Tom Ellis, FRSC – Professor in Synthetic Genome Engineering

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Education

University of Cambridge, Christ's College, Ph.D. in Pharmacology: 2000-2004
Oxford University, Wadham College, MBioch in Molecular and Cellular Biochemistry: 1996-2000
Hills Rd Sixth Form College, Cambridge, A-Levels in Maths, Chemistry, Biology: 1994-1996
The Netherhall School, Cherry Hinton, Cambridge, GCSEs in 10 Subjects: 1992-1994

Appointments

2019-now	*Professor,* Department of Bioengineering, Imperial College London, UK
2021-now	*Visiting Fellow*, MRC Laboratory of Molecular Biology, Cambridge UK
2018-now	*Associate Faculty,* The Wellcome Trust Sanger Institute, Hinxton, UK
2016-2019	*Reader,* Department of Bioengineering, Imperial College London, UK
2014-2016	*Senior Lecturer,* Department of Bioengineering, Imperial College London, UK
2010-2014	*Lecturer,* Department of Bioengineering, Imperial College London, UK
2009-2010	*Postdoctoral Researcher*, Institute of Biotechnology, University of Cambridge, UK
2006-2008	*Postdoctoral Researcher*, Department of Bioengineering, Boston University, USA
2004-2005	*Senior Scientist,* Spirogen Ltd., London, UK

Selected Honours and Awards

2017	Appointed to UK Government Scientific Advisory Committee on Genetic Modification
2016	Elected Fellow of the Royal Society of Chemistry
2015	World Economic Forum Panelist - Summer Davos, Dalian, China
2015	EPSRC Leadership Fellowship in Engineering for UK Growth
2012	Royal Institution Invited Public Talk on 'Synthetic Biology'

Scientific Advisory Board Membership

Government Scientific Advisory Committee on Genetic Modification (SACGM) member (since 2017)
VIB Centre for Medical Biotechnology, Ghent, Belgium (since 2017)
Modern Synthesis Ltd - Scientific Advisory Board: bacteria-derived textiles start-up (since 2021)
Puraffinity Ltd - Scientific Advisory Board: filtration and de-pollution materials start-up (since 2016)
Addgene.org - Scientific Advisory Board: world's largest plasmid provider (since 2012)
Member of the Editorial Board for GEN Biotechnology, Microbial Biotechnology, OUP Synthetic Biology Journal and ACS Synthetic Biology (since July 2013)

Selected Recent Publications

* = corresponding author

1. Caro-Astorga J, **Ellis T*** (2022). Self-healing through adhesion. Nature Chemical Biology. 18 (3), 239-240.
2. Goosens VJ, Walker KT, Aragon SM, Singh A, Senthivel VR, Dekker L, Caro-Astorga J, Buat MLA, Song W, Lee KY and **Ellis T*** (2021). Komagataeibacter tool kit (KTK): a modular cloning system for multigene constructs and programmed protein secretion from cellulose producing bacteria. ACS Synthetic Biology 10 (12), 3422-3434
3. Caro-Astorga J, Walker KT, Herrera N, Lee KY, **Ellis T*** (2021). Bacterial cellulose spheroids as

building blocks for 3D and patterned living materials and for regeneration. Nature Communications. (published online Aug 2021 - https://doi.org/10.1038/s41467-021-25350-8)

4. Gallup O, Ming H, **Ellis T*** (2021) Ten future challenges for synthetic biology. IET Engineering Biology (published online Aug 2021 - https://doi.org/10.1049/enb2.12011)
5. Gilbert C, Tang TC, Ott W, Dorr BA, Shaw WM, Sun GL, Lu TK, **Ellis T*** (2021). Living materials with programmable functionalities grown from engineered microbial co-cultures. Nature Materials (published online Jan 11, 2021 - https://www.nature.com/articles/s41563-020-00857-5)
6. Liberante FG, **Ellis T*** (2020). From kilobases to megabases: design and delivery of large DNA constructs into mammalian genomes. Current Opinion in Systems Biology 25, 1
7. Meng F, **Ellis T*** (2020). The second decade of synthetic biology: 2010–2020. Nature Communications 11 (1) 5174
8. Gowers GOF, Chee SM, Bell D, Suckling L, Kern M, Tew D, McClymont DW, **Ellis T*** (2020). Improved betulinic acid biosynthesis using synthetic yeast chromosome recombination and semi-automated rapid LC-MS screening. Nature Communications 11 (1) 1-7
9. Ostrov N, Beal J, **Ellis T**, Gordon DB, Karas BJ, Lee HH, Lenaghan SC, Schloss JA, Stracquadanio G, Trefzer A, Bader JS, Church GM, et al. (2019). Technological challenges and milestones for writing genomes. Science 366 (6463), 310-312
10. **Ellis T*** (2019). What is synthetic genomics anyway? The Biochemist, 41 (3), 6-9
11. Blount BA, **Ellis T*** (2019). Genome Construction Amends Building Codes. Nature, 569 (7757), 492-494
12. Shaw WM, Yamauchi H, Mead J, Gowers G-OF, Bell D, Oling D, Larsson N, Wigglesworth M, Ladds G, **Ellis T*** (2019). Engineering a model cell for rational tuning of GPCR signaling. Cell, 177 (3), 782-796. e27 - *F1000 Recommended Paper*
13. Blount BA, **Ellis T*** (2018). The Synthetic Genome Summer Course. Synthetic Biology, 3 (1) ysy020
14. Blount BA, Gowers G-OF, Ho JCH, Ledesma-Amaro R, Jovicevic D, McKiernan RM, Xie ZX, Li BZ, Yuan JY, **Ellis T*** (2018). Rapid host strain improvement by *in vivo* rearrangement of a synthetic yeast chromosome. Nature Communications. 9 (1), 1932
15. Ceroni F and **Ellis T*** (2018). The challenges facing synthetic biology in eukaryotes. Nature Reviews Molecular and Cell Biology. 19 (8), 481
16. Borkowski O, Bricio C, Murgiano M, Rothschild-Mancinelli B, Stan GB, **Ellis T*** (2018). Cell-free prediction of protein expression costs for growing cells. Nature Communications. 9 (1), 1457
17. Ceroni F, Boo A, Furini S, Gorochowski TE, Borkowski O, Ladak YN, Awan AR, Gilbert C, Stan GB, **Ellis T*** (2018). Burden-driven feedback control of gene expression. Nature Methods. 15 (5), 387.
18. Wintel BC *et al.* (2017). Point of View: A transatlantic perspective on 20 emerging issues in biological engineering. eLife 6: e30247
19. Mitchell LA, **Ellis T*** (2017). Synthetic Genome Engineering Gets Infectious. Proceedings of the National Academy of Sciences, USA. 114(42): 11006–11008.
20. Awan AR, Blount BA, Bell DJ, Shaw WM, Ho JCH, McKiernan RM, **Ellis T*** (2017). Biosynthesis of the Antibiotic Nonribosomal Peptide Penicillin in Baker's Yeast. Nature Communications. 8, 15202-15210