

## Thomas T. Eng, Ph.D.

Curriculum Vitae

Lawrence Berkeley National Laboratory (LBNL)  
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### Professional Appointments

- 2018+ Project Scientist, Biological Systems Engineering Division. Biosciences Area, Lawrence Berkeley National Lab. Berkeley, CA. *Current appointment.*
- 2010 Graduate Student Instructor: Undergraduate Genetics (MCB.140), Department of Molecular and Cell Biology, UC Berkeley. Berkeley, CA. (*Duration: 1 semester.*)
- 2007 Technical Assistant I, Whitehead Institute for Biomedical Research. Cambridge, MA. (*Duration: Two years.*)
- 2006 Laboratory Teaching Assistant: Undergraduate Molecular Biology Laboratory (7.02L) Department of Biology, Massachusetts Institute of Technology. Cambridge, MA. (*Duration: 1 semester.*)

### Education

- 2016 Post-doctoral research in Microbial Systems Biology, LBNL. Berkeley, CA.
- 2015 *Ph.D.* in Molecular and Cell Biology, UC Berkeley. Berkeley, CA.
- 2007 *B.S.* in Biology, Massachusetts Institute of Technology. Cambridge, MA.

### Invited Talks

- 2019 ECI: Biochemical and Molecular Engineering XXI. Mont Tremblant, Quebec, Canada. July 14-18<sup>th</sup> 2019.
- 2018 Society for Industrial Microbiology, Annual Meeting and Exhibition. Chicago, IL, USA. August 12-16<sup>th</sup> 2018.

### Publications (h-index=10)

1. S. Langley, **T. Eng**, K.H. Wan, R.A. Herbert, A.P. Klein, Y. Yoshikuni, S.G. Tringe, J.B. Brown, S.E. Celniker, J.M. Mortimer, and A. Mukhopadhyay. Complete Genome Sequence of *Agrobacterium* sp. 33MFTa1.1 Isolated From the Roots of *Thlaspi arvense*. *Microbiology Resource Announcements*, in press.
2. R.A. Herbert, **T. Eng**, U. Martinez, B. Wang, S. Langley, K. Wan, V. Pidatala, E. Hoffman, J. Chen, M.J. Bissell, J.B. Brown, A. Mukhopadhyay, and J. C. Mortimer. Rhizobacteria mediate the phytotoxicity of a range of biorefinery -relevant compounds. *Environmental Toxicology and Chemistry*, 2019 May 20. doi: 10.1002/etc.4501
3. M. Wehrs, D. Tanjore, **T. Eng**, J. Lievens, T. R. Pray, and A. Mukhopadhyay. Engineering Robust Production Microbes for Large-scale Cultivation. *Trends in Microbiology*, 2019 June. doi.org/10.1016/j.tim.2019.01.006
4. Y. Sasaki<sup>§</sup>, **T. Eng**<sup>§</sup>, R.A. Herbert, J. Trinh, Y. Chan, C.J. Petzold, B. Simmons, and A. Mukhopadhyay. Engineering *Corynebacterium glutamicum* to produce the biogasoline isopentenol from plant biomass hydrolysates. *Biotechnology for Biofuels*, 2019 February 18. doi.org/10.1186/s13068-019-1381-3 § denotes co-first authorship.

5. **T. Eng**, P. Demling, R.A. Herbert, Y. Chen, V. Benites, J. Martin, A. Lipsen, E.E.K. Baidoo, L. Blank, C.J. Petzold, and A. Mukhopadhyay. Restoration of biofuel production levels and increased tolerance under ionic liquid stress is enabled by a mutation in the essential *Escherichia coli* gene *cydC*. *Microbial Cell Factories*. 2018 Oct 8;17(1):159. doi: 10.1186/s12934-018-1006-8.
6. H.M. Jensen, **T. Eng**, V. Chubukov, R.A. Herbert, and A. Mukhopadhyay. Improving membrane protein expression and function using genomic edits. *Scientific Reports*, 2017 Oct 12;7(1):13030. doi: 10.1038/s41598-017-12901-7.
7. **T. Eng**, V. Guacci, D. Koshland. Inter-allelic Complementation Provides Evidence for Cohesin Oligomerization on DNA. *Molecular Biology of the Cell*. 2015 Nov 15;26(23):4224-35. doi: 10.1091/mbc.E15-06-0331.
8. O. Orgil, A. Matityahu, **T. Eng**, V. Guacci, D. Koshland, and I. Onn. A conserved domain in the Scc3 subunit of cohesin mediates the interaction with both Mcd1 and the cohesin loader complex. *PLoS Genetics*, 2015 Mar 6;11(3):e1005036. DOI: 10.1371/journal.pgen.1005036
9. **T. Eng**, V. Guacci, D. Koshland. ROCC, a conserved region in cohesin's Mcd1 subunit, is essential for the proper regulation of the maintenance of cohesion and establishment of condensation. *Molecular Biology of the Cell*. 2014 Aug 15;15(16):2351-64.
10. N. Sher, S. Li, G. Bell, **T. Eng**, M. Eaton, D. MacAlpine, and T.L. Orr-Weaver. Developmental Control of Gene Copy Number by Repression of Replication Initiation and Fork Progression. *Genome Research*. 2012 Jan;22(1):64-75.
11. A.M. McGehee, E. Guillen, O. Kirak, **T. Eng**, and H.L. Ploegh. Ubiquitin-Dependent Control of Class II MHC Localization is Dispensable for Antigen Presentation and Antibody Production. *PLoS One*. 2011 Apr 20;6(4):e18817.
12. J.C. Kim, J. Nordman, F. Xie, H. Kashevsky, **T. Eng**, D.M. MacAlpine, and T.L. Orr-Weaver. Integrative analysis of gene amplification in *Drosophila* follicle cells: parameters of origin activation and repression. *Genes and Development*. 2011 Jul 1;25(13):1384-98.
13. J. Nordman, S. Li, **T. Eng**, David MacAlpine, and T.L. Orr-Weaver. Developmental Control of the DNA Replication and Transcription Programs. *Genome Research*. 2011 Feb;21(2):175-81
14. **modENCODE Consortium et al.** Identification of functional elements and regulatory circuits by *Drosophila* modENCODE. *Science*. 2010 Dec 24;330(6012):1787-97.
15. S.E. Celniker, L.A. Dillon, M.B. Gerstein, K.C. Gunsalus, S. Henikoff, G.H. Karpen, M. Kellis, E. C. Lai, J.D. Lieb, D.M. MacAlpine, G. Micklem, F. Piano, M. Snyder, L. Stein, K.P. White, R.H. Waterston, **modENCODE Consortium**. Unlocking the Secrets of the Genome. *Nature*. 2009 Jun 18;459(7249):927-30.

#### **Awards, Honors, Inventions**

- 2019 Filed US. Patent Application 62/842,737.
- 2010 National Science Foundation Graduate Research Fellowship (2010-2013)
- 2009 National Institutes of Health Predoctoral Training Grant

2003 Robert and Mona Dillon Scholarship for Worthy Students (Internal, MIT)

### **Professional Service and Certifications**

Principal Investigator of Record for BSL-2 level work at the Joint Bioenergy Institute/LBNL (2018-present).

Sartorius Stedim ambr250 Basic Training Certification (December 2018)

Laboratory Safety Committee, Member (2016-present).

Trainees since 2015:

*Undergraduate level:* Peyton Freeman (2016), Brenda Wang (2017+), Andrew Lau (2018+), Jessica Trinh (2018), Robin Herbert (2016-2018), Emily Bowen (2019).

*Graduate level:* Philipp Demling (2016), Yusuke Sasaki (2017), Alberto Lopes (2018)