

## Samuel PÉAN

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Date of birth: 01/24/1984

## Research interests

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Fish ethology and biology, video/image analysis and computer-based systems to perform behavioral studies.

## Education

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**2008-2012:** PhD fellow in Biological Oceanography and Marine Environment, University of La Rochelle (France).

**2007-2008:** Master diploma (2<sup>nd</sup> year) in Sustainable Exploitation of Coastal Ecosystems, University of La Rochelle (France).

**2006-2007:** Master diploma (1<sup>st</sup> year) in Ecology and Coastal Environment, University of La Rochelle (France), with honours.

**2005-2006:** Licence diploma in General Biology, University of La Rochelle (France).

**2002-2005:** General University diploma, Biology and Oceanography, University of La Rochelle (France).

**2002:** Scientific High School Diploma, Niort (France)

## Research experience

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**2008-2012:** PhD Student at the French Research Institute for Exploration of the sea (Ifremer).

**Subject:** Effects of organic pollutant on zebrafish (*Danio rerio*) and common sole (*Solea solea*) behavior (Founded by the French Research Institute for Exploration of the sea [Ifremer] and Poitou-Charentes council).

**Advisors:** Dr Marie-Laure BÉGOUT and Dr Xavier COUSIN.

**July 2008 – September 2008:** Research engineer, Ifremer, La Rochelle (FRANCE).

**Subject:** Fish personality as a measure of phenotypic plasticity in rainbow trout clones.

**Advisor:** Dr Marie-Laure BÉGOUT.

**January 2008 – June 2008:** Master 2<sup>nd</sup> year internship, Ifremer, La Rochelle (FRANCE).

**Subject:** Evaluation of behavioral changes induced by a first step of domestication or selection for growth in the European sea bass (*Dicentrarchus labrax*): A self-feeding approach under repeated acute stress.

**Advisors:** Dr Marie-Laure BÉGOUT, Sandie MILLOT.

**April 2007 – August 2007:** Master 1<sup>st</sup> year internship, International Marine Centre (IMC), Oristano (ITALY).

**Subjects:** Evaluation of aquaculture domestication on European sea bass escape response / Effect of temperature and hypoxia on mullet (*Mugil cephalus*) swimming performances.

**Advisors:** Dr Christel LEFRANÇOIS, Dr Paolo DOMENICI.

**April 2006 – July 2006:** Licence internship, Laboratory of Biology and Marine Environment (LBEM), University of La Rochelle (FRANCE).

**Subject:** Effects of cadmium on sea bass escape response.

**Advisor:** Dr Anne AUBERT.

## Skills

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### **Laboratory skills:**

- Degree authorisation for the use of laboratory animal (National Veterinary School, Nantes, FRANCE).
- Fish husbandry techniques.
- Fish tagging: PIT-tags (rainbow trout, sea bass), Nanotec® glass tags (zebrafish, juvenile of common sole), VI-alpha (juvenile of common sole).
- Blood and organs sampling (sea bass, common sole).
- Establishment of video recording systems with infra-red lightning (juvenile of sole, zebrafish larvae and adults).
- Self-feeding system set up.

### **Computing skills:**

- General office applications: Microsoft Office Suite, OpenOffice/LibreOffice, TeXmaker (LaTeX processing), EndNote / JabRef, Mozilla Firefox / Internet Explorer, Thunderbird / Outlook.
- Image and video: ImageJ, Noldus Ethovision, IC Capture, Visilog, The Gimp / Adobe Photoshop, VirtualDub.
- Programming languages: LaTeX, Visual Basic (including Excel VBA), Java, PHP, SQL, and HTML (all my programs are free and opensource, and downloadable here: [www.samuelpean.com](http://www.samuelpean.com)).
- Operating Systems: Linux Ubuntu, Windows XP-Vista-7.

### **Language skills:**

- Fluent English (both spoken and written).
- Reasonable understanding of Spanish (both spoken and written).
- Reasonable understanding of spoken Italian.
- Initiation to Japanese and Korean.

### **Other skills:**

- Supervised practicals for undergraduate students in Biology in the computer science department (Excel, OpenOffice Calc, and Dreamweaver).
- Statistical software: extensive experience with Statistica, Prism and XL Stat.
- Writing and presenting reports.
- Driving licence.

## Participation in research programmes

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### **European:**

- **SEAFOODplus, Ethiquel:** Ethical quality traits in farmed fish: the role of husbandry practices and aquaculture production systems. <http://www.seafoodplus.org/Home.326.0.html> contract n° FOOD-CT-2004-506359.
- **FASTFISH:** Development of new operational indicators for on farm assessment and documentation of stress levels and fish welfare in Atlantic salmon and European sea bass farms. <http://fastfish.imr.no/start> contract n° 022720

### **National:**

- **ConphyPOP:** Effects of PAHs exposure on zebrafish physiology and behaviour, ANR (Agence Nationale de la Recherche) research agency.
- **GénérationPOP:** Transgenerational and long term effects of persistent organic pollutants (POPs) exposure on zebrafish, CNRS-INSU (Centre National de Recherche Scientifique – Institut national des sciences de l'Univers) research agency, project EC2CO-Cytrix (Écosphère continentale et côtière – Cycles hydro-biogéochimiques, transferts et impact écotoxicologique).
- **SoleBeMol:** Effects and future of pollutants on common sole: biological response from individual to population, ANR (Agence Nationale de la Recherche) research agency.
- **COSADD:** Criteria and objectives of animal selection for a sustainable development, ANR (Agence Nationale de la Recherche) and ADD (Agriculture et Développement Durable) research agencies.

## Peer reviewed publications

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### Submitted:

**Péan S.**, Daouk T., Vignet C., Lyphout L., Leguay D., Loizeau V., Cousin X., Bégout M.-L. (*In revision*). Long-term food-exposure to a mixture of non-coplanar PCBs induces behavioral disruptions in zebrafish adults and their offspring. *Neurotoxicology and Teratology*.

Vignet C., Bégout M.-L., **Péan S.**, Lyphout, L., Leguay D., Cousin X. (*In revision*). Systematic screening of behavioural responses in two zebrafish lines. *Zebrafish*.

### Accepted:

Benhaïm D., Bégout M.-L., **Péan S.**, Manca M., Prunet P., Chatain B. (*In press*). Impact of a plant-based diet on behavioural and physiological traits in sea bass (*Dicentrarchus labrax*). *Aquatic Living Resources*.

Benhaïm D., **Péan S.**, Lucas G., Blanc N., Chatain B., Bégout M.-L. (2013). Early life behavioural differences in wild caught and domesticated sea bass (*Dicentrarchus labrax*). *Applied Animal Behaviour Science*, 141(1-2): 79–90.

Cousin X., Daouk T., **Péan S.**, Lyphout L., Schwartz M.-É., Bégout M.-L. (2012). Electronic individual identification of zebrafish using radio frequency identification (RFID) microtags. *Journal of Experimental Biology*, 215: 2729-2734.

Benhaïm D., Bégout M.-L., **Péan S.**, Brisset B., Leguay D., Chatain B (2012). Effect of fasting on self-feeding activity in juvenile Sea bass (*Dicentrarchus labrax*). *Applied Animal behavior*, 136(1): 63-73.

Benhaïm D., **Péan S.**, Brisset B., Leguay D., Bégout M.-L., Chatain B. (2011). Effect of size grading on sea bass (*Dicentrarchus labrax*) juveniles self-feeding behavior, social structure and culture performances. *Aquatic Living Resources*, 24(04): 391-402.

Millot S., **Péan S.**, Chatain B., Bégout M.-L. (2011). Self-feeding behavior changes induced by a first and a second generation of domestication or selection for growth in the European sea bass (*Dicentrarchus labrax*). *Aquatic Living Resources*, 1: 53-61.

Millot S., **Péan S.**, Leguay D., Vergnet A., Chatain B., Bégout M.-L. (2010). Evaluation of behavioral changes induced by a first step of domestication or selection for growth in the European sea bass (*Dicentrarchus labrax*): a self-feeding approach under repeated acute stress. *Aquaculture*, 306: 211-217.

## Congresses

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### Oral communications:

**Péan S.**, Daouk T., Vignet C., Lyphout L., Leguay D., Loizeau V., Cousin X., Bégout M.-L. (2012). Long-term food exposure to PCB mixtures induces behavioural disruptions in adult zebrafish and their offspring. Annual Symposium of the Fisheries Society of the British Isles (FSBI), Norwich, United-Kingdom, July 2012.

Vignet C., Le Menach K., **Péan S.**, Lyphout L., Leguay D., Budzinski H., Bégout M.-L., Cousin X. (2012). Long term effects of an early exposure to PAHs on zebrafish behavioural responses. Annual Symposium of the Fisheries Society of the British Isles (FSBI), Norwich, United-Kingdom, July 2012.

**Péan S.**, Daouk T., Loizeau V., Cousin X., Bégout M.-L. (2010). Effects of PCBs on zebrafish behavior. *9th International Congress on the Biology of Fish*. Barcelona, Spain, June 2010.

Bégout M.-L., Dupont-Nivet M., Quillet E., Prunet P., Millot S., **Péan S.**, Chatain B. (2009). Adaptation and welfare evaluation criteria. *Second seminar on Domestication in Aquaculture*, Montpellier, France, November 2009.

Lyphout L., **Péan S.**, Schwartz M.-E., Bégout M.-L., Cousin X. (2009). Individual identification of zebrafish using NONATEC® RFID tags. *DareNET workshop*, Bilbao, Spain, November 2009.

Millot S., **Péan S.**, Mayeras A.-L., Labbé L., Dupont-Nivet M., Bégout M.-L. (2009). Fish personality as a measure of phenotypic plasticity in rainbow trout clones. International Ethological Conference, Rennes, France, August 2009.

Millot S., **Péan S.**, Bégout M.-L., Chatain B. (2009). Chronic and acute stress effects on feeding behavior and growth performances of different European sea bass strain (*Dicentrarchus labrax*). *Wellfish meeting*, COST 867, Isafjordur, Iceland, June 2009.

**Péan S.**, Millot S., Bégout M.-L., Chatain B. (2009). Effects of chronic and acute stress on European sea bass (*Dicentrarchus labrax*) growth and feeding behavior. *Fourth Meeting of French Ichthyology*, Paris, France, March 2009.

Lefrançois C., Luna Acosta A., Millot S., **Péan S.**, Bégout M.-L., Domenici P. (2008). Swimming performance and aerobic metabolic scope in domesticated strains of European sea bass, *Dicentrarchus labrax*. *International Congress on the Biology of Fish*, Portland, USA, August 2008.

### **Posters:**

Vignet C., Le Menach K., **Péan S.**, Lyphout L., Leguay D., Budzinski H., Bégout M.-L., Cousin X. (2012). Long term effects of an early exposure to PAHs on zebrafish behavioural responses. 6th SETAC World Congress / SETAC Europe 22nd Annual Meeting, Berlin, Germany, May 2012.

Cousin X., Daouk T., **Péan S.**, Vignet C., Larcher T., Roupsard F., Lyphout L., Leguay D., Loizeau V., Bégout M.-L. (2012). Long-term food-exposure to PCB mixtures induces reproductive and behavioural disruptions in zebrafish. 6th SETAC World Congress / SETAC Europe 22nd Annual Meeting, Berlin, Germany, May 2012.

Hunter E., **Péan S.**, Bégout M.-L. (2011). Impacts of tagging on the common sole, *Solea solea*. *Eighth International Flatfish Symposium*, IJmuiden, The Netherlands, November 2011.

Daouk T., **Péan S.**, Viquelin L., Vignet C., Lyphout L., Roupsard F., Leguellec A.M., Akcha F., Menard D., Burgeot T., Bégout M.-L., Loizeau V., Cachot J., Budzinski H., Cousin X. (2010). GénérationPOP: Effects of persistent organic pollutants exposure on fish early life stages and consequences on population by transgenerational studies. *Colloque de restitution des projets financés par EC2CO*. Toulouse, France, November 2010.

Dupont-Nivet M., Prunet P., Bégout M.-L., Pellegrini P., Khaw H.L., Millot S., **Péan S.**, Aupérin B., Valotaire C., Rolland J., Kerneis T., Goardon L., Quillet E. (2010). Genetics of adaptation in rainbow trout: a multidisciplinary approach. *European Aquaculture Society*, Porto, Portugal, October 2010.

**Péan S.**, Daouk T., Mayeras A.-L., Besson M., Loizeau V., Cousin X., Bégout M.-L. (2010). From model to fisheries species: behavioral studies to reveal the potential effects of contaminant on fish population. *ICES ASC*, Nantes, September 2010.

**Péan S.**, Daouk T., Cousin X., Bégout M.-L. (2010). A contribution from Zebrafish behavioral ecologists. *EU workshop: Zebrafish as a neurophysiological and neurobehavioral model ?* London, United-Kingdom, September 2010.

**Péan S.**, Mayeras A.-L., Loizeau V., Bégout M.-L. (2010). Effects of PCBs on common sole behavior. *Journées des Doctorants*, La Rochelle, France, April 2010. (*Best Poster Prize*)

**Péan S.**, Mayeras A.-L., Loizeau V., Bégout M.-L. 2009. Do PCBs affect fish behavior? *International Ethological Conference (IEC)*, Rennes, France, August 2009.