

CURRICULUM VITAE ET STUDIORUM (Andrea Sorbi)

Address Department of Information Engineering and Mathematics
University of Siena
Via Roma 56, 53100 Siena, Italy

Educational and Professional Record *PhD in Mathematics* (CUNY, New York, 1987)— University of Siena: Assistant Professor (1984-1991)—Associate Professor (1991-2001)—Full Professor (2001-present)

Research interests *Computability theory*: Positive reducibilities, Theory of Numberings, Inductive inference, Computable Reducibility on Equivalence Relations. *Word problems. Formal languages.*

Selection of grants and research projects

1985-1986 *Alfred P. Sloan Foundation*: PhD fellowship in the USA.

EUROPEAN GRANTS

(1994- 1997) Coordinator of the European network *Complexity, Logic and Recursion Theory* (COLORET), EC Human Capital and Mobility, Contract no. ERBCHRXCT930415 (network consisting of: Siena, Amsterdam, Barcelona, Heidelberg, Leeds, Turin)

(1995-1997) Coordinator of the European PECO (Cooperation with Eastern European countries and countries from the former Soviet Union) action: Supplementary Agreement no. ERBCIPDCT940615 to the COLORET contract (extension to: Prague, Kazan, Novosibirsk)

(2000-2002) INTAS-RFBR project *Computability and Models* (coordinated by Barry Cooper in Leeds) no. 97-2139: main scientist in Siena

(2001-2004) Coordinator of the INTAS project no. 00499 *Computability in Hierarchies and Topological Spaces* (Siena, Siegen, Novosibirsk, Almaty)

COORDINATION AND SCIENTIFIC SUPERVISION OF RESEARCH PROJECTS

(01/06/2002-30/11/2002) Scientific supervisor of an Outreach-Nato Fellowship

SCIENTIFIC SUPERVISION OF MARIE CURIE INTRA-EUROPEAN INDIVIDUAL FELLOWSHIPS

(01/03/2003-28/02/2005) Marie Curie Intra-European Individual Fellowship Contract no. HPMF-CT-2002-01828)

(01/12/2005-30/11/2007) Marie Curie Intra-European Individual Fellowship Contract no. MEIF-CT-2005-023657

SCIENTIFIC SUPERVISOR OF MARIE CURIE INTERNATIONAL INDIVIDUAL FELLOWSHIPS

(02/11/2006-1/11/2008) Marie Curie International Individual Fellowship Contract no. MIFI-CT-2006-021702

INTAS YOUNG SCIENTIST SUPERVISOR

(April-June 2006) INTAS Young Scientist Supervisor (Contract. no. INTAS YSF 04-83-3310)

(June-October 2007) INTAS Young Scientist Supervisor (Contract. no. INTAS YSF 05-109-4919)

OTHER

(2008-2010) Italian coordinator of the Executive Programme of Scientific and Technological Cooperation between the Italian Republic and the Republic of South Africa; project named *Borel Complexity in Computable Analysis* (between the University of Siena and the University of Cape Town)

PARTECIPATION IN OTHER RESEARCH PROJECTS

(1992-1996) BC-MURST Research Project grant no. ROM/889/92/81 (Leeds-Siena) *Computability Relative to Imperfect Data Bases*

(2008-2014) *Computability with partial information*, sponsored by the Bulgarian National Science Foundation, Contract No: D002-258/18.12.08, coordinated by Ivan Soskov, Sofia University

(2015-2017) *Equivalence relations, preordered structures, and algorithmic reducibilities on them, as a mathematical model of databases*, Grant 3952/GF4 of the Science Committee of the Republic of Kazakhstan, coordinated by Serikzhan Badaev, Al-Farabi Kazakhstan National University, Almaty

Selected meetings and conferences

Boulder (Colorado), June 1999, *AMS Summer Research Conference on Computability Theory and Applications*, invited talk *Open Problems in the Enumeration Degrees*

MAL'TSEV MEETINGS IN NOVOSIBIRSK (RUSSIA)

August 1999: invited talk *Embedding results in the enumeration degrees*— September 2001: invited talk *Complete numberings and completions* — May 2010: invited plenary talk *The Medvedev lattice and intermediate propositional logics* — October 2011: invited plenary talk *Positive Equivalence Relations and Reducibility* — May 2015, invited plenary talk *Dialectical and quasi-dialectical systems: two approaches to trial-and-error mathematics*

Bristol (UK), September 2005: *British Logic Colloquium 2005*, invited talk *The Medvedev lattice and intermediate logics*

Siena (Italy), June 2007: *CiE2007-Computation and Logic in the Real World*, Chair of the Organizing Committee

Heidelberg (Germany), July 2009: *Computability in Europe 2009 (Cie2009)*, invited plenary talk *Computing using positive information*

Cambridge, June 2012: *The Incomputable*, SAS Special session, invited talk *Classifying Computably Enumerable Equivalence Relations*

Singapore, April 2015: *Sets and Computation*, invited talk *Computably enumerable equivalence relations*

Delphi (Greece), July 2017: 11th Panhellenic Logic Symposium, invited talk *Computability relative to imperfect databases*

Udine, June 2021: *Equivalences, Numberings, Reducibilities* (A Satellite Event of The 8Th European Congress of Mathematics), invited speaker, talk *Initial segments of the structure of ceers under computable reducibility*

Ghent (Belgium), July 2021: *Computability in Europe*, invited speaker of Special Session in Computability *Effective inseparability and its applications*

Reykjavk (Iceland) June-July 2022: *Logic Colloquium 2022*, Chair of the Program Committee.

Batumi (Georgia) July 24-28 2023: *Unity of Logic and Computation: 19th Conference on Computability in Europe, CiE 2023*, Co-organizer of the Special Session in *Classical Theories of Degrees*

Selection of papers published after 2013

Andrea Sorbi has authored or coauthored 103 research papers, and edited 10 volumes or special issues. Many of his papers have appeared in highly ranked specialized journals (17 papers in *J. Symbolic Logic*; 5 in *Ann. Pure Appl. Logic*; 14 in *Arch. Math. Logic*; 3 in *Review of Symbolic Logic*; 5 in *Algebra and Logic*; 5 in *J. Logic Comput.*; and then *J. Mathematical Logic*; *Proc. Amer. Math. Soc.*; *Computability*; etc.)

- [1] T. A. Slaman and A. Sorbi. A note on initial segments of the enumeration degrees. *J. Symbolic Logic*, 79(2):633–643, June 2014.
- [2] U. Andrews, S. Lempp, J. S. Miller, K. M. Ng, L. San Mauro, and A. Sorbi. Universal computably enumerable equivalence relations. *J. Symbolic Logic*, 79(1):60–88, March 2014.
- [3] F. Montagna, G. Simi, and A. Sorbi. Taking the Pirahã seriously. *Commun. Nonlinear Sci. Numer. Simulat.*, 21:52–69, 2015.
- [4] H. Ganchev and A. Sorbi. Initial segments of the Σ_2^0 enumeration degrees. *J. Symbolic Logic*, 81(1):316–325, 2016.
- [5] U. Andrews and A. Sorbi. The complexity of index sets of classes of computably enumerable equivalence relations. *J. Symbolic Logic*, 81(1):1–21, 2016. DOI:10.1017/jsl.2016.26.
- [6] A. Nies and A. Sorbi. Calibrating word problems of groups via the complexity of equivalence relations. *Math. Structures Comput. Sci.*, 28(3):457–471, 2018. Published online: October 2016.
- [7] U. Andrews and A. Sorbi. Jumps of computably enumerable equivalence relations. *Ann. Pure Appl. Logic*, 169:243–259, 2018.
- [8] U. Andrews and A. Sorbi. Joins and meets in the structure of ceers. *Computability*, 8(3-4):193–241, 2019.
- [9] U. Andrews and A. Sorbi. Effective inseparability, lattices, and preordering relations. *Review of Symbolic Logic*, 14(4):838–865, 2021. doi:10.1017/S1755020319000273; Published online by Cambridge University Press: 12 July 2019.
- [10] U. Andrews, N. Schweber, and A. Sorbi. The theory of ceers computes true arithmetic. *Ann. Pure Appl. Logic*, 171(8):102811, 2020. doi.org/10.1016/j.apal.2020.102811.
- [11] U. Andrews and A. Sorbi. Initial segments of the degrees of ceers. *J. Symbolic Logic*, 87(3):1260–1283, 2022. <https://doi.org/10.1017/jsl.2022.14>.

- [12] N. Bazhenov, K. M. Ng, L. San Mauro, and A. Sorbi. Primitive recursive equivalence relations and their primitive recursive complexity. *Computability*, 11(3-4):187–221, 2022.
- [13] V. Delle Rose, L. San Mauro, and A. Sorbi. Classifying word problems of finitely generated algebras via computable reducibility. *International Journal of Algebra and Computation*, 33(4):751–768, 2023.