

CURRICULUM VITAE

CANCEDDA ANDREA

Personal Profile.

Born in Fossano (CN) Italy, on May 15, 1986.

email: cancedda.andrea@gmail.com

Education.

Master's Degree in Mathematics at:

Università degli Studi di Torino on October 13, 2010.

Vote: 110/110 e Lode.

Thesis: *Fourier transform of Gelfand-Shilov functions.*

Advisor: Prof. Luigi Rodino.

Ph.D. in "Matematica per le Scienze dell'Ingegneria, ciclo XXVII", at:

Politecnico di Torino on March 20, 2015.

Ph.D. Thesis: *Spectral analysis and problems with oscillating constraints in the theory of homogenization.*

Advisor: Prof. Valeria Chiadò Piat.

Co-Advisor: Prof. Andrea Braides.

Courses attended:

- *Introduzione ai metodi di omogeneizzazione.*
Holder: Prof. Valeria Chiadò Piat, with Prof. Marco Codegone.
- *Isteresi e micromagnetismo: un approccio variazionale.*
Holder: Prof. Valeria Chiadò Piat, with Prof. Luca Lussardi and Dr. Michela Eleuteri.
- *Teoremi di inversione locale e globale.*
Holder: Prof. Enrico Serra.
- *Teoria degli operatori e analisi di Fourier.*
Holder: Prof. Elena Cordero.
- *Grado topologico, indice di Maslov e flusso spettrale con applicazioni a ODEs e PDEs.*
Holders: Prof. Anna Capietto, Prof. Alessandro Portaluri, with Dr. Nils Waterstraat.
- *Introduzione ai problemi matematici in meccanica quantistica.*
Holder: Prof. Riccardo Adami.
- *Meccanica statistica del disequilibrio: fondazioni e applicazioni.*
Holder: Prof. Lamberto Rondoni.
- *Introduzione alla teoria dei numeri analitica.*
Holder: Dr. Danilo Bazzanella.
- *Processi stocastici e loro applicazioni.*
Holder: Prof. Franco Pelleray, with Dr. Marina Santacroce and Dr. Paola Siri.

- *Modeling-aided understanding of self-organized patterns arising in chemistry and biology.*

Holder: Prof. Masayasu Mimura.

Tirocinio Formativo Attivo (art. 15 D.M. 249 del 2010), teaching abilitation in the Secondary School at:

Università degli Studi di Torino, on July 14, 2015.

Anno di Prova (art. 1 legge 107/2015), MIUR training courses for teaching in the Secondary School at:

I.P.S. Albe Steiner, Torino, on July 11, 2017.

Courses attended:

- *Bisogni Educativi Speciali (BES).*
- *Orientamento e Alternanza Scuola-Lavoro.*
- *Gestione della classe e problematiche relazionali, inclusione sociale e dinamiche interculturali.*
- *Valutazione didattica e valutazione di sistema.*

Research.

Homogenization of elliptic spectral problems on periodically perforated domains, with Fourier type boundary conditions and different type of weight functions in the condition at the boundary of perforations. Asymptotics of eigenpairs via Γ -convergence and Mosco-convergence.

Homogenization of Dirichlet type integrals of curves taking values on oscillating multidimensional constraints and metric properties of the Γ -limit. Density of problems with oscillating constraints in \mathbb{R}^2 in Finsler metrics.

A.A. 2015/2016: Participating in the research project "Analisi asintotica di problemi spettrali in domini perturbati", INdAM GNAMPA. Supervisor of the project Prof. Cardone Giuseppe. Topic: spectral problems for the Neumann-Laplacian in a two-dimensional periodic waveguide.

Publications.

1. A. Cancedda. *Spectral homogenization for a Robin-Neumann problem.* Boll. Unione Mat. Ital. (2016) DOI 10.1007/s40574-016-0075-z
2. A. Braides, A. Cancedda and V. Chiadò Piat. *Homogenization of metrics in oscillating manifolds.* ESAIM: COCV. (2016) DOI 10.1051/cocv/2016018

Summer schools and conferences.

1. "Problems with Multiple Scales: Results and New Perspectives", Rome, April 8-12, 2013.
2. "Seventh Summer School in Analysis and Applied Mathematics", Rome, June 17 - 21, 2013.
3. CIME-EMS Summer School in Applied Mathematics "Vector-valued Partial Differential Equations and Applications", Cetraro, July 8 - 12, 2013.
4. "XXIV Convegno Nazionale in Calcolo delle Variazioni", Levico Terme, January 26 - 31, 2014.
5. International Workshop "From Atomistic to Continuum Models in Materials Science", GSSI, L'Aquila, March 31- April 4, 2014.

Talks.

1. Mathematics Ph.D. Seminars at Università degli Studi di Torino, December 11, 2013. Title: *An introduction to Γ -convergence and the theory of homogenization.*

Teaching.

A.A. 2011/2012:

- Assistant for the course "Analisi Matematica I" held by Dr. Paolo Cortese, at Politecnico di Torino. Hours: 80.
- Tutor for the course "Analisi Matematica I" held by Prof. Marco Codegone, at SDSS of Mondovì, Politecnico di Torino. Hours: 60.
- Assistant for the course "Geometria" held by Prof. Giulio Tedeschi, at Politecnico di Torino. Hours: 40.
- Tutor for the course "Recupero di Analisi Matematica II" held by Prof. Letizia Scuderi and Prof. Anita Tabacco, at Politecnico di Torino. Hours: 25.

A.A. 2012/2013:

- Assistant for the course "Analisi Matematica I" held by Dr. Paolo Cortese, at Politecnico di Torino. Hours: 60.
- Tutor for the course "Analisi Matematica I" held by Prof. Marco Codegone, at SDSS of Mondovì, Politecnico di Torino. Hours: 60.

A.A. 2013/2014:

- Assistant for the course "Analisi Matematica I" held by Dr. Guillermo Gonzalo Quelali, at Politecnico di Torino. Hours: 60.
- Tutor for the course "Analisi Matematica I" held by Prof. Marco Codegone, at SDSS of Mondovì, Politecnico di Torino. Hours: 60.

A.A. 2014/2015:

- Assistant for the course “Analisi Matematica I” held by Dr. Paolo Cortese, at Politecnico di Torino. Hours: 60
- Tutor for the course “Recupero di Analisi Matematica I”, at Politecnico di Torino. Hours: 42.

A.A. 2015/2016:

- Mathematics and Physics teacher in Secondary School “I.I.S. Santorre di Santarossa”, Turin.
- Tutor for the course “Recupero di Analisi Matematica I”, at Politecnico di Torino. Hours: 80.

A.A. 2016/2017:

- Mathematics teacher in Secondary School “I.P.S. Albe Steiner”, Turin. Winner of *Pubblico Concorso Ordinario DDG 106/2016*.

A.A. 2017/2018:

- Mathematics teacher in Secondary School “I.I.S. Sella-Aalto-Lagrange”, Turin.
- Holder of the course “Analisi Matematica II”, at Politecnico di Torino. Hours: 42.

Other interests.

- Piano and Music Theory courses at the School of Music *Conservatorio Statale di Musica G. Ghedini di Cuneo*, from 2000 to 2004.
Fifth year’s Diploma in *Pianoforte* and Diploma in *Teoria, Solfeggio e Dettato Musicale*.
- Since 2010, Math laboratories and activities in the Primary and Secondary School with *Il Giardino di Archimede*, a Math Museum in Florence. Supervisor of the project: Prof. Enrico Giusti.