

## BIOL 480: Readings in Synthetic Biology (Spring 2017)

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### Weekly Reading List

1. Elowitz MB, Leibler S. **A synthetic oscillatory network of transcriptional regulators**. Nature. 2000 Jan 20;403(6767):335-8.
2. Brophy JA, Voigt CA. **Principles of genetic circuit design**. Nature methods. 2014 May;11(5):508-20.
3. Nandagopal N, Elowitz MB. **Synthetic biology: integrated gene circuits**. Science. 2011 Sep 2;333(6047):1244-8.
4. Nielsen AA, Voigt CA. **Multi-input CRISPR/Cas genetic circuits that interface host regulatory networks**. Molecular systems biology. 2014 Nov;10(11):763.
5. Toettcher JE, Mock C, Batchelor E, Loewer A, Lahav G. **A synthetic–natural hybrid oscillator in human cells**. Proceedings of the National Academy of Sciences. 2010 Sep 28;107(39):17047-52.
6. Youk H, Lim WA. **Secreting and sensing the same molecule allows cells to achieve versatile social behaviors**. Science. 2014 Feb 7;343(6171):1242782.
7. Morsut L, Roybal KT, Xiong X, Gordley RM, Coyle SM, Thomson M, Lim WA. **Engineering customized cell sensing and response behaviors using synthetic notch receptors**. Cell. 2016 Feb 11;164(4):780-91.
8. Eldar A, Elowitz MB. **Functional roles for noise in genetic circuits**. Nature. 2010 Sep 9;467(7312):167-73.
9. Jones DL, Brewster RC, Phillips R. **Promoter architecture dictates cell-to-cell variability in gene expression**. Science. 2014 Dec 19;346(6216):1533-6.
10. Potvin-Trottier L, Lord ND, Vinnicombe G, Paulsson J. **Synchronous long-term oscillations in a synthetic gene circuit**. Nature. 2016 Oct 27;538(7626):514-7.

11. Xie M, Ye H, Wang H, Charpin-El Hamri G, Lormeau C, Saxena P, Stelling J, Fussenegger M.  **$\beta$ -cell-mimetic designer cells provide closed-loop glycemic control**. *Science*. 2016 Dec 9;354(6317):1296-301.
12. Meister M. **Physical limits to magnetogenetics**. *eLife*. 2016 Aug 16;5:e17210.
13. Student presentations