

Clément Dumont

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EDUCATION

- 2001-05 Ph.D. in Biology** at Laval University (Canada) on *Growth and Behaviour of sea urchins*. Directed by Dr. John H. Himmelman (Laval University) and Dr. Michael P. Russell (Villanova University, USA)
- 2000** Master's degree in biology and ecology at Montpellier University (France)
Study on the reproductive biology of the shark *Scyliorhinus canicula*
(Dr. Christian Capapé, advisor)

PROFESSIONAL EXPERIENCE

- 2007-Current Post-doctoral associate in Marine Conservation** at Stanford University with Dr. Fiorenza Micheli. Connectivity conservation in fishery management.
- 2005-2007 Post-doctoral associate in Marine Conservation and Biodiversity** at the University Catolica del Norte in Chile and Center for Advanced Studies in Arid Zones (CEAZA). (1) Setting up of two MPAs in northern Chile. (2) Ecological study on the impact of invasive species in subtidal communities.

TEACHING EXPERIENCE

Invited Lectures for undergraduate students at Stanford University
- Marine Ecology (Dr. F. Micheli, Prof. responsible, 1er Semester 2008)

Instructor for undergraduate and graduate students at Universidad Catolica del Norte, Chile (taught in Spanish)
- Ecología Marina (Dr. C. Gaymer, Prof. responsible, 1st Semester 2006)
- Conservación Marina (Dr. M. Thiel, Prof. responsible, 2nd Semester 2006)

Invited Lectures for undergraduate students (Canada)

- *Invertebrate Zoology*, Laval University, course taught in French (2004-2005)
- *Sex in the Sea: fertilization in free-spawner echinoderms*, course taught in English, University of New Brunswick at Saint John and University of Malaspina (2004)
- *Shark Biology*, Laval University, course taught in French (2003-2004)

Teaching Assistant (2001-2004) at Laval University (Canada):

Marine Ecology, Invertebrate Zoology and Vertebrate Evolution

FELLOWSHIPS AND AWARDS

2007-2008 Post-doctoral Fellowship FONDECYT (Chilean Research Council)

2005 Tableau d'honneur de l'Université Laval (Doctoral Dissertation Award)

2005 Pre-doctoral Fellowship Laval University (Vancouver)

2004 Pre-doctoral Fellowship Laval University (Dominican Republic)

PUBLICATIONS

Dumont CP, Himmelman JH, Russell MP. Growth of the green sea urchin, *Strongylocentrotus droebachiensis*, in contrasting habitats in the northern Gulf of St. Lawrence, eastern Canada. **Accepted** pending minor revision in *Marine Biology*.

Dumont CP, Roy JS, Himmelman JH. (**in press**) Predation by the sea urchin *Strongylocentrotus droebachiensis* on egg capsules of the whelk *Buccinum undatum*. *Journal of Marine Biological Association of UK*

Himmelman JH, **Dumont CP**, Gaymer CF, Drolet D, Vallières C. (**in press**) Spawning synchrony and aggregative behavior of cold-water echinoderms during multispecies mass spawning. *Marine Ecology Progress Series*

Dumont CP, Himmelman JH. (**2008**) Movement behaviour of the sea urchin *Strongylocentrotus droebachiensis*. *The Canadian Naturalist* 132: 68-74 (In French)

Dumont CP, Drolet D, Deschênes I, Himmelman JH (**2007**). Multiple factors explain the covering behaviour in the green sea urchin *Strongylocentrotus droebachiensis*. *Animal Behaviour* 73: 979-986

Thiel M *et al.* (**Dumont CP**, 11th author) (**2007**). The Humboldt Current System of Northern-central Chile – Oceanographic processes, ecological interactions

and socio-economic feedback. *Annual review of Oceanography and Marine Biology* 45: 195-345

Dumont CP, Himmelman JH, Robinson SM (2007). Random movement pattern of the sea urchin *Strongylocentrotus droebachiensis*. *Journal of Experimental Marine Biology and Ecology* 340: 80-89

Dumont CP, Himmelman JH, Russell MP (2006) Daily movement of the sea urchin *Strongylocentrotus droebachiensis* in different subtidal habitats in eastern Canada. *Marine Ecology Progress Series* 317: 87-99

Dumont CP, Pearce CM, Stazicker C, Xin An Y, Keddy L (2006) Can photoperiod manipulation affect gonad development of a boreo-artic echinoid (*Strongylocentrotus droebachiensis*) following exposure in the wild after the autumnal equinox? *Marine Biology* 149: 365-378

Dumont CP, Himmelman JH, Russell MP (2004) Size-specific movement of green sea urchins *Strongylocentrotus droebachiensis* on urchin barrens in eastern Canada. *Marine Ecology Progress Series* 276: 93-101

Dumont CP, Himmelman JH, Russell MP (2004) Mass mortality of sea urchins associated with macroalgae debris from ice scour. In: Heinzeller and Nebelick (eds) *Echinoderms: München, Balkema, Munich*, p 177-182

BOOK CHAPTER

Gaymer CF, Rojas U, Squeo FA, Luna G, Cortés A, Arancio G, **Dumont C**, Cortéz M, Hiriart D, López D (**in press**) AMCP-MU Isla Grande de Atacama: Flora y Fauna Marina y Terrestre. Libro Rojo de la Flora y de los sitios prioritarios para su conservación: Region de Atacama. Squeo FA, Arancio G (Eds), Ed Universidad de La Serena, La Serena, Chile, 12: 1-28

MANUSCRIPTS SUBMITTED AND IN PREPARATION:

Thompson M, **Dumont CP**, Gaymer CF. ISO 14001: Towards international quality environmental management standards for marine protected areas? **Submitted** to *Ocean & Coastal Management*

Astudillo JC, Bravo M, **Dumont CP**, Thiel M. Floating buoys in the SE Pacific – a potential dispersal vehicle for associated organisms. **Submitted** to *Aquatic Biology*

Dumont CP, Urriago JD, Thiel M, Gaymer CF. The native shrimp *Rhyncocinetes typus* as a potential biological control in scallop aquaculture in Chile. **Submitted to *Aquaculture***

Dumont CP, Thiel M, Gaymer CF. Resistance of marine communities to invasion. In preparation for *Ecology*

Dumont CP, Harris LG, Gaymer, CF. Grazing effects of sea urchins and rock shrimps on an epibenthic community in central-northern Chile. In preparation for *Oceans, Coastal and Shelf Science*

Dumont CP, Himmelman JH. Feeding aggregation behavior of the sea urchin *Strongylocentrotus droebachiensis*. In preparation for *Journal of Animal Ecology*

TECHNICAL REPORTS

Gaymer, CF, **C Dumont**, R Garay-Fluhmann, R Sfeir, E Perez, G Luna, W Stotz, J Vasquez, J Moraga, M Berrios, U Rojas, J Aburto, E Penalver, P Robert, N Gerardin, M Shivilani, and A Alcalá. (2007) *Diagnostico Implementación Reserva Marina Islas Choros La Higuera*. Etapa I: Diagnóstico, recopilación de información y elaboración de diagnóstico. Universidad Católica del Norte: Coquimbo. p. 297.

Gaymer, CF, **C Dumont**, R Garay-Fluhmann, R Sfeir, E Perez, G Luna, W Stotz, J Vasquez, J Moraga, M Berrios, U Rojas, J Aburto, E Penalver, P Robert, N Gerardin, M Shivilani, and A Alcalá. (2007) *Diagnostico Implementación Reserva Marina Islas Choros La Higuera*. Etapa II: Diagnóstico, recopilación de información y elaboración de diagnóstico. Universidad Católica del Norte: Coquimbo. p. 297.

Gaymer CF, Borquez R, **C Dumont**, R Garay-Fluhmann, R Sfeir, E Perez, G Luna, W Stotz, U Rojas, P Robert, N Gerardin. (2007) *Diagnostico Implementación Reserva Marina Islas Choros La Higuera*. Etapa III: Plan de Administración. Universidad Católica del Norte, Centro de Estudios Avanzados en Zonas Áridas: Coquimbo. p. 139.

GRANTS

2008-2010. The Walton Family Foundation - Environment

Connectivity conservation in fisheries management: quantifying spillover of abalone larvae from marine reserves. **Post-doctoral research. US\$ 190,000**

- 2007-2008. National Fund For Scientific & Technological Development (Chile)**
Ecological resistance of native benthic communities to invasion by marine exotic species: a conservation issue in Chile. Post-doctoral research. US\$ 50,000
- 2006-2007. Global Environment Facility - United Nations Environment Programme (Chile)**
Conservación de la biodiversidad de importancia mundial a lo largo de la costa de Chile; área marina costera protegida de múltiples usos Isla Grande de Atacama, III Región. US \$ 15,000 (total project \$ 75.000, P.I.: J. Vasquez)
- 2006-2007. National Fund For Regional Development (Chile)**
Diagnostico Implementación Reserva Marina Isla Choros La Higuera. US\$ 11,000 (total project \$ 66.000, P.I.: Dr. C Gaymer)
- 2005. Laval University Internship Fellowship (Canada)**
Recruitment of invertebrate species in seagrass beds and barrens within the Jaragua National Park in Dominican Republic. US\$ 2,500
- 2004. Laval University Internship Fellowship (Canada)**
Study of the growth enhancement and gametogenesis of sea urchin gonads in an aquaculture context. Pacific Biological Station, Vancouver, Canada. US\$ 2,500

PARTICIPATION IN PROJECTS

- 2007-current.** Co-investigator in the *Pilot Project of marine reserves at Isla Natividad, Baja California, Mexico.* (P.I. Dr. Andrea Saenz)
- 2006-2007.** Co-investigator in the *Global Approach by Modular Experiments (GAME).* Mercator fundation (P.I. in Chile: Dr. M Thiel)
- 2006.** Research Collaborator in *U.S. Fulbright Senior Specialist.*
Invited scientist: Dr. S. Jewett (Alaska, USA).
- 2005-2006.** Co-investigator in *Designing priority areas for conservation within a marine protected area in northern Chile.* The Rufford Small Grants for Nature Conservation. Rufford Maurice Laing Foundation, UK. (P.I.: Dr. C Gaymer)
- 2005-2006.** Research Collaborator in the Scholar Program in Science and Technology with Dr. Larry Harris (University of New Hampshire, USA)

CONFERENCE PRESENTATIONS AND POSTERS

- Dumont CP**, Urriago JD, Thiel M and Gaymer CF. Predation resistance of marine communities to invasion. 88th Annual Western Society of Naturalists Meeting, Ventura, California, USA. November **2007**
- Urriago JD, **Dumont CP**, Thiel M, Albaca A, Gaymer CF. The native rock shrimp *Rhyncocinetes typus* as a potential biological control of fouling communities in aquaculture facilities. The Crustacean Society Meeting, La Serena, Chile, October **2007 (Poster)**
- Gaymer CF, **Dumont CP**, Thiel M. Conservación de la biodiversidad marina y áreas marinas protegidas: Chile en el contexto mundial y desafíos actuales. III Reunión Binacional de Ecología, La Serena, Chile, October **2007**
- Squeo FA, Gaymer CF, Rojas U, Arancio GA, **Dumont CP**, Garay-Fluhmann R, Lopez D, Cortes AY, Vasquez JA. Integrando conservación terrestre y marina, búsqueda de hotspots comunes. III Reunión Binacional de Ecología, La Serena, Chile, October **2007**
- Dumont CP**, Himmelman JH, Drolet D, Deschenes I. Multiple factors explain the covering behaviour of the sea urchin *Strongylocentrotus droebachiensis*. Canadian Society of Zoology meeting, McGill University, May **2007**
- Dumont CP**, Harris LH, Gaymer CF. Role of benthic predators in structuring piling communities. *Sociedad de Ecología de Chile*, Chile, July **2006** (presented in Spanish)
- Dumont CP**, Harris LH, Gaymer CF. Role of benthic predators in structuring piling communities. *XXVI Congreso de Ciencias del Mar*, Chile, April **2006** (presented in Spanish)
- Dumont CP**, Himmelman JH, Drolet D, Deschênes I. Multiple factors explain the covering behaviour in the green sea urchin *Strongylocentrotus droebachiensis*. *Benthic Ecology Meeting*, Canada, March **2006**
- Pearce CM, **C Dumont**, C Stazicker, Y-X An, L Keddy. Can gonad development of the green sea urchin, *Strongylocentrotus droebachiensis*, be affected by photoperiod manipulation after individuals have been exposed to the autumnal equinox? *National Shellfisheries Association Annual Meeting*, Monterey, California, March **2006 (Poster)**

Dumont CP, Himmelman JH, Russell MP. Mortality of sea urchins related to macroalgae debris resulting from ice scour. *11th International Echinoderm Conference*, Munich, Germany, October **2003**

Dumont CP. Successive mass spawning of echinoderms in eastern Canada. *11th International Echinoderm Conference*, Munich, Germany, October **2003**

Dumont CP, Himmelman JH, Russell MP. Size-specific movement of green sea urchins *Strongylocentrotus droebachiensis* on urchin barrens in eastern Canada. *Canadian Society of Zoologists Conference*, Waterloo, Canada, May **2003**

Dumont CP, Himmelman JH, Russell MP. Movement of adult sea urchins *Strongylocentrotus droebachiensis* in different habitats in the northern Gulf of St. Lawrence, eastern Canada. *Sea urchins: International Conference on Fisheries and Aquaculture*, Puerto Varas, Chile, March **2003**

INVITED SEMINARS AND WORKSHOPS

- Laval University, Quebec, Canada, March **2008**
- Fisheries & Oceans Department, Rimouski, Canada, March **2008**
- University of Hong Kong, Hong Kong, January **2008**
- Swire Marine Institute, Hong Kong, January **2008**
- Universidad Catolica del Norte, Coquimbo, Chile, October **2007** (In Spanish)
- *Classification of habitats and prioritization of eco-regions of Peru and Chile*. The Nature Conservancy, Santiago, Chile, October **2006**
- *Primer Seminario Internacional de Áreas Marinas y Costeras Protegidas*. GEF, Caldera, Chile, November **2006**
- Universidad de Chile, Santiago, Chile, October **2005**

OTHER PROFESSIONAL ACTIVITIES

Students supervised:

- Osvaldo Cerda (M.Sc. thesis, Chile, in progress)
- Jennifer Roco Tarque (Honor's thesis, Chile, in progress)
- Myles Thompson (Masters of Marine Management, Canada, 2007)

- Jean-Sebastien Roy (Honor's thesis, Canada, 2004)
- Jean-Philippe Parent (Honor's thesis, Canada, 2004)
- Myles Thompson (Honor's thesis, Canada, 2003)
- Isabelle Deschênes (Honor's thesis, Canada, 2003)
- Catherine Vallières (Honor's thesis, Canada, 2003)

Graduate Committee:

Juan Carlos Astudillo, MSc. student, Universidad Catolica del Norte

Workshop and Meeting organization:

- Symposium in Marine Conservation at the *III Reunión Binacional de Ecología*, Chile & Argentina, Sept. 30-Oct. 4, **2007**
- Workshop: *Implementación Reserva Marina Isla Choros La Higuera*, January **2007**

Reviewer:

American Naturalist, Aquaculture, Estuarine, Coastal and Shelf Science, Global Change Biology, Journal of Thermal Biology, Marine Ecology Progress Series, Revista de Biología Marina y Oceanografía

Documentary and underwater photography:

- Documentary Thalassa (French public television) on the fisheries management practices and the marine reserves at Isla Natividad (Mexico). In progress (25 min) for release in September 2008
- Photo catalog of Fauna and Flora of the Marine protected Area Isla Grande de Atacama, northern Chile (in progress)
- *La ponte d'invertébrés* (Invertebrate spawning behaviors). TV documentary 'Découverte' at Radio-Canada (2005)
- *Sex in the Sea* (2003): multispecies mass spawning of echinoderms (11 min)
- Educational documentaries (2005): *Cnidarians* (6 min), *Gastropods* (8 min), *Crustaceans* (6 min), *Echinoderms* (10 min) for undergraduate invertebrate teaching
- Nature's Best Photography, Laval University, 2004 (Seastars in Mingan islands)

References

Dr. John Himmelman (Ph.D supervisor in Canada):

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Québec City

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E-mail: john.himmelman@bio.ulaval.ca

Phone: 418-656-2131-5230, Fax: 418-656-2339

Dr. Michael Russell (Ph.D co-supervisor in USA):

Biology Department

Villanova University

800 Lancaster Avenue

Villanova, Pennsylvania 19085-1699

E-mail: michael.russell@villanova.edu

Phone: 610-519-4695, Fax: 610-519-7863

Dr. Fiorenza Micheli (Current post-doctoral advisor in USA)

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Dr. Martin Thiel (Post-doctoral advisor in Chile)

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Dr. Carlos Gaymer (Post-doctoral co-advisor in Chile)

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