

CURRICULUM VITAE

ANITA MARIA TABACCO¹

Personal

Born in Torino January 1st 1960

Italian Citizen

Children: Chiara, Alessandro, Cecilia

Degrees

- Laurea in Matematica, Università degli Studi di Torino, 1982
- Master in Mathematics, Washington University in St. Louis (MO) USA, 1984
- Ph. D. in Mathematics, Washington University in St. Louis (MO) USA, 1986

Current position

Full professor of Mathematical Analysis at the Politecnico di Torino, Dept. of Mathematical Sciences (since October 2002)

Previous academic posts

- Teaching Assistantship, Washington University, 1982/83 and 1985/86
- Assistant Professor of Mathematical Analysis, Politecnico di Torino, 1990/92
- Associate Professor of Mathematical Analysis, Politecnico di Torino, 1992/2002

Research fields

Real and complex analysis, functional analysis, harmonic analysis with particular interest in interpolation theory, theory of wavelets and applications to PDE's and integral equations, time-frequency analysis.

Teaching experiences

- Basic courses in mathematics at Washington University in St. Louis (Calculus I, II, III).
- Undergraduate courses at Politecnico di Torino (Analisi Matematica I, Analisi Matematica II, Analisi Matematica III, Metodi Matematici per l'Ingegneria, Analisi Complessa, Functional Analysis).
- Course of Geometry at the Turin Polytechnic University in Tashkent (2010/11)
- Ph.D. courses at Politecnico di Torino (Introduzione all'Analisi complessa, Teoria e applicazioni delle onde biortogonali, Teoria delle onde e applicazioni alla teoria dei segnali, Teoria dell'approssimazione e elaborazione di immagini, Wavelets: teoria e applicazioni).
- Main Lecturer at IMUB, Institute of Mathematics of the University of Barcelona 2002

¹April 2012

- Main Lecturer at AARMS Summer School 2006, Dalhousie University in Halifax, Nova Scotia, Canada
- Regular supervision of theses at all levels (Bachelor, Master and Ph.D. students)

Current administrative duties

- Head of the Department of Mathematical Sciences
- Vice Rector for teaching
- Academic Head of the Language Center
- Active member of the Faculty Organizational Panel
- Head of the local unit of INDAM (Istituto Nazionale di Alta Matematica)
- Member of the Governing Council of the “Fondazione per la Scuola” of the “Compagnia di San Paolo” (private foundation)

Main past administrative duties

- Vice Rector for recruitment
- Vice Dean of the Faculty Organizational Panel
- Vice Head of the Department of Mathematics

Research activities

- Organizer of various conferences, workshops and graduate schools
- Has actively participated in numerous prestigious research projects both national (Murst, C.N.R.) and international (Vigoni Project, HCM, TMR and IHP of the European Community)
- Has given numerous invited seminars and lectures both in Italy and abroad (at international conferences and workshops such as Oberwolfach)
- Frequent referee for many Italian and international journals (including Boll. Un. Mat. It., Rend. Univ. Pol. Torino, Forum, Appl. Comp. Harm. Anal., SIAM J. Math. Anal.)

Research and teaching publications

Books:

1. Mathematical Analysis I, Springer-Verlag, Milano, 2008 (with C. Canuto).
2. Analisi Matematica II, Springer-Verlag, Milano, 2008 (with C. Canuto).
3. Analisi Matematica I, Springer-Verlag, Milano, terza ed. 2008 (with C. Canuto).
4. Matematica III, Raccolta di temi svolti, CLUT, Torino 2006 (with S. Pieraccini).

5. Serie di funzioni e trasformate. Teoria ed esercizi, CLUT, 2001 (with D. Bazzanella, P. Boieri, e L. Caire).
6. Ondine biortogonali. Teoria e applicazioni, Quaderno UMI 46, Pitagora Editrice 1999 (with C. Canuto).
7. Analisi Matematica I. Raccolta di temi svolti, CLUT, Torino 1997 (with D. Giublesi).
8. Temi svolti di Analisi Matematica 1, Levrotto e Bella, Torino 1991 (with D. Giublesi).

Selection of scientific papers:

9. Dimensional upper bounds for admissible subgroups for the metaplectic representation, Math. Nachr., 283 (2010), pp. 982-993 (with E. Cordero, F. De Mari, K. Nowak).
10. Estimates for unimodular Fourier multipliers on modulation spaces, Proc. Amer. Math. Soc., 137 (2009), pp. 3869-3883 (with A.Miyachi, F.Nicola, S.Rivetti, N.Tomita).
11. Integral Equation Solution of Low Frequency Scattering with a Conditioning that Grows only Logarithmically with the Number of Unknowns, In: Proceedings of 2009 APS International Symposium (with F. Andriulli, G. Vecchi).
12. Time-frequency analysis and PDE's, In: Structured Decompositions and Efficient Algorithms, Structured Decompositions and Efficient Algorithms, Dagstuhl (Germany), December 2008.
13. Analytic and Geometric Features of reproducing Groups, In: Oberwolfach Reports, Eur. Math. Soc. EMS Publ. House ETH-Zentrum (CHE), Wavelets and multiscale methods, Oberwolfach 29/07/07-04/08/07, pp. 2146-2149, 2007, Vol. 4, issue 3.
14. A multiresolution approach to the electric field integral equation in antenna problems, Siam J. Scient. Comp., 29 (2007), pp. 1-21 (with F. Andriulli, G. Vecchi).
15. Reproducing groups for the metaplectic representation, Operator Theory: Advanced and Applications, 164 (2006), pp. 227-244 (with E. Cordero, F. De Mari, K. Nowak).
16. Analytic features of reproducing groups for the metaplectic representation, Journal of Fourier Analysis and Applications, 12 (2006), pp. 157-180 (with E. Cordero, F. De Mari, K. Nowak).
17. Optimal a priori clipping estimation for wavelet-based method of moments matrices, IEEE Transactions on Antennas and Propagation, 53 (2005), pp. 3726-3734 (with F. Andriulli, G. Vecchi, F. Vipiana, P. Pirinoli).
18. Wavelet characterizations for anisotropic Besov spaces: case $0 < p < 1$, Proc. Edim. Math. Soc., 47 (2004), pp. 573-595 (with G. Garrigós e R. Hochmuth).
19. Localization operators via time-frequency analysis, Operator Theory: Advanced and Applications, 155 (2004), pp. 131-147 (with E. Cordero).
20. Anisotropic wavelets along vector fields and applications to PDE's, Arab. J. Sci. Eng., 28 (2003), pp. 89-105 (with C. Canuto).
21. Wavelet decompositions of anisotropic Besov spaces, Math. Nachr., 239-240 (2002), pp. 80-102 (with G. Garrigós).

22. An anisotropic functional setting for convection-diffusion problems, *East-West J. Numer. Math.*, 9 (2001), pp. 199-231 with C. Canuto).
23. Absolute and relative cut-off operators in adaptive approximation by wavelets, *Ann. Mat. Pura Appl.*, 178 (2000), 287-315 with C. Canuto).
24. The Wavelet Element Method. Part II: Realization and additional features in 2D and 3D, *Appl. Comp. Harm. Anal.*, 8 (2000), 123-165 (with C. Canuto e K. Urban).
25. Negative norm stabilization of convection-diffusion problems, *Appl. Math. Lett.*, 13 (2000), pp. 121-127 (with S. Bertoluzza e C. Canuto).
26. Wavelets on the interval with optimal localization, *Math. Methods Model Appl. Sci.*, 3 (2000), pp. 441-462 (with S. Grivet Talocia).
27. Stable discretizations of convection-diffusion problems via computable negative-order inner products, *SIAM J. Num. Anal.*, 38 (2000), pp. 1034-1055 (with S. Bertoluzza e C. Canuto).
28. The wavelet Element Method. Part I: Construction and Analysis, *Appl. Comp. Harm. Anal.*, 6 (1999), 1-52 (with C. Canuto e K. Urban).
29. Numerical solution of elliptic problems by the wavelet element method, pp. 17-37 in *ENUMATH 97*, H. G. Bock et al. eds., Word Scientific 1998 (with C. Canuto e K. Urban).
30. Multilevel decompositions on functional spaces, *J. of Fourier Anal. and Appl.*, 3 (1997), 715-742 (with C. Canuto).
31. Hardy spaces and Laguerre expansions on the dual of the Heisenberg group, *Ann. Mat. Pura e Appl.*, 166 (1994), 145-153.
32. Bergman spaces on some tube-type domains and Laguerre operators on symmetric cones, *J. Reine Angew. Math.*, vol. 449 (1994), 81-101 (with F. Ricci).
33. Some techniques for the characterization of intermediate spaces, *Ann. Sc. Norm. Sup. Pisa*, 3 (1990), 323-341.
34. Complex interpolation for families of quasi-Banach spaces, *Indiana Univ. Math. J.*, 37 (1988), 1-21.
35. Spectral theory and complex interpolation, *J. Funct. Anal.*, 80 (1988), 383-397 (with M. Vignati).