EXCELLENCE IN SCIENCE

THE ROYAL SOCIETY

Energy transduction and genome function – an evolutionary synthesis

Date 12-13 November 2012, Organised by Dr Nick Lane, Professor John Allen, Professor William Martin and Professor John Raven FRS

DAY 1				DAY 2			
SESSION 1 **Chair: Nick Lane**		**SESSION 2** **Chair: William Martin**		**SESSION 3** **Chair: John Raven FRS**		**SESSION 4** **Chair: John Allen**	
09.00	Welcome by Julie Maxton & lead organiser						
09.05	**Michael Russell** On the inevitable journey to being	**13.30**	**Paul Falkowski** Discovering the electronic circuit diagram of life	**09.00**	**Leonid Sazanov** Respiratory complex I – a structural and evolutionary perspective	**13.30**	**Nick Lane** On the singular origin of eukaryotes
09.30	Discussion	**14.00**	Discussion	**09.30**	Discussion	**14.00**	Discussion
09.45	**Jan Amend** The energetics of organic synthesis inside and outside the cell	**14.15**	**Jennifer Macalady** Energy, ecology, and the distribution of microbial life	**09.45**	**Carl Bauer** Evolutionary and regulatory aspects of tetrapyrrole biosynthesis	**14.15**	**Neil Blackstone** Why did eukaryotes evolve only once?—genetic and energetic aspects of conflict and conflict mediation
10.15	Discussion	**14.45**	Discussion	**10.15**	Discussion	**14.45**	Discussion
10.30	Coffee	**15.00**	Tea	**10.30**	Coffee	**15.00**	Tea
11.00	**William Martin** The early evolution of biological energy conservation: hydrogen, metals, gradients and electron bifurcation	**15.30**	**John Raven FRS** The influence of photosynthesis on genome function	**11.00**	**Janneke Balk** The role of mitochondria in the maintenance of nuclear DNA	**15.30**	**Salvador Moncada FRS** Mitochondria, not just for energy
11.30	Discussion	**16.00**	Discussion	**11.30**	Discussion	**16.00**	Discussion
11.45	**Wolfgang Nitschke** A reassessment of autotrophy at the emergence of life	**16.15**	**Sujith Puthiyaveetil** How evolutionary tinkering rewires chloroplast gene regulation	**11.45**	**John Allen** Energy, fidelity and sex. Oocyte mitochondrial DNA as a protected genetic template	**16.15**	**Douglas Wallace** A bioenergetic theory of evolution and disease
12.15	Discussion	**16.45**	Discussion	**12.15**	Discussion	**16.45**	Discussion
12.30	LUNCH	**17.00**	CLOSE	**12.30**	LUNCH		CLOSE