

# READING LIST

## PSEUDORANDOMNESS BOOT CAMP

### 1. FUNDAMENTAL TECHNIQUES IN PSEUDORANDOMNESS

- Oded Goldreich. *Pseudorandom Generators: A Primer*, AMS, 2010. <http://www.wisdom.weizmann.ac.il/~oded/PDF/prg10.pdf>
- Salil Vadhan. *Pseudorandomness*, Foundations and Trends in Theoretical Computer Science: Vol. 7: No. 13, pp 1-336, NOW publishers, 2012. <http://people.seas.harvard.edu/~salil/pseudorandomness/>
- Mark Braverman. *Polylogarithmic independence fools AC0 circuits*. JACM Volume 57 Issue 5, June 2010. <http://dl.acm.org/citation.cfm?id=1754401>

### 2. EXTRACTORS AND EXPANDERS

- S. Hoory, N. Linial, and A. Wigderson. *Expander graphs and their applications*, Bull. Amer. Math. Soc. 43 (2006), 439-561. [http://www.cs.huji.ac.il/~nati/PAPERS/expander\\_survey.pdf](http://www.cs.huji.ac.il/~nati/PAPERS/expander_survey.pdf)
- D. Zuckerman. *Linear degree extractors and the inapproximability of Max Clique and Chromatic Number*, Theory of Computing, 3 (2007): 103-128. <http://www.theoryofcomputing.org/articles/v003a006/v003a006.pdf>
- V. Guruswami, C. Umans, and S. Vadhan. *Unbalanced expanders and randomness extractors from Parvaresh-Vardy codes*, Journal of the ACM, 56(4):1-34, 2009. <https://www.cs.cmu.edu/~venkatg/pubs/papers/PV-condenser.pdf>
- E. Chattopadhyay and D. Zuckerman. *Explicit two-source extractors and resilient functions*, 48th Annual ACM Symposium on Theory of Computing (STOC), pp. 670-683, 2016. <https://eccc.weizmann.ac.il/report/2015/119/>
- A. Ben-Aroya, D. Doron, and A. Ta-Shma. *Explicit two-source extractors for near-logarithmic min-entropy*. <https://eccc.weizmann.ac.il/report/2016/088/>
- Z. Dvir, *Extractors for varieties*, Computational Complexity, 21:515-572, 2012. <https://www.cs.princeton.edu/~zdvir/papers/Dvir08.pdf>

### 3. PSEUDORANDOM GENERATORS

- Salil Vadhan. *Pseudorandomness*, Foundations and Trends in Theoretical Computer Science: Vol. 7: No. 13, pp 1-336, NOW publishers, 2012. <http://people.seas.harvard.edu/~salil/pseudorandomness/>

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- Emanuele Viola. *The sum of  $d$  small-bias generators fools polynomials of degree  $d$* , Computational Complexity, vol. 18, num. 2, pp. 209-217, 2009 Preliminary version in IEEE Conf. on Computational Complexity (CCC), 2008. <http://www.ccs.neu.edu/home/viola/papers/d.pdf>

#### 4. PSEUDORANDOMNESS AND REGULARITY IN GRAPHS

- Michael Krivelevich and Benny Sudakov. *Pseudo-random Graphs*. In More Sets, Graphs and Numbers (Vol. 15, pp. 199-262). Springer Berlin Heidelberg. <https://www.math.ethz.ch/~sudakovb/pseudo-random-survey.pdf>
- David Conlon, Jacob Fox, Yufei Zhao. *Extremal results in sparse pseudorandom graphs*, Adv. Math. 256 (2014), 206-290 <https://arxiv.org/abs/1204.6645>
- David Conlon, Jacob Fox, Yufei Zhao. *The Green-Tao theorem: an exposition*, EMS Surv. Math. Sci. 1 (2014), 249-282. <https://arxiv.org/abs/1305.5440>
- David Conlon, Jacob Fox. *Graph removal lemmas*. <https://arxiv.org/abs/1211.3487>

#### 5. ARITHMETIC APPLICATIONS OF PSEUDORANDOMNESS

- Ben Green. *Montréal notes on quadratic Fourier analysis*. In Additive combinatorics, Vol. 43, pp. 69-102. Amer. Math. Soc., Providence, RI (2007). <https://arxiv.org/pdf/math/0604089v2.pdf>
- Julia Wolf. *Finite field models in arithmetic combinatorics—ten years on*. Finite Fields and Their Applications, 32, 233-274 (2015). <http://www.juliawolf.org/research/preprints/ffsurveyweb.pdf>
- Thomas Bloom's reading rack on the polynomial method: <https://people.maths.bris.ac.uk/~matfb/polynomial.html>