# Curriculum Vitae Europass

## Personal information

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| Surname Name | **NASTASI ANTONELLA** |
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## Education

**29/01/2021**

- Doctor of Philosophy in Mathematics and Computer Science (XXXIII ciclo), at the consortium of universities of Catania, Messina and Palermo.

**25/07/2017**

- Master Degree in Mathematics (code 2158) – classe LM 40, at the Università degli Studi di Palermo, grade: 110/110 cum laude con menzione speciale per il premio di laurea "E. Gugino".

**23/07/2015**

- Bachelor Degree in Mathematics (code 2102) – classe L 35, at the Università degli Studi di Palermo, grade: 110/110 cum laude.

## Current position

Postdoctoral researcher at the Department of Engineering, University of Palermo.
Project title: "Implementation of models for the research of points of maximum energy efficiency of electronic power converters".
Scientific disciplinary sector: MAT/05.
Referent : Prof.ssa Barbara Brandolini Dipartimento di Matematica e Informatica Area CUN 01 SSD MAT/05.

## Research area

Research area: MAT/05 – Analisi Matematica.

Research interests: calculus of variations, partial differential equations, variational inequalities, nonlinear problems, functional analysis, operators theory, fixed point theory.

## Scientific activity

Invitations and communications

- Talk *Boundary value p-Laplacian problems on metric spaces* at the *Young women in Differential Equations, Mathematical Modeling and Computational Algorithms*, Belgorod, Russia, 25-29/10/2021.
- Talk *Boundary value p-Laplacian problems on metric spaces* at the *Young women in Partial Differential Equations and applications*, online, Institute for Applied Mathematics, Universitat Bonn, Germany, 20-22/09/2021.
- Talk *A Neumann p-Laplacian problem on metric spaces* at the *8th European Congress of Mathematics (8ECM)* in Topological Methods in Differential Equations (MS - ID 13), Portoroz, Slovenia, 20-26/06/2021.
- Poster *Existence and regularity of p-harmonic solutions to a Neumann boundary value problem in metric measure spaces,* at the *Online Poster Session Young Researchers in PDEs and Geometric Analysis,* 08/04/2021.
- Poster *Regularity and existence of solutions for a Neumann p-Laplacian problem in the metric setting,* at the *Winterschool on Analysis and Applied Mathematics,* Münster, Germany, 22-26/02/2021.
- Talk *Neumann p-Laplacian problems with a reaction term on metric spaces*, at the *Third BYMAT Conference: Bringing Young Mathematicians Together*, Universitat de València and Universitat Politècnica de València, Spain, 01-03/12/2020.
- Talk *Weak solutions for (p(x),q(x))-Laplacian equations with critical frequency* at the *The 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications in New trends* in nonlinear PDEs and systems (SS - 108), Atlanta, USA, 05-09/06/2020 (postponed due to Covid-19).
- Talk *Existence of solutions for p-Laplace equations with Neumann boundary condition* at the *The 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications* in Variational, Topological and Set-Valued Methods for Nonlinear Differential Problems (SS - 60), Atlanta, USA, 05-09/06/2020 (postponed due to Covid-19).
- Talk *Solutions for a Neumann p-Laplacian problem on metric spaces* at the *Regularity theory for elliptic and parabolic systems and problems in continuum mechanics 2020,* Telc, Czech Republic, 06-09/05/2020 (postponed due to Covid-19).
- Invited talk *(p, q)-Laplacian problem on Riemannian manifold* at the Department of Mathematics and Systems Analysis, Aalto University, Helsinki, Finland, 11/09/2019.
- Poster *Quasilinear (p, q)-Laplacian Equations* at the *Partial Differential Equations in Analysis and Mathematical Physics*, Cagliari, 30/05/2019-01/06/2019.
- Talk *Weak solutions for (p, q)-equations on Riemannian manifold* at the *International Conference on Elliptic and Parabolic Problem*, Gaeta, Italy, 20-24/05/2019.
- Invited talk at the *Donne nelle STEAM per le pari opportunità - 4th Edition*

*RosaDigitale Week, March 4th to 17th, 2019 - The conquest is information,* Castelvetrano, Italy, 14/03/2019.
- Poster *Laplacian Difference Equations - Homoclinic Solutions* at the *Nonlinear Analysis and PDSs in Caserta*, Caserta, Italy, 10-14/09/2018.

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| Research visit abroad | - Department of Mathematics and Systems Analysis, Aalto University, by invitation of Professor J. Kinnunen, Helsinki. |
| Partecipation to Workshops and Schools | |

- *Differential Equations, Mathematical Modeling and Computational Algorithms*, Belgorod, 25-29/10/2021.
- *9th GAMM-Workshop on Analysis of Partial Differential Equations,* University of Freiburg, 6-8/10/2021.
- *Panel discussion: Promoting women in mathematics*, , Institut des Hautes Études Scientifiques Université Paris-Saclay, 4/10/2021.
- *Advances in Evolution Equations and applications,* Pavia, 24-25/09/2021.
- *Young women in Partial Differential Equations and applications*, online, Institute for Applied Mathematics, Universitat Bonn, 20-22/06/2021.
- *8th European Congress of Mathematics (8ECM)*, Portoroz, Slovenia, 20-26/06/2021.
- *Online Poster Session Young Researchers in PDEs and Geometric Analysis,* 08/04/2021.
- *Winterschool on Analysis and Applied Mathematics,* Münster, Germany, 22-26/02/2021.
- *Third BYMAT Conference: Bringing Young Mathematicians Together*, Universitat de València and Universitat Politècnica de València, Spain, 01-03/12/2020.
- *Variational Methods in Nonlinear Phenomena,* Università degli Studi di Napoli Federico II, 23-25/09/2020.
- *Topological & Variational Methods* for Nonlinear Problems, Università degli Studi di Palermo, 15/11/2019.
- *Partial Differential Equations in Analysis and Mathematical Physics*, Cagliari, 30/05/2019-01/06/2019.
- *International Conference on Elliptic and Parabolic Problem*, Gaeta, 20-24/05/2019.
- *Nonlinear Meeting in Turin 2019*, Torino, 31/01/19 - 01/02/19.
- *Weekend on Variational Methods and Differential Equations*, Università degli Studi di Catania, 14-15/12/2018.
- *Particle Systems and PDE's VII*, Università degli Studi di Palermo, 19-23/11/2018.
- *Nonlinear Analysis and PDSs in Caserta*, Università degli Studi della Campania Luigi Vanvitelli, Caserta, 10-14/09/2018.
- *New trends in PDEs*, Università degli Studi di Catania, 29-30/05/2018.
- *Variational and Geometrical Methods For PDEs*, Università degli Studi di

| | Palermo, 16-17/11/2017. |
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| | • *Differential Problems and Related Topics*, Università degli Studi di Palermo, 29/10/2016. |
| | • *A Third Day on Nonlinear Differential Problems*, Università degli Studi di Palermo, 26/09/2016. |
| | • *A Second Day on Nonlinear Differential Problems*, Università degli Studi di Palermo, 05/09/2016. |
| Partecipation to PhD and other courses | • Andrea Braides (SISSA, Trieste, and Dip. Mat. Univ. Roma Tor Vergata): *Interfacial Energies on Networks , at the Winterschool on Analysis and Applied Mathematics,* Münster, Germany, 22-26/02/2021. |
| | • Lucia Scardia (Heriot-Watt University Edinburgh): *Multiscale Problems in Dislocation Theory, at the Winterschool on Analysis and Applied Mathematics,* Münster, Germany, 22-26/02/2021. |
| | • Ulisse Stefanelli (University of Vienna): *De Giorgi's Energy-Dissipation Principle, at the Winterschool on Analysis and Applied Mathematics,* Münster, Germany, 22-26/02/2021. |
| | • *Analisi non lineare*, at the Department of Mathematics and Computer Science - Università degli Studi di Catania,  A.Y. 2017/2018. |
| | • *Teoria del minimax ed applicazioni*, at the Department of Mathematics and Computer Science - Università degli Studi di Catania, A.Y. 2017/2018. |
| | • *Algoritmi evolutivi: genetici, tabu search e simulated annealing*, at the Department of Mathematics and Computer Science - Università degli Studi di Palermo,  A.Y. 2017/2018. |
| **Memberships** | • Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni (GNAMPA) - Sezione: Equazioni differenziali e sistemi dinamici - dell'Istituto Nazionale di Alta Matematica (INDAM) from 2018. |
| | • Unione Matematica Italiana from 2018. |
| | • European Women in Mathematics (EWM) from 2020. |
| **List of publications** | • A. Nastasi, C. Pacchiano Camacho, *Regularity properties for quasiminimizers of a (p,q)-Dirichlet integral*, Calc. Var., 60 (2021), no. 227, https://doi.org/10.1007/s00526-021-02099-y. |
| | • A. Nastasi, *Neumann p-Laplacian problems with a reaction term on metric spaces*, TEMat monográficos, Proceedings of the 3rd BYMAT Conference, 2 (2021), 87--90. |
| | • A. Nastasi, *On (p(x),q(x))-Laplace equations in R^N without Ambrosetti-Rabinowitz condition*, Math. Methods Appl. Sci., (2021), https://doi.org/10.1002/mma.7334. |

- A. Nastasi, *Neumann p-Laplacian problems with a reaction term on metric spaces*, Ricerche Mat.*,* (2020), https://doi.org/10.1007/s11587-020-00532-6.
- A. Nastasi, *Weak solutions for a (p(z),q(z))-Laplacian Dirichlet problem*, Filomat, 34 (2020), no. 3, 999–1011.
- A. Nastasi, *Weak solution for Neumann (p, q)-Laplacian problem on Riemannian manifold*, J. Math. Anal. Appl., 479 (2019), no. 1, 45–61.
- A. Nastasi, C. Vetro, *A note on homoclinic solutions of (p,q)-Laplacian difference equations*, J. Difference Equ. Appl., 25 (2019), no. 3, 331–341.

## Teaching activities

### A.Y. 2021/2022

- Mathematical Analysis I and II (I semester) in BSc Degree Course in Electronics Engineering at the Università degli Studi di Palermo.
- Mathematical Analysis I and II (I semester) in BSc Degree Course in Electrical Engineering for E-mobility at the Università degli Studi di Palermo.
- Mathematics Pre-course in BSc Degree Course in Mathematics at the Università degli Studi di Palermo, Piano Nazionale Lauree Scientifiche, Matematica-E.C. 2020 nell'ambito dell'AZIONE 2) "Ridurre il tasso d'abbandono tra il primo e il secondo anno nel corso degli studi universitari attraverso l'innovazione di strumenti e metodologie didattiche".
- Piano Nazionale Lauree Scientifiche, Matematica–E.C. 2020 nell'ambito dell'AZIONE 5) "Attività didattiche di autovalutazione" e dell'AZIONE 6 "Formazione insegnanti"". Laboratorio di Autovalutazione delle Conoscenze Scientifiche, Liceo Classico Vittorio Emanuele II, Palermo.
- Piano Nazionale Lauree Scientifiche, Matematica–E.C. 2020 nell'ambito dell'AZIONE 5) "Attività didattiche di autovalutazione" e dell'AZIONE 6 "Formazione insegnanti"". Laboratorio di Autovalutazione delle Conoscenze Scientifiche, Istituto Isa Conti Eller Vainicher, Lipari.

### A.Y. 2020/2021

- Mathematical Analysis I and II (I semester) in BSc Degree Course in Electronics Engineering at the Università degli Studi di Palermo.
- Mathematical Analysis I and II (I semester) in BSc Degree Course in Electrical Engineering for E-mobility at the Università degli Studi di Palermo.
- Mathematics I (I semester) in BSc Degree Course in Chemistry at the Università degli Studi di Palermo.
- Mathematics Pre-course in BSc Degree Course in Chemistry at the Università degli Studi di Palermo.

### A.Y. 2019/2020

- Tutoring and supplementary teaching activities at the Università degli Studi di Palermo, Scuola di Scienze di Base e Applicate. Subject area: Mathematics

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| | (Mathematical Analysis I and II, Fundamentals of Mathematics, Mathematics). |
| | ● Supplementary teaching activities for the course of Mathematical Analysis I in BSc Degree Course in Computer Science at the Università degli Studi di Palermo. |
| A.Y. 2018/2019 | |
| | ● Tutoring and supplementary teaching activities at the Università degli Studi di Palermo, Scuola di Scienze di Base e Applicate. Subject area: Mathematics (Mathematical Analysis I and II, Fundamentals of Mathematics, Mathematics). |
| | ● Supplementary teaching activities for the course of Mathematical Analysis I in BSc Degree Course in Computer Science at the Università degli Studi di Palermo. |
| | ● Science communicator activity during the Welcome Week, Polo Didattico, Università degli Studi Di Palermo, 11-15/02/2019. |
| A.Y. 2017/2018 | |
| | ● Tutoring and supplementary teaching activities at the Università degli Studi di Palermo, Scuola di Scienze di Base e Applicate. Subject area: Mathematics (Mathematical Analysis I and II, Fundamentals of Mathematics, Mathematics). |
| | ● Supplementary teaching activities for the course of Mathematical Analysis I in BSc Degree Course in Computer Science at the Università degli Studi di Palermo. |
| | ● Science communicator activity during the Open Day, Department of Mathematics and Computer Science, Università degli Studi Di Palermo, 22/03/2018. |
| | ● Science communicator activity during the Salone Dello Studente - Fiera del Mediterraneo (Palermo), organized by Università degli Studi Di Palermo, 27-28/03/2018. |
| | ● Science communicator activity during the Welcome Week, Polo Didattico, Università degli Studi Di Palermo, 15-19/01/2018. |
| A.Y. 2016/2017 | ● Supplementary teaching activities for the course of Mathematical Analysis I in BSc Degree Course in Mathematics at the Università degli Studi di Palermo. |
| | ● Science communicator activity during the Notte Europea dei Ricercatori - Sharper Night, Palermo 30/09/2016. |
| A.Y. 2015/2016 | |
| | ● Supplementary teaching activities for the course of Mathematical Analysis I in BSc Degree Course in Mathematics at the Università degli Studi di Palermo. |
| **Other activities** | |
| | ● Partecipation to Percorso PRE-FIT - 24 CFU of "D.M.616/2017 on competenze nelle discipline antropo-psico-pedagogiche e nelle |

metodologie e tecnologie didattiche, ai sensi dell'art. 5 del D.Lgs. 13 aprile 2017 n.59 e del D.M. 10 agosto 2017, n.616", at the Università degli Studi di Palermo, A.Y. 2017/2018.

- Student representative for the Degree Course in Mathematics, , Università degli Studi di Palermo, A.Y. 2015-2016 / 2016-2017.
- Member of the Commissione Paritetica CPDS of the Department of Mathematics and Computer Science, Degree Course in Mathematics, Università degli Studi di Palermo,  2016.

## Linguistic skills

Mother tongue       **Italian**

Other languages
- **English - Advanced**
  Level C2 of QCER - GESE  12 - certified by Trinity College London.
- **French - Intermediate**
  Level B1 of QCER - certified by Cambridge Academy, British Cultural Centre.
- **Spanish - Intermediate**

## Honors and rewards

- Kovalevskaya Grant for the International Congress of Mathematicians ICM 2022.
- European Women in Mathematics (EWM) Grant for the 8th European Congress of Mathematics (8ECM).
- "Menzione speciale per il premio di laurea E. Gugino" for the Master Degree Thesis, 25/07/2017 .
- "Albo nazionale delle eccellenze per aver conseguito risultati scolastici di particolare valore agli esami di maturità", S.Y. 2011/2012.