

**Pierre-Louis STENGER | Ph. D. in marine biology & transcripto/geno/epigeno/mics**

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**EDUCATION**

2019	<b>PhD. D. in Marine Biology</b>	Ifremer – University of French Polynesia – UMR 241
2016	<b>Masters Environmental Management and Coastal Ecology</b>	University of La Rochelle, France
2014	<b>Bsc. Marine Biology and Ecology</b>	University of La Rochelle, France

**RESEARCH EXPERIENCES**

2021-today	<b>Post-doctoral Fellow – New Caledonian Agronomic Institute – Nouméa, New-Caledonia</b> Environmental DNA for ecological monitoring and restoration Supervisor: Dr. Fabian CARRICONDE
2020	<b>Post-doctoral Fellow – Lemer Invertebrate Genomics Lab - University of Guam, USA</b> Transcriptomic and epigenomic signature of acclimated <i>Acropora digitifera</i> Supervisor: Drs. Sarah LEMER
2016-2019	<b>Ph.D. Candidate - Ifremer – University of French Polynesia – UMR 241 EIO – Tahiti, French Polynesia – UMR 5244 IHPE – Montpellier, France</b> Plasticity and chromatic diversity in the pearl oyster <i>Pinctada margaritifera</i> var. <i>cumingii</i> (Linnaeus 1758): study of the triptych phenome, genome and epigenome Directors: Dr. Chin-Long KY, Dr. Serge Planes, Supervisors: Dr. Jérémie VIDAL-DUPIOL, Drs. Céline REISSER
2016	<b>Research assistant – CNRS - LIENSs – La Rochelle, France</b> Genetic diversity exploration of <i>Limecola balthica</i> (Bivalvia) from Canada and USA Supervisor: Dr. Éric PANTE
2016	<b>Master 2<sup>nd</sup> year research thesis – CNRS - LIENSs – La Rochelle, France</b> Population genetics of the Mediterranean bottlenose dolphin, <i>Tursiops truncatus</i> Supervisors: Dr. Benoit SIMON-BOUHET, Drs. Hélène LABACH
2015	<b>Master 2<sup>nd</sup> year non obligatory research thesis - CEBC CNRS – Chizé, France</b> Photo-detection and spatio-temporal analyzes of the Commerson's dolphins <i>Cephalorhynchus commersonii</i> from the Kerguelen Islands Supervisors: Dr. Christophe GUINET, Dr. Paul TIXIER
2015	<b>Master 1<sup>st</sup> year research thesis – CNRS - LIENSs – La Rochelle, France</b> Impact of chemical pollution on the genetic diversity of marine molluscs ( <i>Crassostrea gigas</i> , <i>Mytilus</i> sp., <i>Mimachlamys varia</i> ) Supervisor: Drs. Amélia VIRICEL-PANTE
2014	<b>Bsc. 3<sup>rd</sup> year research thesis - IRD – Nouméa, New-Caledonia</b> Grazing impact on the genus <i>Lobophora</i> algae in the New-Caledonian lagoons Supervisors: Pr. Claude PAYRI, Dr. Christophe VIEIRA

- 2021 Soil fungal and bacterial metabarcoding: excellent bioindicators for ecological restoration in the New Caledonian biodiversity hotspot context - Nuñez NF, Maggia L., Lelievre M., Letellier K., Gigante S., Manez A., Mournet P., Stenger PL., Ripoll J., Carriconde F. (2021) – *in prep*
- 2021 Epigenetic modifications and differential gene expression in *Acropora digitifera* during heat acclimation – **Stenger PL.**, Lemos B., Combosch D., Lemer S. (2021) – *in prep*
- 2021 Characterizing the role of coral color in stress resistance in *Acropora surculosa* – Moscato V., Bentlage B., Combosch D., Baker D., **Stenger PL.**, Lemer S. (2021) – *in prep*
- 2021 *Pinctada margaritifera* var. *cumingii* comparative pool whole-genome exploration for hooking color-associated variants in the most colorful pearl oysters - **Stenger PL.**, Ky CL., Vidal Dupiol J., Planes S., Reisser C. (2021) – *in prep for BMC Genomics*
- 2021 Environmentally driven color variation in the Pearl Oyster *Pinctada margaritifera* var. *cumingii* (Linnaeus, 1758) is associated with differential methylation of CpGs in pigment and biomineralization related genes - **Stenger PL.**, Ky CL., Reisser CMO., Cosseau C., Grunau C., Mege M., Planes S. and Vidal-Dupiol J. (2021) - Front. Genet. 12:630290. doi: 10.3389/fgene.2021.630290
- 2021 Molecular pathways and pigments underlying the colors of the Pearl Oyster *Pinctada margaritifera* var. *cumingii* (Linnaeus 1758). - **Stenger PL.**, Ky CL., Reisser C., Duboisset J., Dicko H., Durand P., Quintric L., Planes S., Vidal-Dupiol J. (2021) - Genes, 12, 421. <https://doi.org/10.3390/genes12030421>
- 2020 Contribution of viral denomic Diversity to oyster susceptibility in the Pacific Oyster Mortality Syndrome - Delmotte J., Galinier R., De Lorgeril J., Gueguen Y., **Stenger PL.**, Vidal Dupiol J., Mitta G., Montagnani C., Chaparro C., Escoubas JM. (2020) – *Frontiers in Microbiology*, 11, 1579. doi: 10.3389/fmicb.2020.01579
- 2020 Differential basal expression of immune genes confers *Crassostrea gigas* resistance to Pacific Oyster Mortality Syndrome - De Lorgeril J., Petton B., Lucasson A., Perez V, **Stenger PL.**, Dégrement L., Montagnani C., Escoubas JM., Haffner P., Allienne JF., Leroy M., Lagarde F., Vidal-Dupiol J., Gueguen Y., Mitta G. (2019) - *BMC genomics*, 21(1), 1-14. - <https://doi.org/10.1186/s12864-020-6471-x>
- 2019 Colour plasticity in the shells and pearls of animal graft model *Pinctada margaritifera* through colour quantification with the HSV system - **Stenger PL.**, Vidal-Dupiol J., Reisser C., Planes S., Ky C. – Scientific Report - <https://doi.org/10.1038/s41598-019-43777-4>
- 2019 Limited interspecific variation in grazing susceptibility of the brown alga *Lobophora* to herbivory - Vieira C., **Stenger PL.**, Moleana T., De Clerck O., Payri C. – Journal of Experimental Marine Biology and Ecology - <https://doi.org/10.1016/j.jembe.2019.151175>
- 2017 Package R *ImaginR*: Delimit and Characterize Color Phenotype of the Pearl Oyster - **Stenger PL.**- publication on CRAN

- 2017 First data on three bivalve species exposed to an intra-harbour polymetallic contamination (La Rochelle, France). Breitwieser M., Viricel A., Churlaud C., Guillot B., Martin E., **Stenger PL.**, [...] & Thomas-Guyon H. (2017). Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology - <https://doi.org/10.1016/j.cbpc.2017.02.006>
- 2015 Photo-Identification Catalogue 2015 Commerson dolphins of the Kerguelens islands. Tixier P., Gasco N., Gravier D., **Stenger PL.**, Delhomme A., Guinet C. & Marteau C. (2015) Published in Elsevier, 2015 - DOI: 10.13140/RG.2.2.11059.02080

## CONFERENCES/WORKSHOPS

- 2021 **In 19-23 July: ICRS 2021 - 14th International Coral Reef Symposium, Bremen, Germany**  
Two abstracts accepted in session 10F and 10G
- 2019 **World Congress of Malacology (WCM 2019), Pacific Grove, California, USA**  
Deciphering shell color pigmentation pathways in the pearl oyster *Pinctada margaritifera* (Linnaeus, 1758) through whole transcriptome sequencing and fine gene expression tuning – **Stenger PL.**, Ky CL., Reisser C., Planes S., Vidal-Dupiol J.
- 2017 **GDEGeM European Cetacean Society (GDEGeM ECS 2017), Marseille, France**  
Identification of bottlenose dolphin's management units to develop a monitoring and conservation strategy in the French Mediterranean waters  
Labach H., **Stenger PL.**, Barbier M., Di-Méglio N., Jourdan J., David L., Roul M., Azzinari C., Robert N., Cesarini C., Ballardini M., Vittoria Riina M., Simon-Bouhet B. & Gimenez O.
- 2015 **International Symposium of Green Chemistry (ISGC 2015), La Rochelle, France**  
Testing correlations between genetic diversity and chemical pollution exposure in a bioaccumulating marine bivalve (2015) Viricel A., **Stenger PL.**, Becquet V., Pante E., Bonnet A., Churlaud C., Le Floch S., Graber M., Pageaud M., Thomas-Guyon H.

## GENERAL AND TECHNICAL SKILLS

**Languages:** French (mother tongue) | English (Level B1, Institutional TOEFL ~500 pts)

**Scuba diving:** FFESSM 3 stars, scientific diving formation BIOSOUM (2016), Submarine photographer

**Licenses:** Car (French B and international), Coastal and offshore boat license

**Laboratory/field techniques:** genetics/genomics (Licor-Sequencing, DNA & RNA extraction & purification, ChIP-native, ChIP-crosslink, RT-q-PCR, etc.), ecophysiology (aquarium maintenance with classical parameters measurement, oximetric measures, algal biomasses measurement, etc.), ecology (submarine quadrat measurement, Submarine UVC, taxonomic identification of some Mollusca, submarine photography)

**Bioinformatics techniques:** Micro satellites and mitochondrial markers analyses, treatment and analyses of Next Generation Sequencing data (transcriptomic (RNA-Seq), genomic (PWGS), and epigenomic (ChIP-Seq, WGBS-Seq) data) under Linux, MacOS and Windows environment. R (package creation), knitr, bash, cshell scripting: comfortable, Galaxy platform: familiar.

**Software:** classics (Pack Office & LaTeX/Markdown | Gimp | R, R studio | GIS software | GitHub), genetics (Sequencher | Arlequin | PopArt network | Ugene | 4Peaks), NGS base treatments (FastQC | Trimmomatic | TrimGalore! | FlagStat), NGS aligner (Bowtie | TopHat | BWA | Bismark), NGS differential analysis (DeSeq2 | MethylKit | ChromStar), NGS variant calling (FreeBayes | Popoolation2), NGS enrichment (RBGOA | GOATOOLS | REVIGO)

## TEACHING EXPERIENCE

- 2018 Master 2<sup>nd</sup> year teaching: Genomics and selection for aqua and agriculture (2 hours)  
Master 2<sup>nd</sup> year practical work: Study of the expression of two mineralization genes (PIF and Aspein) in the pearl oyster *Pinctada margaritifera*. (16 hours) University of French Polynesia and Ifremer, Tahiti
- 2018 Several presentations on the thematic “coral reef: from gene to ecosystem” for primary schools, colleges and high schools in Tahiti & Raiatea islands (36 hours)

## STUDENT SUPERVISION

- 2021 **Andréa Kunovsky**, University of French Polynesia – Mokarran Protection Society, Masters Student: Study of the seasonal presence of the great hammerhead shark *Sphyrna Mokarran* in the Tiputa pass (Rangiroa).
- 2020 **Victoria Moscato**, UOG Marine Lab Research Assistant, Masters Student, Guam. Thesis committee and supervision with Sarah Lemer on transcriptomic part. Characterizing the role of coral color in stress resistance in *Acropora surculosa*.

## AWARDS

- 2017 First price for the poster “What are the reasons for internal chromatic variations in the pearl oyster *Pinctada margaritifera* (Linnaeus, 1758)?” - Doctoriales du Pacifique - Punaauia, Tahiti – 640\$

## VOLUNTEERING

- 2019- Today Scientific team member of the *Mokarran Protection Society* (Great hammer head shark *Sphyrna Mokarran*) – <https://www.mokarran.org/fr/organisation/#team> statistical analysis, reports writer, diver, etc.
- 2020- Today Volunteering for Bwără marine turtles in Bourail, New-Caledonia.
- 2020- Today Volunteering for several missions of New-Caledonia’s IRD (on Scincidae, Rhynchoetidae, etc. with/for Matthias Deuss, Hervé Jourdan, and Jörn Theuerkauf)
- 2020- Today Active member of <https://www.inaturalist.org> ~4200 obs., 1st observer in New-Caledonia in term of species (~850). Sharing pictures for ecological and taxonomic studies.

## REFERENCES

Drs. Sarah Lemer  
UOG Station, Mangilao,  
Guam 96923 USA  
[sarah.lemer@gmail.com](mailto:sarah.lemer@gmail.com)

Dr. Chin-Long Ky  
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