

# PATRICK R. PATA

3-442 Des Oblats Ave, Québec City  
QC, G1K 1S4, Canada

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<https://github.com/PatrickPata>

## PROFILE

I am a biological oceanographer focused on zooplankton ecology. I am interested in understanding the oceanographic and ecological drivers of zooplankton distributions and how the emergent spatiotemporal trends translate into ecosystem functions and services. Most of my work involve the synthesis of observations of water properties, plankton communities, and functional traits. My research is aimed towards supporting the development of mechanistic ecosystem models and promoting the consideration of the role of zooplankton in informing ocean conservation and management.

## DEGREES

2019 – 2024	<b>Doctor of Philosophy in Oceanography</b> Department of Earth, Ocean, and Atmospheric Sciences, University of British Columbia Thesis: <i>Structure and functioning of zooplankton communities of the Canadian Northeast Pacific Ocean.</i>
2014 – 2017	<b>Master of Science in Marine Science</b> Marine Science Institute, University of the Philippines Thesis: <i>Philippine coral reef connectivity and network analysis.</i>
2008 – 2012	<b>Bachelor of Science in Psychology, magna cum laude</b> College of Social Science and Philosophy, University of the Philippines

## WORK EXPERIENCE

Sep 2024 – present	<b>Postdoctoral Research Fellow – Numerical Ecosystems and Oceanography</b> Department of Biology, Université Laval, Canada
Jun 2024 – Aug 2024	<b>Postdoctoral Research Fellow - Pelagic Ecosystems Laboratory</b> Institute for the Oceans and Fisheries, University of British Columbia, Canada
May 2019 – May 2024	<b>PhD Candidate - Pelagic Ecosystems Laboratory</b> Institute for the Oceans and Fisheries, University of British Columbia, Canada
Jan 2016 – Dec 2018	<b>Masters Scholar - Capturing Coral Reef and Related Ecosystem Services Project</b> Marine Science Institute, University of the Philippines Diliman, Philippines
Jul 2012 – Dec 2015	<b>Research Assistant - Biological Oceanography and Modelling of Ecosystems Lab</b> Marine Science Institute, University of the Philippines Diliman, Philippines

## AWARDS AND GRANTS

2024	Paul J. Harrison Memorial Award in Oceanography, University of British Columbia, 2,800 CAD
2023	Zooplankton Production Symposium Travel Grant, 1,400 CAD Department of Earth, Ocean and Atmospheric Sciences Graduate Scholarship, University of British Columbia, 1,500 CAD Association for the Sciences of Limnology and Oceanography Student Travel Grant, 800 USD
2022	Canadian Institute of Ecology and Evolution – Living Data Project grant for organizing a working group, 13,800 CAD W.H. Mathews Scholarship, University of British Columbia, 5,000 CAD
2021	NSERC Alexander Graham Bell Canada Graduate Scholarship-Doctoral, 105,000 CAD Paul J. Harrison Memorial Award in Oceanography, University of British Columbia, 4,300 CAD International Biogeography Society Student Travel Award, 500 USD
2020	Four-year Doctoral Fellowship, University of British Columbia, 18,200 CAD
2016	MSc Scholarship, Marine Environment and Resources Foundation, Inc., ~7,000 USD

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## PEER-REVIEWED PUBLICATIONS

- Titocci, J.\*, **Pata, P.R.\***, Durazzano, T., [and 21 others] (2025). Pathways for converting zooplankton traits to ecological insight are paved with Findable, Accessible, Interoperable and Reusable (FAIR) data practices. *ICES Journal of Marine Science*, 82, no. 2 (2025): fsaf017. (\*co-first authors).
- Pata, P.R.**, Galbraith, M., Young, K., Margolin, A., Perry, R.I., and Hunt, B.P.V. (2024). Data-driven determination of zooplankton bioregions and robustness analysis. *MethodsX*, 12, 102676.
- Pata, P.R.**, and Hunt, B.P.V. (2023). Harmonizing marine zooplankton trait data towards a mechanistic understanding of ecosystem functioning. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.12478>.
- Pata, P.R.**, Galbraith, M., Young, K., Margolin, A., Perry, R.I., and Hunt, B.P.V. (2022). Persistent zooplankton bioregions reflect long-term consistency of community composition and oceanographic drivers in the NE Pacific. *Progress in Oceanography*, 206, 102849.
- Currie, J., Blain, S.A., Emry, S., Hebert, K., Xie, G., Moore, N., Wang, X., Brown, A., Burant, J.B., Grevstad, L., Marconi, V., McRae, L., Mezzini, S., **Pata, P.R.**, and Freeman, R. (2022). Assessing the representation of species included within the Canadian Living Planet Index. *FACETS*, 7: 1121–1141.
- Pata, P.R.**, Yñiguez A.T. (2021). Spatial planning insights for Philippine coral reef conservation using larval connectivity networks. *Frontiers in Marine Science*, 8, 719691.
- Pata, P.R.**, Yñiguez A.T., Deauna, J.D., De Guzman, A.B., Jimenez, C.R., Borja-del Rosario, R., and Villanoy, C. (2021). Insights into the environmental conditions contributing to variability in the larval recruitment of the tropical sardine *Sardinella lemuru*. *Ecological Modelling*, 451, 109570.
- Cabasan, J.P., Arceo, H.O., **Pata, P.R.**, Labrador, K.L., Casauay, R.B., Miller, N., Rodriguez, M.V.B. (2021). Combining information on otolith morphometrics and larval connectivity models to infer stock structure of *Plectropomus leopardus* in the Philippines. *Marine Ecology Progress Series*, 679, 115-131.
- Pata, P.R.**, Yñiguez A.T. (2019). Larval connectivity patterns of the North Indo-West Pacific coral reefs. *PLoS ONE* 14(7): e0219913.

## JOURNAL PEER REVIEW

2024	Progress in Oceanography; Regional Studies in Marine Science (Elsevier) Journal of Biogeography; Global Change Biology (Wiley-Blackwell)
2023	Bulletin of Marine Science (Rosenstiel School of Marine, Atmospheric, and Earth Science)
2023	Coral Reefs (Springer)
2022	Marine Pollution Bulletin (Elsevier)

## EXPERIENCE AT SEA

Aug 11, 2022 & May 18, 2023	Howe Sound, British Columbia small-vessel field sampling Institute for the Oceans and Fisheries, University of British Columbia
Jul 4 – 14, 2022	Quadra Island and Bute Inlet, British Columbia small-vessel field sampling Institute for the Oceans and Fisheries, University of British Columbia
Mar 2 – 10, 2014, Feb 18 – 26, 2013	Bohol Sea – Zamboanga Upwelling Cruise aboard MV <i>DA-BFAR</i> Marine Science Institute, University of the Philippines Diliman
May 7 – 16, 2013	Luzon Strait Cruise aboard R/V <i>Roger Revelle</i> Scripps Institute of Oceanography, University of California, San Diego
2012 – 2016	Various small-vessel field work at different areas of the Philippines

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## TECHNOLOGY TRANSFER

Horigue, V., Balingit A.C., **Pata P.R.**, Villanoy, C.L., Quibilan, M.C., Licuanan, W.Y., and Aliño, P.M. (2018) Fish SPACE: a spatial tool for marine reserve design and fisheries management [Computer Software]. Capturing Coral Reefs and Related Ecosystems Project (CCRES). Quezon City, Philippines.

## TECHNICAL SKILLS

- Computer programming in R, Matlab, Java, and Python
- Numerical ecology analysis, particularly multivariate statistics
- Analysis of satellite and physical oceanography data
- Oceanographic data collection and laboratory processing
- Individual-based modelling
- Species distribution modelling
- Ordinary differential equation modelling
- GIS and spatial decision-support tools with QGIS and Marxan
- Ocean circulation modelling with HYCOM and Delft3d
- Administering workshops, stakeholder interviews, and focused group discussions
- CMAS 1-Star Open Water SCUBA diver
- Developing psychometric scales and social science questionnaires
- Scientific illustration and graphic design

## WORKING GROUPS AND ACADEMIC TRAININGS

<i>2014 – 2024</i>	13 international and regional conference presentations. 3 invited speaker talks.
<i>Mar 2024</i>	Workshop co-organizer for: Approaches towards findable, accessible, interoperable and reusable (FAIR) zooplankton trait data as stepping stones to improved functional ecology. 7 <sup>th</sup> ICES-PICES Zooplankton Production Symposium, Tasmania.
<i>Feb 2024</i>	Instructional Skills Workshop. Center for Teaching, Learning, and Technology. University of British Columbia.
<i>Feb 2023</i>	Living Data Project working group leader: Linking species distributions and traits to understand ecosystem functioning. Vancouver, Canada.
<i>Apr 2022</i>	Certificate in Synthetic and Collaborative Science – Canadian Institute of Ecology and Evolution (CIEE).
<i>Aug – Sep 2021</i>	Living Data Project working group: Finding indicator species by assessing the utility of sampled abundance indices. Online.
<i>Oct – Nov 2019</i>	Foundations of Pedagogy Course. Center for Teaching, Learning, and Technology. University of British Columbia.
<i>Jun 2019</i>	WestGrid Research Computing Summer School. University of British Columbia.
<i>Aug – Sep 2016</i>	South-East Asia Network for Education and Training (SEA-NET) Project. Summer intern under Prof. Sen Jan, Institute of Oceanography, National Taiwan University, Taiwan.
<i>Oct 2014</i>	Training in ASEAN Oceanography, Marine and Coastal Resources Network Conference, Phuket, Thailand.