

Catriona Munro

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Education

PhD Ecology and Evolutionary Biology, Brown University, 2019

MRes Ocean Science, University of Southampton, 2013

BSc Biology, University College London, 2011

Professional Experience

October 2023 CNRS Researcher (CRCN)
LBDV – UMR7009. Institut de la Mer de Villefranche (IMEV)
Research team: ‘Cnidarian Developmental Mechanisms’

Oct 2018 – Sept 2023 Postdoctoral Researcher. Huynh lab, Collège de France

2017–2018 Ivy Exchange Scholar, Yale University

Peer-Reviewed Publications

2023

Mańko MK, **Munro C**, Leclère L. (2023) Establishing bilateral symmetry in hydrozoan planula larvae, a review of siphonophore early development. *Integrative and Comparative Biology*. icad081, <https://doi.org/10.1093/icb/icad081>

Munro C, Cadis H, Pagnotta S, Houliston E, Huynh J.-R (2023). Conserved meiotic mechanisms in the cnidarian *Clytia hemisphaerica* revealed by *Spo11* knockout. *Science Advances*. 9:eadd2873. doi: 10.1126/sciadv.add2873

Church SH, **Munro C**, Dunn, CW, Extavour, CG (2023) The evolution of ovary-biased gene expression in Hawaiian *Drosophila*. *PLoS Genetics*. 19:1-24. doi: 10.1371/journal.pgen.1010607

2022

Houliston E, Leclère L, **Munro C**, Copley R & Momose T (2022). Past, present and future of *Clytia hemisphaerica* as a laboratory jellyfish. Eds: Goldstein B & Srivastava M. *Current Topics in Developmental Biology*. 147:121-151. doi: 10.1016/bs.ctdb.2021.12.014

Munro C, Zapata F, Howison M, Siebert S, Dunn CW (2022). Evolution of gene expression across species and specialized zooids in Siphonophora. *Molecular Biology and Evolution*. 39:msac027. doi: 10.1093/molbev/msac027

2020

Jessus C, **Munro C**, Houliston E (2020). Managing the Oocyte Meiotic Arrest — Lessons from Frogs and Jellyfish. *Cells*. 9:1150 doi: 10.3390/cells9051150

2019

Munro C, Vue Z, Behringer RR, Dunn CW (2019). Morphology and development of the Portuguese man of war, *Physalia physalis*. *Scientific Reports*. 9:15522 doi: 10.1038/s41598-019-51842-1

2018

Munro C, Siebert S, Zapata F, Howison M, Damian-Serrano A, Church SH, Goetz FE, Pugh PR, Haddock SHD, Dunn CW (2018) Improved phylogenetic resolution within Siphonophora (Cnidaria) with implications for trait evolution. *Molecular Phylogenetics and Evolution*. 127:823-833 doi: 10.1016/j.ympev.2018.06.030

Brown A, Thatje S, Oliphant A, **Munro C**, Smith KE (2018). Temperature adaptation in larval development of lithodine crabs from deep-water lineages. *Journal of Sea Research*. 142:167-173

Brown A, Thatje S, Oliphant A, **Munro C**, Smith KE (2018). Temperature effects on larval development in the lithodid crab *Lithodes maja*. *Journal of Sea Research*. 139:73-84

Dunn CW, Zapata F, **Munro C**, Siebert S, Hejnol A (2018). Pairwise comparisons are problematic when analyzing functional genomic data across species. *Proceedings of the National Academy of Sciences*. doi:10.1073/pnas.1707515115.

2016

Dunn CW, **Munro C** (2016) Comparative genomics and the diversity of life. *Zoologica Scripta*. 45:5-13. doi:10.1111/zsc.12211

2015

Munro C, Morris JP, Brown A, Hauton C, Thatje S (2015). The role of ontogeny in physiological tolerance: decreasing hydrostatic pressure tolerance with development in the northern stone crab *Lithodes maja*. *Proceedings of the Royal Society of London B*. 282(1809): 20150577 doi: 10.1098/rspb.2015.0577

2012

Shank TM, Baker ET, Embley RW, Hammond S, Holden JF, White S, Walker SL, Calderon M, Herrera S, Lin TJ, **Munro C**, Heyl T, Stewart L, Malik M, Lobecker M, Potter J (2012) GALREX 2011: Exploration of the Deep-Water Galapagos Region. *Oceanography* 25 Suppl.: 50-51.

Fellowships and Awards

2019 Marie Skłodowska-Curie Individual Fellowship (#841433) €196,707.84

2017 NSF Doctoral Dissertation Improvement Grant (#1701272) \$21,028

2017 & 2016 EMBRC-France funding

2016 MBL Embryology Post-Course research

2014 RI-EPSCoR Graduate Student Fellowship (full tuition and stipend)

2012 Society for Underwater Technology, Educational Support Fund (full tuition)

Invited Talks

2023 “Siphonophore genomics, larval development and evolution”. SICB Symposium: Genomics of marine larval evolution and development. January 4, 2023

2022 “Meiotic mechanisms in the jellyfish *Clytia hemisphaerica*”. Stowers Institute for Medical Research. Wednesday Lecture Series. September 14, 2022

Conference Activity

ORAL PRESENTATIONS

2022 **Munro C**. Meiosis in the jellyfish *Clytia hemisphaerica*. Evolution and Diversity of Meiosis Meeting. Les Treilles, France (4-9 April)

2021 **Munro C**, E Houliston, J-R Huynh. Meiotic DSBs are required for correct synapsis of homologous chromosomes in the jellyfish *Clytia hemisphaerica*. MAYosis webinar series. <http://meiosis.cornell.edu/mayosis2021/>

2018 **Munro C**, S Siebert, F Zapata, CW Dunn. Siphonophore Differential Gene Expression Patterns Analyzed within a Phylogenetic Context. SICB Meeting, San Francisco CA (3-7 January)

2012 **Munro C**, GW Luther III, RA Lutz, C Vetriani, TS Moore, S Herrera, TM Shank. Temporal and spatial patterns of in situ community structure using time-lapse camera systems at a vent field on the East Pacific Rise, 13th International Deep-Sea Biology Symposium, Wellington New Zealand (3-7 December)

POSTER PRESENTATIONS

2022 **Munro C**, Cadis H, Pagnotta S, Houliston E, Huynh J.-R. Conserved meiotic mechanisms in the cnidarian *Clytia hemisphaerica* revealed by Spo11 knockout. Jacques Monod Origin of Metazoans. Roscoff, France (20-24 June).

2021 **Munro C**, E Houliston, J-R Huynh. Meiotic DSBs are required for correct synapsis of homologous chromosomes in the jellyfish *Clytia hemisphaerica*. The Students and Postdocs Meiosis Workshop, V3.0, Online.

2019 **Munro C**, E Houliston, J-R Huynh. The jellyfish *Clytia hemisphaerica*: a new model for meiosis research. EMBO Workshop on Meiosis, La Rochelle, France (25-29 August)

2016 **Munro C**, S Siebert, M Howison, F Zapata, CW Dunn. Gene expression patterns in siphonophore zooids, Hydroidfest, Bodega CA (23-25 September)

2016 **Munro C**, S Siebert, M Howison, F Zapata, CW Dunn. Exploring the evolution of functional specialization in siphonophores using RNAseq, SICB Meeting, Portland OR (3-7 January)

Teaching Experience

Marie Curie ITN Workshop, Instructor

Computational Biology short course (PhD level). Marie Curie ITN “EvoCELL”. 3-14 June 2019. Course materials: <https://github.com/cmunro/evocell>

Brown University, Teaching Assistant

Invertebrate Zoology. Fall semester, 2014; Fall semester, 2013.

Mentoring

15 May 2022 – March 2023 Julie Uveira, Research assistant (Ingenieure Assistant)

1 Feb 2021 – 31 Jan 2022 Hugo Cadis, Research assistant (Ingenieure Assistant)

1 Feb - 17 June 2021 Lisa Rouressol, Sorbonne Université Master 2 internship

16 March - 15 May 2020 Bastien Salmon, Sorbonne Université Master 1 internship

Fall 2015 Nicola Malakooti, undergraduate senior thesis

Sorbonne Université, Development of Marine Organisms (Master’s level). Short project supervisor: 13-19 December 2019; 11-15 March 2019.

Research Experience

2012 Research Assistant, Shank Lab, Woods Hole Oceanographic Institution

Scientific Expeditions

2015 R/V Western Flyer, ROV Doc Ricketts, Gulf of California, Mexico. Chief scientist: Steven Haddock (March 8-16)
2014 R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A. Chief scientist: Steven Haddock (September 16-22)
2014 R/V Endeavor, North East Atlantic, U.S.A. Chief scientist: Brad Seibel (August 13-18)
2014 R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A. Chief scientist: Steven Haddock (May 17-23)
2013 R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A. Chief scientist: Steven Haddock (November 19-24)
2012 R/V Falkor, ROV Global Explorer MK3, Deep-Sea Coral Shakedown cruise, Gulf of Mexico U.S.A. Chief scientist: Peter Etnoyer (August 26 - September 6)
2011 M/V Holiday Chouest, ROV UHD 34, HC3 Leg 1 and 2. Gulf of Mexico, U.S.A. Chief scientists: Charles Fisher and Erik Cordes (October 2-26)

Professional Service

PEER REVIEW

Publons review records: <http://www.webofscience.com/wos/author/record/AAP-8755-2020>
Molecular Ecology (1); Genome Biology and Evolution (2); iScience (2); Journal of Experimental Zoology (3)

TO COMMUNITY

Declics, Career and Science discussions with high school students in Nice. Lycée Albert Calmette. 1 Dec 2022.
Fête de la Science, Villeneuve Loubet. Oct 2021, Institut de la Mer de Villefranche. Oct 2019.
Guest lectures & zoom lab demonstrations on meiosis and fertilization, University of São Paulo (Instructor: Federico Brown). Oct 2020.
Fact checking, Portuguese man of war biology, BBC Blue Planet II. 2017.
Hennessy Elementary School, Brown Junior Researchers Program (after school science class). Feb 2016 – Feb 2018.

Other Professional Experience

MBL Embryology Course, Woods Hole MA, Jun 7- Jul 18 2015.