

# David Roquis

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International mobility  
Driver's license  
32 years old

## Profile

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My research interests are focused on epigenetics, genomics and bioinformatics in the context of adaptive evolution. I have a passion for science teaching and would like to apply to an assistant teacher position in a few years.

## Education

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- **Ph.D. in Biology under the direction of Christoph Grunau & Celine Cosseau** 2012-2015  
*University of Perpignan Via Domitia (Perpignan, France)*
  - Implications of epigenetic modifications on *Dauermodifikationen* in the coral *Pocillopora damicornis* and the parasite *Schistosoma mansoni*.
- **M.Sc. in Environmental Genomics** 2010-2012  
*University of Perpignan Via Domitia (Perpignan, France)*
  - Head of promotion, GPA of 16,36/20.
- **B.Sc. in Biology-Ecology, Minor in Science Teaching** 2009-2010  
*University of Perpignan Via Domitia (Perpignan, France)*
  - Head of promotion, GPA of 16,59/20.
- **Quebec Technical College Diploma in Chemistry-Biology** 1999-2002  
*CEGEP Ahuntsic (Montreal, Canada)*
  - Third of promotion, R score of 32,88.

## Specific Trainings

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- **Higher Education Language Skills Certification (French CLES)** 2010  
*English language, level B2 (Perpignan, France)*
- **Workplace Hazardous Materials Information System (WHMIS)** 2001-2009  
*McGill University, refresher every two years (Montreal, Canada)*

## Internships

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- **Intern in Bioinformatic Analyses** 2011-2012  
*UMR 5244 Laboratory Ecology & Evolution of Interactions (Perpignan, France)*  
*Under the direction of Christoph Grunau*
  - Pilote study of the distribution of nucleosomes and three histone modifications in the parasite *Schistosoma mansoni* (6 months, 2012).
  - *In silico* annotation and classification of newly identified repetitive sequences in the parasite *Schistosoma mansoni* (3 months, 2011).

## Professional Experiences

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- **Temporary Research Assistant** summer 2011  
*Montreal Diabetes Research Center, Universite McGill (Montreal, Canada)*  
*Under the direction of Robert Sladek*
  - Real time fluorescent microscopy of interactions between the protein CDKAL1 and other partners in pancreatic cell lines.
- **Technician in Molecular Biology** 2007-2009  
& 2002-2006  
*McGill University and Genome Quebec Innovation Center (Montreal, Canada)*  
*Under the direction of Pierre Lepage*
  - Training and supervision of a team of 4 technicians and interns.
  - Experimental design, experiments, analysis and supervision of DNA sequencing projects for academic and pharmaceutical clients.
- **Technician in Molecular Biology** 2006-2007  
*Rice Gene Discovery Unit, Kasetsart University (Kamphaeng Saeng, Thaïlande)*  
*Under the direction of Apichart Vanavichit*
  - Molecular characterization of agronomical QTL in the rice *Oriza sativa*.

## Teachings

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- **Project in Biology (36h)** 2014  
*University of Perpignan Via Domitia (France)*
- **Environmental Microbiology (96h)** 2013-2014  
*University of Perpignan Via Domitia (France)*
- **DNA Sequencing Workshops (50h)** 2007-2009  
*CEGEP Ahuntsic (Montreal, Canada)*
- **Scientific English (180h)** 2006-2007  
*Kasetsart University (Kamphaeng Saeng, Thailand)*

## Other Experiences

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- **Co-organizer of the 2<sup>nd</sup> International Ph.D. Students Conference** 2013  
*University of Perpignan Via Domitia (France)*
- **Speaker and Juge at the Defi Biotalent Sanofi Aventis (volunteering)** 2005-2009  
*Student science competition (Montreal, Canada)*

## Awards

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- **Best Oral Communication** 2013  
*3<sup>rd</sup> international Ph.D. students conference of University of Perpignan.*
- **Scholarship of Merit from the French Ministry of Education and Research** 2010  
*Awarded for excellent grades during B.Sc.*
- **Scholarship of Excellence from the Saint-Jean-Baptiste Society** 1999  
*Awarded to the 26 best high school students after graduation.*

## Conferences – Oral Presentation

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- ✓ *Schistosoma mansoni* uses bivalent histone modifications to poise transcription until infection of the final host. *Chromatin Meets South*, Montpellier (France), June 16-17<sup>th</sup>, 2014.
- ✓ Adaptive evolution: was Lamarck really wrong? 3<sup>rd</sup> *International Ph.D. Students Conference of UPVD*, Perpignan (France), May 15-16<sup>th</sup>, 2014
- ✓ Possible epigenetic origin of thermal stress adaptation of the tropical coral *Pocillopora damicornis*. *Epigenetique en Ecologie et Evolution*, Gif-sur-Yvette (France) Dec. 3-4<sup>th</sup>, 2013
- ✓ Galaxy for the rest of us. *IFB Galaxy Day*, Paris (France), Dec. 4<sup>th</sup>, 2013
- ✓ Differential histone modifications profiles in developmental stages of the human parasite *Schistosoma mansoni*. *IRI/MNHN Chromatin Days – Epigenetic Marks : From Code to Mechanisms*, Paris (France), Nov. 15-16<sup>th</sup>, 2012

## Conferences – Posters

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- ✓ Making next generation sequencing a routine tool for studies in *Schistosoma mansoni* : challenges and solutions. *13th International Symposium on Schistosomiasis*, Belo Horizonte (Brazil), Sept. 16-19, 2012

## Publications

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1. **Roquis, D.**, Lepesant, J., Villafan, E., Boissier, J., Vieira, C., Cosseau, C. and Grunau, G. (2014). Exposure to hycanthone alters chromatin structure around specific gene functions and specific repeats in *Schistosoma mansoni*. *Front. Genet.*, 5, 207-211.
2. Perfus-Barbeoch, L., Castagnone-Sereno, P., Reichelt, M., Fneich, S., **Roquis, D.**, Pratz, L., Cosseau, C., Grunau, G. and Abad D. (2013). Elucidating the molecular bases of epigenetic inheritance in non-model invertebrates: the case of the root-knot nematode *Meloidogyne incognita*. *Front. Physiol.*, 5, 211–211.
3. Clement JA, Toulza E, Gautier M, Parrinello H, **Roquis D**, Boissier J, Rognon A, Mone H, Mouahid G, Buard J, Mitta G, Grunau C. (2013). Private selective sweeps identified from next-generation pool-sequencing reveal convergent pathways under selection in two inbred *Schistosoma mansoni* strains. *PLoS Negl Trop Dis*, 7, e2591.
4. Lepesant J.M.J., **Roquis D.**, Emans R., Cosseau C., Arancibia N., Mitta G., and Grunau C. (2012). Combination of de novo assembly of massive sequencing reads with classical repeat prediction improves identification of repetitive sequences in *Schistosoma mansoni*. *Exp. Parasitol.*, 130, 470–474.
5. Akbari M.R., Malekzadeh R., Lepage P., **Roquis D.**, Sadjadi A.R., Aghcheli K., Yazdanbod A., Shakeri R., Bashiri J., Sotoudeh M., Pourshams A., Ghadirian P., and Narod S.A. (2011). Mutations in Fanconi anemia genes and the risk of esophageal cancer. *Hum. Genet.*, 129, 573–582.
6. Plante M., Claveau S., Lepage P., Lavole E.-M., Brunet S., **Roquis D.**, Morin C., Vezina H., and Laprise C. (2008). Mucopolidosis II: a single causal mutation in the N-acetylglucosamine-1-phosphotransferase gene (GNPTAB) in a French Canadian founder population. *Clin. Genet.*, 73, 236–244.
7. Gradinger A.B., Belair C., Worgan L.C., Li C.D., Lavallee J., **Roquis D.**, Watkins D., and Rosenblatt D.S. (2007). Atypical methylmalonic aciduria: frequency of mutations in the methylmalonyl CoA epimerase gene (MCEE). *Hum. Mutat*, 28, 1045–1045.
8. Hrebicek M., Mrazova L., Seyrantep V., Durand S., Roslin N.M., Noskova L., Hartmannova H., Ivanek R., Cizkova A., Poupetova H., Sikora J., Urinovska J., Stranecky V., Zeman J., Lepage P., **Roquis D.**, Verner A., Ausseil J., Beesley C.E., Maire I., Poorthuis B.J., van de Kamp J., van Diggelen O.P., Wevers R.A., Hudson T.J., Fujiwara T.M., Majewski J., Morgan K., Kmoch S., and Pshezhetsky A.V. (2006). Mutations in TMEM76\* cause mucopolysaccharidosis IIIC (Sanfilippo C syndrome). *Am. J. Hum. Genet.*, 79, 807–819.
9. Croteau S., **Roquis D.**, Charron, M.-C., Frappier D., Yavin D., Loredo–Osti J.C., Hudson T.J., and Naumova A.K. (2005). Increased plasticity of genomic imprinting of Dlk1 in brain is due to genetic and epigenetic factors. *Mamm. Genome.*, 16, 127–135.
10. Hope Q., Bullock S., Evans C., Meitz J., Hamel N., Edwards S.M., Severi G., Dearnaley D., Jhavar S., Southgate C., Falconer A., Dowe A., Muir K., Houlston R.S., Engert J.C., **Roquis D.**, Sinnett D., Simard J., Heimdal K., Moller P., Maehle L., Badzioch M., Eeles R.A., Easton D.F., English D.R., Southey M.C., Hopper J.L., Foulkes W.D., Giles G.G., and The Cancer Research UK/British Association of Urological Surgeons' Section of Oncology Collaborators (2005). Macrophage scavenger receptor 1 999C> T (R293X) mutation and risk of prostate cancer. *Cancer Epidemiol. Biomarkers Prev*, 14, 397–402.