Biographical Sketch
Kenneth W. Regan

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Professional Preparation

- Princeton University, Mathematics, B.A. *summa cum laude*, 1981

- Oxford University, Mathematics, D.Phil., 1986

- Oxford University, Junior Research Fellow, 1984–1986 and 1988.

- Cornell University, Postdoctoral Research Visitor, Mathematical Sciences Institute (office provided by the Department of Computer Science), 1986–1987 and 1988–1989.

Appointments

- 1999–: Associate Professor, Department of Computer Science and Engineering, University at Buffalo (official change after department merged with Computer Engineering).

- 1995–1999: Associate Professor, Department of Computer Science, University at Buffalo

- 1989–1995: Assistant Professor, Department of Computer Science, University at Buffalo

List of Relevant Papers

1. R. Lipton and K. Regan and A. Rudra, "New Hard Problems Via Quantum Circuit Simulation," draft, 2012.

2. K. Regan and A. Chakrabarti, "Quantum Circuits, Polynomials, and Entanglement Measures," draft, 2012.

3. R. Lipton and K. Regan and A. Rudra, "Symmetric functions capture general functions," in the proceedings of MFCS 2011, Springer LNCS **6907**, 2011, pp 436–447.

4. R. Lipton and S. Kalyanasundaram and K. Regan and F. Shokrieh, "Improved simulation of nondeterministic Turing machines," *Theoretical Computer Science*, in press. Special Issue for MFCS 2010.

5. M. Jansen and K. Regan, " 'Resistant' polynomials and stronger lower bounds for depth-3 arithmetical formulas," in the proceedings of the 13th Annual International Computing and Combinatorics Conference (COCOON 2007), Banff, Canada, July 16–19, 2007, Springer LNCS **4598**, 2007, pp 470–481. Available at http://www.cse.buffalo.edu/∼regan/papers/pdf/JaRe07LNCS.pdf.

List of Other Significant Papers

1. M. Jansen and K. Regan, "A Non-Linear Lower Bound for Constant Depth Arithmetical Circuits via the Discrete Uncertainty Principle," *Theoretical Computer Science* **409** (Issue 3, 28 December 2008), 617–622.

2. M. Crasmaru and C. Glasser and K. Regan and S. Sengupta, "A protocol for serializing unique strategies," in "Proceedings of MFCS'04," Lecture Notes in Computer Science 3153, pages 660-672, Springer-Verlag, 2004. `/.../pdf/CGRS04.pdf`

3. S. Aida and M. Crasmaru and K. Regan and O. Watanabe, "Games with Uniqueness Properties," *Theoretical Computer Science* **37** (2004), 29–47. `/.../pdf/ACRW03.pdf`

4. K. Regan, "Understanding the Mulmuley-Sohoni Approach to P vs. NP," Bulletin of the European Association for Theoretical Computer Science 78, October 2002, pp86–97. Invited contribution to Lance Fortnow's Computational Complexity Column. `/.../pdf/MSFD.pdf`

5. K. Regan, D. Sivakumar, and J.-Y. Cai, "Pseudorandom number generators, measure theory, and natural proofs," *in* "Proceedings, 36th Ann. IEEE Symposium on Foundations of Computer Science," Milwaukee, WI, October 1995, pp 26–35. `/.../pdf/RSC95.pdf`.

Synergistic Activities

- Collaboration on Richard Lipton's weblog "Gödel's Lost letter and P=NP," `http://rjlipton.wordpress.com/`, including posts and technical summaries during the discussion of V. Deolalikar's proof claim.

- Sabbatical at the University of Montreal, 1/11/09–7/03/09, gave colloquia and seminars on complexity and chess/AI research topics.

- Public website `http://www.cse.buffalo.edu/~regan/chess/fidelity/` on a predictive analytic model of human move choice at chess, with application to alleged cheating cases and player skill assessment. Covered in the New York Times, Science Tuesday page D3, 3/20/2012.

- Joint author of three book chapters with Eric W. Allender and Michael C. Loui for the CRC *Algorithms and Computation Theory Handbook*, 1999 and 2009 eds., which help explain complexity theory for a general scientific audience. as above.

Collaborators (within 48 months, no co-editorships)

Eric Allender (Rutgers), Amlan Chakrabarti (U. Calcutta), Giuseppe DiFatta (Reading, UK) Guy L. Haworth (Reading, UK) Maurice J. Jansen (UB), Subrahmanyam Kalyanasundararam (Georgia Tech), Richard J. Lipton (Georgia Tech), Michael C. Loui (UIUC), Bartlomiej Macieja (Warsaw) Pierre McKenzie (University of Montreal) Atri Rudra (UB), Alan L. Selman (UB), Farbod Shokrieh (Georgia Tech)

Supervision, last 5 years (3 PhD students, 0 postdocs): Qi Duan (PhD 8/08, now postdoc at UNC Charlotte under Ehab Al-Shaer), Robert Surowka (current, University at Buffalo), Tamal Biswas (current, University at Buffalo).
My D.Phil advisor: Dominic J.A. Welsh, Merton College, Oxford University.