NERC-MDIBL Environmental Genomics and Metabolomics

6-11 March 2016

University of Birmingham, UK

Course Programme*

*Please note this is a provisional course programme and the times of some events may change

Date	Time	Event			
Sunday	4.00-5.00	**Registration**			
	5.00-6.00	**Plenary lecture**: optional lecture, open to the general public			
Monday	8.30-9.00	**Registration**			
	9.00-9.45	**Lecture**: Introduction to Environmental Genomics			
	9.45-10.30	**Lecture**: Introduction to Environmental Metabolomics			
	10.30-10.45	**Break**			
	10.45-12.00	**Lecture & workshop:** Introduction to analysing multi-omics datasets			
	12.00-13.00	**Lunch**			
	13.00-13.40	**Ice-breaker session**			
		Genomics Track	**Metabolomics Track**		
	13.40-15.00	**Workshop Presentation**: Library construction methods and QC	13.40-14.00	**Introduction to metabolomics track,**	
	15.00-16.00	**Workshop Presentation**: Introduction to automation systems	14.00-14.45	**Lecture**: Experimental design in environmental metabolomics	
	16.00-17.00	**Bioinformatics Training**: Introduction to R	14.45-16.15	**Synthesis session**: Designing your experiments	
			16.15-17.00	**Lecture**: Quality assurance and quality control	
	19.00-20.00	**Evening Lecture**			
Tuesday		**Genomics Track**	**Metabolomics Track**		
	9.00-10.15	**Workshop Presentation**: Introduction to the sequence data workflow	9.00-10.00	**Lecture**: Sample preparation in metabolomics	
	10.15-11.00	**Bioinformatics Training**: Visualising of sequence data for quality	10.00-11.00	**Lecture** (visiting speaker)	
	11.00-11.15	**Coffee break**			
	11.15-12.00	**Bioinformatics Training**: Visualising of sequence data for quality (Continued)	11.15-12.00	**Synthesis session:** Working with NBAF and how to obtain funding for your project	
	12.00-13.00	**Lunch**			
	13.00-14.15	**Workshop presentation**: Review of the sequencing technology, it's strengths and weaknesses	13.00-15.00	**Group 1**	**Group 2**
				Laboratory Session: Hands-on sample preparation	**Synthesis session**: selecting the appropriate analytical method for your experiment
	14.15-16.00	**Bioinformatics Training**: Visualizing complex data			
	16.00-17.00	**Bioinformatics Training**: Navigating	15.00-17.00	**Synthesis session**:	**Laboratory**

		Genomics Track		Metabolomics Track	
		the command line		selecting the appropriate analytical method for your experiment	**Session**: Hands-on sample preparation
	19.00-20.00	**Evening Lecture**			
Wednesday		**Genomics Track**		**Metabolomics Track**	
	9.00-10.45	**Bioinformatics Training**: Data analysis using R (Part 1)	9.00-9.55	**Lecture**: Analytical technologies – mass spectrometry	
			9.55-10.45	**Lecture**: Analytical technologies – NMR	
	10.45-11.00	**Coffee break**			
	11.00-12.00	**Workshop Presentation**: RNA-Seq alignment to individual transcriptomes	11.00-12.00	**Lecture and software demonstration**: Data processing (XCMS, SIMS stitching)	
	12.00-13.00	**Lunch**			
	13.00-14.00	**Workshop presentation**: Statistical considerations for analysing genome-scale data	13.00-13.45	**Lecture**: Data analysis I, Introduction to data analysis	
	14.00-15.30	**Bioinformatics Training**: Data analysis using R (Part 2)	13.45-14.45	**Computer Workshop**: Introduction to software	
			14.45-15.30	**Lecture**: Data analysis II	
	15.30-17.00	**Synthesis Session**: Why not use _____ organism for my investigation?	15.30-17.00	**Computer Workshop**: Hands-on data analysis	
	19.00-20.00	**Evening Lecture**			
Thursday		**Genomics Track**		**Metabolomics Track**	
	9.00-11.00	**Bioinformatics Training**: Gene set enrichment	9.00-9.45	**Lecture**: Data analysis III	
	11.00-12.00	**Bioinformatics Training**: Pathways analysis	9.45-12.00	**Computer Workshop**: Hands-on data analysis	
	12.00-13.00	**Lunch**			
	13.00-15.30	**Bioinformatics Training**: Exploiting genome sequence variation	13.00-14.00	**Lecture** (Visiting Speaker):	
			14.00-14.40	**Lecture**: Metabolite Identification and databases	
	15.30-17.00	**Synthesis session**: "Why not extract _____ from my sequence data?"	14.40-15.10	**Lecture**: Metabolomics standards initiative, reporting your results and using MetaboLights	
			15.10-17.00	**Computer Workshop**: Hands-on metabolite identification	
	19.00-20.00	**Evening Lecture**			
Friday	9.00-10.30	**Synthesis session**: Integrating omics data			
	10.30-12.00	**Bioinformatics session: Individual help**			
	12.00-13.00	**Lunch**			
	13.00-14.00	**Synthesis session**: How do I obtain grant funding for my project?			
	14.00-14.45	**Question and answer session**			
	14.45-15.30	**Closing ceremony**			