**Mrs Agnès Bardon-Albaret**

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**Associate director in aquatic sciences**

# Research interests

During my experiences in aquaculture, my research interests focused on the reproduction and hatchery phase of diverse freshwater and marine aquatic organisms (fish, oysters, lobsters…). Because understanding what makes a good progeny has been the main objective of my career, I have investigated survival patterns linked to production process to improve culture methods. Reproduction and genetics are major themes in aquaculture, and I am keen to further develop my research skills for helping this industry.

# PROFESSIONAL EXPERIENCE

**2017 - actual Associate director in aquatic sciences**, Valorēs Research Institute Inc., Shippagan (New Brunswick, Canada).

* Team management (5 to 10 employees)
* Management of the research program in aquaculture of the Department of Agriculture, Aquaculture and Fisheries of New Brunswick
* Research and development on egg quality of Arctic charr *Salvelinus alpinus*
* Scientific support for producers of American oyster *Crassostrea virginica*
* Development of hatchery protocol for lobster production *Homarus americanus*

**2022 - actual Lecturer,** Université de Moncton Campus de Shippagan, Shippagan (Nouveau Brunswick, Canada).

* Aquaculture (4th year-class): Principal types of aquacultures, politics, legislation, usage conflicts, environmental impacts, development of critical thinking
* Ecophysiology of aquatic organisms (3rd year-class): major physiological functions of aquatic organisms
* Introduction to biology (1st year-class): theorical and practical teaching on diversity of life, evolutive mechanisms and ecology

**2014 – 2016 Research assistant in environment and aquaculture,** Institut Français de Recherche pour l’Exploitation des Mers (Ifremer), Vairao (Tahiti, French Polynesia).

* Larval rearing, nursery and grow-out of orbicular batfish *Platax orbicularis*
* Experimental infections of orbicular batfish juveniles to *Tenacibaculum maritimum*
* Research of biomarkers of resistance (RNA extraction, RNA-seq data analysis, qPCR)
* Grant writing (age, reproduction, alimentation, genetic diversity and general health of adults paraha peue (*Platax orbicularis*) captured in their environment to optimise broodstock management in aquaculture)

**2009 – 2014** **Research assistant in aquaculture**, Thad Cochran Marine Aquaculture Center, Gulf Coast Research Lab, The University of Southern Mississippi, Ocean Springs, MS, USA.

* Induction of spawning and artificial fertilization of the red snapper (*Lutjanus campechanus*), spotted seatrout (*Cynoscion nebulosus*), Atlantic croakers (*Micropogonias undulatus*), tripletail (*Lobotes surinamensis*)
* Training and supervision of multiple interns for DNA extraction, PCR, agarose and polyacrylamide gels electrophoresis, microsatellite markers and parentage analysis.
* Gametogenesis and ontogeny of the digestive system of the red snapper in captivity using paraffin histology
* Exposure of juveniles red snappers to BP Deepwater Horizon oil

**Jan – Dec 2008** **Research assistant in Genetics**, Institut Français de Recherche pour l’Exploitation des Mers (Ifremer), Palavas-les-Flots (France).

Statistical analysis of biological data (quantitative genetics) on the European seabass *Dicentrarchus labrax*:

* Skeleton deformities on development and rearing performances (253 families)
* Reproduction, larval rearing and growth of this species
* Practise of long and automatic processing chain of biometry

**May – Dec 2007 Technical animal assistant**, “Ecole Pratique des Hautes Etudes” (EPHE), University of Montpellier II (France).

* Rearing, maintenance and management of 250 primates *Microcebus murinus*.
* Authorization to work on confined structure (A3, prions)

# EDUCATION

**2014 PhD.** Quality of the Red snapper (*Lutjanus campechanus*) egg and early larval development. The University of Southern Mississippi, Gulf Coast Research Laboratory, Coastal Sciences Department (Ocean Springs, MS, USA). ***Skills****: Paraffin histology, otolith aging, RNA extraction, RNA-seq data analysis.*

**2006** **MSc. thesis**. Optimisation of the management of Asian tropical catfish *Pangasianodon hypophthalmus* gametes and embryos*.* IRD (Montpellier, France). ***Skills****: Hormonal induction, larval rearing, biological analysis and maintenance of recirculated systems, elaboration of protocols, livestock management.*

**2006** **Master of Science** (Biology, geosciences, agro-resources, environment option Aquatic biological resources in Mediterranean and tropical environments), University of Montpellier II (France)

* Eco physiology of aquatics animals and plants; Management of quality control (HACCP method, bio traceability, legislation), environment (water treatment and quality) and enterprise (organization, communication); Tropical aquaculture (geographic and socio-economic contexts, specific considerations)

**2005 BSc. Thesis**. Optimisation of the management of Asian tropical catfish *Pangasianodon hypophthalmus* gametes*.* IRD (Montpellier, France). ***Skills****: Artificial reproduction, broodstock management.*

**2004** **Bachelor degree** in applied plant physiology, University of Montpellier II (France)

* Genetic engineering and molecular genetics, plant physiology, functional biology, architecture and evolution, biochemistry

# PUBLICATIONS

**Bardon-Albaret A**., Buentello A., Pohlenz C., Gatlin D.M.III., Saillant É., 2025. Characterization of the nutrient contents of ova and maternal reserve tissues of captive and wild red snapper (*Lutjanus campechanus*) in relation to egg quality and larval survival. Submitted to North American Journal of Aquaculture.

Haché R., **Bardon-Albaret** **A.** 2021. Rearing density: a tool to shape Eastern oysters (*Crassotrea virginica*)? Aquaculture Research, DOI: 10.1111/are.15162.

Alix M., Gasset E., **Bardon-Albaret** **A.**, Noel J., Pirot N., Perez V., Covès D., Saulnier D., Lignot J.-H., Cucchi P., 2020. Description of the unusual digestive tract of *Platax orbicularis* and the potential impact of *Tenacibaculum maritimum* infection. PeerJ 8, e9966.

Yossa R., **Bardon-Albaret A**., Chiasson M., Qi L., Duston J., Manning T., Benfey T., 2019. Controlling pre-harvest maturity in farmed Arctic charr: a short review from the Canadian perspective. Journal of the World Aquaculture Society, 50, pp. 894-907.

**Bardon-Albaret A**., Saillant É. 2017. Egg quality traits and predictors of embryo and fry viability in red snapper *Lutjanus campechanus.* Aquaculture Reports 7, pp. 48-59.

Reverter M., Saulnier D., David R., **Bardon-Albaret A.,** Bontemps N., Banaigs B., Lecchini D., Sasal P., 2016.Effects of local Polynesian plants and algae on growth and expression of two immune-related genes in orbicular batfish (*Platax orbicularis*). Submitted to Fish and Shellfish Immunology 58, pp. 82-88.

**Bardon-Albaret A**., Saillant E., 2016. Effects of hypoxia and ammonia on the viability of red snapper (*Lutjanus campechanus*) embryos and early larval development. Aquaculture 459, pp.148-155.

**Bardon-Albaret A**., Brown-Peterson N., Lemus J., Apeitos A., Saillant E., 2015. A histological study of gametogenesis of red snapper (*Lutjanus campechanus*) in captivity during their first pre spawning season. Aquaculture Research 46, pp. 901-908.

Leclercq E., Antoni L., **Bardon-Albaret A**., Anderson C., Somerset C., Saillant E., 2014. Spectrophotometric determination of sperm concentration and short-term cold-storage of sperm in Atlantic croaker *Micropogonias undulatus* L. broodstock. Aquaculture Research 45, pp. 1269-1424.

Lemus J., Sarkisian B., Lee M., **Bardon-Albaret A**., Saillant E., 2014. Development of a methodology for intensive larviculture of Atlantic croakers*.* North American Journal of Aquaculture 76, pp. 45-54.

Karahan B., Chatain B., Chavanne H., Vergnet A., **Bardon A**., Haffray P., Dupont-Nivet M., Vandeputte M., 2013. Heritabilities and correlations of deformities and growth related traits in the European sea bass (*Dicentrarchus labrax*, L) in four different sites. Aquaculture Research 44, pp. 289-299.

**Bardon A**., Vandeputte M., Dupont-Nivet M., Vergnet A., Chatain B., 2009. What is the genetic component of a spine deformity in sea bass (*Dicentrarchus labrax*)? Aquaculture 294, pp. 194-201.

# Presentations

**Bardon-Albaret A.,** Vidal-Dupiol J., Maamaatuaiahutapu M, David R., Lau C., Magré K., Sicard J., Belliard C., Levy P., Piquemal D., Saulnier D., 2016. Investigations on predictive biomarkers of resistance to *Tenacibaculum maritimum* by transcriptome analysis of targeted tissues from juvenile batfish (*Platax orbicularis*). Genomics In Aquaculture, 20-22 April 2016, Athens, Greece.

Saillant É., **Bardon-Albaret A.**, Apeitos A., Lee M., Blaylock R., Lotz J., 2014. An integrated multidisciplinary program to develop aquaculture for stock enhancement of red snapper (*Lutjanus campechanus*). Annual meeting of American Fisheries Society, 17-21 August 2014, Québec, Canada.

**Bardon-Albaret A.** and E. Saillant, 2013. Investigation on egg and larvae quality of red snapper (*Lutjanus campechanus*). Seminary of World Aquaculture Society, 22-25 February 2013, Nashville, USA.

**Bardon-Albaret A**., Chiluiza D., Brown-Peterson N., Leclercq E., Lemus J., Apeitos A., Krol R., Ogle J., Hawkins W., Saillant E., 2013. Ontogeny of the digestive system in the red snapper (*Lutjanus campechanus*). Seminary of World Aquaculture Society, 22-25 February 2013, Nashville, USA.

**Bardon-Albaret A.**, Brown-Peterson N., Lemus J., Apeitos A., Saillant E., 2011. A histological study of gametogenesis of red snapper (*Lutjanus campechanus*) in captivity. Seminary of World Aquaculture Society, 1-5 March 2010, San Diego, USA.

# Posters

Tétégan Simon M., St-Hilaire B., Albaret T., Lanteigne J., **Bardon-Albaret A.**, 2019. Sphagnum: potential innovation in aquaponics. World Aquaculture Society triennial meeting, 7-11 March 2019, New Orleans, USA.

Alix M., Gasset E., Crusot M., Covès D., **Bardon-Albaret A.,** Bantz A., Certain C., Saulnier D., Lignot J.H., Cucchi P., 2017. Role of mucins and mucus production in the digestive system of the tropical orbicular batfish (*Platax orbicularis*): impact of nutritional and environmental conditions. Colloque d’EcoPhysiologie Animale, 6-8 November 2017, Strasbourg, France.

**Bardon-Albaret A.**, Gasset É., Tessier A., Teiri W., Maamaatuaiahutapu M, David R., Tayalé A., Belliard C., Levy P., Basset C., Sicard J., Magré K., Herné A., Reverter M., Sasal P., Covès D., and D. Saulnier. 2015. Study of the ontogeny of the orbicular batfish (*Platax orbicularis*). Aquaculture, 23-26 August 2015, Montpellier, France.

Legendre, M., **Bardon-Albaret, A.**, Slembrouck, J. Cochet, C., Dugué, R., Caruso, D., and E. Baras. 2013.

Short term storage of ova and temperature tolerance of embryos in the catfish *Pangasianodon hypophthalmus*. Fourth international workshop on biology of fish gametes, 17-20 September 2013, Albufeira, Portugal.

**Bardon-Albaret A.**, Brown-Peterson N., Lemus J., Saillant E., 2011. Ontogeny of the digestive system of the red snapper (*Lutjanus campechanus*) raised under intensive larviculture conditions. Seminary of World Aquaculture Society, 1-3 March 2011, New Orleans, USA.

Legendre M., Subagja J., Kristanto A.H., Baras E., **Bardon A.**, Slembrouck J., 2008. Priming with hCG increases the predictability of latency period in hormonal induced ovulation of the catfish *Pagasianodon hypophthalmus*. Seminary of World Aquaculture Society, 19-23 May 2008, Busan, Korea.