

Saul Purton - Curriculum Vitae

Current position: Reader in Molecular Phycology
Department of Structural and Molecular Biology, University College London

Nationality: British **Date of Birth:** 6th January 1963

Qualifications and posts held

1984	BSc in Biochemistry (Upper 2 nd Class Honours), University of Bristol.
1988	PhD in Plant Molecular Biology, University of Cambridge.
1988-1990	E.M.B.O. Long-Term Research Fellow. Dept of Molecular Biology, University of Geneva, Switzerland.
1990-1991	Research Scientist. Dept of Molecular Biology, University of Geneva, Switzerland.
1991-1996	Lecturer, Department of Biology, UCL.
1996-2001	Senior Lecturer, Department of Biology, UCL.
2001-2009	Reader, Department of Biology, UCL.
2009-present	Reader, Department of Structural & Molecular Biology, UCL.

Recent external appointments

2003-present	Editorial Board of <i>PROTIST</i>
2008-present	Editorial Board of <i>Eukaryotic Cell</i>
2013-present	Editorial Board of <i>Perspectives in Phycology</i>
2008-2011	Member of Eukaryotic Division Committee, Society for General Microbiology
2010-2013	Scientific Advisor and member of board of directors, Maldivian Eco Lab Project
2012-present	Member of Scientific Advisory Board, Algeniunity
2012-present	Member of BBSRC panel Committee B.

Research grants in the last five years

2008-2010	Syngenta – <i>evaluation of compounds for lipid accumulation in microalgae</i> . Award £104K. Role: Principal investigator.
2010-2011	Shell Global Solutions – <i>Development of advanced transformation vectors for Chlamydomonas</i> . £40K. Sabbatical project carried out in lab of Alison Smith (Cambridge).
2009-2013	BBSRC – Industrial CASE award. <i>Algal biofuels: novel approaches to strain improvement</i> . Award £102K. Role: principal supervisor of project.
2010-2012	EU FP7 Award – SUNBIOPATH: towards a better sunlight to biomass conversion efficiency in microalgae. Award £203K. Role: Work package leader.
2011-2013	EU FP7 Award – GIAVAP: <i>genetic improvement of algae for value added products</i> . Award £435K. Role: Work package leader.
2011-2014	BBSRC – response mode award (Joint with Alison Smith, Cambridge). <i>Production of isoprenoid-based biofuel in algae using a synthetic biology approach</i> . Award £409K. Role: Principal Investigator.
2011-2014	BBSRC – response mode award (Joint with Alison Smith, Cambridge). <i>Molecular basis of algal bacterial interactions and its implications for industrial cultivation of microalgae</i> . Award £252K. Role: Co-investigator.
2014-2017	BBSRC – strategic LoLa award. <i>"Algal oils by design: a new biotech platform for high-value lipids"</i> Award £2,364K. Role: Principal Investigator.

- **Relevant publications**

Lizzul AM, Hellier P, **Purton S**, Baganz F, Ladommatos N and Campos L (2013). Combined remediation and lipid production using *Chlorella sorokiniana* grown on wastewater and exhaust gases. *Bioresource Technology* In press.

Economou C, Ninlayarn T, Szaub J and **Purton S** (2013). A simple, low cost method for chloroplast transformation of the green alga *Chlamydomonas reinhardtii*. *Methods Mol. Biol.* In press.

Hellier P, Al-Haj L, Talibi M, **Purton S**, Ladommatos N (2013). Combustion and emissions characterisation of terpenes with a view to their biological production in cyanobacteria. *Fuel*. 111: 670-688

Santabarbara S, Ali K, Ninlayarn T, Economou C, Zito F, Redding K, Rappaport F and **Purton S** (2013). The requirement for carotenoids in the assembly and function of the photosynthetic complexes of *Chlamydomonas reinhardtii*. *Plant Physiol.* 161: 535-546.

Purton S, Szaub JB, Wannathong T, Young R and Economou CK (2013). Genetic engineering of algal chloroplasts: progress and prospects. *Rus. J. Plant Physiol.* 60: 521-528.

Xu, Y, **Purton S** and Baganz F (2013). Chitosan flocculation to aid the harvesting of the microalga *Chlorella sorokiniana*. *Bioresource Technol.* 129: 296-301.

Santabarbara S, Kuprov I, Pulektov O, Hore PJ, Casal A, Russell CA, **Purton S**, Evans MCW (2010). Directionality of electron transfer reactions in Photosystem I of prokaryotes: universality of the bidirectional electron transfer model. *J. Phys. Chem. B*. 114: 15158-15171.

Castleman VH, Romio L, Chodhari R, Hirst RA, Castro SCP, Parker KA, Ybot-Gonzalez P, Emes RD, Wilson SW, Weber A, Johnson CA, Herrera RJ, Rutman A, Shoemark A, Bush A, Hogg C, Gardiner RM, Reisch O, Greene NDE, O'Callaghan C, **Purton S**, Chung EMK, Mitchison HM (2009). Mutations in radial spoke head protein genes RSPH9 and RSPH4A cause primary ciliary dyskinesia with central microtubular pair abnormalities. *Am. J. Hum. Genet.* 84: 197-209.

Loiselay C, Gumpel NJ, Girard-Bascou J, Watson AT, **Purton S**, Wollman F-A and Choquet Y (2008). Molecular identification and function of cis- and trans-acting determinants for petA transcript stability in *Chlamydomonas chloroplasts*. *Mol. Cell. Biol.* 28: 5529–5542.

Purton S (2007). Tools and techniques for chloroplast transformation of *Chlamydomonas*. In: Transgenic Microalgae as Green Cell Factories. *Adv. Exp. Med. Biol.* 616: 34–45.

Cullen M, Ray N, Husain S, Nugent J, Nield J and **Purton S** (2007). A highly active histidine-tagged *Chlamydomonas reinhardtii* photosystem II preparation for structural and biophysical analysis. *Photochem Photobiol Sci.* 6: 1177–1183.

Merchant SS et al. (2007). The *Chlamydomonas* genome reveals the evolution of key animal and plant functions. *Science* 318: 245–251.

Bishop CL, Ulas S, Baena-Gonzalez E, Aro E-M, **Purton S**, Nugent JHA and Mäenpää P (2007). The PsbZ subunit of Photosystem II in *Synechocystis* sp. PCC 6803 modulates electron flow through the photosynthetic electron transfer chain. *Photosynth. Rev.* 93: 139–147.

Ral J-P, Colleoni C, Wattedled F, Dauvillée D, Nempont C, Deschamps P, Li Z, Morell MK, Chibbar R, **Purton S**, d'Hulst C and Ball SG (2006). Circadian clock regulation of starch metabolism establishes GBSSI as a major contributor to amylopectin synthesis in *Chlamydomonas reinhardtii*. *Plant Physiol.* 142: 305–317.

Ali K, Santabarbara S, Heathcote P, Evans MCW and **Purton S** (2006). Bidirectional electron transfer in photosystem I: replacement of the symmetry-breaking tryptophan close to the PsaB-bound phyloquinone (A1B) with a glycine residue alters the redox properties of A1B and blocks forward electron transfer at cryogenic temperatures. *Biochim. Biophys. Acta Bio Energetics* 1757: 1623-1633.

Schlarb-Ridley BG, Nimmo RH, **Purton S**, Howe CJ and Bendall DS (2006). Cytochrome c_{6A} is a funnel for thiol oxidation in the thylakoid lumen. *FEBS Lett.* 9: 2166–2169.

Santabarbara S, Kuprov I, Fairclough WV, **Purton S**, Hore PJ, Heathcote P, Evans MCW (2005). Bidirectional electron transfer in photosystem I: determination of two distances between P700+ and A1- in spin-correlated radical pairs. *Biochemistry* 44: 2119–2128.

Walker TL, Collet C and **Purton S** (2005). Algal transgenics in the genomic era. *J. Phycol.* 41: 1077–1093.