

Patrik John Gustav Henriksson, PhD, Curriculum Vitae

Date of birth: 14-Nov-1979

Nationality: Swedish

Employment: Researcher, Stockholm University

Current affiliations:

1. Stockholm Resilience Centre, Stockholm, Sweden
2. WorldFish, Penang, Malaysia
3. Beijer Institute of Ecological Economics, Stockholm, Sweden

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Patrik Henriksson has a background in marine biology, specialising on evaluating aquaculture using life cycle assessment (LCA). He has also been working with broader food related environmental issues and antimicrobial use. Since 2015 PH has held a joint appointment as a researcher between [Stockholm Resilience Centre \(SRC\)](#), the [Beijer Institute of Ecological Economics](#), and [WorldFish](#), a CGIAR centre working on research partnerships for a food secure future.

Dr. Henriksson has published 50 scientific publications: 42 were peer-reviewed articles, three were book chapters, and five were commentaries. of PJGH is the lead author of 16 of these publications. He has 2,464 citations in total, 2,096 of which were in 2016 or later. This generates an H-index of 23 according to Google Scholar. He has also produced several reports and popular articles.

Education

PhD

Evaluating European Imports of Asian Aquaculture Products using Statistically Supported Life Cycle Assessments. 2010-2015. Institute of Environmental Sciences (CML), Faculty of Science, Leiden University, Netherlands. [ISBN: 978-94-6203-952-0](#).

MSc

Master of Science in Marine Biology with specialization on Ecotoxicology. Department of Systems Ecology, Stockholm University. 2008-2009.

MSc thesis: Energy use in Tropical Aquaculture.

Undergraduate Studies

Marine Biology, Lund University, Sweden, 2-years. 2004-2006.

Marine Biology, University of British Columbia, Canada, 6 months. 2006.

Marine Biology, Bangor University, Wales, UK, 1 year. 2007-2008.*

Systems Ecology, Stockholm University, Sweden, 18 months. 2007 and 2008-2009.

Professional Appointments

Positions

2019-present Researcher at [Stockholm Resilience Centre \(Stockholm University\)](#), the [Beijer Institute of Ecological Economics](#), and [WorldFish](#)

2015-2019 Post-doc at [Stockholm Resilience Centre \(Stockholm University\)](#), the [Beijer Institute of Ecological Economics](#), and [WorldFish](#)

Tutoring Experiences

Four graduated MSc students, and currently co-supervising one PhD student. Have been guest lecturer in various undergraduate and graduate courses.

Training: Research supervision — theory and practice, 3 ECTS, Stockholm University

Awards

King Carl XVI Gustaf's 50-year foundation 2021 grant for Science, Technology, and Environment.

The Stans award for the best CML scientific publications of 2015.

First Place - Student Oral Presentation Award, World Aquaculture Society's AQUA 2012 conference, Prague, Czech Republic

Funded Grant Proposals

[Inequality and the sustainable development goals](#): A multi-scale analysis of tradeoffs, synergies, and interactions. A FORMAS (2020-00454) grant allowing for continued collaboration with the [Beijer Young Scholar network](#) to explore inequalities in Indonesia's seafood and palm oil sectors. The project will run until 2024. €1,967,161.

[SEAWin](#), FORMAS Sustainable Food Production and Consumption. The SeaWin project (originally SEACHange) was financed in 2016. It involves four partners, including SP in Gothenburg and Dalhousie University. The aim of the project is to evaluate Swedish seafood consumption and its consequences, in order to allow for more sustainable recommendations. The project will run until 2021. €983,849.

VINNOVA-VINNMER Marie Curie Incoming, Evaluating socio-ecological interactions in Asian seafood production using Life Cycle Sustainability Assessment. The post-doc research evaluates the environmental sustainability of aquatic food production chains using novel impact categories and Life Cycle Sustainability Assessments (LCAs). €220,000.

IDREEM ([IDREEM.eu](#)), LCA of multi-trophic aquaculture systems in Europe, EU FP7
This grant proposal was part of the European commissions' FP7-ENV-2012 call and was submitted in early 2012. It is a two-stage grant proposal with 14 partners, of which CML had an overarching role as one of the leading beneficiaries. The coordinating participant is the

Scottish Association for Marine Science (SAMS). The proposal was fully funded and officially started in October 2012. €4,206,000.

Leaves of absence

Paternity leave: May-September 2018, and May-August 2021.

Publications, Peer-reviewed

1. [Henriksson PJG](#), Troell M, Banks LK, Belton B, et al. (2021) Interventions for improving the productivity and environmental performance of global aquaculture for future food security doi: 10.1016/j.oneear.2021.08.009
2. Gephart J, [Henriksson PJG](#), Parker RWR, Shepon A, et al. (2021) Environmental performance of blue foods. *Nature*. doi: 10.1038/s41586-021-03889-2
3. Blasiak R, Dauriach A, Jouffray J-B, et al (2021) Evolving Perspectives of Stewardship in the Seafood Industry. *Front Mar Sci*. doi: 10.3389/fmars.2021.671837
4. [Henriksson PJG](#), Cucurachi S, Guinée JB, et al (2021) A rapid review of meta-analyses and systematic reviews of environmental footprints of food commodities and diets. *Glob Food Sec*. doi: 10.1016/j.gfs.2021.100508
5. Léger A, Lambraki I, Graells T, Cousins M, [Henriksson PJG](#), et al (2021) AMR-Intervene: a social–ecological framework to capture the diversity of actions to tackle antimicrobial resistance from a One Health perspective. *J Antimicrob Chemother* 76:1–21. doi: 10.1093/jac/dkaa394
6. Nyberg O, Rico A, Guinée JB, [Henriksson PJG](#) (2021) Characterizing antibiotics in LCA—a review of current practices and proposed novel approaches for including resistance. *Int J Life Cycle Assess*. doi: 10.1007/s11367-021-01908-y
7. Shepon A, Gephart JA, Golden CD, [Henriksson PJG](#), et al (2021) Exploring sustainable aquaculture development using a nutrition-sensitive approach. *Glob Environ Chang* 69:102285. doi: 10.1016/j.gloenvcha.2021.102285
8. Bergman K, [Henriksson PJG](#), Hornborg S, et al (2020) Recirculating Aquaculture Is Possible without Major Energy Tradeoff: Life Cycle Assessment of Warmwater Fish Farming in Sweden. *Environ Sci Technol* 54:16062–16070. doi: 10.1021/acs.est.0c01100
9. Shepon A, Gephart JA, [Henriksson PJG](#), et al (2020) Reorientation of aquaculture production systems can reduce environmental impacts and improve nutrition security in Bangladesh. *Nat Food* 1:640–647. doi: 10.1038/s43016-020-00156-x
10. Wernli D, Jørgensen PS, Parmley EJ, et al (2020) Evidence for action: a One Health learning platform on interventions to tackle antimicrobial resistance. *Lancet Infect Dis* 20:e307–e311. doi: 10.1016/S1473-3099(20)30392-3
11. Crona B, Wassénius E, Troell M, Barclay K, Mallory T, Fabinyi M, Zhang W, Lam VWY, Cao L, [Henriksson PJG](#), Eriksson H (2020) China at a Crossroads: An Analysis of China's Changing Seafood Production and Consumption. *One Earth*.
12. Jørgensen PS, Folke C, [Henriksson PJG](#), et al. (2020) Coevolutionary governance of antibiotic and pesticide resistance. *Trends Ecol. Evol.* 35(6):484-494.
13. Heijungs, R., J. B. Guinée, A. Mendoza Beltrán, [Henriksson PJG](#), Groen E (2019) Everything is relative and nothing is certain. Toward a theory and practice of

- comparative probabilistic LCA. *International Journal of Life Cycle Assessment* 24(9):1573–1579.
14. Henriksson PJG, Banks LK, Suri SK, Pratiwi TY, Fatan NA, Troell M (2019) Indonesian aquaculture futures — identifying interventions for reducing environmental impacts. *Environmental Research Letters*. 14(12):124062
 15. Pelletier N, Parker R, Henriksson PJG (2019) Environmental nutrition and LCA. Pages 141–156 in J. Sabaté, editor. *Environmental Nutrition Connecting Health and Nutrition with Environmentally Sustainable Diets*. 1st edition. Elsevier Academic Press.
 16. Tlusty, M. F., P. Tyedmers, M. Bailey, F. Ziegler, PJG. Henriksson, C. Béné, S. Bush, R. Newton, F. Asche, DC Little, M. Troell, and M. Jonell (2019) Reframing the sustainable seafood narrative. *Global Environmental Change* 59(September):101991.
 17. Tlusty, M., P. Tyedmers, F. Ziegler, M. Jonell, PJG Henriksson, R. Newton, D. Little, J. Fry, D. Love, and L. Cao (2018) Commentary: comparing efficiency in aquatic and terrestrial animal production systems. *Environmental Research Letters* 13(12):128001.
 18. Hamann M, Berry K, Chaigneau T, Curry T, Heilmayr R, Henriksson PJG, Hentati-Sundberg J, Jina A, Lindkvist E, Lopez-Maldonado Y, Nieminen E, Piaggio M, Qiu J, Rocha JC, Schill C, Shepon A, Tilman AR, Van Den Bijgaart I, and Wu T (2018) Inequality and the Biosphere. *Annual Review of Environment and Resources* 43:61-83.
 19. Henriksson PJG, Belton B, Jahan KM, and Rico A (2018) Measuring the potential for sustainable intensification of aquaculture in Bangladesh using life cycle assessment. *Proceedings of the National Academy of Sciences* 115(12):2958–2963.
 20. Shepon A, Henriksson PJG, and Wu (2018) Conceptualizing a sustainable food system in an automated world: towards a “Eudaimonian” future. *Frontiers in Nutrition*.
 21. Guinée JB, Cucurachi S, Henriksson PJG, and Heijungs R (2018) Digesting the alphabet soup of LCA Digesting the alphabet soup of LCA. *The International Journal of Life Cycle Assessment* (May):6.
 22. Mendoza Beltran A, Prado V, Font Vivanco D, Henriksson PJG, Guinée JB and Heijungs R (2018) Quantified Uncertainties in Comparative Life Cycle Assessment: What Can Be Concluded? *Environ. Sci. Technol.* 52
 23. Henriksson PJG, Rico A, Troell M, Klinger D H, Buschmann A H, Saksida S, Chadag M V. and Zhang W (2017) Unpacking factors influencing antimicrobial use in global aquaculture and their implication for management: a review from a systems perspective *Sustain. Sci. Online*: <http://link.springer.com/10.1007/s11625-017-0511-8>
 24. Troell M, Jonell M, Henriksson PJG (2017) Ocean space for seafood. *Nature Ecology & Evolution*. Doi: 10.1038/s41559-017-0304-6
 25. Gordon LJ, Bignet V, Crona B, Henriksson PJG, van Holt T, Jonell M, Lindahl T, Troell M, Barthel S, Deutsch L, Folke C, Haider J, Rockström J, Queiroz C (2017) Rewiring food systems to enhance human health and biosphere stewardship. *Environmental Research Letters*. Doi: 10.1088/1748-9326/aa81dc.
 26. Henriksson PJG, Mohan C V., Phillips MJ (2017) Evaluation of Different Aquaculture Feed Ingredients in Indonesia Using Life Cycle Assessment. *Indones J Life Cycle Assess Sustain* 1:13–21.

27. [Henriksson PJG](#), Tran N, Mohan CV, et al (2017) Indonesian aquaculture futures ? Evaluating environmental and socioeconomic potentials and limitations. *J Clean Prod* 162:1482–1490. doi: 10.1016/j.jclepro.2017.06.133
28. Gephart JA, Troell M, [Henriksson PJG](#), Beveridge MCM, Verdegem M, Metian M, Mateos LD, Deutsch L (2017) The 'seafood gap' in the food-water nexus literature — issues surrounding freshwater use in seafood production chains 110:505-514
29. Järviö N, [Henriksson PJG](#), Guinée JB (2017) Including GHG emissions from mangrove forests LULUC in LCA: a case study on shrimp farming in the Mekong Delta, Vietnam. *Int J LCA* 23(5):1078-1090
30. Heijungs R, [Henriksson PJG](#), Guinée JB (2017) Pre-calculated LCI systems with uncertainties cannot be used in comparative LCA. *Int J LCA* 22(3):461.
31. Tran N, Rodriguez U.-P, Chan CY, Phillips MJ, Mohan CV, [Henriksson PJG](#), Koeshendrajana S, Suri S, and Hall S (2017) Indonesian aquaculture futures: An analysis of fish supply and demand in Indonesia to 2030 and role of aquaculture using the AsiaFish model. *Marine Policy* 79:25–32.
32. Heijungs R, [Henriksson PJG](#), Guinée JB (2016) Measures of Difference and Significance in the Era of Computer Simulations, Meta-Analysis, and Big Data. *Entropy* 18:361. doi: 10.3390/e18100361
33. Nhu TT, Schaubroeck T, [Henriksson PJG](#), Bosma R, Sorgeloos P, Dewulf J (2016) Environmental impact of non-certified versus certified (ASC) intensive Pangasius aquaculture in Vietnam, a comparison based on a statistically supported LCA. *Environmental Pollution* 219:156-165
34. [Henriksson PJG](#), Dickson M, Allah AMN, Al-Kenawy D, Phillips MJ (2016) Benchmarking the environmental performance of best management practice and genetic improvements in Egyptian aquaculture using Life Cycle Assessment. *Aquaculture* 468:53-59
35. Heijungs R, [Henriksson PJG](#), Guinée JB (2016) Measures of difference and significance in the era of computer simulations, meta-analysis, and big data. *Entropy* 18(10):361
36. [Henriksson PJG](#), Rico, A, Zhang, W, Nahid, AA, Newton, R, et al. (2015) Comparison of Asian Aquaculture Products by Use of Statistically Supported Life Cycle Assessment. *Environ. Sci. Technol.* 10.1021/acs.est.5b04634
37. [Henriksson PJG](#), Troell M, Rico A (2015) Antibiotic use in aquaculture: Some complementing facts. *PNAS*. 10.1073/pnas.1508952112
38. [Henriksson PJG](#), Heijungs R, Dao HM, Phan LT, de Snoo GR, et al. (2015) Product carbon footprints and their uncertainties in comparative decision contexts. *PLoS One*. 10.1371/journal.pone.0121221.
39. Cao L, Naylor RL, [Henriksson PJG](#), Leadbitter D, Metian M, Troell M, Zhang W (2015) China's aquaculture and the world's wild fisheries. *Science* 347: 133–135. 10.1126/science.1260149.
40. [Henriksson PJG](#), Zhang W, Guinée JB (2014) Updated unit process data for coal-based energy in China including parameters for overall dispersions. *Int J of LCA*. 10.1007/s11367-014-0816-0.
41. Jonell M, [Henriksson PJG](#) (2014) Mangrove–shrimp farms in Vietnam—Comparing organic and conventional systems using life cycle assessment. *Aquaculture*. 10.1016/j.aquaculture.2014.11.001

42. [Henriksson PJG](#), Guinée JB, Heijungs R, de Koning A, Green DM (2013) A protocol for horizontal averaging of unit process data—including estimates for uncertainty. *Int J of LCA*. DOI 10.1007/s11367-013-0647-4
43. Rico A, Phu TM, Satapornvanit K, Min J, Shahabuddin AM, [Henriksson PJG](#), Murray F, Little DC, Dalsgaard A, Van den Brink PJ (2013). Use of veterinary medicines, feed additives and probiotics in four major internationally traded aquaculture species farmed in Asia. *Aquaculture* 412-413: 231-243. 10.1016/j.aquaculture.2013.07.028.
44. Troell M, Kautsky N, Beveridge M, [Henriksson PJG](#), Primavera J, Rönnbäck P, Folke C (2013) Aquaculture. In Levin S (ed.) *Encyclopedia of Biodiversity*, second edition.
45. Nahid SAA, [Henriksson PJG](#), Wahab MA (2013) Value-chain analysis of freshwater apple snail (*Pila globosa*) used for on-farm feeds in the freshwater prawn farming sector in Bangladesh. *International Journal of Agricultural Research, Innovation and Technology*, 3, 22–30. 10.3329/ijarit.v3i2.17840.
46. Carey N, Galkin A, [Henriksson PJG](#), Richards JG, Sigwart JD (2013) Variation in oxygen consumption among ‘living fossils’(Mollusca: Polyplacophora). *J Mar Biol Assoc UK* 93:1, 197-207. 10.1017/S0025315412000653.
47. [Henriksson PJG](#), Guinée JB, Kleijn R, de Snoo GR (2011) Life cycle assessment of aquaculture systems—a review of methodologies. *Journal of Life Cycle Assessment* 17:304-313. 10.1007/s11367-011-0369-4
48. [Henriksson PJG](#), Pelletier N, Troell M, Tyedmers PH (2011) Life Cycle Assessment and Its Application to Aquaculture Production Systems. In Meyers RA (ed.) *Encyclopedia of Sustainability Science and Technology*, Springer, pp. 5893-5909. 10.1007/978-1-4614-5797-8_191.
49. Pelletier N, Audsley E, Brodt S, Garnett T, [Henriksson PJG](#), Kendall A, Kramer K-J, Murphy D, Nemecek T, Troell M (2011) Energy Intensity of Agriculture and Food Systems. *Annu. Rev. Environ. Resour.* 36:7, 1–7.24. 10.1146/annurev-environ-081710-161014.
50. [Henriksson PJG](#), Mandic M, Richards JG (2009) The osmorepiratory compromise in sculpins: impaired gas exchange is associated with freshwater tolerance. *Physiol Biochem Zool.* 81:3, 310-319. 10.1086/587092.

Publications, Others

1. [Henriksson, PJG](#), Banks LK, Suri S, Pratiwi NY, Ahmad Fatan N, Troell M. 2019. The future of aquaculture in Indonesia: A transformation toward increased sustainability. Penang.
2. Hornborg S, Hallström E, Ziegler F, Bergman K, Troell M, Jonell M, Rönnbäck P, [Henriksson PJG](#) (2019) Frisk med fisk utan risk?: Betydelsen av svensk konsumtion av sjömat för hälsa och miljö. RISE Rapport ; 2019:38 (*in Swedish*).
3. Phillips MJ, [Henriksson PJG](#), Tran N, Chan CY, Mohan CV, Rodriguez U-P, Suri S, Hall S, Koeshendrajana S (2015) Exploring Indonesian aquaculture futures. Penang, Malaysia: WorldFish. Program Report: 2015-39
4. [Henriksson PJG](#), Zhang W, Nahid SAA, Newton R, Phan LT, Dao HM, Zhang Z, Jaithiang J, Andong R, Chaimanuskul K, Vo NS, Hua HV, Haque MM, Das R, Kruijssen F, Satapornvanit K, Nguyen PT, Liu Q, Liu L, Wahab MA, Murray FJ, Little DC, Guinée JB (2014) Final LCA case study report - Results of LCA studies of Asian

Aquaculture Systems for Tilapia, Catfish, Shrimp, and Freshwater prawn. SEAT Deliverable D3.5. 182 pp.

5. Henriksson PJG, Little DC, Troell M, Kleijn R (2010) Energy Efficiency Of Aquaculture - Life Cycle Assessment Useful In Evaluating Sustainability. The Advocate, Global Aquaculture alliance. Vol. 13. Issue 5, pp. 40-42.
6. Henriksson PJG, Little DC, Guinée JB, Kleijn R (2012) Life-cycle assessment and Aquaculture. Asian Aquaculture Network (AAN). Bangkok, Thailand. 2 pp.
7. Waley D, Newton R, Henriksson PJG, Thanh LP (2012) Sustainability of the Pangasius trade. Aqua Culture Asia Pacific Magazine pp.32-35

Conferences – Platform presentations

- WAS - World Aquaculture Society, AQUA 2018, August 26-29 2018, Montpellier, France
- LCAFood 2016, October 19-21 2016, Dublin, Ireland
- International Conference on Life Cycle Management, August 25-28 2013, Gothenburg, Sweden
- WAS – World Aquaculture Society, AQUA 2012, September 1-5 2012, Prague, Czech Republic
- SETAC - Society of Environmental Toxicology and Chemistry, May 28-30 2012, Berlin, Germany
- Among others