Prof. Dr. Klaus Ambos-Spies

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Date and place of birth	November 4, 1951, Mannheim, German citizen
Current position	Chair of Math. Logic and Theor. Comput. Sci.

SCIENTIFIC VITA

1991-present	Professor (C4), Faculty of Mathematics and Computer Science, Univ. of Heidelberg
1988-1991	Associate Professor (C3), Faculty of Mathematics, Univ. of Heidelberg
1987-1988	Associate Professor (C3), Department of Computer Science, Univ. of Oldenburg
1985-1987	Assistant Professor (C2), Department of Computer Science, Univ. of Dortmund
1985	Habilitation (venia legendi) in Computer Science
1981-1985	Research Assistant, Department of Computer Science, Univ. of Dortmund
1981	Ph.D. in Mathematics, Univ. of Munich
1980-1981	Teaching Assistant at Cornell University, Ithaca, USA
1979-1980	Participation in the "Logic Year" at the University of Connecticut, Storrs, USA
1978-1980	Ph.D. Scholarship (Studienstiftung des Deutschen Volkes)
1970-1977	Study of Mathematics, Diploma, Univ. of Karlsruhe and Univ. of Munich

RESEARCH INTERESTS

The research of the group in Mathematical Logic and Theoretical Computer Science at the Institute of Computer Science of Heidelberg University is devoted to computational aspects of the foundations of mathematics and computer science. It covers various areas of computability theory, computational complexity theory and automata theory. Central topics are questions related to the power and limitations of algorithmic methods. Major research topics since 2000 include the theory of algorithmic randomness, algorithmic learning theory, applications of measure theory and topology to computational complexity and automata theory, structural complexity, and the analysis of properties of computably enumerable problems and their relative complexity.

SELECTED PUBLICATIONS

1. K. Ambos-Spies: *Resource-bounded genericity*, in Computability, enumerability, unsolvability, 1–59, London Math. Soc. Lecture Note Ser., 224, Cambridge Univ. Press, Cambridge, 1996.

2. K. Ambos-Spies and E. Mayordomo: *Resource-bounded measure and randomness*, in Complexity, logic, and recursion theory, 1–47, Lecture Notes in Pure and Appl. Math., 187, Dekker, New York, 1997.

3. K. Ambos-Spies: *Polynomial time reducibilities and degrees*, in Handbook of Computability Theory, pp. 683–705, Stud. Logic Found. Math., 140, North-Holland, Amsterdam, 1999.

4. K. Ambos-Spies, D. Hirschfeldt, and R. A. Shore: *Undecidability and 1-types in intervals of the computably enumerable degrees*, Ann. Pure Appl. Logic 106, 1–47 (2000).

5. K. Ambos-Spies and A. Kucera: *Randomness in computability theory*, in Computability theory and its applications (Boulder, CO, 1999), 1–14, Contemp. Math., 257, Amer. Math. Soc., Providence, RI, 2000.

6. K. Ambos-Spies and P. Fejer: *Embeddings of N_5 and the contiguous degrees*, Ann. Pure Appl. Logic 112, 151–188 (2001).

7. K. Ambos-Spies, B. Kjos-Hanssen, S. Lempp, and T. A. Slaman: *Comparing DNR and WWKL*, J. Symbolic Logic 69, 1089–1104 (2004).

8. K. Ambos-Spies, S. Lempp, and T. A. Slaman: *Generating sets for the recursively enumerable Turing degrees*, Computational prospects of infinity. Part II. Presented talks, 1–22, Lect. Notes Ser. Inst. Math. Sci. Natl. Univ. Singap., 15, World Sci. Publ., Hackensack, NJ, 2008.

9. K. Ambos-Spies, D. Ding, W. Wang, and L. Yu: *Bounding non-GL_2 and R.E.A.*, J. Symbolic Logic 74, 989–1000 (2009).

10. K. Ambos-Spies, S. Badaev, S. Goncharov: *Inductive inference and computable numberings*, Theoret. Comput. Sci. (to appear).

11. K. Ambos-Spies and T. Bakibayev: *Weak completeness notions for exponential time*, ICALP 2010, Part I, 503–514, Lecture Notes in Comput. Sci., 6198, Springer, Berlin, 2010.

12. K. Ambos-Spies: *On the strongly bounded Turing degrees of the computably enumerable sets*, to appear.