DTU Aqua
National Institute of Aquatic Resources

Einar Eg Nielsen (born 1967) – Short CV

ORCID
0000-0002-7009-9814

Degrees
MSc, Dept. of Genetics and Ecology, University of Aarhus, Denmark. (1994).
PhD, Dept. of Genetics and Ecology, University of Aarhus, Denmark. (1998).

Positions
Scientist, Dept. of Inland Fisheries, Danish Institute for Fisheries Research (DIFRES) (1998-2001).
Senior Research Scientist, DIFRES/DTU Aqua, Technical University of Denmark (2001-2010).
Professor and Research Leader for population genetics, DTU Aqua (2010-).

Research area
For three decades I have been exploiting the molecular genetic/genomic revolution for basic and applied research on all levels of aquatic biodiversity, with particular focus on molecular ecology and more recently also on environmental DNA. This has resulted in many well-cited papers in high impact journals, delineating the spatial and temporal distribution of species diversity, genetic/genomic variation, the associated evolutionary processes and how this information can be used in biodiversity conservation and resource management.

Distinctions and awards
ICES (International Council for Exploration of the Sea) service award, as chairman of ICES WGAGFA (Working Group on the Application of Genetics in Fisheries and Aquaculture) (2008).
Honorary Professor, Institute for Biomedical Sciences, University of Queensland, Australia (2016-2022).

Memberships of scientific committees (last 5 years)
Member of ICES WGAGFA (Working Group on Application of Genetics in Fisheries and Aquaculture) (2006-).
Danish alternate for ICES Scientific Committee (SCICOM) (2009-).
Member of the coordinating group for salmon releases in Western Jutland (2006-).
Member of The Presidents Review Board at DTU (2010-).
Member of Advisory Board for Nature and Biodiversty at DHI (2025-).

Publications

Type of publication:	**Number**
Web of Science publications:	**125**
Citations:	**7649**
h-index:	***49***
Other peer review publications:	**0**
Books:	**0**
Book chapters:	**9**
Reports:	**15**

International conferences (last 5 years)

Type of participation:	**Number**
Contributions as first author:	6
Invited:	6
Organizing role:	0

Evaluation tasks and reviews (last 5 years)
Panel chair/member for full professor and senior scientist positions at DTU, in Denmark, Norway, Sweden, GB.
Panel member (FRIPRO) for the Norwegian Research Council (2023-).
Regular research application reviews for Norwegian, Icelandic and British Research Councils.
Associate editor of Conservation Genetics (2006-), Fish and Fisheries (2013-2020) and Frontiers in Marine Ecology (2014-).

Reviews for leading journals in population genetics/genomics, evolution, conservation and fisheries and eDNA analysis (e.g. PNAS, Molecular Ecology, Evolutionary Applications, Methods in Ecology and Evolution, Environmental DNA).

Advisory tasks (last 5 years)
Regular advice to EU, ICES, the Danish Ministry for Food Agriculture and Fisheries, Ministry of Environment, professional and recreational fishermen, the food and feed industry and private companies on sustainable management of freshwater, anadromous and marine fish, aquaculture and aquatic biodiversity conservation.

Educational tasks at academical level (last 5 years)
Head of DTU study board (2023 -).
DTU courses **BSc**: Introduction to genetic methods in engineering (responsible).
DTU courses **MSc**: Genetic methods in fisheries and aquatic biodiversity conservation (responsible).
Genetic methods in aquaculture (responsible).
DTU course **PhD**: Study Group in Population Ecology and Genetics (responsible).

Supervision (ongoing or finished in the last 5 years)

	Principal/main supervisor	**Co-supervisor**
Other (MSc etc.)	5	2
PhD:	5	**2**
Postdoc:	**8**	N/A

Innovation activities (last 5 years)

	Number
Patents:	

- eDNA based methods for precise bycatch assesment in fisheries (With DPPO, Eurofins, MID).
- eDNA based methods for biodiversity assesment in offshore wind farms (with DHI, Ørsted and Total E.)

Collaboration with other stakeholders (within last 5 years)
My research and advisory activities include collaboration with multiple stakeholdes such as private companies within aquaculture (DCV), biotech (Eurofins Genomics), environmental consultancy (DHI), renewable energy (Ørsted, Total Energies, Wattenfall) NGO´s including fishing and angling organisations (DPPO; DFPO, Oceana, DSF) and authorities such as the Danish Ministry for Food Agriculture and Fisheries, Ministry of Environment.

Grants (competitive) (ongoing or finished within last 5 years)
EU H2020: AtlantOS (PI). DiscardLess (PI). PANDORA (task leader). ECOTIP (task leader).
IFD/EU H2020: GenClim (coordinator). Marine Beacon (task leader), Optifish (task leader), Pharos (demonstration leader).
Icelandic Research Council: CodStory (PI).
Norwegian Research Council: ISMOTOOL (PI).
Danish Research Council for Natural Sciences: WINDNA (Coordinator). FishScape (Coordinator)
Green Development & Demonstration Program Ministry of Food, Agriculture and Fisheries. DNACATCH (coordinator).
Aage V Jensens Fund: Second generation e-DNA analyses (coordinator).
EMFF: GIGAS (WP leader). DNAMIX (coordinator).
Velux Foundation: WINDNA2 (coordinator)
Total Energies: AWESOME (WP leader)

Selected publications

1. Pujolar, JM., Gardiner, CEC., von der Heyden, S., Robalo, JI., Castilho, R., Cunha, R., Henriques, R. & **Nielsen EE** (2025). Resolving the Population Structure and Demographic History of the European Anchovy in the Northeast Atlantic: Tracking Historical and Contemporary Environmental Changes. *Molecular Ecology*, 0:e17829.
2. Bekkevold, D., Knutsen, H., Hemmer-Hansen, J., Sodeland, M., Hojesjo, J., Bleeker, K., Aarestrup, K., Skov, C. & **Nielsen, EE.** (2024) Genetic monitoring uncovers long-distance marine feeding coupled with

strong spatial segregation in sea trout (*Salmo trutta L.*) consistent at annual and decadal time scales. *ICES Journal of Marine Science* **81**, 1655-1668.

3. **Nielsen, EE**., Birnie-Gauvin, K., Baktoft, H., Arrizabalaga, H., Brodin, T., Cardinale, M., Casini, M., Helström, G., Jansen, T., Koed, A., Lundberg, P., MacKenzie, BR., Medina, A., Post, S., Rodriguez-Ezpeleta, N., Sundelöf, A., Varela, JL. & Aarestrup, K. (2024) Genetic Sex and Origin Identification Suggests Differential Migration of Male and Female Atlantic Bluefin Tuna (*Thunnus thynnus*) in the Northeast Atlantic. *Evolutionary Applications* **17**, e70009.
4. Urban, P, Jacobsen, MW, Bekkevold, D, Nielsen, A, Storr-Paulsen, M, Nijland, R & **Nielsen, EE**, (2024) eDNA based bycatch assessment in pelagic fish catches. *Scientific Reports*, **14**, 2976.
5. Jacobsen, MW, Nygaard, R, Hansen, BK, Broberg, M, Hansen, MM, Hedeholm, R & **Nielsen, EE** (2023) Observing the Arctic: A comparison of environmental DNA (eDNA) and electrofishing for monitoring Arctic char and Atlantic salmon. *Environmental DNA* **5**, 782-795.