CURRICULUM VITAE

1. Pascal-Antoine CHRISTIN

Research status	Postdoctoral Research Fellow
Full postal address	Department of Ecology and Evolutionary Biology Brown University 80 Waterman St Box G-W Providence, RI 02906, USA
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Research interests Molecular evolution, phylogenetics and population genetics

2. Education

2005 - 2008	**PhD in Life Sciences**, University of Lausanne
2000 - 2005	**MSc in Biology**, University of Lausanne

3. Professional appointments

2013	Postdoctoral Fellow, University of Sheffield, United Kingdom
2010 - 2012	Postdoctoral Fellow, Brown University, RI, USA
2008 - 2009	First assistant, University of Lausanne, Switzerland
2005 - 2008	PhD student, University of Lausanne, Switzerland
2005 - 2008	Teaching assistant, University of Lausanne, Switzerland

4. Teaching experience

2005-2009: Systematic botany practicals, Bachelor level

2005-2008: Statistics practicals, Bachelor level

2006-2008: Botany excursions, Master level

2006-2008: Phylogenetics practicals, Master level

2008-2009: Phylogeography courses, Master level

2009: Problem Based Learning practicals, Master level

Advised undergraduate students: Blaise Petitpierre (2006), Zuzanna Khodlova (2007), Flavien Russier (2007), Fabien Comtesse (2008), Glenn Litsios (2008), Elizabeth Spriggs (2010-2011)

6. Professional services

Reviewer activity for *American Journal of Botany*, *Annals of Botany*, *BMC Evolutionary Biology*, *Genetica*, *Heredity*, *Journal of Experimental Botany*, *Journal of Plant Research*, *Molecular Biology and Evolution*, *Molecular Phylogenetics and Evolution*, *Plant Physiology*, *Plant Systematics and Evolution*, *Proceedings of the Royal Society B: Biological Sciences, Science*, *Telopea*

7. Awards and honours

2009 - *A. F. Schläfli Prize* awarded by the Swiss Academy of Science

2009 - *Henri-A. Guénin Prize* awarded by the Faculty of Biology and Medecine from the University of Lausanne

2008 - *Swiss Zoological Society Travel Grant* to attend the Evolution 2008 meeting

2008 - *Biology08* second best oral talk

2007 - *SSE Student Travel Award* to attend the Evolution 2007 meeting

8. Research grants

2011-2013 Marie Curie International Outgoing Fellowship 252568

2010 Swiss NSF postdoctoral grant PBLAP3-129423

9 Publications

a. Referred journal articles

In press

Christin PA, Besnard G, Edwards EJ, Salamin N. Effect of genetic convergence on phylogenetic inference. ***Molecular Phylogenetics and Evolution***

Grass Phylogeny Working Group II. New grass phylogeny resolves deep evolutionary relationships and discovers C_4 origins. ***New Phytologist***

Taylor SH, Franks PJ, Hulme SP, Spriggs E, **Christin PA**, Edwards EJ, Woodward FI, Osborne CP. Photosynthetic pathway and ecological adaptation explain stomatal trait diversity amongst grasses. ***New Phytologist***

2011

Arakaki M, **Christin PA**, Nyffeler R, Lendel A, Eggli U, Ogburn RM, Spriggs E, Moore MJ, Edwards EJ. Contemporaneous and recent radiations of the world's major succulent plant lineages. ***Proceedings of the National Academy of Sciences (PNAS)*** 108: 8379-8384

Christin PA, Osborne CP, Sage RF, Arakaki M, Edwards EJ. C_4 eudicots are not younger than C_4 monocots. ***Journal of Experimental Botany*** 62: 3171-3181

Christin PA, Sage TL, Edwards EJ, Ogburn RM, Khoshravesh R, Sage RF. Complex evolutionary transitions and the significance of C_3-C_4 intermediate forms of photosynthesis in Molluginaceae. ***Evolution*** 65: 643-660

Ingram AL, **Christin PA**, Osborne CP. Molecular phylogenies disprove a hypothesized C_4 reversion in *Eragrostis walteri* (Poaceae). ***Annals of Botany*** 107: 321-325

Sage RF, **Christin PA**, Edwards EJ. The C_4 plant lineages of planet Earth. ***Journal of Experimental Botany*** 62: 3155-3169

Samaritani E, Siegenthaler A, Yli-Petäys M, Buttler A, **Christin PA**, Mitchell EAD. Seasonal net ecosystem carbon exchange of a regenerating cutaway bog: how long does it take to restore the C-sequestration function? ***Restoration Ecology*** 19: 480-489

2010

Edwards EJ, Osborne CP, Stromberg CAE, Smith SA and C_4 Grasses Consortium. The origins of C4 grasslands: Integrating evolutionary and ecosystem science. ***Science*** 328: 587-591

Christin PA, Weinreich DM, Besnard G. Causes and evolutionary significance of genetic convergence. ***Trends in Genetics*** 26: 400-405

Christin PA, Freckleton RP, Osborne CP. Can phylogenetics identify C_4 origins and reversals? ***Trends in Ecology and Evolution*** 25: 403-409

Besnard G, **Christin PA**. Evolutionary genomics of C_4 photosynthesis in grasses requires a large species sampling. ***Comptes Rendus Biologies*** 333: 577-581

2009

Christin PA, Samaritani E, Salamin N, Petitpierre B, Besnard G. Evolutionary insights on C_4 photosynthetic subtypes in grasses from genomics and phylogenetics. ***Genome Biology and Evolution*** 1: 221-230

Christin PA, Salamin N, Kellogg EA, Vicentini A, Besnard G. Integrating phylogeny into studies of C_4 variation in the grasses. ***Plant Physiology*** 149: 82-87

Christin PA, Petitpierre B, Salamin N, Büchi L, Besnard G. Evolution of C_4 phospho*enol*pyruvate carboxykinase in grasses, from genotype to phenotype. ***Molecular Biology and Evolution*** 26: 257-365

Christin PA, Besnard G. Two independent C_4 origins in Aristidoideae (Poaceae) revealed by the recruitment of distinct phospho*enol*pyruvate carboxylase genes. ***American Journal of Botany*** 96: 2234-2239

Büchi L, **Christin PA**, Hirzel AH. The influence of environmental spatial structure on the life-history traits and diversity of species in a metacommunity. ***Ecological Modelling*** 220, 2857-2864

Besnard G, Rubio de Casas R, **Christin PA**, Vargas P. Phylogenetics of *Olea* (Oleaceae) based on plastid and nuclear ribosomal DNA sequences: Tertiary climatic shifts and lineage differentiation times. ***Annals of Botany*** 104: 143-160

Besnard G, Muasya AM, Russier F, Roalson EH, Salamin N, **Christin PA**. Phylogenomics of C_4 photosynthesis in sedges (Cyperaceae): multiple appearances and genetic convergence. ***Molecular Biology and Evolution*** 26: 1909-1919

Besnard G, Basic N, **Christin PA**, Savova-Bianchi D, Galland N. *Thlaspi caerulescens* (Brassicaceae) population genetics in western Switzerland: is the genetic structure affected by natural variation of soil heavy metal concentrations? ***New Phytologist*** 181: 974-984

2008

Parisod C, **Christin PA**. Genome-wide association to fine-scale ecological heterogeneity in a continuous population of *Biscutella laevigata* (Brassicaceae). ***New Phytologist*** 178: 436-447

Christin PA, Salamin N, Muasya AM, Roalson EH, Russier F, Besnard G. Evolutionary switch and genetic convergence on *rbcL* following the evolution of C_4 photosynthesis. ***Molecular Biology and Evolution*** 25: 2361-2368

Christin PA, Besnard G, Samaritani E, Duvall MR, Hodkinson TR, Savolainen V, Salamin N. Oligocene CO_2 decline promoted C_4 photosynthesis in grasses. ***Current Biology*** 18: 37-43

2007

Christin PA, Salamin N, Savolainen V, Duvall MR, Besnard G. C_4 photosynthesis evolved in grasses via parallel adaptive genetic changes. ***Current Biology*** 17: 1241-1247

Christin PA, Salamin N, Savolainen V, Besnard G. A phylogenetic study of the phospho*enol*pyruvate carboxylase multigene family in Poaceae: understanding the molecular changes linked to C_4 photosynthesis evolution. ***Kew Bulletin*** 63: 455-462

Besnard G, Wille L, Henry P, Chapuis E, **Christin PA**. Can microsatellite data allow identification of oleaster Plio-Pleistocene refuge zones in the Mediterranean Basin? ***Journal of Biogeography*** 34: 559-560

Besnard G, **Christin PA**, Baali-Cherif D, Bouguedoura N, Anthelme F. Spatial genetic structure in the Laperrine's olive (*Olea europaea* subsp. *laperrinei*), a long-living tree from central-Saharan mountains. ***Heredity*** 99: 649-657

b. Refereed book chapters

Christin PA, Besnard G. An evolutionary perspective of C_4 photosynthesis in the grass maize. In *Advances in Maize, JL Prioul editor.* Society for Experimental Biology, pp 239-258

9. Oral communications

a. Symposiums

Christin PA. 2011. Adaptation of C_4 photosynthesis through recurrent lateral gene transfer. *Evolution 2011*, 17-21 June 2011, Norman, OK, USA.

Christin PA. 2011. Comparative evolutionary genetics of C_4 photosynthesis in grasses. Plant and Animal Genome XIX, 15-19 January, San Diego, CA, USA. *INVITED SPEAKER*

Christin PA. 2010. Comparative evolutionary genetics of C_4 photosynthesis. *2010 Symposium on C_4 Plant Biology*, 18-20 August 2010, Shanghai, China. *INVITED SPEAKER*

Christin PA, Sage TL, Edwards EJ, Ogburn RM, Khoshravesh R, Sage RF. 2010 Phylogenetics of Molluginaceae and ecolution of C_4 photosynthesis. *Botany 2010* symposium, 31 July – 4 August 2010, Providence, RI, USA.

Christin PA, Salamin N, Besnard G. 2008. C_4 photosynthesis in the grass family (Poaceae). *Monocots IV* congress, 11-15 August 2008, Copenhagen, Denmark. *INVITED SPEAKER*

Christin PA, Besnard G, Salamin N. 2008. Oligocene CO_2 decline promoted C_4 photosynthesis in grasses. *Evolution 2008* symposium, 20-24 June 2008, Minneapolis, MN, USA.

Christin PA, Besnard G, Salamin N. 2008. Oligocene CO_2 decline promoted C_4 photosynthesis in grasses. *Biology08*, 7-8 Feb. 2008, Lausanne, Switzerland.

Christin PA, Salamin N, Savolainen V, Duvall MR, Besnard G. 2007. C_4 photosynthesis evolved in grasses via parallel genetic changes. *Evolution 2007*, 16-20 June 2007, Christchurch, NZ.

Christin PA, Salamin N, Savolainen V, Besnard G. 2005. Evolution of C_4 photosynthesis in Poaceae: a phylogenomic study of genes encoding phospho*enol*pyruvate carboxylase. *A celebration of grasses* symposium, 9-10 Sept. 2005, London, UK.

b. Departmenal Seminars

April 2011 - Universite de Toulouse, Toulouse, France

November 2010 - Yale University, New Haven, CT, USA

September 2010 - Rancho Santa Ana Botanic Garden, Claremont, CA, USA

January 2009 - Senckenberg Research Institute, Frankfurt, Germany

Updated in November 2011