BIOL 480: Readings in Synthetic Biology (Spring 2016)

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<u>Weekly Reading List</u>

1. Elowitz MB, Leibler S. **A synthetic oscillatory network of transcriptional regulators.** Nature. 2000 Jan 20;403(6767):335-8.

2. Lim WA, Lee CM, Tang C. **Design principles of regulatory networks: searching for the molecular algorithms of the cell.** Molecular cell. 2013 Jan 24;49(2):202-12.

3. Nandagopal N, Elowitz MB. **Synthetic biology: integrated gene circuits.** Science. 2011 Sep 2;333(6047):1244-8.

4. Moon TS, Lou C, Tamsir A, Stanton BC, Voigt CA. **Genetic programs constructed from layered logic gates in single cells.** Nature. 2012 Nov 8;491(7423):249-53.

5. Nielsen AA, Voigt CA. **Multi-input CRISPR/Cas genetic circuits that interface host regulatory networks. Molecular systems biology.** 2014 Nov;10(11):763.

6. Kittisopikul M, Süel GM. **Biological role of noise encoded in a genetic network motif.** Proceedings of the National Academy of Sciences. 2010 Jul 27;107(30):13300-5.

7. Eldar A, Elowitz MB. **Functional roles for noise in genetic circuits.** Nature. 2010 Sep 9;467(7312):167-73.

8. 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.

9. Niederholtmeyer H, Sun ZZ, Hori Y, Yeung E, Verpoorte A, Murray RM, Maerkl SJ. **Rapid cell-free forward engineering of novel genetic ring oscillators.** eLife. 2015 Oct 5;4:e09771.

10. O'Shaughnessy EC, Palani S, Collins JJ, Sarkar CA. **Tunable signal processing in synthetic MAP kinase cascades.** Cell. 2011 Jan 7;144(1):119-31.

11. Amit R, Garcia HG, Phillips R, Fraser SE. **Building enhancers from the ground up: a synthetic biology approach.** Cell. 2011 Jul 8;146(1):105-18.

12. 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.

    Roybal KT, Rupp LJ, Morsut L, Walker WJ, McNally KA, Park JS, Lim WA. **Precision tumor recognition by T cells with combinatorial antigen-sensing circuits.** Cell. 2016 Feb 11;164(4):770-9.

13. Student Presentations