<p style="text-align:center">**Clemente Zanco**</p>

CURRICULUM VITAE AND
LIST OF SELECTED PUBLICATIONS

<p style="text-align:right">April 2019</p>

Personal data

Name and surname: Clemente A. Zanco

Date and place of birth: 21/12/1950, Busto Arsizio (VA, Italy)

Office, ph and E-mail: Dept of Math., Università degli Studi of Milano, via C. Saldini 50
20133 Milano MI (Italy)
++39 20 503 16164
clemente.zanco@unimi.it

Studies

1963 - 1968 Classical Liceum in Busto Arsizio (VA)
1968 - 1972 Laurea in Mathematics at Università degli Studi of Milano
1972   Defense of Laurea Thesis on "Schauder bases in Banach spaces", advisor Prof. D. Roux

Career

a) Employments
   1971 - 1972   Student fellowship of the National Research Council of Italy
   1973 - 6/1974   Service in Army
   7/1974 - 12/1974   Fellowship of the National Research Council of Italy
   1/1975 - 2/1978   Research assistant at the Dept of Math., Università degli Studi of Milano
   3/1978 - 3/1983   Assistant professor at the Dept of Math., Università degli Studi of Milano
   4/1983 -   Associate Professor at the Dept of Math., Università degli Studi of Milano

b) Professional functions at Institutions different from the Università degli Studi of Milano
   10/1983 - 9/1984 Visiting Scholar at Dept of Math., University of Washington, Seattle, WA, U.S.A.
   8/1987 - 10/1987   Visiting Scholar at Dept of Math., University of Washington, Seattle, WA, U.S.A.
   1996 - 2015   Visiting Professor (13 times, 2 or 3 weeks each time) at the Ben-Gurion University, Beer-Sheva, Israel

c) Selected Invited contributions at Conferences
- "Contemporary ramifications of Banach space theory" (Jerusalem, Israel, 19-24/06/2005): talk "Around Corson's theorem".
- "34th Winter School in Abstract Analysis" (Lhota nad Rohanovem, Czech Rep., 14-21/01/2006):

talk "Around Corson's theorem".
- "XII Convegno di Analisi Reale e Teoria della Misura" (Ischia, NA, Italy 03-07/07/2006): talk "Covering banach spaces".
- "Spring Conference on Banach Spaces" (Paseky nad Jizerou, Czech Rep., 13-19/04/2008): talk "Quite good coverings of quite good Banach spaces are strongly singular".
- "Functional Analysis: Methods and Applications (FAMA '08)" (Amantea, CS, Italy 04-07/06/2008): talk "Covering a sphere of a Banach space by balls".
- "Seminar in Functional analysis, Marie Curie Sklodowska University of Lublin" (Lublin (Poland), 09/02/2009): talk "Singularities for coverings of Banach spaces".
- "Functional Analysis Valencia 2010" (Valencia, Spain, 07-11/06/2010): talk "On a question by Corson about coverings of Banach spaces".
- "ICM satellite conference on Functional Analysis and Operator Theory" (Bangalore, India, 08-11/08/2010): talk "On a question by Corson about coverings of Banach spaces".
- "Convexity in Banach Spaces" (Castro Urdiales, Cantabria, Spagna, 20-24/02/2012): talk "Covering the unit sphere of certain Banach spaces by sequences of slices and balls".
- "Interactions between Logic, Topological structures and Banach spaces theory" (Eilat, Israel, 19-24/05/2013): talk "Point-finite coverings of Banach spaces".
- "Analysis Seminar" (Innsbruck, Austria,19/11-01/12/2013): talk "Point-finite coverings of Banach spaces".
- "Geometry of Banach Spaces - A Conference in honor of Stanimir Troyanski" (Albacete, Spagna, 10/6-13/6/2014): talk "Almost overcomplete sequences in Banach spaces".
- "Relations between Banach Space Theory and Geometric Measure Theory" (Warwick, UK, 7-13/06/2015): talk "On the structure of the Almost Overcomplete and Almost Overtotal sequences in Banach spaces".
- "IV Workshop on Functional Analysis" (Cartagena, Spagna, 9-10/6/2016): invited plenary talk "Tiling infinite-dimensional Banach spaces: the state of the art".
- "Lublin-Italian Friends Workshop 2016" (Lublin, Polonia, 22-26/6/2016): invited talk "Almost Overcomplete and Almost Overtotal sequences in Banach spaces".
- "12th International Conference on Fixed Point Theory and its Applications" (Newcastle, Australia, 24-28/7/2017): talk "An algebraic property of the boundaries of Banach spaces".

d) Membership in scientific associations, professional duties

1976 -	Member of the Italian Mathematical Union
1983 - 1998	Member of the American Mathematical Society
INdAM	
1992 -	Reviewer for Math.
2014 -	Reviewer for ZBL

Referee for some international mathematical journals
Member of the organizing committee of the international conferences FAA (Functional Analysis and Applications) 86, FAA93, FAA98 in Gargnano del Garda (BS, Italy)

1985 - 1990	Head of the unit research of the National Research Group "Real Analysis" at the Università degli Studi of Milano

Member of the Faculty for the PhD program in Mathematics at the Università degli Studi of Milano
Member of committees for competitions to positions of researcher or associate professor at Italian Universities

e) Courses taught (partial list)
   Calculus
   Mathematical Analysis
   Differential Equations

Functional Analysis
Measure Theory
Author or co-author of some didactic publications

SCIENTIFIC RESEARCH ACTIVITY

The scientific research activity has been mainly devoted to Functional Analysis. At the first it concerned Fixed point theory for functions as well as set-valued functions acting on Banach or, more generally, metric spaces. Among the main studied objects in this area: -quasi-periodic points; - maps with decreasing index of non-compactness; - structure properties of normed spaces in connection with fixed point problems for some classes of maps ([1]).

For the studies above it was necessary to deal with the structure of normed spaces from the geometric point of view. That stimulated research in this area and in some close ones, as Abstract approximation theory and Convexity.

The main contributions in Geometry of Banach spaces and Abstract approximation theory are essentially the following:

- positive answer to a conjecture of C. Franchetti and P.L. Papini, by characterizing Hilbert spaces, among reflexive spaces of dimension at least three, in terms of balls inscribed in convex bodies ([2]);

- study of how much the presence, in any normed space, of non convex sets with good metric properties implies a bad behaviour of the norm from the geometric point of view ([4]);

- definition of the concept of rooted body in any normed space, so giving the possibility of:
i) extending to the non symmetric convex bodies the study of uniform properties of the bass as well as the use of some tools typical of the balls as the moduli of convexity and smoothness ([6]);
ii) characterizing some geometric properties of convex bodies in terms of the same properties that are enjoyed uniformly by their finite-dimensional sections or projections ([5]);

- characterization of reflexivity of Banach spaces by the stability of the class of rotund bodies and the class of smooth bodies under some algebraic operations ([8]);

- construction of locally finite tilings of the unit sphere of a Banach space by almost flat tiles, so characterizing those Banach spaces which admit separable dual ([11]);

- characterization of Banach spaces with weakly-star separable dual as those whose unit sphere can be fully covered by countably many translates of some centrally symmetric convex body, no one of them containing the origin ([16]);

- introduction and study of the new concepts of almost overcomplete sequence in a Banach space and almost overtotal sequence in a dual space, so providing unified solutions to problems of different nature ([20], [21]).

The main contributions in infinite-dimensional Convexity concern the construction of a basic theory of tilings of normed spaces. Such a theory was born in 1981 with the solution of a famous problem in discrete approximation supplied by V. Klee. In particular:

- the possibility is investigated of tiling the space by rotund or/and smooth tiles ([3]);

- the possibility is assured of tiling any normed space by convex bounded bodies, so answering in the positive a natural question posed by V. Klee in 1986 ([9]); the result is then strengthened to produce point-finite tilings by convex bounded bodies in any normed space, so answering a long-standing open question posed by H. H. Corson in 1961 ([17]);

- the nature is investigated of singular points for tilings by convex tiles and the conjecture is disproved about possible extension of the classical Corson theorem from bounded convex coverings to bounded star-shaped coverings ([10]);

- the Corson theorem above is revisited both extending it by considerably weakening the

assumptions (so solving a problem posed by V. Klee in 1981) and pointing out the finite-dimensional nature of the singularities in a very general context ([12], [14], [15]).

Finally, dealing with infinite-dimensional Convexity:
- the problem is solved of recognizing when a convex cone is majorized by a similar one in the sense of the partial orders they generate; the obtained results can be immediately and profitably applied to the study of utility functions ([13]);
- a contribution is given to get a basic theory for the so called even convexity, i.e. the strengthening of the convexity that deals with sets that are representable as an intersection of open half-spaces ([13]).

SELECTED PUBLICATIONS

 1. D. Roux, C. Zanco: *Quasi-nonexpansive mappings: strong and weak convergence to a fixed point of the sequence of the iterates*, Le Matematiche **32** (1977), 307-315.
 2. V. Klee, E. Maluta, C. Zanco: *Inspheres and inner products*, Israel J. Math **55** (1986), 1-14.
 3. V. Klee, E. Maluta, C. Zanco: *Tiling with smooth and rotund tiles*, Fund Math. **126** (1986), 269-290.
 4. E. Casini, P.L. Papini, C. Zanco: *Separation and approximation in normed linear spaces*, in "Methods of Functional Analysis in Approximation Theory", ISNM 76, Birkhauser (1986), 123-133.
 5. V. Klee, E. Maluta, C. Zanco: *Uniform properties of collections of convex bodies*, Math. Ann. **291** (1991), 153-177.
 6. C. Zanco, A. Zucchi: *Moduli of Rotundity and Smoothness for Convex Bodies*, Boll. Un. Mat. Ital. (7) **7-B** (1993), 833-855.
 7. V. Klee, E. Maluta, C. Zanco: *Archimedean levels, semispaces, and majorization of convex cones*, Arch. Math. (Basel) **61** (1993), 250-256.
 8. V. Klee, L. Vesely, C. Zanco: *Rotundity and smoothness of convex bodies in reflexive and nonreflexive Banach spaces*, Studia Math. **120** (1996), 191-204.
 9. V.P. Fonf, A. Pezzotta, C. Zanco: *Tiling infinite-dimensional normed spaces*, Bull. London. Math. Soc. **29** (1997), 713-719.
10. V.P. Fonf, A. Pezzotta, C. Zanco: *Singular points for tilings of normed spaces*, Rocky Mountain J. Math. **30** (3) (2000), 857-868.
11. V.P. Fonf, C. Zanco: *Almost flat locally-finite coverings of the sphere*, Positivity (3) **8** (2004), 269-281.
12. V.P. Fonf, C. Zanco: *Covering a Banach space*, Proc. Amer. Math. Soc. **134** (2006), 2607-2611.
13. V. Klee, E. Maluta, C. Zanco: *Basic properties of evenly convex sets*, J. Conv. Anal. (1) **14** (2007), 137-148.
14. V.P. Fonf, C. Zanco: *Finitely locally finite coverings of Banach spaces*, J. Math. Anal. Appl. (2) **350** (2009), 640-650.
15. V.P. Fonf, C. Zanco: *Coverings of Banach spaces: beyond the Corson th*eorem, Forum Math. **21** (2009), 533-546.
16. V.P. Fonf, C. Zanco: *Covering spheres of Banach spaces by balls*, Math. Ann. **344** (2009), 939-945.
17. A. Marchese, C. Zanco: *On a question by Corson about point-finite coverings*, Israel J. Math. **189** (2012), 55-63.
18. V.P. Fonf, C. Zanco: *Covering the unit sphere of certain Banach spaces by sequences of slices and balls*, Can. Math. Bull. **57** (1) (2014), 42-50.
19. V.P. Fonf, M. Levin, C. Zanco: *Covering L^p spaces by balls*, J. of Geom. Anal. **24** (4) (2014), 1891-1897.

20. V.P. Fonf, C. Zanco: *Almost overcomplete and almost overtotal sequences in Banach spaces*, J. Math. Anal. Appl. **420** (1) (2014), 94-101.

21. V.P. Fonf, J. Somaglia, S. Troyanski, C. Zanco: *Almost overcomplete and almost overtotal sequences in Banach spaces - part II*, J. Math. Anal. App. **434** (2016), 84–92 .

22. V.P. Fonf, C. Zanco: *An algebraic property of the boundaries of Banach spaces*, Pure and Applied Funct. Anal., **2** (1) (2017), 37-41.

23. V.P. Fonf, S. Lajara, S. Troyanski, C. Zanco: *Operator ranges and quasicomplemented subspaces of Banach spaces*, Studia Mat. **246** (2) (2019), 203-216.

24. V.P. Fonf, S. Lajara, S. Troyanski, C. Zanco: *Norming subspaces of Banach spaces,* Proc. Amer. Math. Soc **147** (7) (2019), 3039-3045.