

Journal Club 2009

Semester One

6/3/09

Peter Stockwell

The Real Start

Mansy, S.S, *et al.*, (2008) Nature 454:122-126.

Mansy, S.S & Szostak, J.W., (2008) PNAS 105:13351-13355.

Peter Mabbitt

Dust Mite Trick Troll

Tompette *et al.*, (2009) Nature, 457:585-88

13/3/09

Les McNoe

The Next Next generation sequencer part tow.

Clarke. J. *et al.* (2009) Nature Nanotechnology

Ryan Hill

“Living to the extreme old age of three”

Tomás-Loba, A. *et al.* (2008) Cell, 135:609-22

20/3/09

Iain Lamont

RNA makes RNA makes RNA makes.....

T. Lincoln and G. Joyce (2009) Science 323: 1229-1232

Euan Rodger

Abeta Blockers

Diaz *et al.* (2009) PNAS; 106: 3348-3353

27/3/09

Russell Poulter

CSI-Romanovs.

The 2009 Season

PNAS/PLoSone

Rob Pollock

"Fast, full annotation of a eukaryotic transcriptome"

PNAS 106(9) 3264-3269 (March 3 2009)

3/4/09

John Cutfield

Fingerprinting and imaging the glycome – to die for!

Krishnamoorthy *et al.* (2009) Nature Chemical Biology

Laughlin and Bertozzi (2009) Proc. Natl. Acad. Sci

Harold Bernhardt

Was Darwin Wrong? Cutting down the tree of life
Lawton G. (2009) *New Scientist*, 34-39

24/4/09

Sigurd Wilbanks

Stressing and eating less

Stress-Inducible regulation of Heat Shock Factor 1 by Deacetylase SIRT1.

Westerheide, *et al.* (2009) *Science* 323: 1063-1066

Sumana Islam

“Of Mice and Hedgehog”

Zhao, C. *et al* (2009) *Nature*, 458(7239): 776-9

1/5/09

Julian Eaton-Rye

An Essential Sensor Histidine Kinase Controlled by Transmembrane Helix Interactions with its Auxiliary Proteins

Szurmant H. *et al.* (2008) *PNAS* 105:5891-5896

Tony Zaharic

"Swine Flu 101"

8/5/09

Kurt Krause

"Swine Flu 102 - Wither (sic) Tamiflu"

NEJM, 360;10 5 March 2009, pg 953-956

Nature, 453, 26 June 2008, pg 1259-1262

NEJM, 341;18 Oct 1999, pg 1336-1343

15/5/09

Liz Duncan

"The 6th Base"

Kriaucionis *et al* DOI: 10.1126/science.1169786

Tahiliani *et al* DOI: 10.1126/science.1170116

Frances-Rose Schumacher

More than just tethering, this scaffold protein lends a hand

Good. M, *et al* (2009) *Cell* 136: 1085-97

22/5/09

Margi Butler

A dead end??

Windbichler *et al.*, *PLoS Genet* 4 (12):e1000291, Dec. 2008

Jade Hollis-Moffatt

T2DM and CHD genetics – an update

Shuguang. C *et al*, *Molecular Biochemistry*, published online 21 April 2009

29/5/09

Sue Cutfield

“Flu 103 – towards a universal antibody”

Nature Structural & Molecular Biology 16, 265-273 (2009)

Science 234, 246-251 (2009)

Martin Hohmann-Marriott

“Breaking the light barrier in three dimension”

Shtengel G, Galbraith JA, Galbraith CG, Lippincott-Schwartz J, Gilette JM, Manley S, Sougrat R, Waterman CM, Kanchanawong P, Davidson MW, Fetter RD, Hess HF. Interferometric fluorescent super-resolution microscopy resolves 3D cellular ultrastructure. *Proc Natl Acad Sci USA* 106: 3125-03130 (2009)

Huang B, Wang W, Bates M, Zhuang X. Three-dimensional super-resolution imaging by stochastic optical reconstruction microscopy. *Science* 319: 810-813 (2008)

5/6/09

Chris Brown

Engineering your bugs to glow brighter – Coding-Sequence Determinants of Gene Expression in *E. coli*.

Science 324: 255 (2009)

Rafael Counago

“Ubiquitin-like protein involved in the proteasome pathway of *Mycobacterium tuberculosis*.”

Michael J. Pearce *et al.*, *Science* 322: 1104 (2008)

12/6/09

Tony Merriman

Fructose and metabolic disease.

Johnson *et al* (2009). *Endocrine Reviews* 30: 96-116

Gemma Dickson

Is happyhour doing you harm?

Corl *et al* (2009) Happyhour, a Ste20 family kinase, implicates EGFR signaling in ethanol-induced behaviours. *Cell* 137: 949-960

19/6/09

Liz Ledgerwood

FORCEing a blood clot

Science (5 June 2009) 324: 1330 – 1334

PNAS (9 June 2009) 106: 9226 0 9231

Sarah Morgan

Plastic Fantastic – It's a protein

T.Yuzyuk, T.H.I. Fakhouri, J. Kiefer, and S.E. Mango (2009). The Polycomb Complex Protein mes-2/E(z) Promotes the Transition from Developmental Plasticity to Differentiation in *C. elegans* Embryos. *Developmental Cell* 16: 699 - 710

Semester Two

10/7/09

Torsten Kleffman

Swiss-Prot entry “CO1A1_TYREX”: Is it real – can we sequence dinosaur protein?

Schweitzer MH et al. (2009) *Science* 324: 626-31?

Asara JM et al. (2007) *Science* 316: 280-5

Yosuki Shimaki

Yet Another Hypothesis for Alzheimer’s Disease (lest we forget the last one!)

Harmeier, A et al. (2009) Role of Amyloid- β Glycine 33 in Oligomerization, Toxicity, and Neuronal Plasticity. *Journal of Neuroscience* 29: 7582-7590

17/7/09

Rob Day

Epigenetic Reprogramming and Small RNA silencing in Pollen.

Slotkin et al. *Cell* 136, 461-471, Feb 2009

24/7/09

Rebecca Roberts

CES1 genetic variability – is it clinically relevant?

1. Zhu HJ et al. 2008. *American Journal of Human Genetics* 82: 1241-48

2. Zhu HJ, Markowitz JS. 2009. *Drug Metabolism and Disposition* 37(2): 264-67

Simon Jackson

Discovery of Swine as a Host for the Reston ebolavirus.

Science. 2009 July 10; 325(5937): 204-6

31/7/09

Mary Thompson

NZ scientist’s gene research could be the answer to the obesity epidemic: nz herald.co.nz

Cao et al. *Nature Medicine* 25: 447 (2009)

Sujatha Dasari

The endometrium responds differently to cloned versus fertilized embryos.

Bauersachs, S et al. (2009) *PNAS*; vol 106, no. 14: 5681-5686

7/8/09

Stephanie Hughes

“CLEARing” out the rubbish!

A gene regulatory network regulating lysosomal biogenesis and function. *Science* 325:473-477 July 24 2009

Anna Konnings

“...the transient acquisition of a blue tint to the skin.”

Peng et al 2009 *PNAS* 106(30), 12489-12493

Wang et al 2004 *Nature Medicine* 10(8), 821-826

14/8/09

Craig Marshall

How to make evolution-proof insecticides for malaria control.
PLoS Biology (2009) 7:4 e1000058

Sam White

“The Guardians Achilles heel: New function for p53’s DNA-binding domain”.
Suzuki *et al.* (2009) Modulation of microRNA processing by p53. *Nature* 460: 529-534

21/8/09**David Rogawski**

Cellulosic ethanol: Can you get alcohol from weed?

Pete Heinzelman, Christopher D. Snow, Indira Wu, Catherine Nguyen, Alan Villabolas, Sridhar Govindarajan, Jeremy Minshull, and Frances H. Arnold (2009) A family of thermostable fungal cellulases created by structure-guided recombination. *Proc. Natl. Acad. Sci.* 106: 5610-5615

Rhesa Budhidarmo

“Latching, hooking & headbutting: mechanism for EGFR activation”.

Jura, N., Endres, N.F., Engel, K., Deindl, S., Das, R., Lamers, M.H., Wemmer, D.E., Zhang, X. & Kuriyan, J. (2009) Mechanism for activation of the EGF receptor catalytic domain by the juxtamembrane segment. *Cell* 137: 1293-1307

28/8/09**Rosannah McCartney**

Chd1: The key to self renewal

Gaspar-Maia *et al.* *Nature* 460: 863-868 August 13 2009

11/9/09**Rob Fagerlund**

“Yeast mRNA is degraded while bound to translating polyribosomes.”

Hu *et al.* *Nature*, 2009 September 10

Richard Draper

Mitochondrial gene replacement in primate offspring and embryonic stem cells.

Tachibana *et al.* 2009 *Nature* (epub) August 26

18/9/09**Peter Dearden**

Why don’t miRNAs do anything?

A MicroRNA Imparts Robustness against Environmental Fluctuation during Development. Li *et al.* 2009. *Cell* 137, 273-282

Hao Luo

DNA kills

Roberts *et al.* (2009) *Science* 323: 1057-1060

25/9/09**Becky Laurie**

Designer genomes

Science DOI: 10.1126/science.1173759

Nature DOI: 10.1038/nature08187

Sara Altaf

“Serum Bile Acids Are Higher in Humans with Prior Gastric Bypass: Potential Contribution to Improved Glucose and Lipid Metabolism.”

Mary-Elizabeth Patti^{1,2}, Sander M. Houten³, Antonio C. Bianco⁴, Raquel Bernier², P. Reed Larsen^{1,5}, Jens J. Holst⁶, Michael K. Badman^{1,7}, Eleftheria Maratos-Flier^{1,7}, Edward C. Mun^{1,5}, Jussi Pihlajamaki^{1,2}, Johan Auwerx⁸ and Allison B. Goldfine^{1,2,5}. *Obesity* (2009) 17 9, 1671/1677. DOI: 10.1038/oby.2009.102

2/10/09

James Smith

No Way Back

An epistatic ratchet constrains the direction of glucocorticoid receptor evolution.

Jamie T. Bridgham, Eric A. Ortlund & Joseph W. Thornton. *Nature* 461: 515-520.

doi: 10.1038/nature08249

Reagan Jarvis

Are we reducing complexity...or is complexity reducing us?

Hsueh *et al.*, (2009) *Sci. Sig.* 2(71) ra22

Natarajan *et al.*, (2006) *Nat. Cell Biol.* 8(6) 571-580

9/10/09

Stephen Sowerby

DNA sequencing with a microscope moves a nm closer

Tanaka & Kawai *Nature Nanotechnology* DOI:10.1038/NNANO.2009.155

Chris Farr

Germans satisfy latex desire with GM dandelions

No more uncomfortable rashes – fungus plague forestalled

Wahler *et al. Plant Physiology* 151: 334-346

16/10/09

Richard Macknight

MicroRNAs control the timing of development in all multicellular organisms

Gang Wu, Mee Yeon Park, Susan R. Conway, Jia-Wei Wang, Detlef Weigel and R.

Scott Poethig (2009) The Sequential Action of miR156 and miR172 Regulates

Developmental Timing in Arabidopsis. *Cell* 139; 750-759 (August 21, 2009)

Rowan Herridge

“SNORKELing for Rice”

Hattori *et al.* (2009) *Nature* 460; 1026-1030

23/10/09

Augustine Chen

Eat your way to a healthy gut

Genetically engineered bacteria are sweet success against IBD *Gut* 2009, Sep 22 Epub ahead of print.

Abhishek Kumar

Danger High Voltage!!!!

A novel biofuel cell harvesting energy from activated human macrophages. Miho^a, Andreas Vonderheit^a, Xun Wei^a, Claudia Küttel^a and Andreas Stemmer. *Biosensors and Bioelectronics*. Volume 25, Issue 1, 15 September 2009, pages 68-75

30/10/09

Mik Black

“Don’t you wish we could do this...?”

Choi *et al.* (2009) “Genetic diagnosis by whole exome capture and massively parallel DNA sequencing”, *PNAS Early Access*: 27 October 2009.

doi:10.1073/pnas.0910672106

Leonardo Germoni

“A novel weapon in the fight against tuberculosis.”

6/11/09

Russell Poulter

Generation of transgenic non-human primates with germline transmission.

Sasaki, E., *et al.* *Nature*, Vol 459, 28 May 2009. doi:10.1038/nature08090

Stewart Stevens

Mutations and Dalmatians.

H. Matsuo, T. Chiba, S. Nagamori, A. Nakayama, H. Domoto, K. Phetdee, P. Wiriyasermkul, Y. Kikuchi, T. Oda, J. Nishiyama, T. Nakamura, Y. Morimoto, K. Kamakura, Y. Sakurai, S. Nonoyama, Y. Kanai, and N. Shinomiya. Mutations in glucose transporter 9 gene *slc2a9* cause renal hypouricemia. *Am J Genet*, 83(6):744-51, Dec 2008.

13/11/09

Catherine Day

Identification of an ancient Iron gauge

Vashisht *et al.*, and Salahudeen *et al.*, *Science* 326

Rachel Brace

Smoking Fish

PNAS 106 (44): 18662-18667 November 3, 2009

20/11/09

Warren Tate

Has CFS become PC with XMRV?

Schlberg *et al.* (2009) *Proc. Nat. Acad. Sci. (USA)* 106: 16351-6

Lombardi *et al.* (2009) *Science* 326: 215 & others

Liz Poole

The longs and shorts and curlys: a good model for human genetic diseases?

Cadiou *et al.* *Science* (2009) 326: 150-153

27/11/09

Sally McCormick

Gene Therapy Back on Track.

Cartier *et al. Science* 326: 818-823

Nina Dickerhof

Counteracting ER Stress – Size matters

“Membrane expansion alleviates endoplasmic reticulum stress independently of the unfolded protein response.” Schuck, S. *et al. J. Cell Biol.* Published online Nov 09
doi:10.1083/jcb.200907074.