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EDUCATION

- 1990-1992 **Ph.D. in Mathematics**, Courant Institute of Mathematical Sciences, New York University, USA. Research in numerical analysis of partial differential equations. Thesis on domain decomposition algorithms for spectral and p-version finite element methods; advisor: Prof. Olof B. Widlund.
- 1988-1990 **Master in Mathematics**, Courant Institute of Mathematical Sciences, New York University, USA.
- 1987-1988 **Istituto Nazionale di Alta Matematica F. Severi (INdAM)**, Roma, Italy.
- 1982-1987 **Laurea in Matematica (B.S.)**, University of Pavia, Italy. Summa cum laude. Thesis on numerical methods for parabolic partial differential equations; advisor: Prof. Claudio Baiocchi.

PROFESSIONAL EXPERIENCE

- 2016–present **Full Professor of Numerical Analysis**
Department of Mathematics, University of Pavia, Italy.
- 2001–2016 **Full Professor of Numerical Analysis**
Department of Mathematics, University of Milano, Italy.
- 1998–2001 **Associate Professor of Numerical Analysis**
Department of Mathematics, University of Milano, Italy.
- 1994–1998 **Assistant Professor**, Department of Mathematics, University of Pavia, Italy.
- 1992–1994 **Postdoctoral Research Associate**, Department of Computational and Applied Mathematics, Rice University, USA.
- 1991–1992 **Teaching Assistant**, Courant Institute of Mathematical Sciences, NYU, USA.
- Summer 1990 **IBM T.J. Watson Research Center**, Yorktown Heights, NY, USA. Summer position in the Modeling theory and algorithms group.

HONORS AND SCHOLARSHIPS

- 1993 Wilhelm T. Magnus Prize from the Courant Institute, NYU.
- National Research Council (CNR, Italy) Scholarship, 1986 and 1988-91.
- Istituto Nazionale di Alta Matematica (INdAM) Scholarship, 1987-88.
- St. John's College, Cambridge, England. Summer scholarship, 1986.
- Visiting professor at: Courant Institute, NYU, USA (1994,..., 2022), MIT, USA (2022), Brown University, USA (1998, 2004, 2008, 2022), IIT Kanpur, India (2014,15,18), Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Science, Shenzhen, China (2015), Zuse Institut Berlin ZIB, Germany (2004, 2006, 2023), Mittag-Leffler Institute, Royal Academy of Science, Sweden (1998), Institute for Mathematics and Applications (IMA), Minneapolis, USA (1997), NASA, Langley Research Center (ICASE), USA (1995, 96), University of Maryland, College Park, USA (1995).

PUBLICATIONS

165. S. Scacchi, L.F. Pavarino, A. Mazzanti, A. Trancuccio, S.G. Priori, P. Colli Franzone, Transmural APD heterogeneity determines ventricular arrhythmogenesis in LQT8 syndrome: insights from Bidomain computational modeling. *PLoS One*, to appear, 2024.
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163. Olof B. Widlund, L.F. Pavarino, S. Scacchi, S. Zampini, An overlapping Schwarz algorithm for Isogeometric Analysis. In *Domain Decomposition Methods in Science and Engineering XXVII*, Z. Dostal et al. Eds, Springer LNCSE 149, pp. 435–444, 2024.
162. N.A. Barnafi, N.M.M. Huynh, L.F. Pavarino, S. Scacchi, Robust parallel nonlinear solvers for implicit time discretizations of the Bidomain equations with staggered ionic models. *Computers & Mathematics with Applications* 167: 134–149, 2024.
161. E. Zampieri, L.F. Pavarino, Conditioning and spectral properties of isogeometric collocation matrices for acoustic wave problems. *Advances in Computational Mathematics* 50.2: 16, 2024.
160. A. Porta-Sánchez et al., Unexpected Impairment of INa current Underpins Reentrant Arrhythmias in a Knock-in Swine Model of Timothy Syndrome. *Nature Cardiovascular Research* 2 (12): 1291–1309, 2023.
159. N.M.M. Huynh, F. Chegini, L.F. Pavarino, M. Weiser, S. Scacchi, Convergence Analysis of BDDC Preconditioners for Composite DG Discretizations of the Cardiac Cell-By-Cell Model. *SIAM Journal on Scientific Computing* 45 (6): A2836–A2857, 2023.
158. N.A. Barnafi, L.F. Pavarino, S. Scacchi, A comparative study of scalable multilevel preconditioners for cardiac mechanics. *Journal of Computational Physics*, 492, 112421, 2023.
157. F. Chegini, A. Froehly, N.M.M. Huynh, L.F. Pavarino, M. Potse, S. Scacchi, M. Weiser, Efficient numerical methods for simulating cardiac electrophysiology with cellular resolution. In *Coupled Problems 2023: 10th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, M. Papadrakakis et al. Eds., pp. 1-10, 2023.
156. S. Botti, C. Bartolucci, R. Krause, L.F. Pavarino, S. Severi, An in silico Study of Cardiac hiPSC Electronic Maturation by Dynamic Clamp. In *FIMH2023: International Conference on Functional Imaging and Modeling of the Heart*, Springer LNCS vol. 13958, pp. 175–183, 2023.
155. E. Zampieri, L. F. Pavarino, A numerical comparison of Galerkin and Collocation Isogeometric approximations of acoustic wave problems, *Applied Numerical Mathematics*, 2023.
154. S. Scacchi, P. Colli Franzone, L.F. Pavarino, V. Gionti, C. Storti, Epicardial Dispersion of Repolarization Promotes the Onset of Reentry in Brugada Syndrome: A Numerical Simulation Study, *Bulletin of Mathematical Biology* 85 (3), 22, 2023.
153. S. Botti, C. Bartolucci, C. Altomare, L. Barile, R. Krause, L. F. Pavarino, S. Severi, Numerical Simulations Indicate IK1 Dynamic Clamp Can Unveil the Phenotype of Cardiomyocytes Derived from Induced Pluripotent Stem Cells, In *2022 Computing in Cardiology (CinC)* Vol. 498. IEEE, 2022.
152. N. A. Barnafi, L.F. Pavarino, S. Scacchi, Parallel inexact Newton–Krylov and quasi-Newton solvers for nonlinear elasticity, *Computer Methods in Applied Mechanics and Engineering*, 400: 115557, 2022.

151. N.M.M. Huynh, L.F. Pavarino, S. Scacchi, Scalable and robust NK-BDDC deluxe solvers for cardiac electrophysiology]Scalable and robust dual-primal Newton-Krylov deluxe solvers for cardiac electrophysiology with biophysical ionic models, *Vietnam Journal of Mathematics* 50(4): 1029–1052, 2022.
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140. O. B. Widlund, S. Zampini, S. Scacchi and L. F. Pavarino, Block FETI-DP/BDDC preconditioners for mixed isogeometric discretizations of three-dimensional almost incompressible elasticity, *Mathematics of Computation*, 90 (330), 1773–1797, 2021.
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128. L. F. Pavarino, S. Scacchi, O. B. Widlund, S. Zampini, Isogeometric BDDC Deluxe Preconditioners for Linear Elasticity, *Mathematical Models and Methods in Applied Sciences*, 28 (7): 1337–1370, 2018.
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112. M. Cai, L. F. Pavarino, O. B. Widlund, Overlapping Schwarz Methods with a Standard Coarse Space for Almost Incompressible Linear Elasticity. *SIAM Journal on Scientific Computing*, 37 (2): A811–A830, 2015.
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109. P. Colli Franzone, L.F. Pavarino, S. Scacchi, Parallel coupled and uncoupled multilevel solvers for the Bidomain model of electrocardiology, In *Domain Decomposition Methods in Science and Engineering XXI*, J. Erhel et al., Eds., Springer LNCSE 98, pp. 257–264, 2014.
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