

# Valeria Simoncini

## Curriculum Vitae

(July 31, 2015)

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### Address:

Dipartimento di Matematica - Alma Mater Studiorum Università di Bologna  
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### Monograph

*A Guide to Empirical Orthogonal Functions for Climate Data Analysis*, NAVARRA, ANTONIO, SIMONCINI, VALERIA, 2010, 200 p. Springer. ISBN: 978-90-481-3701-5 March, 2010

### Publications in Refereed International Journals

#### Most cited:

- *Recent computational developments in Krylov subspace methods for linear systems*. V Simoncini, DB Szyld. Numerical Linear Algebra with Applications 14 (1), 1-59 (2007).

- *A family of mimetic finite difference methods on polygonal and polyhedral meshes*. F Brezzi, K Lipnikov, V Simoncini. Mathematical Models and Methods in Applied Sciences 15 (10), 1533-1551 (2005).

- *Theory of inexact Krylov subspace methods and applications to scientific computing*. V Simoncini, DB Szyld. SIAM Journal on Scientific Computing 25 (2), 454-477 (2003).

(plus over 80 other publications, not listed)

### Employment and Education

Associate (1/11/2000-) and Full (1/11/2010-) Professor, Università di Bologna

Researcher at Istituto di Analisi Numerica (IAN) of CNR, Pavia (may 96- oct. 00)

Researcher at Istituto di Metodologie Geofisiche Ambientali (IMGA) of CNR, Modena (feb 95- jan. 96)

Visiting Scholar, CSRD, University of Illinois at Urbana-Champaign, Illinois (1991-1993)

Dottore di Ricerca (PhD) in *Matematica Computazionale ed Informatica Matematica* (sept. 1994) at the Dipartimento di Matematica Pura ed Applicata of the Università degli Studi in Padova. Title of Thesis: *Sulla risoluzione ed applicazione di sistemi lineari con più vettori noti*.

Dottore in Matematica (nov. 1989) with *laude* at the Università degli Studi in Bologna.

### Teaching activity

Courses periodically taught within the Math Program and Environmental Science Program (Undergraduate and Master) at the University of Bologna: Calculus I (8 CFU), A Basic Course in Statistics (3 CFU), Applied Multivariate Statistical Analysis (6 CFU), Numerical Methods for Environmental Science (4 CFU), Numerical Computations (9 CFU), Numerical Analysis (6 CFU).

Courses periodically taught within the PhD Program in Mathematics: "Iterative Methods for linear systems", "Theory of Matrices".

### Adviser of Master and PhD theses:

Niklas Fors (Master of Science Program in Engineering Physics, Uppsala University, 2007); Marina Popolizio (Università di Bari, 2008); Gianluca Barbella (Politecnico di Milano, 2009); Yiding Lin (co-adviser, Xiamen University, China, 2014); Stephen Shank (co-adviser, Temple University, Philadelphia, USA, 2014); Mattia Tani (Università di Bologna, 2015) Davide Palitta (Università di Bologna, 2017)

### Awards

SIAM Fellow, Society of Industrial and Applied Mathematics, Philadelphia, USA.

### Scientific Activities and Reviews

Member of the Editorial Board for *JOURNAL OF NUMERICAL MATHEMATICS* (9/2014-)

Member of the Editorial Board for *ESAIM: Math. Modelling and Numerical Analysis (M2AN)* (1/2013-)

Member of the Editorial Board for *SIAM J. Numerical Analysis* (1/2012-)

Member of the Editorial Board for *ETNA - Electronic Transactions Numerical Analysis* (3/2009-9/2014)

Member of the Editorial Board for *SIAM J. Matrix Analysis and Appl.* (1/2005-)

Member of the Editorial Board for *Numerical Linear Algebra with Applications* (4/2000-)

Member of the Permanent Scientific Committee of the Householder Symposium (6/2008-)

Member of the Advisory Committee for the SIAM Int'l Summer School on Numerical Linear Algebra (2010-)

Member of several international election and prize committees

Research Fellow of IMATI-CNR (Pavia), and of IAC-CNR, Bari

Referee for the evaluation of National and International Projects (CIVR, NSF, NWO, ...) and Promotion evaluations.

### **Organizing Activities in Conferences, Workshops and Schools (past 5 years)**

Member of the Scientific Committee for the "2009 SIAM Conference on Applied Linear Algebra", Oct. 2009, Monterey, California.

Co-organizer of the Gene Golub SIAM Summer School 2010 Int'l Summer School on Numerical Linear Algebra, Brindisi (Italy), June 7-18, 2010.

Member of the Scientific Committee for the "2011 SIAM Conference on Computational Science and Engineering", Feb. 2011, Reno, Nevada.

Member of the Scientific Committee of the Workshop 2005 Int'l Conference on preconditioning techniques, "Preconditioning 2011", May 16-18 2011, Bordeaux Sud-Ouest, France

Member Member of Permanent Scientific Committee. Householder Symposium, June 12-17, 2011, Tahoe City, California.

Member of the Scientific Committee for the "2013 SIAM Conference on Computational Science and Engineering", Feb. 2013, Boston.

Member of the Scientific Committee of the Workshop 2013 Int'l Conference on preconditioning techniques, "Preconditioning 2013", June 2013, Oxford, UK

Member of the Scientific Committee of ENUMATH, Lausanne, August 2013

Co-organizer, (with Michele Benzi) CIME Summer School, Exploiting Hidden Structure in Matrix Computations. Algorithms and Applications, Cetraro, June 21-26, 2015

Organizer, Workshop on Matrix Equations and Tensor Techniques", Bologna, 21-22 Sept. 2015.

*(plus organization of a number of mini-symposia at Conferences)*

### **Invited Plenary Talks (past 5 years)**

- July 2010 Wrksp on Nonlinear Optimization, Variational Inequalities and Equilibrium Problems, Erice (I)

- Sept. 2010, II IMA Conf. on Numerical Linear Algebra and Optimisation, Univ. of Birmingham (UK)

- Sept 2011, ENUMATH 2011, Leicester, UK.

- April 2012, MOPNET: EPSRC Matrix and Operator Pencil Network. Bath (UK).

- April 2012, Swiss Numerics Colloquium 2012, Bern (CH).

- June 2012, SIMAI 2012, Biannual Meeting, Politecnico di Torino (I).

- July 2012, SIAM Annual Meeting (AN12). Minneapolis, Minnesota (USA).

- Sept 2012, CTAC, 16th Biennial Computational Techniques and Appl. Conference, Brisbane (AU).

- Jan 2013, ATMW Numerical Linear Algebra, IIT Guwahati, Assam, India.

- Sept 2013. GAMM Workshop Applied and Numerical Linear Algebra, Bergische Universität Wuppertal, D.

- May 2015. High Performance Computing in Science and Engineering, Beskydy Mountains, Czech Republic.

- Sept 2015. XX Congress of the Italian Mathematics Union, Siena, Italy.