholarship
Scholarship from National Council of Technological and Scientific Development.

CNPq

Aug 2009–Jul 2010 Undergraduate Research Scholarship
Scholarship from National Council of Technological and Scientific Development.

PEP

Aug 2008–Jul 2009 Undergraduate Research Scholarship
Scholarship from University of São Paulo (Programa Ensinar com Pesquisa).

TEACHING ASSISTANT EXPERIENCE

2010–2018 Mathematical Courses in Graduate and Undergraduate Levels
Courses for undergraduate and graduate students, ranging from basic calculus and linear algebra to advanced courses in partial differential equations and analysis.

OTHER INFORMATION

Languages

PORTUGUESE: Native language; ENGLISH: Fluent; ESPERANTO: Intermediate.