Muhammed Alolade Oyinlola, PhD

The University of British Columbia, 4207 - 6270 University Boulevard Vancouver BC, V6T1Z4

■ oyinlola.ma@gmail.com

6047802711

Google Scholar

Profile

My career goal is to combine my passion for science to solve global environmental challenges such as anthropogenic impacts on the environment and ecosystems, climate change, and food security, thereby improving people's well-being. I also believe diverse research teams (disciplines, culture, gender, etc.) are necessary to solve these challenges. My career aims are to foster, support, and participate in the development and operation of such teams.

Education

2019/10 PhD Zoology

Vancouver, Canada University of British Columbia

Dissertation: "Global seafood production from mariculture: current status,

trends and its future under climate change."

Supervisor: Prof. William Cheung

2014/09 MSc International Studies in Aquatic Tropical Ecology

Bremen, Germany Universität Bremen

Thesis: "The dynamics and reproduction potential of Bonga Shad in Cross

River estuary and adjacent coastal waters." Supervisors: Dr Wener Ekau, Prof. Thomas Brey

2010/04 BSc Aquaculture and Fisheries Management

Abeokuta, Nigeria University of Agriculture, Abeokuta

Thesis: Growth, feed utilization and condition factor of Clarias gariepinus

fingerlings fed ad-libitum in outdoor and indoor hatcheries

Supervisor: Prof Abdul Waidi

Professional Experience

2021/09 – present Vancouver, Canada

Postdoctoral Fellow (Joint)

Institut National de la Recherche Scientifique (INRS), Quebec and Zoology Department, The University of British Columbia

- Investigate alternative management/policy for water releases to account for multiple species: Sockeye, Chinook, and White Sturgeon in the Nechako River
- Develop a new approach to evaluate the impact of water releases on fish species using hydrological models and fish physiological data

- Improve the understanding of thermal preferences and limits for key fish species in the Nechako River
- Use climate change scenarios to investigate future flow and temperature and possible mitigation strategies
- Organise Nechako River shareholders' meeting

2019/11 – 2021/09 Vancouver, Canada

Postdoctoral Fellow

Institute for the Oceans and Fisheries

- Studied the effects of changing ocean on fisheries and aquaculture using bioeconomic models
- Coordinated the documentation of the DIVERSE model
- Designed scenarios development study for the Northern Shelf Bioregion
- Organised stakeholders workshops

2015/06 – 2019/10 Vancouver, Canada

Research Assistant

Institute for the Oceans and Fisheries

- Researched seafood production from mariculture under climate change
- Updated the global mariculture database
- Developed the global farm gate price database
- Developed the site selection model for mariculture
- Developed the Global Mariculture Potential model (GOMAP)
- Organised mariculture workshops and public discussion

2015/01 – 2015/04 Mosta, Malta

Aquatic Technician Intern

Aqua Biotech Group

- Wet-labs management and trials operations
- Hatchery operations
- · Recirculatory aquaculture systems management
- · Water quality assessment

2014/09 – 2014/09 Bremen, Germany

Research Assistant

Leibniz Centre for Tropical Marine Ecology

- Survey data computation, analysis on marine resources use in Tanzania
- Literature review

2013/10 – 2014/08 Bremen, Germany

Student Researcher

Leibniz Centre for Tropical Marine Ecology

- Conducted research campaign to Cross River estuary, Nigeria on Bonga shad fisheries
- Estimation of population dynamics and reproduction potential
- Age and growth determination by scales and otoliths analysis

2011/08 – 2013/09 Lagos, Nigeria

Extension Officer

Latia Global Agricultural Investment Limited, Ikotun

- Provided support to fish farmers
- Coordinated fish breeding workshops
- · Provided business and marketing advise

2009/08 – 2010/04 Abeokuta, Nigeria	 Student Researcher University of Agriculture, Abeokuta Conducted research into the growth performance of Clarias gariepinus Developed new economical compounded aquafeed for Clarias gariepinus Determination of optimal stocking density for Clarias gariepinus in recirculatory aquaculture systems
2009/01 – 2009/04	Aquaculture technician intern
Ibadan, Nigeria	Chi Limited, Ajanla Farms, Lagos-Ibadan Express Road
2008/12 - 2008/12	Aquaculture technician intern
Lagos, Nigeria	Nigerian Institute for Oceanography and Marine Research (NIOMR)
2008/10 - 2008/11	Aquaculture technician intern
Abeokuta, Nigeria	UNAAB Integrated Fish Farm, Alabata Road
2008/07 - 2008/07	Research Assistant
Abeokuta, Nigeria	University of Agriculture, Abeokuta
	 Collection of morphometric data and fish gut content analysis

Teaching Experience

2020 – present Vancouver, Canada	Guest Lecturer BIOL 420:Ocean conservation and sustainability UBC interdisciplinary conservation course Topic: The future of fishes, fisheries and aquaculture under climate change
2021/02 – 2021/02 Vancouver, Canada	Guest Lecturer Scripps Institution of Oceanography, University of California Seminar Topic: Global seafood production from mariculture
2021/11 – 2021/11 Vancouver, Canada	Guest Lecturer UBC EOSC 478 Introduction to Fisheries Science Topic: Global aquaculture: trends and future under climate change
2021/10 – 2021/10 Vancouver, Canada	Guest Lecturer UBC ZOOL 503: Comparative Animal Physiology Topic: Future of mariculture under climate change
2021/07 – 2021/07 Bogor, Indonesia	Guest Speaker Vocational Studies IPB Univeristy, Indonesia summer course program Sustainability on Tropical Animal Production, with the specific theme Creating Innovation of the Animal Production Sector in the New Normal Era Topic: Aquaculture innovation to mitigate and adapt to climate change

2020/12 – 2020/12 **Guest lecturer**

Vancouver, Canada ZOOL 500B: Directed Studies in Zoology.

Topic: Ecological niches models and their usage

2018/07 – 2018/07 **Guest Lecturer**

Xiamen, China Asia-Pacific Economic Cooperation (APEC) Training Workshop Eco-aquaculture

and Utilization of Fishery Waste

Topic: Specie distribution models application in aquaculture

2010/07 – 2011/06 Training and Resource Officer

Makurdi, Nigeria Department of Fisheries, Training and Extension Centre, Ministry of Agriculture,

Makurdi

Organising several workshops and training classes for participants in fish

production, farm design, and general fish farming management

■ Publications (Journal papers peer review)

Oyinlola, M. A., Khorsandi, M., Penman, R., Earhart, M. L., Arsenault, R., Brauner, C. J., & St-Hilaire, A. (2023). Hydrothermal impacts of water

release on early life stages of white Sturgeon in the Nechako river, (BC

Canada).

Journal of Thermal Biology, 103682.

2022 Sumaila U. Rashid, Pierruci Andrea, Oyinlola Muhammed A., Cannas Rita,

Froese Rainer, Glaser Sarah, Jacquet Jennifer, Kaiser Brooks A., Issifu Ibrahim, Micheli Fiorenza, Naylor Rosamond, Pauly Daniel. Aquaculture

over-optimism?

Frontiers in Marine Science 9, doi:10.3389/fmars.2022.984354.

2022 Oyinlola, M. A., Reygondeau, G., Wabnitz, C. C. C., Frölicher, T. L., Lam, V.

W. Y., & Cheung, W.W. L. Projecting global mariculture production and

adaptation pathways under climate change

Global Change Biology, 00, 1–17. https://doi.org/10.1111/gcb.15991

2022 Cheung, W.W., Palacios-Abrantes, J., Frölicher, T.L., Palomares, M.L.,

Clarke, T., Lam, V.W., Oyinlola, M.A., Pauly, D., Reygondeau, G., Sumaila, U.R. and Teh, L.C., 2022. Rebuilding fish biomass for the world's marine

ecoregions under climate change.

Global change biology, 28(21), pp.6254-6267.

2021 Cisneros-Montemayor, A.M., Moreno-Báez, M., Reygondeau, G., Cheung,

W.W., Crosman, K.M., González-Espinosa, P.C., Lam, V.W., Oyinlola, M.A., Singh, G.G., Swartz, W., Zheng, C.W. and Ota, Y. Enabling conditions for

an equitable and sustainable blue economy

Nature, 591(7850), pp.396-401.

2021	Cheung, W.W., Frölicher, T.L., Lam, V.W., Oyinlola, M.A., Reygondeau, G., Sumaila, U.R., Tai, T.C., Teh, L.C. and Wabnitz, C.C. Marine high temperature extremes amplify the impacts of climate change on fish and fisheries Science Advances, 7(40), p.eabh0895.
2021	Tigchelaar, M., Cheung, W.W., Mohammed, E.Y., Phillips, M.J., Payne, H.J., Selig, E.R., Wabnitz, C.C., Oyinlola, M.A., Frölicher, T.L., Gephart, J.A. and Golden, C.D. Compound climate risks threaten aquatic food system benefits Nature Food, 2(9), pp.673-682.
2020	Gorosábel, A., Estigarribia, L., Lopes, L. F., Martinez, A. M., Martínez-Lanfranco, J. A., Adenle, A. A., Rivera-Rebella, C., and Oyinlola, M.A. Insights for policy-based conservation strategies for the Rio de la Plata Grasslands through the IPBES framework. Biota Neotropica, 20.
2020	Oyinlola, M. A., Reygondeau, G., Wabnitz, C. C., and Cheung, W. W. Projecting global mariculture diversity under climate change <i>Global change biology</i> , 26(4), 2134-2148.
2019	Cisneros-Montemayor, A.M., Moreno-Báez, M., Voyer, M., Allison, E.H., Cheung, W.W.L., Hessing-Lewis, M., Oyinlola, M.A., Singh, G.G., Swartz, W., and Ota, Y. Social equity and benefits as the nexus of a transformative Blue Economy: A sectoral review of implications. <i>Marine Policy</i> 109, 103702.
2018	Cheung, W. W., and Oyinlola, M. A. Vulnerability of flatfish and their fisheries to climate change. Journal of sea research, 140, 1-10.
2018	Oyinlola, M. A., Reygondeau, G., Wabnitz, C. C., Troell, M., and Cheung, W. W. Global estimation of areas with suitable environmental conditions for mariculture species.

Publications in progress

St-Hilaire, A., Oyinlola, M.A., Rincon, E., and Ferchichia, H.Six decades of research on river temperature in Canada.

PloS one, 13(1), e0191086.

In-Press in Canadian Water Resources Journal

Cheung, W.W.L., Maire, E., Oyinlola, M.A., Robinson, J., Graham, N.A,J., Lam, V.W. Y., MacNeil, A. and Hicks, C.C. Past and future seafood nutrient availability highlights climate driven global disparities"

In-Press in nature

Oyinlola, M.A., Khorsandi, M., Mayer, N., Butler, N., Van Wert, J.C., Eliason, E.J., Arsenault. R., Brauner, C.J., Hinch, S.G., and St-Hilaire, A. Evaluating the effectiveness of the current Nechako water management program on Chinook salmon under climate change scenarios.

Under review in Journal of Environmental Management

Oyinlola, M.A and Cheung, W.W.L. Navigating Uncertainty: Exploring Future Changes in Canada's Mariculture Production, Prices, and Employment under Different Emissions Scenarios.

Manuscript in preparation

Oyinlola, M. A., Wabnitz, C. C., Lam, V.W.Y., Nesar, A., Angkiriwang, P., Cox, R., Cao, L., Engler-Palma, C., and Cheung, W. W. "Scenarios for mariculture development in the twenty-first century using shared socioeconomic pathways"

Manuscript in preparation

Oyinlola, M.A. Empowering Africa's Future: Agenda 2063's Impact on Sustainable Seafood Security.

Manuscript in preparation

🕏 Books

Dichiera, A., Jung, E., Oyinlola, M.A., and Brauner, C.J. The Future of Amazonian Aquatic Biota (Chapter 23: Limited Thermal Capacity of Amazonian Fishes to Survive in a Warming World, Physiological and Biochemical Processes)

In-Press

2020

Adeyanju S., Mogaji E., Olusola J., and Oyinlola M.A. Factors Influencing Students' Choice of a Federal University: A Case Study of a Nigerian Federal University. In: Mogaji E., Maringe F., Ebo Hinson R. (eds) Higher Education Marketing in Africa

Palgrave Macmillan, Cham

2019

Oyinlola, M.A. Mariculture: perception and prospects under climate change. In A.M. Cisneros-Montemayor, W.W.L. Cheung, & Y. Ota (Eds), Predicting future oceans: Sustainability of ocean and human systems amidst global environmental change

Elsevier (pp 227- 239).

🕏 Report

2019

Cheung, W. W. L., and Oyinlola, M. A. Dynamic Integrated Marine Climate, Biodiversity, Fisheries, Aquaculture and Seafood Market Model (DIVERSE) [R]. doi:http://dx.doi.org/10.14288/1.0387414

2019

Oyinlola, M. A. Global seafood production from mariculture: current status, trends and its future under climate change (Doctoral dissertation, University of British Columbia).

http://hdl.handle.net/2429/72044

PBL. Report on the workshop 'From visions to scenarios for nature and nature's contributions to people for the 21st century'. PBL Netherlands

Environmental Assessment Agency

The Hague, 2019 PBL publication number: 3756

Data statistics and modelling skills

Statistics and Machine Learning

Packages

R-Statistics, Matlab, G-Power, JMP

Modelling Packages

Species distribution models, Populus, Simile,

and Arcview

GIS package

São Pedro, Brazil

ArcGIS, QGIS, Grass GIS



Courses and certifications

2019/11 Foundations of Pedagogy 1

Vancouver, Canada Centre for the Integration of Research, Teaching and Learning (CIRTL)

Foundations of Project Management I 2019/10

Vancouver, Canada UBC-Graduate Pathways to Success and Mitacs Training

Scenarios and Modelling on Biodiversity and Ecosystem Services to 2019/07

Support Human Well-Being

São Paulo School of Advanced Science, São Paulo Research Foundation –

FAPESP

2016/08 ClimEco5 - Towards more resilient oceans: Predicting and projecting

future changes in the ocean and their impacts on human societies -Natal, Brazil

Integrated Marine Biosphere Research – IMBER

2013/09 Sustainable Natural Resource Management in Sub-Sahara Africa

Berlin, Germany DAAD Graduate Academic (Summer School)

2011/03 **Proficiency Certificate in Management, (PCM)**

Nigeria Institute of Management Nigeria

Awards

Research Fellowship 2015/05

> Nippon Foundation – Nereus Program, Canada Four-year research fellowship (2015-2019)

UBC Faculty of Applied Science Graduate Award 2015/05

Faculty of Science

Tuition awards (2015-2019)

International Tuition Awards 2015/05

Graduate and Postdoctoral Studies Graduate School

Tuition Awards (2015 - 2019)

Erasmus Plus Grants 2015/01

European Union

Grants support towards education, research and training

MSc Scholarship 2012/08

> Deutscher Akademischer Austauschdienst, Germany Educational and research scholarship (2012-2014)

Educational Scholarship 2009/01

> Nigerian Muslim Education Network (NIMENT), Nigeria Two-year educational scholarship (2007-2009)

***** Selected Conference abstract

2023 Oyinlola, M.A. Hydrothermal impacts of water release on early life stage

of resident species in the Nechako River, \(\mathbb{Q}(B.C. Canada). \)

CWRA 2023 National Conference

2019 Oyinlola, M.A. Mariculture: perception and prospects under climate

Princeton University, change.

NJ, USA

Halifax, Canada

Nippon Foundation Nereus Ocean Science Conference 2019 – Reflecting Back

and Moving Forward

2018 Oyinlola, M.A., Reygondeau, G., Cashion, T., Wabnitz, C. C., & Cheung, W.

Washington, DC, USA W. Changes in fishmeal and fish oil supply under climate change.

In the proceeding of the 4th international symposium: The effect of climate

change on the world's oceans

2016

Oyinlola, M.A., Reygondeau, G, and Cheung W.W.L. Aquaculture and it's Montpellier, France future under climate change: A new approach to impacts, adaptation and

vulnerability research.

In the proceeding of the International Conference on Scenarios and Models of

Biodiversity and Ecosystem Services in Support of Decision Making

2014

Oyinlola, M.A. and Adeboyejo F.M. Modelling the impact of sea surface Stralsund, Germany temperature on global mariculture production using ArcGIS

In the proceeding of YouMares 2014: Opportunities and Solutions- Research for

Our Changing Oceans,

2013 Stuttgart, Germany Adeboyejo, F.M and Oyinlola, M.A. Hot spots to the potential impact of

sea-level rise within coastal communities in Lagos state

In the proceeding of Tropentag Conference 2013: Agricultural development

within the rural-urban continuum

Oyinlola, M.A. and Abdul, W.O. Growth, Feed Utilization and Condition 2013 Stuttgart, Germany

Factor of Clarias gariepinus Fingerlings Fed ad-libitum in Different

Hatcheries

In the proceeding of Tropentag Conference 2013: Agricultural development

within the rural-urban continuum

Oyinlola, M.A and Lubuku, V.M. Mollusk fisheries and aquaculture: A tool 2013

for significant removal of CO2 from the global budget?

Annual ISATEC Seminar

A Community service

Bremen, Germany

Vancouver, Canada Cook

2020/09 – 2023/09 Canadian Parks and Wilderness Society, BC Chapter

Board Member Vancouver, Canada

Nigerian Red Cross Society 2010/07 – 2011/06

Makurdi, Nigeria Member

2010/07 - 2011/06 Federal Road Safety Club, Nigeria

Makurdi, Nigeria Member

Media expose

World - Global aquaculture deemed to be "in decline" 2022/11

Coastal News Todal

2022/11 Study highlights a slowed global aquaculture growth rate and need to

rebuild wild fish stocks 🛮

Global Seafood Alliance

Seafood farming's growth rate has already peaked, and now it's in 2022/11

> decline 🛮 oceans.ubc.ca

2022/11 Global aquaculture deemed to be "in decline"

The Fish Site

Growing aquaculture industry faces climate challenges

☑ 2022/04

Coastalreview.org

2021/12 Lowering emissions, plant-based diets needed to prevent farmed

> seafood declines 🛮 Pique newsmagazine

2021/12	Farmed seafood supply at risk if we don't act on climate change, study finds ☑ independent.co.uk
	Climate change poses risk to aquaculture ☑ Business in Vancouver
2021/12	Lowering emissions, plant-based diets needed to prevent farmed seafood declines Vancouver is awesome
2021/12	Study: Climate Change Puts Farmed Seafood Production At Risk The Maritime Executive:
2021/12	Farmed seafood supply is at risk due to climate change @ earth.com
2012/12	Lowering emissions, plant-based diets needed to prevent farmed seafood declines coastreporter.net
2021/12	Farmed seafood supply at risk if we don't act on climate change ☐ news.ubc.ca
2021/12	Global supplies of farmed seafood at risk if we refuse to act on climate change ☑ thefishsite.com
2021/12	Farmed seafood supply at risk if climate change goes unaddressed, study predicts upi.com
2021/12	Will Climate Change Impact Future Global Farmed Seafood Supply? azocleantech.com
2021/12	Farmed Seafood Supply at Risk if We Don't Act on Climate Change
2021/12	Study finds aquaculture production vulnerable to climate change
2021/12	Farmed seafood supply at risk if we don't act on climate change @ phys.org
2020/09	B.C. fish farming may be in hot water due to climate change \square <i>nationalobserver.com</i>

	Climate change may push farmed salmon out of the market ☐ cortescurrents.ca
2020/03	Latest Innovative Sustainability Research Studies How Climate Change Will Impact Seafood Security ☑ Fundingtheocean.org
2020/02	Specie hybridization, land-based tech needed to deter climate change impact ☑ rastechmagazine.com
2020/02	Study: Ocean fish farming in tropics and sub-tropics most impacted by climate change
2020/02	Ocean fish farming in tropics and sub-tropics most impacted by climate change: UBC study ☑ UBC News
2020/02	Study: ocean fish farming in tropics and sub-tropics most impacted by climate change ② Savingseafood.org
2020/02	Study: Ocean fish farming in tropics and sub-tropics most impacted by climate change ☑ Domnung.com
2019/05	Algas comemstible ☑ Ambientum
2019/04	Global area estimate for marine aquaculture development <i>Aquaculture alliance.org</i>
2018/03	What's holding back marine aquaculture? (It's not what you think) Aquaculture North America
2018/03	What's hampering aquaculture? □ Fish Information and Services
2017/11	This Seaweed is good for you and the environment ☑ National Geographic
2013/09	Can you live without coffee? ☑ Tropentag blog
2007/11	Nigeria Muslim Network Supports Students This Day Newspaper

战 References

Dr. William Cheung, *Professor and Director*,

Institute for the Oceans and Fisheries, The Univeristy of British Columbia, Vancouver, Canada w.cheung@oceans.ubc.ca, (778) 837 7252

Dr. Colin Brauner, *Professor*,

Department of Zoology, The University of British Columbia, Vancouver, Canada brauner@zoology.ubc.ca, (604) 822 3372

Dr. André St-Hilaire, *Professeur-chercheur*,

Institut national de la recherche scientifique, Centre Eau Terre Environnement andre.st-hilaire@inrs.ca, (418) 654 3113