

IRSN/PRP-ENV/SERIS/LECO
Laboratory of Radionuclide Ecology
Cadarache bat. 186 BP3
13115 Saint-Paul-lez-Durance
France

E-mail : starr-light.augustine@irsn.fr
<http://www.bio.vu.nl/thb/personnel/members/augustine.html>
Phone : 33(0)442199413
Fax : 33(0)442199149



Starrlight AUGUSTINE

Current project: 01/12/2008 – 31/05/2012

PhD: “Metabolic programming of zebrafish, *Danio rerio* uncovered. Physiological performance as explained by Dynamic Energy Budget Theory and life-cycle consequences of uranium induced perturbations.”

<http://www.bio.vu.nl/thb/personnel/members/augustine.html>

Co-supervised by Dr Christelle Adam-Guillermin and Béatrice Gagnaire (IRSN, Laboratory of Radioecology and Ecotoxicology, France) and Dr S. A. L. M. Kooijman (Vrije Universiteit, Department of Theoretical Biology, The Netherlands)

Diplomas

2006-2008	Faculty of Aix-Marseille II	Marseille, France
Master's degree “Marine Biology and Ecology”		
2003-2004	Faculty of Aix-Marseille II	Marseille, France
Bachelors 3rd year “Biology of Marine Organisms”		
2001-2003	Faculty of Aix-Marseille II	Marseille, France
Bachelors degree in “Biology of Populations and Ecosystems”		
2000-2001	Lycée Paul-Cézanne	Aix-en-Provence, France
Baccalaureate		

Professional Experience

Feb.-June 2008	Laboratory of Microbiology, Geochemistry and Marine ecology, CNRS	Marseille, France
Master's thesis: “Robustness of the dynamics in relation to the structure of the model” supervised by Pr J. C. Poggiale		
- Population dynamics - Dynamics of non linear systems (including bifurcation theory)		
2004 - 2006	Planetary coral reef foundation	South Pacific Ocean
Trainee then volunteer on board a research vessel participating in field studies on the health and vitality of coral reefs and training in seamanship		
- Science dives with a specialization in identifying hard coral genera - Navigation, sailing, logistics		

Teaching activities

- Carlat, A. Apr-Jul 2010. Internship. Developing photographic methods to study the impact of uranium on the growth and reproduction of zebrafish, *Danio rerio*.
- DEB course, 4 – 12th april 2011. Instituto Superior Tecnico. Lisbon: Teaching assistantship in parameter estimation for the standard DEB model

Technical Competences

- Experimental design including exposure and feeding experiments
- Fluorescent In Situ Hybridization
- Tissue preparation and sectioning with a cryostat
- Strong programming skills in Matlab
- Physiological and ecological modelling (specialization in DEB theory)
- Population dynamics, bifurcation theory

International Oral Communications

- **Augustine, S.**, Gagnaire B., Adam-Guillermin C. and Kooijman, S. A. L. M. (14 Feb 2011). Mechanistic modeling of zebrafish metabolism in relationship to food level and the presence of a toxicant (uranium). Aquatic Science Meeting, ASLO-meeting, Porto-Rico.
- **Augustine, S.**, Gagnaire B., Adam-Guillermin C. and Kooijman, S. A. L. M. (13-15 Apr 2011). From developmental energetics to effects of toxicants: a story born of zebrafish and uranium. DEB symposium, Lisbon, Portugal.

National Oral Communications

- **Augustine, S.**, Gagnaire B., Adam-Guillermin C., and Kooijman, S.A.L.M. (2-4 Sept 2010) Developmental energetics of maturation in zebrafish, *Danio rerio*. [Etude de l'énergétique de la maturation chez le poisson zèbre, *Danio rerio*.] Colloque Ecologie 2010, Montpellier.
- **Augustine S.**, Gagnaire B., Adam-Guillermin C., and Kooijman, S.A.L.M. (21-24 Sept. 2010) Modeling impact of uranium on individual and populational energy fluxes in zebrafish, *Danio rerio*. [Modélisation de l'impact de l'uranium sur les flux énergétiques individuels et populationnels chez le poisson zèbre, *Danio rerio*.] IRSN, Arles.
- **Augustine S.**, Gagnaire B., Adam-Guillermin C., and Kooijman, S.A.L.M. (21 Sept. 2011) Modeling impact of uranium on individual and energy fluxes in zebrafish, *Danio rerio*. [Modélisation de l'impact de l'uranium sur les flux énergétiques individuels chez le poisson zèbre, *Danio rerio*.] Journées des thèses CEA Cadarache.

Posters

- **Augustine S.**, Gagnaire B., Adam-Guillermin C., and Kooijman, S.A.L.M. (Apr 2009) Modelling the bioenergetics of zebrafish, *Danio rerio*, over its entire lifecycle using Dynamic Energy Budget (DEB) theory. DEB symposium, Ifremer, Brest.
- **Augustine, S.**, Gagnaire B., Adam-Guillermin C., and Kooijman, S.A.L.M. (Sept 2009) Modélisation de l'impact de l'uranium sur les flux énergétiques individuels chez le poisson zèbre. IRSN, Aussois.

Bibliography

- **Augustine, S.** (2012) *Metabolic programming of zebra fish, Danio rerio, uncovered; physiological performance as explained by Dynamic Energy Budget theory and life cycle consequences of uranium induced perturbations*. PhD thesis. Vrije Universiteit, Amsterdam & Université Aix-Marseille I <http://www.bio.vu.nl/thb/research/bib/Augu2012.html>
- Kooijman S. A. L. M., Pecquerie L., **Augustine S.** and Jusup M. (2011) Scenarios for acceleration in fish development and the role of metamorphosis.

66:419-423. J. Sea Res.

<http://www.bio.vu.nl/thb/research/bib/KooyPecq2011.html>

- **Augustine S.**, Gagnaire B., Adam-Christelle C. and Kooijman S. A. L. M. (2011) Developmental energetics of zebrafish, *Danio rerio*. 159 (3):275-283. J. Comp. Biochem. Physiol. A.
<http://www.bio.vu.nl/thb/research/bib/AuguGagn2011.html>
- **Augustine S.**, Litvak M. K and Kooijman S.A.L.M. (2011) Stochastic feeding of fish larvae and their metabolic handling of starvation. 66:411-418. J Sea Res.
<http://www.bio.vu.nl/thb/research/bib/AuguLitv2011.html>
- Mueller C., **Augustine S.**, Kearney M. R., Kooijman S. A. L. M. and Seymour R. (2012) Tradeoffs between maturation and growth during accelerated development in frogs. *In prep*
- **Augustine S.**, Gagnaire B., Adam-Christelle C. and Kooijman S. A. L. M. (2012) Impact of uranium on the metabolism of zebrafish, *Danio rerio*. *Submitted to Aquatic Toxicology*
- **Augustine S.**, Floriani, M., Camilleri, V. Gagnaire B., Kooijman S. A. L. M. and Adam-Christelle, C. (2012) Uranium induced alteration of zebrafish (*Danio rerio*) gut wall. *In prep*.

Languages

Fluent in both English and French. Elementary Spanish and German (basic written and oral levels). Nationality: American

Personal Interests

Gardening, hiking, literature

Other

Certified PADI diver, treasurer in an association (PC Outline) based on teaching basic and advanced computer skills and computer repair.