

CURRICULUM VITAE
SEBASTIANO NICOLUSSI GOLO

Name: Sebastiano, Nicolussi Golo
Date of birth: March 17, 1986
Citizenship: Italian
Address: Department of Mathematics and Statistics
P.O. Box 35 (MaD)
University of Jyväskylä
FI-40014 Finland
Email: sebastiano.s.nicolussi-golo@jyu.fi
Web page: www.sebastiano272.eu

EDUCATION

Doctor of Philosophy in Mathematics: 25 October 2017
Double degree based on a cotutelle agreement:
University of Jyväskylä, Finland
Advisor: *Enrico Le Donne*
University of Trento, Italy
Advisor: *Francesco Serra Cassano*
Thesis: *Topics in the geometry of non-Riemannian Lie groups*
Grade: *Pass with distinction*

Master degree in mathematics: March 2012
Università degli Studi di Trento, Italia
Supervisor: *Francesco Serra Cassano*
Thesis: *The tangent space in subRiemannian geometry*
Grade: *110/110 cum laude*

Bachelor degree in mathematics: July 2009
Università degli Studi di Trento, Italia
Thesis: *Symplectic geometry*
Supervisor: *Roberto Pignatelli*
Grade: *108/110*

EMPLOYMENTS AND FELLOWSHIPS

Postdoctoral Researcher (Tutkijatohtori) at the University of Jyväskylä
October 2020 – Now
Mentor: Katrin Fässler

Postdoctoral Fellowship at the University of Padova
December 2018 – June 2020
Mentor: Davide Vittone

Postdoctoral Fellowship at the University of Birmingham
December 2017 – November 2018
Mentor: Alessio Martini

Visiting student at the University of Granada
November 2017
Mentor: Manuel Ritoré

Research Fellowship within the project Marie Curie ITN MAnET

January 2015 – October 2017

The legal framework of my research contract with the University of Trento was “assegno di ricerca di cui all’art. 22 della Legge 240/2010”. As a student, I was enrolled in both the University of Trento (Italy) and the University of Jyväskylä (Finland) under a cotutelle agreement between the two departments of Mathematics.

Postgraduate Student at the University of Jyväskylä, Finland

October 2012 – December 2014

Erasmus at Eberhard Karls Universität Tübingen, Deutschland

September 2007 – July 2008

Kitchen Hand at Restaurant “Rifugio Agostini”

July 2004 – August 2004

GRANTS AND AWARDS

Theoretical Sciences Visiting Program (TSVP) 2022:

I am recipient of funding for a three-months visit to OIST, *Okinawa Institute of Science and Technology*, Japan. The visit will happen in the fall of 2022.

Seal of Excellence from Marie Skłodowska-Curie actions:

The project proposal 101025614, *MICA: Minimal Submanifolds in Carnot Groups*, Submitted under the Horizon 2020 Marie Skłodowska-Curie actions call H2020-MSCA-IF-2020 of 9 September 2020 by Sebastiano Nicolussi Golo and Jyväskylä Yliopisto was scored as a high-quality project proposal in a highly competitive evaluation process, with a total score of 92.20%. This proposal is recommended for funding by other sources, since Horizon 2020 resources available for this specific Call were already allocated following a competitive ranking.

Seal of Excellence from Marie Skłodowska-Curie actions:

The project proposal 888619, *MICA: Minimal Submanifolds in Carnot Groups*, Submitted under the Horizon 2020 Marie Skłodowska-Curie actions call H2020-MSCA-IF-2019 of 11 September 2019 by Sebastiano Nicolussi Golo and Universidad de Granada was scored as a high-quality project proposal in a highly competitive evaluation process, with a total score of 87.40%. This proposal is recommended for funding by other sources, since Horizon 2020 resources available for this specific Call were already allocated following a competitive ranking.

INDAM–GNAMPA Project 2019 “Rectifiability in Carnot Groups”

(as Principal Investigator)

March 2019 – February 2020

PUBLICATIONS

- [1] “A historical account on characterizations of C^1 Manifolds in Euclidean spaces by tangent cones” (with F. Bigolin), *Journal of Mathematical Analysis and Applications* 142 (2014), no. 1, 63–76.
- [2] “Asymptotic behavior of the Riemannian Heisenberg group and its horoboundary” (with E. Le Donne and A. Sambusetti), *Annali di Matematica Pura ed Applicata*, August (2017), Volume 196, Issue 4, pp 1251–1272.
- [3] “Topics in the geometry of non-Riemannian Lie groups”, PhD thesis, *Report*, Department of Mathematics and Statistics, University of Jyväskylä, 163 (2017).

- [4] “Regularity properties of spheres in homogeneous groups” (with E. Le Donne), *Transactions of the AMS*, 370, 2057-2084 (2018).
 - [5] “Some remarks on contact variations in the first Heisenberg group and Bernstein’s Problem”, *Annales Academiæ Scientiarum Fennicæ*, 43, 311–335 (2018).
 - [6] “The Besicovitch covering property in the Heisenberg group revisited”, (with S. Rigot), *The Journal of Geometric Analysis* 29, 3345–3383 (2019).
 - [7] “The Bernstein problem for Lipschitz intrinsic graphs in the Heisenberg group” (with F. Serra Cassano), *Calculus of Variations and Partial Differential Equations* 58 141 (2019).
 - [8] “Metric Lie groups admitting dilations” (with E. Le Donne), *Arkiv för Matematik*, Volume 59, Number 1 (2021).
 - [9] “Area-minimizing cones in the Heisenberg group \mathbb{H}^1 ” (with M. Ritoré), *Annales Academiæ Scientiarum Fennicæ*, Vol. 46 No. 2 (2021).
 - [10] “Sub-Finsler horofunction boundaries of the Heisenberg group” (with N. Fisher), *Analysis and Geometry in Metric Spaces*, Volume 9, Issue 1 (2021).
 - [11] “Intrinsic rectifiability via flat cones in the Heisenberg group” (with A. Julia), Accepted in *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze* (2021).
 - [12] “Nowhere differentiable intrinsic Lipschitz graphs” (with A. Julia and D. Vittone), *Bulletin of the London Mathematical Society*, Volume 53, Issue 6 (2021).
 - [13] “Spectral multipliers and wave equation for sub-Laplacians: lower bounds of Euclidean type” (with A. Martini and D. Müller), Accepted in *Journal of the European Mathematical Society* (2021).
 - [14] “Area of intrinsic graphs and coarea formula in Carnot Groups” (with A. Julia and D. Vittone), Accepted in *Mathematische Zeitschrift* (2021).
 - [15] “Metric equivalences of Heintze groups and applications to classifications in low dimension” (with V. Kivioja and E. Le Donne), Accepted in *Illinois Journal of Mathematics* (2021).
 - [16] “Lipschitz functions on submanifolds in Heisenberg groups” (with A. Julia and D. Vittone), Accepted in *International Mathematics Research Notices* (IMRN) (2022).
- “From homogeneous metric spaces to Lie groups”, (with M. G. Cowling, V. Kivioja, E. Le Donne and A. Ottazzi), preprint.
 - “Polarised Lie groups contactomorphic to stratified groups” (with A. Ottazzi), preprint.
 - “Lipschitz Carnot-Carathéodory structures and their limits” (with G. Antonelli and E. Le Donne), preprint.
 - “Nilpotent groups and biLipschitz embeddings into L^1 ” (with S. Eriksson-Bique, C. Gartland, E. Le Donne, L. Naples), preprint.
 - “Jet spaces on Carnot groups” (with B. Warhurst), preprint.

RESEARCH STAYS

- Visiting Student at “Laboratoire J.A. Dieudonné”, Nice, France (November–December 2016)

- Visiting Graduate Student at the Department of Mathematics of Tufts University, Medford, USA (January–February 2017)
- Visiting Graduate Student at the Simons Semester “Symmetry and Geometric Structures”, Warsaw, Poland (August–October 2017)
- Junior Leader of Simons Semester at IMPAN in Warsaw (September–October 2019)

TEACHING ACTIVITIES

- Teaching assistant (“Geometry of surfaces in 3D space”); University of Jyväskylä, Finland (Fall 2012)
- Teaching assistant (“Analysis 1”); University of Padova, Faculty of Engineering (Fall 2019)
- Master thesis supervisor; University of Jyväskylä (2021–2022)
- Teacher of the course “Riemannian Geometry”; University of Jyväskylä, (2021–2022)

ACTIVITIES

- Teaching assistant (“Geometry of surfaces in 3D space”); University of Jyväskylä, Finland (Fall 2012)
- Organizer of the seminar for doctoral students at the University of Jyväskylä, Finland (Spring 2014)
- Organizer of the seminar for doctoral students at Institute Henri Poincaré, Paris (October 2014)
- Organizer of the conference “Subriemannian Geometry and Beyond”, Jyväskylä, Finland (February 2018)
- Organizer of the conference “Harmonic Analysis and PDE Day”, Birmingham, UK (September 2018)
- Organizer of seminars “GeA (Geometria e Analisi)” at the Department of Mathematics, University of Padova (Fall 2019)
- Teaching assistant (“Analysis 1”); University of Padova, Faculty of Engineering (Fall 2019)
- Organizer of the workshop “Geometric Measure Theory in Padova”, Padova, Italy (January 2020)

TALKS FROM 2018 TO PRESENT

- “Minimal surfaces in the Heisenberg group”, MAnET final meeting, Bologna, Italy (January 2018)
- “Spectral multipliers and wave equation for sub-Laplacians”, Analysis Seminar, Birmingham, UK (November 2018)
- “Metric Lie groups and their dilations”, Geometry Seminar, Bristol, UK (November 2018)
- “Spectral multipliers and wave equation for sub-Laplacians”, Analysis Seminar, Padova, Italy (January 2019)
- “Spectral multipliers and wave equation for sub-Laplacians”, Subriemannian Geometry and Beyond II, Jyväskylä, Finland (February 2019)
- “Metric Lie groups and their dilations”, Some topics of Geometric Analysis and Geometric Measure Theory, Pisa, Italy (April 2019)
- “Spectral multipliers and wave equation for sub-Laplacians”, Analysis Seminar, IMPAN, Warsaw (May 2019)
- “Tangent spaces”, IMPAN, Warsaw (October 2019)
- “From metric spaces to Lie groups”, IMPAN, Warsaw (October 2019)
- “Minimal surfaces in the Heisenberg group”, IMPAN, Warsaw (October 2019)
- “Spectral multipliers and wave equation for sub-Laplacians”, Latest in Geometric Analysis; Celebration of Pekka Koskela’s 59th birthday, Będlewo, Poland (November 2019)
- “From Peano to Bernstein in one seminar”, Jyväskylä Geometry Seminar, Jyväskylä, Finland (November 2020)
- “Horizontal jet spaces on Carnot groups”, 2021 AGENT–Forum, Aalto University, Finland (October 2021)
- “Horizontal jet spaces on Carnot groups”, Geometry and Differential Equations Seminar, Impan, Warsaw, Poland (November 2021)