

Short Vitae: **Barbara NELLI**

- e-mail: barbara.nelli@univaq.it
- Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica, Università dell'Aquila, via Vetoio -Loc. Coppito, 67100 L'AQUILA (Italia)
- ORCID: orcid.org/0000-0002-0879-8390

LANGUAGES. Italian (mother tongue). English, French, Portuguese (fluent: red, spoken, written). Spanish (rough: spoken, red). German (rough: understood).

ACADEMIC APPOINTMENTS

- Current Position: since October 2017: Professore Ordinario di geometria MAT/03 (Full Professor), Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica, Università dell'Aquila.
- March, 2005 - September 2017: Professore Associato MAT/03, Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica, Università dell'Aquila.
- December, 1997- February, 2005. Ricercatore, Facoltà di SMFN, Università dell'Aquila.
- November, 1995 - February, 1997. ATER (attaché temporaire de recherche et enseignement) at Université Paris VII.

EDUCATION (HIGHER DEGREES)

- PhD in Mathematics: 1995, Université Paris VII and Università di Pisa.
- Laurea in Matematica: 1990, Università di Pisa.

SELECTED ACADEMIC SERVICES

UNIVERSITY OF L'AQUILA

- Member (since June 2018) of the *Commissione Programmazione Risorse* of the Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica.
- (Elected) President of the *Corso di Laurea in Matematica* (Bachelor's and Master degree in Mathematics) of the University of L'Aquila, since A.A. 2017-18.
- Member of the *Collegio dei Docenti* of the Ph.D program Matematica e Modelli (previously Matematica), University of L'Aquila (since 2006).

NATIONAL AND INTERNATIONAL

- Expert participating in the evaluation of Spanish State Research Agency (Ramon y Cajal and Juan de la Cierva) 2021.
- Delegate of the Unione Matematica Italiana at the EMS Council on-line, July 4, 2020.
- Expert participating in the evaluation of H2020 projects, 2020.
- Delegate for Italy at the 18th General Assembly of IMU, Sao Paulo, Brasil, July 29-30, 2018.

- Delegate of the Unione Matematica Italiana at the EMS Council in Prague, June 23-24, 2018.
- (elected) Vice President of the Unione Matematica Italiana (since June 2018- May 2021).
- Coordinator (joint with 4 persons) of the Editorial Board of the public awareness web site Maddmaths! Site supported by UMI, SIMAI, AILA and AIRO (since 2017)
http://maddmaths.simai.eu
- Delegate of the Unione Matematica Italiana at the EMS Council in Berlin, July 16-17, 2016.
- (Elected) member of the Commissione Scientifica of the Unione Matematica Italiana (June 2015-May 2018).

LONG TERM VISITING POSITION (SINCE 2010)

- June, 2016. PUC Rio de Janeiro (invited professor at PUC, one month).
- February, 2016. Universidad Granada (invited professor at Departamento de Geometria y Topologia, one month).
- November, 2015. Universidade Federal do Rio de Janeiro (invited Professor, one month).
- May, 2015. Université Tours (invited professor, one month).
- August, 2014. Universidade Federal do Rio de Janeiro (invited Professor by CNPQ, one month).
- May, 2014. Université Paris VII (invited professor by CNRS, one month).
- March-May, 2011. Université Tours (invited professor by CNRS, three months).
- June, 2010. Université Paris VII (invited professor by CNRS, one month).

SELECTED INVITED TALKS AT INTERNATIONAL CONFERENCES (SINCE 2010)

1. June 2021. Beirut American University: A Conference Mapping the Network of Lebanese Mathematics **on line**.
Title. *The shape of soap films and bubbles.*
2. May 2021. University of Sevilla: Geometric Analysis in the Large **on line**.
Title. *Hypersurfaces with constant higher order mean curvature.*
3. February 2021: Universidade Federal Fluminense (Niteroi): Workshop in Differential Geometry **on line**.
Title. *Hypersurfaces with constant higher order mean curvature.*
4. November 2019: Recent trends in Geometric analysis and applications, SNS, Pisa
Title. *Hypersurfaces with constant higher order mean curvature function.*
5. September 2019. The Second joint IMU-INdAM Conference in Analysis, Napoli
Title. *The topology of constant mean curvature surfaces with convex boundary.*
6. September 2019. Geometric analysis, submanifolds, and geometry of PDE's, Politecnico di Torino.
Title. *The topology of constant mean curvature surfaces with convex boundary.*

7. April 2019. LICMA 2019, Université Libanaise.
Title: *Hypersurfaces with constant higher mean curvature.*
8. October 2018. Géométrie Riemannienne et fonctions généralisées, Université Paris Diderot (Paris 7).
Title: *Hypersurfaces with constant higher mean curvature.*
9. February 2018. Humboldt Kolleg: at the confluence of analysis, geometry and modern mathematical physics.
Title: *The Shape of Soap films and Bubbles.*
10. February 2018. Workshop su varietà reali e complesse: geometria, topologia e analisi armonica, SNS, Pisa.
Title. *Minimal Surfaces in Heisenberg space.*
11. March 2017. University of Cork. Minimal Surface Integrable Systems and visualization: Spring 2017 workshop.
Title. *Minimal Surfaces in Heisenberg space.*
12. February 2017. Centro di Ricerca Ennio de Giorgi, France-Italy meeting in Geometric Analysis.
Title. *Non compact constant mean curvature surfaces.*
13. September 2016. Università di Parma: Workshop on Riemannian and Complex Geometry.
Title. *Old and New Results on Constant Mean Curvature Surfaces.*
14. February 2016. Workshop on complex geometry and Hamiltonian actions, Università di Parma.
Title. *Minimal surfaces in the Heisenberg space.*
15. December 2015. End of Year London Geometry Conference, King's College, London.
Title. *Minimal surfaces in Heisenberg Space.*
16. August, 2014. XVIII escola de geometria diferencial, Brasilia.
Title. *Minimal graphs in Heisenberg space.*
17. February, 2013. Workshop su varietà reali e complesse: geometria, topologia e analisi armonica, SNS, Pisa.
Title. *Superfici di curvatura media costante.*
18. July, 2012. International School in Differential Geometry - Universidad de Manaus.
Title. *Minimal Surfaces with two ends in $\mathbb{H}^2 \times \mathbb{R}$.*

SPECIAL COURSES (SINCE 2015)

1. July-August 2021 (on-line). Scuola Matematica Universitaria, Perugia. Summer Course (24 hours +12 exercises)
Title: *Differential geometry.*
2. July-August 2020 (on-line). Scuola Matematica Universitaria, Perugia. Summer Course (24 hours +12 exercises)
Title: *Differential geometry.*

3. January 2020. Université Libanaise, Beirut. Master course (15 hours).
Title: *Riemannian geometry*.
4. January 2019. Université Libanaise, Beirut. Master course (15 hours).
Title: *Analytical methods applied to geometry*.
5. June 2016. PUC Rio de Janeiro. PhD Course (6 hours).

OUTREACH ACTIVITIES

- Organizer of the **on-line** event May12 at the University of L'Aquila: Indovina chi viene stasera? in honour to Maryam Mirzakhani – stop-over in L'Aquila (June 3, 2021).
- Organizer of the **on-line** event May12: UMI, festa delle donne matematiche 2021 (May 21st, 2021)
- Organizer of the **on-line** event: Workshop on green Open Access, transformative agreements and planS (July 14th, 2020)
- Organizer of the **on-line** event May12 at the University of L'Aquila: Journey of Women in Mathematics, in honour to Maryam Mirzakhani – stop-over in L'Aquila (May 12th, 2020).
- Organizer of the **on-line** event May12: UMI, festa delle donne matematiche 2020 (May 27th, 2020).
- Organizer of the event May12 at the University of L'Aquila: Journeys of Women in Mathematics (May 9th, 2019).

OUTREACH TALKS

- June 2021. Beirut American University: A Conference Mapping the Network of Lebanese Mathematics **on line**.
Title. *Women in mathematics*.
- May 2021. Universidad de Pamplona (Colombia): Encuentro de Mujeres Matematicas (round table) **on line**.
- May, 2020. Università politecnica delle Marche.
Title. *Le dimensioni della disuguaglianza di genere nelle STEM*.
- May, 2019. Università di Camerino: Donne per la matematica.
Title. *Uno sguardo oltre la superficie*.

PREPRINTS

1. B. NELLI, J. ZHU: *Uniqueness of hypersurfaces of higher order mean curvature in hyperbolic space*, arXiv:2008.11018 [math.DG] (2020).
2. M.F. ELBERT, B. NELLI: *A note on the stability for constant higher mean curvature hypersurfaces in a Riemannian manifold*, arXiv:1912.12103 [math.DG] (2020).

PUBLISHED PAPERS

1. M.F. ELBERT, B. NELLI: *On the structure of hypersurfaces in $\mathbb{H}^n \times \mathbb{R}$ with finite strong total curvature*, **Bulletin of the London Mathematical Society** 51 (1) (2019).

2. J. M. MANZANO, B. NELLI: *Height and area estimates for constant mean curvature surfaces in $\mathbb{E}(\kappa, \tau)$ -spaces*, **Journal of Geometric Analysis**, 27, 4 (2017).
3. B. NELLI, R. SA EARP, E TOUBIANA: *Minimal graphs in Nil_3 : existence and non-existence results*, **Calc. Var. Partial Differential Equations** 56, 2 (2017).
4. J. A. GALVEZ, B. NELLI: *Entire solutions of the degenerate Monge-Ampère equation with a finite number of singularities*, **Journal of Differential Equations**, 216, 11, (2016).
5. M.F. ELBERT, B. NELLI, W. SANTOS: *Hypersurfaces with $H_{r+1} = 0$ in $\mathbb{H}^n \times \mathbb{R}$* , **Manuscripta Mathematica** 149 (2016).
6. S. ILIAS, B. NELLI, M. SORET: *On the entropy of hypersurfaces with bounded curvature*, **Mathematische Annalen** 364 (2016).
7. L. HAUSWIRTH, B. NELLI, R. SA EARP, E TOUBIANA: *Minimal ends in $\mathbb{H}^2 \times \mathbb{R}$ with finite total curvature and a Schoen type theorem*, **Advances in Mathematics** 274 (2015).
8. B. NELLI, R. SA EARP, E TOUBIANA: *Maximum principle in a half-space for minimal hypersurfaces in $\mathbb{H}^n \times \mathbb{R}$* , **Annali della Scuola Normale Superiore di Pisa** 14, 2 (2015).
9. S. ILIAS, B. NELLI, M. SORET: *Caccioppoli's inequalities for cmc-hypersurfaces in Riemannian Manifolds*, **Ann. of Global Analysis and Geom.** 42, 4 (2012).
10. M.F. ELBERT, B. NELLI, R. SA EARP: *Vertical Ends of CMC surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **Trans. Amer. Math. Soc.** 364 (2012).
11. B. NELLI, R. SA EARP: *A halfspace theorem for mean curvature $H = \frac{1}{2}$ surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **J. of Math. Anal. and App.** 365 (2010).
12. B. NELLI: *On properties of constant mean curvature surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **Seminari di geometria 2005-2008, Bologna** (2009).
13. B. NELLI: *A Survey on Alexandrov-Bernstein-Hopf Theorems* **Matematica Contemporanea** vol. 35 (2008).
14. B. NELLI, R. SA EARP, W. SANTOS, E. TOUBIANA: *Uniqueness of H -surfaces in $\mathbb{H}^2 \times \mathbb{R}$, $|H| \leq 1/2$, with boundary one or two parallel horizontal circles*, **Ann. of Global Anal. and Geom.** 33 (4) (2008).
15. B. NELLI, H. ROSENBERG: *Errata Minimal Surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , [Bull. Braz. Math. Soc., New Series 33 (2002), 263-292] **Bull. Braz. Math. Soc.**, New Series 38 (4) (2007).
16. M.F. ELBERT, B. NELLI, H. ROSENBERG: *Stable Constant Mean Curvature Hypercurves*, **Proc. of the American Math. Soc.** 135, 10 (2007).
17. B. NELLI, M. SORET: *Stably Embedded Minimal Hypersurfaces*, **Math. Zeit.** 255 (2007)
18. B. NELLI, H. ROSENBERG: *Simply Connected Constant Mean Curvature Surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **Michigan Journal of Mathematics** 54, 3 (2006).
19. B. NELLI, H. ROSENBERG: *Global Properties of Constant Mean Curvature Surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **Pacific Journ. Math.** 226, N. 1 (2006).
20. B. NELLI, M. SORET: *The State of the Art of Bernstein's Problem*, **Matematica Contemporanea** vol. 29 (2005).

21. B. NELLI, H. ROSENBERG: *Minimal Surfaces in $\mathbb{H}^2 \times \mathbb{R}$* , **Bull. Bras. Math. Soc.** (33) 2, (2002) special issue for 50th of IMPA.
22. B. NELLI, M. SORET: *Stably Embedded Minimal Hypersurfaces*, **Trends in Mathematics**, Proceedings of Daewoo Workshops in Pure Mathematics, (5), 2, (2002).
23. B. NELLI, B. SEMMLER: *On Hypersurfaces embedded in Euclidean Space with Positive Constant H_r Curvature*, **Indiana Univ. Math. Jour.** 50, (2), (2001).
24. B. NELLI: *On the structure of Scalar Curvature Type Graphs*, **It. Jour. of Pure and App. Math.** (2001)
25. B. NELLI, B. SEMMLER: *Some Remarks on H -Surfaces in a halfspace of \mathbf{H}^n* , **Jour. of Geom.** 64 (1999).
26. B. NELLI: *An Example of an Immersed Complete Genus One Minimal Surface in \mathbb{R}^3 with Two Convex Ends*, **Comm. Mat. Helv.** 73 (3), (1998).
27. M.E. GALVÃO, C. GÓES, B. NELLI: *A Weierstrass Type Representation for Surfaces in Hyperbolic Space with Mean Curvature One*, **An. Acad. Bra. Ci.** 70 (1), (1998).
28. NELLI, H. ROSENBERG: *Some Remarks on Positive Scalar and Gauss Kronecker Curvature Hypersurfaces of \mathbb{R}^{n+1} and \mathbb{H}^{n+1}* , **Ann. de l'Inst. Fourier** (47) 4, 1997.
29. B. NELLI, J. SPRUCK: *On The Existence and Uniqueness of Constant Mean Curvature Hypersurfaces in Hyperbolic Space*, **Geometric analysis and the calculus of variations**, 253–266, Internat. Press, Cambridge (1996).
30. B. NELLI, H. ROSENBERG: *Some remarks on embedded hypersurfaces in hyperbolic space of constant mean curvature and spherical boundary*, **Ann. of Glob. Anal. and Geom.** (13) (1995)].
31. B. NELLI, R. SA EARP: *Some Properties of surfaces of prescribed mean curvature in \mathbb{H}^{n+1}* , **Bull. Soc. Math. de France** 6 (1996).
32. B. NELLI: *Polyhedral surfaces in \mathbb{R}^3 with minimality conditions*, **BUMI** (7) 9-B, (1995).

OTHER PUBLICATIONS

1. B. NELLI: *La curvatura di Gauss Positiva non ammette discontinuità isolate*, Vedere la matematica... alla maniera di Mimmo Luminati, Ed. ETS (2015).