Jonathan FLYE SAINTE MARIE
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Employment

PhD student position in the laboratory LEMAR CNRS UMR 6539, European Institute for Marine Studies (IUEM), Brest, France. Research topic : « Modelling brown ring disease in the manila clam, *Ruditapes philippinarum* ». Supervisors : Frédéric JEAN (LEMAR CNRS UMR 6539, Univserité de Bretagne Occidentale, Brest) and Christine PAILLARD (LEMAR CNRS UMR 6539, IUEM, Brest).

Education

- *February - April 2005* : **Third international tele-course on Dynamic Energy Budjet theory**, Vrije Universiteit, Amsterdam.
- *September 2004* : **Scientific diving (CAH classe 1 mention B) and CNRS diving manager** training course, Roscoff.
- *2001-2002* : **Diplôme d'Etude Approfondies (Master equivalent) in Biological Oceanography and Marine Environment**. Speciality : data analysis and marine trophic webs modelling. European Institute for Marine Studies (IUEM), Université de Bretagne Occidentale, Brest, France.
- *2000-2001* : **Maîtrise (first year of Master equivalent) in Marine Populations and Ecosystems Biology**. European Institute for Marine Studies (IUEM), Université de Bretagne Occidentale, Brest, France. (Rank : 2th/68) .
- *1999-2000* : **3rd Year University Degree in Organisms Biology**. Université Paul Sabatier-Toulouse III, Toulouse, France. (Rank : 3th/158).
- *1997-1999* : **General Universitary Dilopma in Life Sciences**. Université Paul Sabatier-Toulouse III, Toulouse, France.

Marine ecology background

- *October-december 2003* : Employment in LEMAR CNRS UMR 6539 (IUEM, Brest, France). *Crepidula fornicata* and *Pecten maximum* biological samples preparation and packaging for isotopic analysis (carbon, nitrogen).
- *Septembre 2003* : Employment in LEMAR CNRS UMR 6539 (IUEM, Brest, France). Marine aggregate weel development.
- *February-June 2003* : Employment in ECOMAR (University de la Réunion, Saint Denis, Indian Ocean, France) Water samples analysis (total alcalinity, nitrate, phosphorus, silicate) and sediment samples analysis (CHN, cholorphyll and pheopigments). Data analysis.
- *December 2002* : Employment in LEMAR CNRS UMR 6539 (IUEM, Brest, France). Seawater samples filtration, preparation and packaging for CHN analysis. Data analysis.
- *February-June 2002* : Master training research project (6 months) in LEMAR CNRS UMR 6539 (IUEM, Brest, France). Development of an ecophysiological model of individual growth of the manila clam, *Ruditapes philippinarum*. Supervisor : Frédéric JEAN.

– *February 2001* : First year of master training research project (1 month) in LEMAR CNRS UMR 6539 (IUEM, Brest, France). Shape variation in the dog whelk, *Nucella lapillus*, small spatial scale variations. Supervisor : Frédéric JEAN.

– *October 2000* : Participation to coastal scientific cruise in Bay of Brest. *Crepidula fornicata* beds cartography in the Bay of Brest.

Publications and Communications

Publications

– ECOPHYSIOLOGICAL DYNAMIC MODEL OF INDIVIDUAL GROWTH OF *Ruditapes philippinarum*. **Jonathan FLYE SAINTE MARIE**, Frederic JEAN, Christine PAILLARD, Susan FORD, Eric POWELL, Eileen HOFFMAN, John KLINCK. (in prep.).

Oral communications

– MODELLING BROWN RING DISEASE IN THE MANILA CLAM, *Ruditapes philippinarum* : A NUMERICAL MODEL. **Jonathan FLYE SAINTE MARIE**, Susan FORD, Frédéric JEAN, Christine PAILLARD, John KLINCK, Eileen HOFFMAN, and Eric POWELL. *8th Internationnal Conference on Shellfish Restoration*, Brest, 2-5 April 2005.

– AN ITEGRATED APPROACH TO BACTERIA-BIVALVE INTERACTIONS : DEVELOPMMENT OF A VIBRIOSIS MODEL IN THE MANILA CLAM. Christine PAILLARD, **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, Susan FORD, Eric POWELL, John KLINCK and Eileen HOFFMAN. *8th Internationnal Conference on Shellfish Restoration*, Brest, 2-5 April 2005.

– MODELLING BROWN RING DISEASE IN THE MANILA CLAM (*Ruditapes philippinarum*) : THE INDIVIDUAL HOST MODEL. **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, Christine PAILLARD, John KLINCK, Eileen HOFFMAN, Susan FORD and Eric POWELL. *97th Annual Meeting of the National Shellfisheries Association*, Philadelphia, 10-14 April 2005.

– AN ITEGRATED APPROACH TO BACTERIA-BIVALVE INTERACTIONS : DEVELOPMMENT OF A VIBRIOSIS MODEL IN THE MANILA CLAM. Christine PAILLARD, **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, Susan FORD, Eric POWELL, John KLINCK and Eileen HOFFMAN. *97th Annual Meeting of the National Shellfisheries Association*, Philadelphia, 10-14 April 2005.

– BROWN RING DISEASE : THE INTEGRATED MODEL. Susan FORD, Eric POWELL, Christine PAILLARD, **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, John KLINCK and Eileen HOFFMAN. *97th Annual Meeting of the National Shellfisheries Association*, Philadelphia, 10-14 April 2005.

– MODELLING BROWN RING DISEASE IN THE MANILA CLAM *(Ruditapes philippinarum)*. **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, Susan FORD, E. POWELL, John KLINCK, Eileen HOFFMANN, Christine PAILLARD. *Meeting of the Transversal Action "Impact of Parasites on Marine Organisms, Modulation by Environmental Factors"*, National Program of Coastal Ecology (PNEC). Brest, 4-5 november 2004.

– CLIMATE WARMING AND BACTERIAL DISEASE EVOLUTION IN THE MARINE ENVIRONMENT : THE BROWN RING DISEASE MODEL IN BIVALVES. Christine PAILLARD, **Jonathan FLYE SAINTE MARIE**, Frédéric JEAN, Susan FORD, E. POWELL, John KLINCK and Eileen HOFFMANN. *Jacques Monod conferences "Host-parasite interaction ecology and evolution"*. Roscoff, 4-8 September 2004.

Posters

– COMMUNITY METABOLISM IN SOFT BOTTOMS OF A CORAL REEF AFFECTED BY NUTRIENT-ENRICHED GROUNDWATER DISCHARGE. Pascale CUET, Jacques CLAVIER, Clémentine ESBELIN, **Jonathan FLYE SAINTE MARIE**, Patrick FROUIN, Dorothée TADDEI. *The Fourth WIOMSA Scientific Symposium*. Grand Baie, Mauritius, August 29 - September 3 2005.

Teaching and student tutoring

- *October 2005* : Master 1 in Marine Biologic Sciences. Course and practical works in Population Biology. Growth : methods, mesurements and modelling. (8h).

- *October 2005* : Master 2 in Marine Biologic Sciences. Course in ecophysiology. Aquatic animals bioenergetics (4h).

- *February - march 2005* : Tutoring one Master 1 student in Marine Population and Ecosytem biology. Training research project (2 months) Seasonnal evolution of brown ring disease in manila clam (*Ruditapes philippinarum*) population of Bailleron island, Golfe du Morbihan, Britanny, France.

- *June-july 2005* : Tutoring one 3rd year University degree student in Population and Ecosytem Biology. Training research project (1 month). Size-frequency distribution evolution in the manila clam (*Ruditapes philippinarum*) population of Bailleron island, Golfe du Morbihan, Britanny, France.

- *June-july 2005* : Tutoring one Master 1 student in Marine Population and Ecosytem biology. Training research project (2 months) : Development of mesure modalities of respiration rate at an individual scale in *Ruditapes philippinarum* using ecophysiological chambers.

- *Mars 2004* : 3rd year University degree in Population and Ecosytem Biology. Practical works in ecology. Intertidal mussel bed dynamics. Tutoring the field works (8h).

- *Mars 2004* : General Universitary Dilopma in Life Sciences. Practical works in ecology. Intertidal zone ecological gradients. Tutoring the field works (8h).

Technical qualifications

Modelling

- Energy balance modelling (in bivalves).
- Marine trophic food webs modelling.

Informatics

- Sytems : Linux/Unix, Windows et Macintosh.
- Softwares
  - Office softwares : LaTeX, M.S. Word, M.S. Exel, M.S. Powerpoint, Gnumeric and OpenOffice.
  - Statistics softwares : Statistica, Statgraphics plus, Systat.
- Programmation languages : Octave/Matlab, Fortran 77, Bash, CSH.

Analytical chemistry

- Seawater analysis using automatic analyser (Technicon) : (silicate, nitrate, phosphate).
- Classical seawater analysis (total Alcalinity, chlorophyll and pheopigments…).
- Samples packaging (biologic sapmles, filters and sediment) for CHN and isotopic analysis.

Other technical qualifications

- Scientific diving : Scientific diver diploma (CAH classe 1 mention B), CNRS diving manager.
  Diving technical qualifications :
  - *In situ* benthic chambers for water-sediment fluxes measures (deployement, water sampling…).
  - Unperturbing coring.
  - Macrofauna and sediment sampling.
  - Instrumentation deployement (Water velocity measures …)
  - Research and orientation technics.

  - Photography and video technics.
- Instrumental development : development of *in situ* ecophysiological chamber for individual scale mesures (respiration and filtration) on small size bivalves.
- Macrofauna sampling.
- Hydrologic monitoring.
- Autonomous probes use and maintenance (YSI type).

Collaborations

- Susan E. FORD and E. POWELL. Haskin Shellfish Research Laboratory, Rutgers University, 6959 Miller Avenue, Port Norris, NJ 08349, USA.

- John KLINCK and Eileen HOFFMANN. Center for Coastal Physical Oceanography, Old Dominion University, Crittendon Hall, Norfolk, VA 23529, USA.

- Stéphane POUVREAU. IFREMER, UMR "Physiologie et Ecophysiologie des Mollusques Marins", Presqu'île du Vivier 29840 Argenton en Landunvez, France.

Languages

- *English* : Fluent.
- *Spanish* : Scool level.

Other

- French driving licence.
- Coastal boat french driving licence.
- Leisure activities :
  - Sailing, cruising.
  - Sailing boat renovation.
  - Woodwork.
  - Diving : One star CMAS diving instructor.
  - Underwater photography.