CURRICULUM VITAE
ANITA MARIA TABACCO
March 2023

Personal
Born in Turin, January 1^{st} 1960
Italian Citizen
Children: Chiara, Alessandro, Cecilia
Grandchildren: Viola, Luna, Alice, Agata

Degrees

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

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

Previous academic posts

- Associate Professor of Mathematical Analysis, Politecnico di Torino, November 1992 – September 2002
- Assistant Professor of Mathematical Analysis, Politecnico di Torino, January 1990 – October 1992
- Teaching/Research Assistant, Washington University, 82/83 and 85/86

Current administrative duties

- Rector's Delegate for transparency and internal communication (2021-)
- Project Manager of "Progetto Uzbekistan" (2021-)
- Member of the Swiss Accreditation Council (2019-)
- Head of the local unit of INdAM, Istituto Nazionale di Alta Matematica (2006-)
- Local funding Coordinator for the group "Analisi funzionale e Geometria differenziale" (Functional Analysis and Differential Geometry) (1999-)

Selection of previous administrative duties

1. Rector's Delegate/Vice Rector for simplification (2018-2021)
2. Operating Project Manager of TTPU (Turin Polytechnic University in Tashkent) (2017-2021)
3. Vice Rector for Teaching (2012-2018)

4. Academic head of the Language Center (2008-2018)
5. Rector's delegate for Quality (2017-2018)
6. Vice Rector for recruitment (2008-2012)
7. Head of the Department of Mathematical Sciences (Jan-May 2012)
8. Member of the Governing Council of the "Fondazione per la Scuola" of the "Compagnia di San Paolo" (private foundation) (2009-2016)
9. Scientific Coordinator (local unit) for the Erasmus+ - Capacity Building Project "W-STEM: engaging women into STEM, building the future of Latin America" (2019-2022)
10. Scientific Coordinator (local unit) for the Erasmus+ Project "INGDIVS: Increasing Diversity in STEM" (2016-2019)
11. Scientific Coordinator (local unit) for the Erasmus+ Capacity Building Project "OpenMed: Opening up Education in South-Mediterranean countries" (2015-2018)
12. Scientific Coordinator (local unit) for the LLP European Project "ATTRACT - Enhance the Attractiveness of Studies in Science and Technology" (2010-2012)
13. Local Coordinator for the National Project PRIN "Analisi Armonica" 2000-02, 2002-04, 2006-08, and 2008-10
14. Local Coordinator for the IHP Project (CEE) "Breaking complexity" (2002-2006)
15. Local Coordinator for the National Project MURST "Analisi Funzionale" 1996-97

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, trees. Engineering Education.

Research activities

- Organizer of various conferences, workshops and graduate schools
- Participation in numerous research projects both national (MUR, CNR) and international (Vigoni Project, HCM, TMR, IHP, Erasmus+, and CB of the European Community)
- Invited speaker in seminars and lectures both in Italy and abroad
- Frequent referee for many international and Italian journals

Teaching experiences

- Main Lecturer at AARMS Summer School 2006, Dalhouise University in Halifax, Nova Scotia, Canada
- Main Lecturer at IMUB, Institute of Mathematics of the University of Barcelona 2002

- PhD courses at Politecnico di Torino (Introduzione all'Analisi complessa, Teoria e applicazioni delle ondine biortogonali, Teoria delle ondine e applicazioni alla teoria dei segnali, Teoria dell'approssimazione ed elaborazione di immagini, Wavelets: teoria e applicazioni)
- Bachelor and Master courses at Politecnico di Torino (Analisi Matematica 1, 2, 3, Analisi Funzionale, Mathematical Analysis 1, 2, Functional Analysis, Metodi matematici per l'Ingegneria)
- Bachelor course at TTPU - Turin Polytechnic University in Tashkent - 2011 (Geometry)
- Basic courses in mathematics at Washington University in St. Louis - 1982-1986 (Calculus I, II, III)

Selection of initiatives with a social impact

- Collaboration with Fondazione Agnelli (2022-), Matabì Project - Primary teacher school training
- Collaboration with Patrucco Comunicazione efficace (https://www.youtube.com/watch?v=gAIp-589iYE)
- Collaboration with the Social Community Theatre Centre - show Count on it! Mathematics and women (https://www.youtube.com/watch?v=Qur4XH04L-o)
- Guido L. Weiss (1928 - 2021), Notices Amer. Math. Soc., 70(1) (2023), 95-103 (E. Hernández, E.N. Wilson, with the contribution of R. Coifman, M. Maggioni, Y. Meyer, F. Ricci, H. Sikic, F. Soria, R.H. Torres)
- Presentation of the webinar: L'Asia Centrale in una prospettiva storica - Cinque libri scelti da Marco Buttino (https://www.youtube.com/watch?v=-g7SKRiOfo0)

Research and teaching publications

Selection of books:

1. Mathematical Analysis 2, Pearson, 2023 (with C. Canuto)
2. Mathematical Analysis 1, Pearson, 2022 (with C. Canuto)
3. Analisi Matematica 1, Pearson, 2021 (with C. Canuto)
4. Analisi Matematica 2, Pearson, 2021 (with C. Canuto)
5. Mathematical Analysis I, Springer-Verlag, Milano, second ed. 2015 (with C. Canuto)
6. Mathematical Analysis II, Springer-Verlag, Milano, second ed. 2015 (with C. Canuto)
7. Analisi Matematica I, Springer-Verlag, Milano, fourth ed. 2014 (with C. Canuto)
8. Analisi Matematica II, Springer-Verlag, Milano, second ed. 2014 (with C. Canuto)
9. Matematica III, Raccolta di temi svolti, CLUT, Torino 2006 (with S. Pieraccini)
10. Serie di funzioni e trasformate. Teoria ed esercizi, CLUT, 2001 (with D. Bazzanella, P. Boieri, L. Caire)

11. Ondine biortogonali. Teoria e applicazioni, Quaderno UMI 46, Pitagora Editrice 1999 (with C. Canuto)

12. Analisi Matematica I. Raccolta di temi svolti, CLUT, Torino 1997 (with D. Giublesi)

Selection of edited books:

13. Radical Solutions for Education in a Crisis Context. Singapore, Springer, 2021 (edited with Daniel Burgos, Ahmed Tlili)

14. Landscapes of Time-Frequency Analysis - ATFA 2019. Applied and Numerical Harmonic Analysis. Birkhäuser/Springer, Cham, 2020 (edited with P. Boggiatto, T. Bruno, E. Cordero, H.G. Feichtinger, F. Nicola, A. Oliaro, M. Vallarino)

15. Landscapes of time-frequency analysis. Applied and Numerical Harmonic Analysis. Birkhäuser/Springer, Cham, 2019 (edited with P. Boggiatto, E. Cordero, M. de Gosson, H.G. Feichtinger, F. Nicola, A. Oliaro)

Selection of scientific papers - Mathematical Analysis:

16. Poicaré inequalities on graphs, to appear on Analysis Math. (with M. Levi, F. Santagati, M. Vallarino)

17. Riesz transform for a flow Laplacian on homogeneous trees, available online in J. Four. Anal. Appl. (with M. Levi, A. Martini, F. Santagati, M. Vallarino)

18. Analysis on Trees with Nondoubling Flow Measures, available online in Potential Analysis (with M. Levi, F. Santagati, M. Vallarino)

19. Estimates for matrix coefficients of representations, Amer. J. Math., 144(4) (2022), 943-965 (with T. Bruno, M.G. Cowling, F. Nicola)

20. DXA-Based Detection of Low Muscle Mass Using the Total Body Muscularity Assessment Index (TB-MAXI): A New Index with Cutoff Values from the NHANES 1999-2004, J. of Clinical Medicine, 11 (2022), 603-614 (with M.A. Minetto, M.G. Ballatore, A. Botter, C. Busso, A. Pietrobelli)

21. BMO Spaces on Weighted Homogeneous Trees, J. Geom. Anal., 31(9) (2021), 8832-8849 (with L. Arditti, M. Vallarino)

22. Hardy Spaces on Weighted Homogeneous Trees, Advances in Microlocal and Time-Frequency Analysis, 21-39, Appl. Numer. Harmon. Anal., Birkhäuser, Cham, 2020 (with L. Arditti, M. Vallarino)

23. Diagnostic performance of the Strength and Pain Assessment (SPA) score for non-contact muscle injury screening in male soccer players, The Physician and Sports-Medicine (2020), 1-7 (with L. Semperboni, C. Vignati, M.G. Ballatore, C. Busso, M. A. Minetto)

24. Strichartz estimates for the metaplectic representation, Rev. Mat. Iberoam., 35(7) (2019), 20792092 (with A. Cauli, F. Nicola)

25. Highly oscillatory unimodular Fourier multipliers on modulation spaces, J. Pseudo-Differ. Oper. Appl., 10 (2019), 359-378 (with F. Nicola, E. Primo)

26. Sobolev spaces on Lie groups: Embedding theorems and algebra properties, J. Funct. Anal., 276 (2019), 3014-3050 (with T. Bruno, M.M. Peloso, M. Vallarino)

27. Endpoint results for Fourier integral operators on noncompact symmetric spaces. Landscapes of time-frequency analysis, 33-58, Appl. Numer. Harmon. Anal., Birkhäuser/ Springer, Cham, 2019 (with T. Bruno, M. Vallarino)

28. Stockwell-like frames for Sobolev spaces, J. Pseudo-Differ. Oper. Appl., 9(4) (2018), 701-734 (with U. Battisti, M. Berra)

29. Schrodinger-type propagators, pseudodifferential operators and modulation spaces, J. London Math. Soc., 88 (2013), 375-395 (with E. Cordero, P. Wahlberg)

30. Triangular subgroups of Sp(d,R) and reproducing formulae, J. Funct. Anal., 264 (2013), 2034-2058 (with E. Cordero)

31. Dimensional upper bounds for admissible subgroups for the metaplectic representation, Math. Nachr., 283 (2010), 982-993 (with E. Cordero, F. De Mari, K. Nowak)

32. Estimates for unimodular Fourier multipliers on modulation spaces, Proc. Amer. Math. Soc., 137 (2009), 3869-3883 (with A. Miyachi, F. Nicola, S. Rivetti, N. Tomita)

33. 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)

34. A multiresolution approach to the electric field integral equation in antenna problems, Siam J. Scient. Comp., 29 (2007), 1-21 (with F. Andriulli, G. Vecchi)

35. Reproducing groups for the metaplectic representation, Operator Theory: Advanced and Applications, 164 (2006), 227-244 (with E. Cordero, F. De Mari, K. Nowak)

36. Analytic features of reproducing groups for the metaplectic representation, Journal of Fourier Analysis and Applications, 12 (2006), 157-180 (with E. Cordero, F. De Mari, K. Nowak)

37. Optimal a priori clipping estimation for wavelet-based method of moments matrices, IEEE Transactions on Antennas and Propagation, 53 (2005), 3726-3734 (with F. Andriulli, G. Vecchi, F. Vipiana, P. Pirinoli)

38. Wavelet characterizations for anisotropic Besov spaces: case $0 < p < 1$, Proc. Edim. Math. Soc., 47 (2004), 573-595 (with G. Garrigós, R. Hochmuth).

39. Localization operators via time-frequency analysis, Operator Theory: Advanced and Applications, 155 (2004), 131-147 (with E. Cordero)

40. Anisotropic wavelets along vector fields and applications to PDE's, Arab. J. Sci. Eng., 28 (2003), 89-105 (with C. Canuto)

41. Wavelet decompositions of anisotropic Besov spaces, Math. Nachr., 239-240 (2002), 80-102 (with G. Garrigós)

42. An anisotropic functional setting for convection-diffusion problems, East-West J. Numer. Math., 9 (2001), 199-231 (with C. Canuto)

43. Absolute and relative cut-off operators in adaptive approximation by wavelets, Ann. Mat. Pura Appl., 178 (2000), 287-315 (with C. Canuto)

44. 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, K. Urban)

45. Negative norm stabilization of convection-diffusion problems, Appl. Math. Lett., 13 (2000), 121-127 (with S. Bertoluzza, C. Canuto)

46. Wavelets on the interval with optimal localization, Math. Methods Model Appl. Sci., 3 (2000), 441-462 (with S. Grivet Talocia)

47. Stable discretizations of convection-diffusion problems via computable negative-order inner products, SIAM J. Num. Anal., 38 (2000), 1034-1055 (with S. Bertoluzza, C. Canuto)

48. The wavelet Element Method. Part I: Construction and Analysis, Appl. Comp. Harm. Anal., 6 (1999), 1-52 (with C. Canuto, K. Urban)

49. Wavelets on the interval and related topics, Rend. Sem. Univ. Pol. Torino, 57 (1999), 125-159 (2002) (with L. Levaggi).

50. Numerical solution of elliptic problems by the wavelet element method, p17-37 in ENUMATH 97, H. G. Bock et al. eds., Word Scientific 1998 (with C. Canuto, K. Urban)

51. Multilevel decompositions on functional spaces, J. of Fourier Anal. and Appl., 3 (1997), 715-742 (with C. Canuto)

52. Hardy spaces and Laguerre expansions on the dual of the Heisenberg group, Ann. Mat. Pura e Appl., 166 (1994), 145-153

53. Bergman spaces on some tube-type domains and Laguerre operators on symmetric cones, J. Reine Angew. Math., 449 (1994), 81-101 (with F. Ricci)

54. Spectra of interpolated operators, Boll. Un. Mat. Ital., 7 (1993), 311-322

55. Equivalent interpolation methods for families of quasi Banach lattices of functions, Boll. Un. Mat. Ital., 4 (1990), 1-11 (with M. Vignati).

56. Some techniques for the characterization of intermediate spaces, Ann. Sc. Norm. Sup. Pisa, 3 (1990), 323-341

57. Complex interpolation of infinite families of Hardy classes, Rend. Sem. Mat. Univ. Polit. Torino, 47 (1989), 71-86.

58. Complex interpolation for families of quasi-Banach spaces, Indiana Univ. Math. J., 37 (1988), 1-21

59. Spectral theory and complex interpolation, J. Funct. Anal., 80 (1988), 383-397 (with M. Vignati)

60. Interpolation and factorization of operators, Proc. Amer. Math. Soc., 102 (1988), 567-576 (with S. Bloom, M. Vignati)

61. Interpolation of quasinormed spaces by the complex method, 91-98 in Function spaces and application, Lectures Notes in Math. 1302, Springer-Verlag 1988 (with R. Rochberg, M. Vignati, G. Weiss).

Selection of scientific papers - Engineering Education:

62. The Educational Benefit of a Remote Automatic Control Laboratory. A Win-Win Collaboration between Asia and Europe, Education in the Knowledge Society (EKS), 23 (2022), e28495 (with M.G. Ballatore, V. Razza, D. Regruto, I.S. Stievano)

63. Think Lab: we have an IDEA (Instructional Design Elementary Application), Irish Journal of Academic Practice, 10 (2022), Article 8 (with M.G. Ballatore, I.S. Stievano)

64. Balance4Better: "We Are HERe" More Than a Gender Campaign, in Women in STEM in Higher Education. Lecture Notes in Educational Technology. Springer, Singapore (2022), 85-97 (with M.G. Ballatore, C. De Giorgi, A. Montorsi)

65. Science Education in Italy, in Science Education in Countries Along the Belt & Road. Lecture Notes in Educational Technology. Springer, Singapore (2022), 419-433 (with M.G. Ballatore)

66. Pedestrian Bridge Application in a Fundamentals of Structural Analysis Course Inside an Architecture Bachelor Program, Int. J. of Eng. Pedagogy, 11 (2021), 4-18 (with M.G. Ballatore, F. Barpi, D. Crocker)

67. Education in a Crisis Context: Summary, Insights and Future. In: Radical Solutions for Education in a Crisis Context, Lecture Notes in Educational Technology, Springer Science and Business Media Deutschland GmbH (2021), 3-10 (with D. Burgos, A. Tlili)

68. How Online Solutions Help Beat the Lockdown in Higher Education: A Central Asia Case Study. In: Radical Solutions for Education in a Crisis Context, Lecture Notes in Educational Technology, Springer Science and Business Media Deutschland GmbH (2021), 255-261 (with M.G. Ballatore, F. Abdullayev, I.S. Stievano)

69. SAperI: approaching gender gap using Spatial Ability training week in high-school context. In: Technological Ecosystems for Enhancing Multiculturality, Salamanca (online), 21-23 October 2020, 142-148 (with M.G. Ballatore, G. Duffy, S. Sorby)

70. ANNA Tool: A Way to Connect Future and Past Students in STEM, IEEE-RITA, 15:4 (2020), 344-351 (with M.G. Ballatore, J. De Borger, J. Misiewicz)

71. Work-in-progress: Pedestrian bridge application in a fundamentals of structural analysis course inside an architecture bachelor program, 11th IEEE Global Engineering Education Conference, EDUCON 2020, 41-45 (with M.G. Ballatore, F. Barpi)

72. TEACH-POT: Provide Opportunities in Teaching, Excellence and Innovation in Teaching and Learning (2020), 79-91 (with M.G. Ballatore, E. Felisatti, L. Montanaro)

73. Empowering Talented Students: An Italian Experience of an Enriched Curriculum in Engineering, International Journal of Engineering Pedagogy, 9 (2019), 56-75 (with M.G. Ballatore, L. Montanaro)

74. Increasing gender diversity in STEM, Proceeding TEEM'19 Proceedings of the Seventh International Conference on Technological Ecosystems for Enhancing Multiculturality (2019), 216-222 (with M.G. Ballatore, L. Barman, J. De Borger, J. Ehlermann, R. Fryers, K. Kelly, J. Misiewicz, I. Naimi-Akbar)

75. TEACH-GYM: Grow Your Methodologies, In: INNOVATIONS, TECHNOLOGIES AND RESEARCH IN EDUCATION, 2019 (Riga, Latvia), pp.180-191 (with M.G. Ballatore, F. Abdullayev, I.S. Stievano)

76. Inclusion: a new reverse perspective, in Realising Ambitions: Proceedings of the 6th Annual Symposium of the United Kingdom & Ireland Engineering Education Research Network University of Portsmouth, Realising Engineering Ambitions: The Role Of Engineering Education Research? (University of Portsmouth (UK)) 1-2 November 2018, pp.151-160 (with M.G. Ballatore, L. Montanaro)

77. Institutional mapping of open educational practices beyond use of Open Educational Resources, Distance Education, 39:4 (2018), 511-527 (with D. Burgos, L. Campbell, F. Nascimbeni)

78. La qualificazione didattica dei docenti universitari. L'esperienza pilota del Politecnico di Torino, FORM@RE, 18:1 (2018), 39-52 (with A. Serbati, E. Felisatti, L. Da Re)

79. TIL: An innovative tool for the recruitment of Bachelor Engineering students in Italy, International Education and Research Journal, 4:2 (2018), 79-84 (with M.G. Ballatore, L. Montanaro)

80. Level zero core curriculum and entrance examination: an Italian experience, Eur. J. Eng. Educ., 20 (1995), 325-333 (with P. Boieri)