

**Dr. Erwan Quéméré**

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Born the 3<sup>th</sup> of July 1981

PACS, 2 children (3 and 5 years old)

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**Research experience and interests**

- 2014- Postdoctoral experience at the Institute of Evolutionary Ecology (University of Edinburg) with Josephine Pemberton (Agreenskills fellowship). “A quantitative genetics study of the roe deer phenological response to global change”
- 2012- Senior scientist (CR2) at INRA (National Institute of Agronomic Research) in the « Wildlife, Behaviour and Ecology” research unit (CEFS).
- 2010-2011 Postdoctoral experience at the lab “Ecology et Ecosystem Health” (INRA, Rennes) with Sophie Launey. “Seascape genetics of coastal brown trout populations”
- 2008-2009 Temporary teaching and research assistant at University Toulouse III, France
- 2005-2008 PhD (French grant) and lecturer at University Toulouse III

**Education**

- 2005-2009 PhD in Ecology under the supervision of Lounès Chikhi (University of Toulouse, France). Thesis Title: “Landscape genetics of fragmented sifaka lemur populations”.
- 2004-2005 Msc in “Systematic, Evolution and Paleontology” (University Paris VI). Research project under the supervision of Sarah Samadi and Marie-Catherine Boisselier (UMR 7138 IRD/MNHN). Title: “Origin and phylogeny of sunken wood mussels”.

**Personal skills and competences**

**Population genetics and molecular ecology:** landscape genetics, immunogenetics, model-based inference of demographic history (Likelihood-based approaches, ABC approaches).

**Parentage inference and pedigree reconstruction** (Colony, MasterBayes).

**Quantitative genetics and selection analysis** (ASReml, MCMCglmm).

**GIS, spatial and remote sensing data analyses** (ArcGis, Fragstats, ENVI, PathMatrix).

**Metabarcoding:** Dietary analysis (mammals, invertebrates) combining DNA barcoding and Illumina next-generation sequencing.

**R-coding and statistics**

**Fieldwork** in temperate and tropical regions (several months in Madagascar and in French Guyana), density estimation (distance sampling), fecal collections, electric fishing.

**Strong laboratory skills:** DNA extraction (from faeces, blood, hair, tissues or fish scales), PCR, cloning, Microsatellite isolation and genotyping, DNA sequencing, preparation of RAD markers library.

## Publications

### Publication in peer reviewed journals

Vanpé C, Debeffe L, Hewison M, **Quéméré E**, Lemaître JF, Galan M, Amblard B, Klein F, Cargnelutti B, Capron G, Merlet Joël, Warnant C, Gaillard JM (2014) Reduced microsatellite heterozygosity does not affect natal dispersal in three contrasting roe deer populations. *Oecologia* (in press).

**Quéméré E**, Perrier, C, Besnard AL, Evanno, G, Baglinière JL, Guiguen Y & Launey S (2014). An improved PCR-based method for faster sex determination in brown trout (*Salmo trutta*) and Atlantic salmon (*Salmo salar*). *Conservation Genetics Resources*, 1-3. DOI 10.1007/s12686-014-0259-8

**Quéméré E**, Hibert F, Miquel C, Lhuillier E, Rasolondraibe E, Champeau J, Salmons J, Nusbaumer L, Chatelain C, Gauthier L, Crouau-Roy B, Taberlet P, Chikhi L. (2013) A DNA metabarcoding study of a primate dietary diversity and plasticity across its entire fragmented range. *PLoS ONE* 8(3): e58971. doi:10.1371/journal.pone.0058971.

Bech N, Barbu C, **Quéméré E**, Novoa C, Alienne JF, Boissier J (2013) Pyrenean ptarmigans decline under climatic and human influences through the Holocene. *Heredity*. 111:402-409.

Paz-Vinas I, **Quéméré E**, Chikhi L, Loot G, Blanchet S (2013) The demographic history of populations experiencing asymmetric gene flow: combining simulated and empirical data range. *Molecular Ecology*, 22:3279-3291

**Quéméré E**, Amelot X, Pierson J, Crouau-Roy B & Chikhi L (2012) Genetic Data Suggest a Natural Pre-human Origin of Open Habitats in Northern Madagascar and Question the Deforestation Narrative in this Region. *Proceedings of the National Academy of Sciences*, 109(32):13028-33

**Quéméré E**, Crouau-Roy B, Louis EE Jr., Rabarivola C & Chikhi L (2010) Landscape genetics of an endangered primate species within its entire fragmented range. *Molecular Ecology*. 19:1606-1621

**Quéméré E**, Champeau J, Besolo A, Rasolondraibe E, Rabarivola C, Crouau-Roy B & Chikhi L (2010) Spatial variation in density and total size estimates in fragmented primate populations: the golden-crowned sifaka (*Propithecus tattersalli*). *American Journal of Primatology*. 72(1):72-80.

**Quéméré E**, Louis EE Jr., Ribéron A, Chikhi L & Crouau-Roy B (2009) Non-invasive conservation genetics of the critically endangered golden-crowned sifaka (*Propithecus tattersalli*): high diversity and significant genetic differentiation over a small range. *Conservation Genetics*. 11(3):675-687.

Razafindrakoto A, **Quéméré E**, Shore GD, McGuire SM, Louis EE Jr. & Brenneman RA (2008) Characterization of 20 microsatellites marker loci in the golden-crowned sifaka (*Propithecus tattersalli*). *Conservation Genetics* 9(4):1027-1031.

Samadi S, **Quéméré E**, Lorion J, Tillier A, von Cosel R, Lopez P, Cruaud C, Couloux A et Boisselier-Dubayle MC (2007), Molecular phylogeny in mytilids supports the wooden steps to deep-sea vents hypothesis. *Comptes Rendus de l'Académie des Sciences* 330(5): 446-456.

### *Submitted papers*

**Quéméré E**, Baglinière JL, Evanno G, Roussel JM, McGinnity P & Launey S (2014) Seascape and its effect on migratory life-history strategy influences gene flow among coastal brown trout populations (*Salmo trutta*). Soumis à Proceedings of the Royal Society B: Biological Sciences.

**Quéméré E**, Galan M, Cosson JF, Klein F, Aulagnier S, Gilot E, Merlet J, Hewison M & Charbonnel N (2014) Immunogenetic heterogeneity in a widespread synanthropic ungulate: the European roe deer (*Capreolus capreolus*). Soumis à Molecular Biology Evolution.

Vanpé C, Debeffe L, Galan M, Hewison M, Gaillard JM, Gilot-Fromont E, Morellet N, Cosson JF, Jégo M, Cargnelutti B, Merlet J & **Quéméré E** (2014). Immune gene variability influences roe deer natal dispersal. Soumis à Evolution.

### *Other types of publications*

**Quéméré E** (2009). Génétique du paysage de populations fragmentées de lémurien à Madagascar : Conservation du propitèque à couronne dorée (*Propithecus tattersalli*) dans la région de Daraina. Manuscrit de thèse, 175 pp. (In French)

**Quéméré E**, Chikhi L & Crouau-Roy B (2007). L'Or de Daraina. *Bulletin de l'association CEPA (Conservation des Espèces et des Populations Animales)*. (In French).

## Conference presentations

### Talks (selection)

**Quéméré E**, Vanpé C, Klein F, Hewison M, Gaillard JM, Pemberton J (2014) The European roe deer (*Capreolus capreolus*) in a rapid changing world: a quantitative genetic analysis. Wild Animal Model Biennial Meeting, Pitlochry (Edinburgh, UK).

**Quéméré E**, Galan M, Hewison M & Charbonnel N (2014) Diversity and evolution of adaptive and innate immune genes in the European roe deer (*Capreolus capreolus*). Wild Evolution Group seminar- University of Edinburgh (Edinburgh, UK).

**Quéméré E**, Balagnière JL, Roussel JM & Launey S (2012) Influence of seascape and migratory patterns on coastal Brown trout genetic structure (*Salmo trutta*). Congress of the European Society for Evolutionary Biology (Lisbon, Portugal).

**Quéméré E**, Amelot X, Crouau-Roy B & Chikhi L (2013) Non-invasive conservation genetics of lemurs and history of deforestation in northern Madagascar – IEB seminars - University of Edinburgh (Edinburgh, UK) (invited speaker).

**Quéméré E**, Taberlet P & Chikhi L (2012) Unveiling the dietary diversity of endangered primates using barcoding and Next Generation Sequencing. French annual meeting of population biology and genetics (Petit Poids Dérivé) (Avignon, France) (in french).

**Quéméré E**, Lhuillier E, Crouau-Roy B & Chikhi L (Novembre 2010) Caractérisation moléculaire du régime alimentaire de lémurien (résultats préliminaires) à l'aide de codes-barres ADN et de la technologie de pyroséquençage. Séminaire du laboratoire ECOBIO (Rennes, France) (in french).

**Quéméré E**, Crouau-Roy B & Chikhi L (Juin 2010) Génétique du paysage d'une espèce menacée de lémurien (*Propithecus tattersalli*). Séminaire invité du département de Systématique et Évolution du MNHN (Paris, France). (in french)

**Quéméré E**, Amelot X, Crouau-Roy B & Chikhi L (Mars 2010) Fragmentation de l'habitat et histoire démographique de lémuriens dans le Nord de Madagascar. Séminaire invité du Laboratoire de Biologie et d'Écologie Tropicale et Méditerranéenne de l'Université de Perpignan (Perpignan, France) (in french)

**Quéméré E**, Crouau-Roy B & Chikhi L (Août 2009) Impact de la fragmentation de l'habitat sur la structuration génétique des populations de propitèques à couronne dorée. French annual meeting of population biology and genetics (Petit Poids Dérivé) (Avignon, France) (in french)

**Quéméré E**, Louis Jr EE, Crouau-Roy B & Chikhi L (Octobre 2008) Landscape genetics of golden-crowned sifaka fragmented populations (*Propithecus tattersalli*) in Madagascar. ESF Workshop: Landscape Genetics (Grenoble, France).

### Posters

Launey S, **Quéméré E**, Tréguier A, Paillisson JM, Besnard AL, Huteau D, Pompaon F, Taberlet P & Roussel JM (2013) Coupler isotopes stables et métabarcoding alimentaire pour l'analyse des réseaux trophiques. 2ème Coll. Génomique environnementale (Rennes, France). (In French).

Fournier P, **Quéméré E**, Coulon A, Bonnot N, Khimoun A, Galan M, Fournier-Chambrillon, Laoué E, Chusseau JP, Bereziat T & Aulagnier S (2013) Perméabilité de l'A65 Pau-Langon vis-à-vis du Cerf (*Cervus elaphus*) : analyse génétique de la structuration de référence des populations du massif landais. 36ème Coll. Francophone Mammalogie (Toulouse, France). (In French).

**Quéméré E**, Baglinière JL, Gharbi K, John Taggart & Launey S (2011) Genetic basis of migratory strategies and local adaptation in brown trout populations (*Salmo trutta*) 3<sup>rd</sup> Annual RAD conference, (Edimbourg, Scotland)

**Quéméré E**, Crouau-Roy B & Chikhi L (2010) Demographic history of the golden-crowned sifaka and origin of grasslands in Northeastern Madagascar. SOCIOR "Social systems demographic and genetic issues" (Paimont, France).

**Quéméré E**, Crouau-Roy B & Chikhi L (2010) Histoire démographique du propitèque à couronne dorée (*Propithecus tattersalli*) et origine des zones herbeuses dans le Nord-Est de Madagascar. Colloque Écologie 2010 (Montpellier, France) (In French).

**Quéméré E**, Launey S & Baglinière JL (2010) Anadromy, genetic structure and adaptive potential of brown trout (*Salmo trutta* L). Intra-specific Diversity in Aquatic Animal - SEB symposium (Sète, France).

**Quéméré E**, Louis Jr EE, Chikhi L & Crouau-Roy B (Juin 2007) Impact of forest fragmentation on the genetic diversity of the last golden-crowned sifaka populations (*Propithecus tattersalli*). ESF Workshop: Conservation genetics and Fragmentation (Lisbon, Portugal).

**Quéméré E**, Boisselier MC, Tillier A, Lopez P, Von Cosel R, Zbinden M & Samadi S. ( Septembre 2005) Molecular phylogeny of sunken wood and hydrothermal vents mytilids. Third International Symposium on Hydrothermal Vent and Seep Biology.

## Reviewing work

**Journals:** Molecular Ecology, Landscape Ecology, Molecular Ecology ressources, Conservation genetics, International journal of Primatology, Ecoscience.

**Research grants:** Project Eco-Sud Argentina

## Grant

2014. National Geographic grant «Unveiling the Dietary Diversity of Endangered Primates Using Next Generation Sequencing» (20 000 \$)

2014. Postdoctoral research Agreenskills fellowship

2005-2008. PhD scholarship from the French Ministry of Higher Education and Research.

## Teaching experience

2005-2009      Lecturer at the University of Toulouse III, France (320 hours)

Introduction to Geographic Information System (GIS), Population and conservation genetics, Phylogenetic analyses, Animal biology, Introduction to Botanic, Evolutionary biology

Supervision of three Msc students: Effects of habitat fragmentation on freshwater fish populations: a comparative multi-specific approach (2009 - 6 months), Social and reproductive structure of the golden-crowned sifaka (*Propithecus tattersalli*) (2008 – 5 months), Population density and abundance of sifakas in Madagascar (2007 – 5 months).