

## UK Genome Science Meeting: Biology, Technology & Bioinformatics

Monday 2<sup>nd</sup> September – Wednesday 4<sup>th</sup> September 2013

### Monday 2<sup>nd</sup> September

12:00-13:30 Registration and poster set-up in Exchange Building, Jubilee Campus, University of Nottingham

13.30-13.45 Opening remarks and Introduction (Lecture Theatre 3)

13.45-14.45 **Keynote Speaker: Clive Brown, Oxford Nanopore (Lecture Theatre 3)**

	Parallel Session 1 – Lecture Theatre 3 Bioinformatics (Chair: Chris Ponting, Richard Emes & Sarah Butcher)	Parallel Session 2 – Lecture Theatre 2 Metagenomics (Chair: Sarah Hunter & Nick Loman)
14:50-15:25	<b>Zamin Iqbal</b> (35mins) Wellcome Trust Centre for Human Genetics, University of Oxford Title: <b>“De novo assembly of variants in genetic crosses of P. falciparum reveals a landscape of genetic variation unique among eukaryotes”</b>	<b>Chris Quince</b> (35min) University of Glasgow Title: <b>“TBA”</b>
15:25-16:00	<b>John Marioni</b> (35min) Computational and Evolutionary Genomics, EMBL-EBI Title: <b>“Computational challenges in single-cell genomics”</b>	<b>Paul Cotter</b> (35min) TEAGASC, Republic of Ireland Title: <b>“Impact of extremes of diet and exercise on the human gut microbiota as revealed by NGS”</b>
16:00-16:15	<b>Refreshment break</b>	<b>Refreshment break</b>
16:15-16:50	<b>Martin Taylor</b> (35min) MRC Human Genetics Unit MRC IGMM, University of Edinburgh Western General Hospital Title: <b>“Lagging strand replication shapes the mutational landscape of the genome”</b>	<b>Thomas Mock</b> (35min) University of East Anglia Title: <b>“Metatranscriptomics with eukaryotic marine phytoplankton communities revealed new insights into adaptation to temperature”</b>
16:50-17:25	<b>Ana Marques</b> (35min) Oxford Genomics Centre, University of Oxford Title: <b>“Chromatin status separates two equally populated, yet distinct, classes of intergenic long noncoding RNAs”</b>	<b>Alan Walker &amp; Susannah Salter</b> (35min) Wellcome Trust Sanger Centre Title: <b>“Sequencing of ancient oral microbiota reveals that you are what you ate (unless it was in your DNA extraction kits)”</b>

Monday 2 <sup>nd</sup> September : Bioinformatics (continued)		Monday 2 <sup>nd</sup> September : Metagenomics (continued)	
17:25-17:45	<b>Bernardo Clavijo</b> (20min) The Genome Analysis Centre (TGAC) Title: <b>“Exploring kmer spectra to assess and validate next generation sequencing datasets and assemblies”</b>	17:25-18:00	<b>Nick Loman</b> (35min) University of Birmingham Title: <b>TBA</b>
17:45-18:05	<b>Javier Herrero</b> (20min) The Genome Analysis Centre (TGAC) Title: <b>“Genome assembly assessment based on single copy genes”</b>	18:00-18:20	<b>Rosalinda D’Amore</b> (20min) University of Liverpool Title: <b>“Benchmarking of 16s sequencing platforms”</b>
18:05-18:25	<b>Deepa Manthravadi</b> (20min) Wellcome Trust Sanger Institute Title: <b>“Next Generation Sequencing and Manual Annotation of Vertebrate Genomes: Beyond the ENCODE Project”</b>		

## Tuesday 3<sup>rd</sup> September (Morning Sessions)

	<b>Parallel Session 3 – Lecture Theatre 3 Clinical and Immunological Applications of NGS (Chair: David Buck/Rory Bowden &amp; Sarah Teichmann)</b>	<b>Parallel Session 4 – Lecture Theatre 2 Evolutionary Genomics (Chair: Mark Blaxter)</b>
9:00-9:35	<b>Xiuwei Zhang</b> (35mins) EMBL-EBI & Wellcome Trust Sanger Institute Title: <b>“Cell-to-cell variation in gene expression from single cell RNA-sequencing”</b>	<b>Maria Anisimova</b> (35min) Swiss Federal Institute of Technology (ETH Zurich), Switzerland Title: <b>“When silence talks: Insights on natural selection from codon evolution”</b>
9:35-10:10	<b>Richard Jenner</b> (35mins) UCL, London Title: <b>“Understanding transcription factor interplay across the genome in T helper cells”</b>	<b>Anabel Whibley</b> (35min) Muséum National d'Histoire Naturelle, Paris Title: <b>“The art of imitation: innovation and plagiarism in mimetic butterflies.”</b>
10:10-10:30	<b>Ian Sudbery</b> (20min) University of Oxford Title: <b>“The Wnt-signaling pathway is modulated by androgen ablation therapy for advanced clinical prostate cancer and contributes to androgen independent cell growth”</b>	<b>Matt Loose</b> (20min) University of Nottingham Title: <b>“Phylogenetic incongruence in vertebrates emerges from evolution of the germ line soma relationship”</b>
10:45-11:00	<b>Refreshment break</b>	<b>Refreshment break</b>
11:00-11:35	<b>Andrew Wilkie</b> (35min) University of Oxford Title: <b>“New insights into craniosynostosis from whole exome and genome sequencing”</b>	11:00-11:25 <b>David Lunt</b> (25min) University of Hull Title: <b>“The complex hybrid origins of the root knot nematodes revealed through comparative genomics”</b>
		11:25-11:50 <b>John Davey</b> (25min) University of Cambridge Title: <b>“Assembling chromosomes using whole genome sequencing of a mapping cross”</b>
11:35-12:10	<b>Stephen Sansom</b> (35min) University of Oxford Title: <b>“Genomic Analysis of Promiscuous Gene Expression in Thymic Epithelial Cells”</b>	11:50-12:10 <b>Speaker TBA</b> (20min) <b>Roche Diagnostics</b> Title: <b>TBA</b>
12:10-12:45	<b>Mark Caulfield</b> (35min) Genomics England Title: <b>TBA</b>	

## Tuesday 3<sup>rd</sup> September (afternoon sessions)

12:35-14:00	Lunch Break & Poster Session	Lunch Break & Poster Session
	<b>Parallel Session 5 – Lecture Theatre 3</b> <b>Pathogens &amp; Microbes</b> <b>(Chair: Lisa Crossman &amp; Neil Hall)</b>	<b>Parallel Session 6 – Lecture Theatre 2</b> <b>Miscellaneous Additional Talks</b> <b>(Chair: Richard Emes)</b>
14:00-14:35	<b>Lisa Crossman</b> (35min) University of East Anglia, Norwich Title: <b>"Beyond the crowdsourcing of outbreak <i>E. coli</i> O104:H4"</b>	14:00-14:20 <b>Ivan Lukic</b> (20min) Partek Title: <b>"Turning Data into Discovery with Integrated Genomics"</b>
14:35-15:10	<b>Gwenael Piganeau</b> (35min) Genomics of picophytoplankton Team, Observatoire Oceanologique de Banyuls sur mer Title: <b>"Population genomic insights into the biology of the smallest photosynthetic eukaryotes: the Mamiellophyceae (Chlorophyta)"</b>	14:20-14:40 <b>Margus Lukk</b> (20min) Cancer Research UK Cambridge Research Institute Title: <b>"Short read aligning in distributed systems: how fast can we align?"</b>
15:10-15:45	<b>Chris Greenman</b> (35min) University of East Anglia, Norwich Title: <b>TBA</b>	14:40-15:00 <b>Hannes Arnold</b> (20min) Perkin Elmer Title: <b>"From Sample to Sequence: Automation of NGS Sample Preparation"</b>
15:45-16:00	<b>Refreshment break</b>	15:00-15:25 <b>Frank Wessely</b> (25min) <b>University of Nottingham</b> Title: <b>"DNA methylation of the mouse mitochondrial genome"</b>
16:00-16:35	<b>Sam Mugford</b> (35min) John Innes Centre, Norwich Title: <b>"Functional genomics approaches to investigate aphid interactions with plant hosts"</b>	15:25-15:45 <b>David Hughes</b> (20min) Integrated DNA Technologies Title: <b>TBA</b>
16:35-17:10	<b>Liz Sockett</b> (35min) University of Nottingham Title: <b>"Genomics in predatory Bdellovibrio bacteria - how likely is Lateral Gene Transfer when a bacterium can "eat" the DNA-donor"</b>	15:45-16:00 <b>Refreshment break</b>
		<b>Gene Expression mini-session</b>
		16:00-16:35 <b>Geoff Barton</b> (35min) University of Dundee Title: <b>"48 RNA-seq replicates: lessons to be learned about experimental design and statistical analysis in differential gene expression"</b>
		16:35-16:55 <b>Marek Gierlinski</b> (20min) University of Dundee Title: <b>"Gene expression distribution and "bad" replicates in RNA-seq experiments"</b>

17:10-17:45	<b>Jay Hinton</b> (35min) University of Liverpool Title: <b>“Environmental shocks reprogramme <i>Salmonella</i> transcription”</b>	16:55-17:15	<b>Nicole Gruenheit</b> (20min) University of Manchester Title: <b>“Antisense transcription – just noise or another layer of regulation”</b>
		17:15-17:35	<b>Nick Schurch</b> (20min) University of Dundee Title: <b>“External Spike-ins: taking control of RNA-seq”</b>
		17:35-17:55	<b>Nicholas Illott</b> (20min) CGAT, University of Oxford Title: <b>“Widespread regulation of long non-coding RNAs during the lipopolysaccharide-induced inflammatory response in human monocytes”</b>

### Wednesday 4<sup>th</sup> September (morning sessions)

	Parallel Session 7 – Lecture Theatre 3 Evolving Technologies (Chair: Mike Quail)	Parallel Session 8 – Lecture Theatre 2 AgriFoods (Chair: Sarah Ayling & Mick Watson)
9:00-9:35	<b>Paul Coupland</b> (35min) Wellcome Trust Sanger Institute Title: <b>“The Pacbio – is it hype, hope, or just a sequencer?”</b>	<b>Gary Barker</b> (35min) School of Biological Sciences, University of Bristol Title: <b>“How genomics can help to make better bread”</b>
9:35-10:10	<b>Miguel Branco</b> (35min) Babraham Institute, Cambridge Title: <b>“Epigenomics of DNA modifications”</b>	<b>Jonathan Moore</b> (35min) University of Warwick Title: <b>RNA-Seq analysis of diverse vegetable Brassicas and wild relatives</b>
10:10-10:45	<b>Scott Brouillette</b> (35min) Illumina Title: <b>“The next phase of human genetics research”</b>	<b>Martien Groenen</b> (35min) Wageningen University, Netherlands Title: <b>“Signatures of selection and introgression in the genome of domestic pigs”</b>
<b>10:45-11:00</b>	<b>Refreshment Break</b>	<b>Refreshment Break</b>
11:00-11:35	<b>Jonathan O’Halloran</b> (35min) QuantuMDx Group Title: <b>“Development of a pocket DNA sequencing &amp; MDx device”</b>	<b>Steve Searle</b> (35min) Wellcome Trust Sanger Institute Title: <b>TBA</b>
11:35-12:10	<b>Raimo Tanzi</b> (35min) Life Technologies Title: <b>“3 exomes, 2 days, 1 Chip: Ampliseq Exome Sequencing is here”</b>	<b>Sarah Ayling</b> (35min) The Genome Analysis Centre (TGAC), Norwich Title: <b>Generating crop genomic resources</b>

12:10-12:30	<b>Russell Green</b> (20min) Beckman Coulter Title: <b>“Total NGS Workflow Automation – Solutions for Sample and Data Processing”</b>	<b>Jose de Vega-Bartol</b> (20min) The Genome Analysis Centre (TGAC), Norwich Title: <b>“Comparison of strategies for the assembly of non-model plant transcriptomes”</b>
12:30-14:00	<b>Lunch Break &amp; Poster Session</b>	<b>Lunch Break &amp; Poster Session</b>

### **Wednesday 4<sup>th</sup> September (afternoon sessions)**

	<b>Parallel Session 9 – Lecture Theatre 3 Evolving Technologies (continued) (Chair: Mike Quail)</b>	<b>Parallel Session 10 – Lecture Theatre 2 Miscellaneous Additional Talks (Chair: Richard Emes)</b>	
14:00-14:35	<b>Aleksandra Kolodziejczyk</b> (35min) Teichmann Group, EMBL-EBI Title: <b>“Insights into T helper cell transcriptomes from single cell mRNA sequencing”</b>	<b>Neil Hall</b> (35min) The Centre for Genome Research, University of Liverpool Title: <b>TBA</b>	
14:35-15:10	<b>David McGuire</b> (35min) Gencell Title: <b>TBA</b>	14:35-14:55	<b>Alfred Veenman</b> (20min) Auto Q Biosciences Title: <b>TBA</b>
15:10-15:30	<b>John Collins</b> (20min) Wellcome Trust Sanger Institute Title: <b>“High throughput molecular phenotyping – transcript counting by Illumina sequencing”</b>	14:55-15:15	<b>Daniel Mapleson</b> (20min) The Genome Analysis Centre (TGAC) Title: <b>“Rampart: an automated <i>de novo</i> assembly pipeline”</b>
		15:15-15:35	<b>Christian Cole</b> (20min) University of Dundee Title: <b>“A Comparison of Three Human Exome Sample Capture Kits”</b>