

Charlotte Sirot

Post-doc Researcher

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Interests

Effects of human activities on marine ecosystems, food webs and fish populations

Education & Experiences

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|-----------------------|--|--|
| 2016 - present | Post-doc
Marie Curie Scholarship

Model the effects of fishing activities on fish trophic ecology | Dr. Grønkjear's lab
Department Aquatic
Biology Denmark |
| 2011 - 2014 | Ph.D.
Direction: Panfili J. & Darnaude A.M.

Investigate the role of life history traits and of their temporal changes in fish demographic trajectories | ECOSYM
University of
Montpellier II France |
| 2003 - 2012 | D.V.M.
Doctor of veterinary medicine | ENVA, Paris, France |
| 2008 - 2009 | M.Sc.
"Compared biology and physiology,
environment adaption" | UPMC & MNHN
Paris, France |
| | Internship
Direction: Keith P. & Monti D.

Comparative analysis of tropical insular
amphidromous fish otoliths: Are otoliths
reflecting environmental quality? | |

Publications

Combinations of biological attributes predict temporal dynamics of fish species in response to environmental changes.

Sirot C., Villéger S., Mouillot D., Darnaude A.M., Ramos-Miranda J., Flores-Hernandez D. and Panfili J. *Ecological Indicator* 48(2015) - [See publication](#)

Linking temporal changes in the demographic structure and individual growth to the decline in the population of a tropical fish.

Sirot C., Darnaude A.M., Guilhaumon F., Ramos-Miranda J., Flores-Hernandez D. and Panfili J. *Estuarine Coastal and Shelf Science* 165(2015) 166-175 – [See publication](#)

Biological traits for understanding the demographic responses of lagoon fishes to environmental pressures.

Sirot C., Darnaude A.M & Panfili J. *Cybium* 40:3 (2016) – [See publication](#)

Using otolith organic matter to detect diet shifts in *Bairdiella chrysoura*, during a period of environmental changes.

Sirot C., Grønkgjear P., Brøgger Pedersen J., Zetina-Rejon M., Tripp-Valdez A., Ramos-Miranda J., Flores-Hernandez D., Panfili J. & Darnaude A.M. *Marine Ecology Progress Series* 575:137-152 (2017) – [See publication](#)

ElementR, a reactive interface for otolith microchemistry data preparation.

Sirot C., Ferraton F., Childs A., Tournois J., Panfili J. Guilhaumon F. & Darnaude A.M. *Ecology and Evolution* (2017) 8:1659-1667 – [See publication](#)

Mid-term change in the nursery grounds of a tropical species (*Bairdiella chrysoura*) validated through otolith microchemistry

Sirot C., Labonne M., Panfili J., Ramos-Miranda J., Flores-Hernandez D. & Darnaude A.M. (in prep.)

About the mechanisms that conduct fishing activities to change trophic ecology of aquatic ecosystems

Sirot C., Neuheimer A. & Grønkgjear P. (in prep.)

Impact of fishing activities on trophic functioning: Modelling the effects of fishing activities and environmental change on $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ of three commercial Faroe species thanks to archived otolith (1950-2014)

Sirot C., Brøgger Pedersen J., Posrby Brændgaard T., Steingrund P., Ofstad L.H. , Homrum E. & Grønkgjear P. (in prep.)

Talks

Impact of fishing activities on Faroe marine food web investigated using $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ of archived otolith (1950-2014)

Sirot C., Steingrund P., Ofstad L.H., Homrum E., Pedersen J., Porsby Brændgaard T., Grønkgjear P. 6th *International Otolith Symposium 2018, Taiwan* – Oral communication.

Using otoliths to link population decline to modification in diet and growth in a tropical fish species (*Bairdiella chrysoura*, L., Sciaenidae).

Sirot C., Grønkgjear P., Brøgger Pedersen J., Zetina-Rejon M., Tripp-Valdez A., Ramos-Miranda J., Flores-Hernandez D., Panfili J. & Darnaude A.M. (2014). 5th *International Otolith Symposium 2014, Mallorca, Spain*. – Oral communication.

Past and recent growth patterns in two species with contrasting demographic responses to environmental changes in a tropical lagoon.

Sirot C., Darnaude A.M, Ramos-Miranda J., Flores-Hernandez D. & Panfili J. (2014). 5th *International Otolith Symposium 2014, Mallorca, Spain*. – Oral communication.

Optimising LA-ICPMS rastering protocols and data reduction procedures to produce otolith micro-chemical signatures allowing robust reconstruction of fish past habitats. Ferraton F., **Sirot C.**, Guilhaumon F., Tournois J., Childs A., & Darnaude A.M. (2014). 5th *International Otolith Symposium 2014, Mallorca, Spain*. – Poster

Isotopic signatures in $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ from otolith proteins as indicator of actual and past trophic level.

Sirot C., Grønkgjear P., Brøgger Pedersen J., Panfli J., Darnaude A.M. (2013)
Sclerochronology meeting, Rennes, France - Oral communication.

LA ICP-MS raster analysis: protocole optimization and data processing data automation for studying fish migrations through elemental microchemistry of otoliths.

Ferraton F., **Sirot C.**, Guilhaumon F., Tournois J., Childs A., & Darnaude A.M (2013).
Sclerochronology meeting, Rennes, France - Oral communication

R packages

elementR: A Set of R6 Classes & a Shiny Application for Reducing Elemental LA-ICPMS Data from Solid Structures

Authors: **Sirot C.**, Guilhaumon F. - *See package*

gRowth: an R package for helping to read otolith growth
(<https://github.com/charlottesirot/gRowth>)

Authors: **Sirot C.**, Simkin M. (*to be released in autumn*)

Awards & Grants

2016	Marie Skłodowska-Curie Actions scholarship → Financing 2 years post-doc	200 195€
2013	Veterinary thesis award: Bronze medal	
2012	COST action scholarship → Development of the collaboration between my lab & <i>Grønkgjear's lab</i>	2 000€
2011	Ministry of Education and Research scholarship → Financing my Ph.D.	61 000€

Supervision & Teaching

2018	Basic programming in R M.Sc. Aarhus University, DK	
2017	Effects of fishing activities on marine ecosystems M.Sc. Aarhus University, DK	
2013	Chloe Maladry 3rd year B.Sc, Univ. of La Rochelle, France	
2012	Fanny Witkowsky 3rd year B.Sc, Univ. of Montpellier II, France	

Others

Associative activities

Ph.D. representative in the Concil of the Doctoral School (SIBAGHE, 2011- 2013)

Ph.D. representative in the Scientific Concil of the OSU-OREME (2011 - 2013)

Sport: Scuba Diving (2nd level CMAS), Rock climbing