

Kevin C.K. Ma

PhD Candidate in Oceanography, Université Laval

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CAREER STATEMENT

I am pursuing a career in the field of marine ecology. I am keen to supervise student projects, learn, and expand my scientific experience through a postdoctoral position so that I may continue to contribute to this field. My education and skills in research, teaching, and public outreach have prepared me for a productive career.

Highlights: 6 peer-reviewed articles (5 first-authored), 1 scientific report, and 1 article in prep.
44 citations and h-index of 4 (Google Scholar as of Mar. 2019)
Extensive collaborations with academic and government researchers (e.g., DFO, ARC)
Student mentorships, supervision of field and laboratory assistants
Design of experimental studies, statistics (R), fieldwork, presentation and writing skills
English (proficient), French (intermediate), Cantonese and Mandarin (conversational)

Interests: Coastal marine ecology, invasion biology, taxonomy, larval recruitment, biogeography

EDUCATION

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|------------|--|--------------------|
| PhD | Oceanography , Université Laval (current GPA = 4.22 out of 4.33) Thesis supervision: Ladd E. Johnson, Christopher W. McKindsey | 2019 (anticipated) |
| MSc | Biology , Memorial University of Newfoundland (GPA = 3.9 out of 4) Thesis supervision: Don Deibel, Cynthia H. McKenzie | 2012 |
| BSc | Ecology and Environmental Biology (Linguistics Minor), Univ. of British Columbia Directed studies supervision: Kai M.A. Chan | 2008 |

RESEARCH

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|---|--|--------------|
| PhD researcher, Université Laval | Optimal sampling strategies for the early detection of marine invasive species by evaluating different spatial and temporal scales | 2013 – Pres. |
| Visiting researcher, Atlantic Reference Centre (ARC) | Guest taxonomist, surveyed eelgrass for invasive ascidians, and field application of best practices to monitor for marine invasive species in the Bay of Fundy (Related publication: Ma et al. 2018) | 2017 |
| Student researcher, Canada C3 Science Program | Collaborative study to detect larvae of marine invasive species across a 2500 km coastal transect from temperate to polar waters | 2017 |
| Research assistant, Université du Québec à Rimouski | Temporal recruitment dynamics of benthic assemblages inform the seasonal timing of detecting rare invasive species (Related publications: Ma et al. 2016, Moore et al. 2014) | 2012 |
| MSc researcher, Memorial University of Newfoundland | Ascidian biodiversity, population dynamics of an invasive ascidian, and best practice guidelines on the management of invasive ascidians (Related publications: Ma et al. 2011, Deibel et al. 2014, Ma et al. 2017a, 2017b) | 2009 – 2012 |
| Undergraduate research assistant, University of British Columbia | Local ecological knowledge of fishers and other resource users to identify critical marine habitats | 2008 |

TEACHING

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| Teaching assistant, Université Laval (instructed in French) | 2018 |
| Biodiversity of Invertebrates (BIO 1011) | |
| Teaching assistant, Memorial University of Newfoundland | 2010 – 2012 |
| Principles of Biology (BIOL 1001 & 1002), Biology of Invertebrates (BIOL 2122), Ecology (BIOL 2600), Evolution and Systematics (BIOL 2900) | |

RESEARCH FUNDING

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|---------|-----|--|-------------|
| \$2500 | CAD | Dr. R.C. Frazee & Dr. W.B. Scott Student Research Award , Huntsman Marine Science Centre | 2017 |
| \$1500 | CAD | Québec-Océan Short Training Support Program | 2017 |
| \$400 | USD | Fellowship , Smithsonian Tropical Research Institute | 2017 |
| \$800 | CAD | Travel Grant , North Pacific Marine Science Organization (PICES) | 2016 |
| \$200 | CAD | Travel Grant , Atlantic Canada Coastal and Estuarine Science Society | 2015 |
| \$57000 | CAD | PhD Fellowship (stipend), NSERC Canadian Aquatic Invasive Species Network II | 2013 – 2016 |
| \$300 | CAD | Student Bursary , Newfoundland Aquaculture Industry Association | 2012 |
| \$36000 | CAD | MSc Fellowship (stipend), NSERC Supplemental Strategic Grant | 2009 – 2011 |
| \$4500 | CAD | NSERC Undergraduate Summer Research Award | 2008 |

AWARDS AND DISTINCTIONS

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| \$500 | CAD | Bourse Léon-Provancher , best oral presentation, 9ème Colloque du département de biologie, Université Laval | 2018 |
| — | | Highly Commended Certificate , oral presentation, 9th International Conference on Marine BioInvasions (Australia) | 2016 |
| \$300 | CAD | Fonds Richard-Bernard , runner-up best oral presentation, 6ème Colloque du département de biologie, Université Laval | 2015 |
| \$200 | CAD | 2nd Place Prize , runner-up best poster presentation, Canadian Aquatic Invasive Species Network Annual General Meeting | 2014 |
| — | | Fellow of the School of Graduate Studies , outstanding academic merit and a GPA > 3.8, Memorial University of Newfoundland | 2012 |
| — | | People's Choice Award , oral presentation, 3rd Annual Biology Graduate Student Symposium, Memorial University of Newfoundland | 2010 |
| \$100 | CAD | Poster Prize , 7th Multidisciplinary Undergraduate Research Conference, UBC Office of Vice President Research | 2008 |

PUBLICATIONS

(IF = current impact factor; citations from Google Scholar as of Mar. 2019)

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|-----|--|------------------------|
| [6] | Ma KCK , Hawk HL, Goodwin C, Simard N. 2019. Morphological identification of two invading ascidians: new records of <i>Ascidella aspersa</i> (Müller, 1776) from Nova Scotia and <i>Diplosoma listerianum</i> (Milne-Edwards, 1841) from New Brunswick and Quebec. <i>BioInvasions Records</i> 8 (1): 50–64. DOI: https://doi.org/10.3391/bir.2019.8.1.06 | IF: 1.2 |
| [5] | Ma KCK , Goodwin C, Cooper A. 2018. Second record of <i>Diplosoma listerianum</i> (Milne-Edwards, 1841) five years after and 280 kilometres from the site of the first record in Nova Scotia. <i>BioInvasions Records</i> 7 (2): 159–163. DOI: https://doi.org/10.3391/bir.2018.7.2.07 | IF: 1.2 2 citations |
| [4] | Ma KCK , Deibel D, Lowen JB, McKenzie CH. 2017b. Spatio-temporal dynamics of ascidian larval recruitment and colony abundance in a non-indigenous Newfoundland population. <i>Marine Ecology Progress Series</i> 585: 99–112. DOI: https://doi.org/10.3354/meps12437 | IF: 2.3 2 citations |

- [3] **Ma KCK**, Deibel D, Law KKM, Aoki M, McKenzie CH, Palomares MLD. 2017a. IF: 1.2
Richness and zoogeography of ascidians (Tunicata: Ascidiacea) in eastern 2 citations
Canada. *Canadian Journal of Zoology* 95 (1): 51–59.
DOI: <https://doi.org/10.1139/cjz-2016-0087>
- [2] **Ma KCK**, Simard N, Stewart-Clark SE, Bernier RY, Nadeau M, Willis J. 2016. IF: 2.0
Early detection of the non-indigenous colonial ascidian *Diplosoma listerianum* 3 citations
in eastern Canada and its implications for monitoring. *Management of
Biological Invasions* 7 (4): 365–374. DOI: <http://dx.doi.org/10.3391/mbi.2016.7.4.06>
- [1] Moore AM, Vercaemer B, DiBacco C, Sephton D, **Ma KCK**. 2014. IF: 1.2
Invading Nova Scotia: first records of *Didemnum vexillum* Kott, 2002 and four more non- 19 citations
indigenous invertebrates in 2012 and 2013. *BioInvasions Records* 3 (4): 225–
234. DOI: <http://dx.doi.org/10.3391/bir.2014.3.4.03>

FORTHCOMING PUBLICATIONS

- [1] **Ma KCK**, McKindsey CW, Johnson LE. Larval supply is a weak determinant of settlement at
mesoscales across an anthropogenic seascape. **Manuscript in preparation.**

OTHER PUBLICATIONS

(Theses, conference proceedings, technical reports)

- [3] Deibel D, McKenzie CH, Rise ML, Thompson RJ, Lowen JB, **Ma KCK**, Applin G, 7 citations
O'Donnell R, Wells T, Hall JR, Sargent P, Pilgrim BB. 2014.
Recommendations for eradication and control of non-indigenous, colonial,
ascidian tunicates in Newfoundland harbours. *Canadian Manuscript Report of
Fisheries and Aquatic Sciences* 3039: xi + 60 p.
- [2] **Ma KCK**. 2012. *Population dynamics of a non-indigenous colonial ascidian* 5 citations
tunicate in a subarctic harbour. MSc Thesis, Memorial University of MSc thesis
Newfoundland, St. John's, Newfoundland and Labrador, xxii + 211 p.
- [1] **Ma KCK**, Deibel D, McKenzie CH. 2011. Indigenous and non-indigenous 4 citations
ascidian tunicates of Newfoundland and Labrador. *Proceedings of the
Contributed Papers of the 27th Annual General Meeting of the Aquaculture
Association of Canada*, Aquaculture Association of Canada Special
Publication No. 17: 58–63.

MEDIA AND OTHER CONTRIBUTIONS

- [8] **Ma KCK**. 2019. "Culture on full display adds value to scientific meetings" [blog post]. *Québec-
Océan*, 30 January. Available at: [https://quebecocean.wordpress.com/2019/01/30/culture-on-full-
display-adds-value-to-scientific-meetings/](https://quebecocean.wordpress.com/2019/01/30/culture-on-full-display-adds-value-to-scientific-meetings/)
- [7] **Ma KCK**. 2017. "Taxonomy is more important than ever" [blog post]. *Québec-Océan*, 14
September. Available at: [https://quebecocean.wordpress.com/2017/09/14/taxonomy-is-more-
important-than-ever/](https://quebecocean.wordpress.com/2017/09/14/taxonomy-is-more-important-than-ever/)
- [6] **Ma KCK**. 2014. "Invasive Species Research" [radio]. Interviewed by Steve Sutherland for *CBC
Information Morning Cape Breton*, 16 July.
- [5] **Ma KCK**, Forget-Lacoursière EL, Johnson LE, McKindsey CW. 2013. Lake-wide Non-native
Tunicate Research Program. *The Blue Heron*, The Bras d'Or Stewardship Society, Vol. 16,
No. II (July): 6–7.
- [4] **Ma KCK**, Lowen JB, Deibel D, McKenzie CH. 2012. A closer look at student research:
Seasonal population dynamics of a non-indigenous ascidian tunicate in a subarctic harbour.
The Cold Harvester (Winter): 29.
- [3] Fisheries and Oceans Canada. 2011. *Aquatic Invasive Species: Golden star tunicate in
Newfoundland and Labrador waters*. Fisheries and Oceans Canada, Ottawa, Ontario,
Canada, p. 2. (Contributed to content and revisions)

- [2] Fisheries and Oceans Canada. 2011. *Aquatic Invasive Species: Violet tunicate in Newfoundland and Labrador waters*. Fisheries and Oceans Canada, Ottawa, Ontario, Canada, p. 2. (Contributed to content and revisions)
- [1] **Ma KCK**, Lowen JB, Applin G. 2011. Newfoundland's Alien Tunicates: An Overview of a collaborative research program to understand and control the spread of the golden star tunicate and violet tunicate. *The Cold Harvester* (Spring): 22–24.

PRESENTATIONS

(Selected talks from international meetings)

- [9] **Ma KCK**, McKindsey CW, Johnson LE. 2019. Optimal spatial scale of monitoring for marine invertebrates and its implications for early detection of invasive species. *12th International Temperate Reefs Symposium*, Hong Kong SAR, China. Oral
- [8] **Ma KCK**, Johnson LE, McKindsey CW. 2016. Optimising the duration and frequency of settlement plate deployments. *45th Benthic Ecology Meeting*, Portland, Maine, USA. Oral
- [7] **Ma KCK**, Johnson LE, McKindsey CW. 2016. Monitoring programmes for aquatic invasive species using larval recruitment plates can be modified for early detection. *9th International Conference on Marine BioInvasions*, Sydney, Australia. Oral Highly commended
- [6] **Ma KCK**, McKindsey CW, Johnson LE. 2015. Plenty of tunicates in the sea: Distribution of and relationship between larval supply and recruitment with respect to depth. *44th Annual Benthic Ecology Meeting*, Quebec City, Quebec, Canada. Oral
- [5] **Ma KCK**, Deibel D, Lowen JB, McKenzie CH. 2013. Post-larval recruitment in the non-indigenous colonial ascidian *Botryllus schlosseri* within a subarctic harbour: Seasonal, vertical, and substrate selection patterns. *8th International Conference on Marine BioInvasions*, Vancouver, British Columbia, Canada. Oral
- [4] **Ma KCK**, Lowen JB, Deibel D, McKenzie CH. 2013. Seasonal cycles of abundance and recruitment in a non-indigenous botryllid ascidian under subarctic conditions. *42nd Annual Benthic Ecology Meeting*, Savannah, Georgia, USA. Oral
- [3] **Ma KCK**, Lowen JN, Deibel D, McKenzie CH. 2012. Seasonal variability in settlement and abundance of the nonindigenous ascidian, *Botryllus schlosseri*, in a subarctic harbour. *2012 Ocean Sciences Meeting*, Salt Lake City, Utah, USA. Poster
- [2] **Ma KCK**, Lowen JB, Deibel D, McKenzie CH. 2011. Seasonal variability in realised larval recruitment of the nonindigenous ascidian *Botryllus schlosseri* in Arnold's Cove, Newfoundland. *6th International Tunicate Meeting*, Montreal, Quebec, Canada. Poster
- [1] **Ma KCK**, Aoki M, Law K, Palomares M. 2009. Distribution and diversity of ascidians in Canada and the United States. *30th Annual Pacific Ecology and Evolution Conference*, Bamfield, British Columbia, Canada. Oral

DEPARTMENTAL AND NETWORK PRESENTATIONS

(Selected talks, last 5 years)

- [8] **Ma KCK**, McKindsey CW, Johnson LE. 2018. Échelle spatiale optimale pour la surveillance des espèces envahissantes marines et des implications pour la détection précoce. *9ème Colloque du département de biologie de l'Université Laval*, Quebec City, Quebec, Canada. Oral 1st place
- [7] **Ma KCK**, Johnson LE, McKindsey CW. 2017. La dissémination larvaire d'une espèce aquatique envahissante à partir d'une marina colonisé par celle-ci. *8ème Colloque du département de biologie de l'Université Laval*, Quebec City, Quebec, Canada. Oral
- [6] **Ma KCK**, McKindsey CW, Johnson LE. 2016. Intermediate duration hypothesis: Temporally optimised sampling strategy using larval recruitment plates to monitor for aquatic invasive species. *Québec-Océan 15ème Assemblée Générale Annuelle*, Rimouski, Quebec, Canada. Oral

- [5] **Ma KCK**, McKindsey CW, Johnson LE. 2016. A field experiment evaluating the optimal deployment duration of settlement plates and its implications on early detection of aquatic invasive species. *Canadian Aquatic Invasive Species Network Annual General Meeting*, Windsor, Ontario, Canada. Oral
- [4] **Ma KCK**, Johnson LE, McKindsey CW. 2016. Determining the probabilities of detecting rare marine invertebrate species on settlement plates. *7ème Colloque du département de biologie de l'Université Laval*, Quebec City, Quebec, Canada. Oral
- [3] **Ma KCK**, McKindsey CW, Johnson LE. 2015. Variability in tunicate larval supply and recruitment with respect to depth informs optimal depth to detect invasive tunicates. *6ème Colloque du département de biologie de l'Université Laval*, Quebec City, Quebec, Canada. Oral
2nd place
- [2] **Ma KCK**, Johnson LE, McKindsey CW. 2014. Optimal spatial scale to monitor for aquatic invasive species with respect to environmental heterogeneity. *Canadian Aquatic Invasive Species Network Annual General Meeting*, Gatineau, Quebec, Canada. Poster
2nd place
- [1] **Ma KCK**, Johnson LE, McKindsey CW. 2014. Seasonal timing of peak ascidian recruitment can inform early detection of invasive ascidians. *5ème Colloque du département de biologie de l'Université Laval*, Quebec City, Quebec, Canada. Oral

PROFESSIONAL SERVICE

Reviewer for journals: (IF = current impact factor)

- Marine Ecology Progress Series IF: 2.3 2019
- Thalassas: An International Journal of Marine Sciences IF: 0.3 2018

Organizing committee member:

- 4th World Conference on Marine Biodiversity, Montreal (social media) 2018
- Aquatic Invasive Species Knowledge Transfer Workshop, Iqaluit (content development) 2015
- 44th Annual Benthic Ecology Meeting, Quebec City (webmaster, social media) 2015

Short-term field assistance: (≤ 1 week)

- Seaweed collections, Quebec, Canada (Université Laval) 2018
- BioBlitz surveys for seaweeds and benthic invertebrates, New Brunswick, Canada (ARC) 2017
- Seaweed collections, Nova Scotia, Canada (Université Laval) 2016
- Boat operator, kelp surveys, Quebec, Canada (Université Laval) 2015
- Boat operator, freshwater mussel experiments, Quebec, Canada (Univ. Laval) 2012 – 2014
- Identification of benthic invertebrates, Nova Scotia, Canada (Université Laval) 2013
- Water movement surveys using ADCP, Prince Edward Island, Canada (McGill University) 2012
- Eelgrass surveys, British Columbia, Canada (University of British Columbia) 2006

Guest seminars and workshops:

- "Ascidian taxonomy," Atlantic Reference Centre, Canada (guest workshop, 19 Oct.) 2017
- "Marine ecology of invasive ascidian species in eastern Canada," Huntsman Marine Science Centre, Canada (seminar, 13 Oct.) 2017
- "Distribution, settlement, and dispersal of invasive ascidians in eastern Canada," Bocas del Toro Research Station, Panama (student seminar, 29 Jun.) 2017
- "Aquatic invasive species in the Arctic and Antarctic: a review," Institut Maurice-Lamontagne, Pêches et Océans Canada, Canada (guest lecture, 11 May) 2017

Other services:

- Contributor, iNaturalist (<https://www.inaturalist.org/people/kevinckma>) 2017 – Pres.
- Webmaster, Johnson Benthic Ecology Laboratory (www.benthos.ca) 2013 – Pres.
- Volunteer, Arctic Change 2017 (international scientific conference) 2017
- Waste audit coordinator, Sustainability Office, Memorial Univ. of Newfoundland 2011 – 2012

- “Ocean Science Centre Science Fair Award” science fair judge, Eastern Newfoundland Regional Science Fair 2011
- Collaborator (No. 66), SeaLifeBase (www.sealifebase.org) 2008 – 2010
- Intern, Ocean Wise, Vancouver Aquarium Marine Science Centre (conservation) 2008 – 2009
- Administrative assistant, Northwest Wildlife Preservation Society (public awareness) 2009
- Volunteer, Pacific North Coast Integrated Management Area Forum (engagement forum) 2009

TRAINING AND CERTIFICATIONS

- Database Management: Introduction to SQL, Québec-Océan (training) 2019
- Workplace Hazardous Materials Information System (WHMIS) 2014 & 2018
- Mapping in R: Basic and Advanced Tools, Québec-Océan (training) 2018
- Taxonomy and Biology of Tunicates, STRI (training in Bocas del Toro, [Panama](#)) 2017
- DAN Emergency Oxygen Provider for Scuba Diving Injuries 2014 & 2017
- First Aid in Remote Areas 2017
- PADI Open Water Diver 2016
- DAN Basic Life Support: CPR and First Aid 2014
- Full Driver’s Licence (Quebec, Canada) 2014
- Small Vessel Operator Proficiency (SVOP), Canadian Coast Guard 2013
- Small Non-pleasure Vessel Basic Safety, Canadian Coast Guard 2013
- Theory and Practical Trailering Course, Fisheries and Oceans Canada 2013
- Field Course in Ecology, Univ. of British Columbia (field methods course in [Costa Rica](#)) 2007