

Guillaume RIVIERE

Born 13.05.1978
Married / 2 children

Assistant Professor

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EPIGENETICS & FUNCTIONAL EPIGENOMICS

DEVELOPMENT & REPRODUCTION

INVERTEBRATES & EVOLUTION

Molecular Biology : epigenetics (MeDIP, BS, ChiP), NGS, DNA, RNA, PCR, RT-PCR, qPCR, in situ Hybridization, Northern Blot, cloning, vector construction, screening, gene knockdown (RNAi, LNA, PNA, CRISPR/Cas), overexpression (TSTA), promoters.

Cell Biology : culture, transfections, stable cell lines, recombinant proteins.

Bioinformatics : NGS analysis (R, Galaxy), alignments, databases, vector NTI.

Biochemistry : protein extraction, activity assays, Western Blot, immunohistochemistry, fluorescence.

Animals : Invertebrates (oyster – embryology, microinjection), Vertebrates (rat, mouse - plethysmography, bioluminescence).

ACADEMICS

2007- Assistant Professor, Institut de Biologie Fondamentale et Appliquée, Université de Caen- Normandie

Main Lectures: Animal Biology, Epigenetics, Development, Cell Biology, Molecular Biology

Main academic resps: Master Deg 'Cancer, Differentiation, Genetics, Biotherapy', Master 2 'AquaCaen'-practical course

2006-2007 Post-doctoral fellow, Nephrologie und Hypertonie Division, Department für Klinische Forschung, Universitätsspital Bern (Bern, Switzerland). *Epigenetic regulation of the human Angiotensin-converting enzyme // Gene therapy of prostate cancer*

2005 PhD Life and Health Sciences, Ecole Doctorale Biologie-Santé de Lille (granted with honors and congratulations of the Jury), Université des Sciences et Technologies de Lille (Lille, France). *Molecular evolution of angiotensin-converting enzymes*

RESEARCH

'Epigenetics and Functional Epigenomics of development and reproduction in a marine invertebrate, the oyster *Crassostrea gigas*: understanding the evolution of epigenetic processes'

DNA and RNA methylation, histone modifications, chromatin, epigenetic regulators, function.

UMR BOREA 'Biologie des Organismes et Ecosystèmes Aquatiques' MNHN, UPMC, UCBN, CNRS 7208, IRD 207

<http://borea.mnhn.fr/en/users/quillaume-riviere>

CONTRIBUTION

Publications

19 - 10 as 1st author - 4 as last author

H index: 12

5 significant: Riviere G, He Y, Tecchio S, Crowell E, Gras M, Sourdain P, Guo X, Favrel P - 2017- Dynamics of DNA methylomes underlie oyster development. **PLoS Genet.** 2017; 13(6):e1006807 (IF 2016: 7.17)

Rivière G. Epigenetic features in the oyster *Crassostrea gigas* suggestive of functionally relevant promoter DNA methylation in invertebrates. **Front Physiol.** 2014;5:129 (IF 2014 3.53)

Fellous A, Favrel P, Riviere G. Temperature influences histone methylation and mRNA expression of the Jmj-C histone-demethylase orthologues during the early development of the oyster *Crassostrea gigas*. **Mar Genomics** 2014; 19:23-30 (IF 2014 1.79)

Saint-Carlier E, Riviere G. Regulation of Hox orthologues in the oyster *Crassostrea gigas* evidences a functional role for promoter DNA methylation in an invertebrate. **FEBS Lett.** 2015; 589(13):1459-66 (IF 2015 3.17)

Riviere G, Klopp C, Ibouniyamine N, Huvet A, Boudry P, Favrel P. GigaTON: an extensive publicly searchable database providing a new reference transcriptome in the Pacific oyster *Crassostrea gigas*. **BMC Bioinformatics** 2015;16:401. (IF 2015 2.76)

Oral presentations

11 – 9 international – 4 invited

8 posters – 5 international – 3 as 1st author

Most recent: 'Dynamics of DNA methylomes underlie oyster development and support a new model of transcription regulation by DNA methylation in an invertebrate' EpiBrest Intl Congress 2016 (Brest – France)

AWARDS AND DISTINCTIONS

2016 Co-project leader 'GANESH' (Leader S Sussarellu) Grant EC2CO CNRS INSU n° 16/5210603/F

2013 Project Leader 'GigaReproTemp' Grant 2013 – PCM 06 – Conseil Régional de Basse Normandie

2007 Wicar & Hagelstein Award, 2006 Science Medal, Academy of Arts and Agriculture of Lille (Lille, France)

2002 Best oral communication – 5th LARC Neuroscience Congress (Rouen – France)

SUPERVISION

PhD Lorane Le Franc (2017-) - RNA methylation and active DNA demethylation in oyster development / Alexandre Fellous (2010-2013) – Jumonji histone demethylases and oyster development / Daniel Lienhardt (2007-2010) – DNA methylation of the human 11 β -HSD2 gene in colon cancer / Rashid Setoud (2006-2009) – Androgen-mediated Gene Delivery (AMGD)

Master Morgane Lebreton (2016) – DNA methylation, copper contamination and oyster development / Emma Saint Carlier (2013-2014) - DNA methylation and Hox genes in the oyster