

## Junita D. Karlsen – Short CV

### ORCID

0000-0002-0496-4638

### Degrees

- PhD, Aarhus University, Denmark (2011)
- MSc, University of Tromsø, Norway (2001)

### Positions

- Senior Research Scientist (2022-)
- Research Scientist, Technical University of Denmark (2014-2022)
- Postdoc, Technical University of Denmark (2012-2014)
- Lecturer, Education Studies, University College of Northern Denmark (2011)
- PhD-student, Technical University of Denmark (2007-2011)
- Research assistant, Danish Institute for Fisheries Research (DIFRES), Denmark (2006-2007)
- Quality Manager, Mack Brewery AS, Tromsø, Norway (2002-2005)
- Lecturer, University of Tromsø, Norway (1997-2002)

### Research area

- Behavioural mechanisms of marine animals relevant to the capture process of different fishing gear.
- Customize catch composition in fishing gears with the use of sensory stimuli (e.g., visual, acoustic, mechanical and hydrodynamic) to stimulate animal responses.
- Observation and analytical methodologies to monitor, digitize, quantify, and interpret animal movements.
- Animal responses to gear modifications designed to reduce unwanted bycatch, seabed impact, and drag, and improve catch quality, discard survival, and catch welfare.
- Selectivity of commercial fishing gear and gear modifications to improve selectivity without loss of target species.
- Value-chain assessment on catch quality and the utilisation of side-streams and discard fraction of the catch.

### Distinctions and awards

- Best student poster presentation, 14th Annual European Cetacean Society Conference, Cork, Ireland (2000)

### Memberships of scientific committees (last 5 years)

- 2024-: ICES Working Group on Fisheries Acoustics Science and Technology (WGFAST) – **member**
- 2023-: Network on Behaviour in Relation to Fishing Gear (BeFish), global researcher network – **founder and chair** (bi-monthly)
- 2020-: ICES Working Group on Size and Species Selection Experiments (WGSSE) – **member, co-chair from 2025** (annual and by correspondence)
- 2013-: ICES-FAO Working Group on Fishing Technology and Fish Behaviour (WGFTFB) – **co-leader** of the Topic Group “Evaluating the application of artificial light for bycatch mitigation” (2018-2021) and member (annual)
- 2021: ICES Workshop on the Inclusion of Discard Survival in Stock Assessments (WKSURVIVE) – **member**
- 2020: ICES Working Group on Innovative Fishing Gear (WKING) – **member**

### Publications

| Type of publication:            | Number |
|---------------------------------|--------|
| Web of Science publications:    | 25     |
| Citations:                      | 574    |
| <i>h</i> -index:                | 15     |
| Other peer review publications: | 3      |
| Reports:                        | 19     |

Periods without focus on publishing: employed in the private sector (2002-2005), maternity leave (2006-2007, 10 months), maternity leave (2008-2009, 9 months), leave (2011, 3 months), employed in an educational institute (2011, 5 months), maternity leave (2015-2016, 9 months), leave (2020, 3.5 months), leave 2021 (1 month).

#### International conferences (last 5 years)

| Type of participation:         | Number |
|--------------------------------|--------|
| Contributions as first author: | 4      |
| Organizing role:               | 2      |

#### Evaluation tasks and reviews (last 5 years)

- 2024-: Editorial Board of ICES Journal of Marine Science
- 2025: External assessor of funding applications for the Norwegian Research Council (NFR), Norway
- 2024: PhD jury, French Research Institute for Exploitation of the Sea (IFREMER), France
- 2021: Dr Philos jury, Arctic University of Tromsø (UiT), Norway
- Several reviewer assignments annually: Canadian Journal of Fisheries and Aquatic Sciences; Conservation Letters; Current Biology; Fisheries; Fisheries Management and Ecology; Fisheries Research; Food Control; Frontiers of Marine Science; ICES Journal of Marine Science; Marine and Coastal Fisheries; Ocean and Coastal Management.

#### Advisory tasks (last 5 years)

- Participation in four ICES expert groups (4). Leading a Topic Group with work resulting in a review paper published in 2024. Co-chairing one expert group.
- Participation in BALTFISH to give advice on discard survival
- Written notes to the Ministry on discard survival:
  - Savina E, Karlsen JD (2022) Request for documentation on plaice discard survival for demersal trawl (including seines) fishery in the Western Baltic with a specification of the fishing fleet using active gears. J.nr. 22/1004253
  - Savina E, Karlsen JD (2021) Request for documentation on plaice discard survival for demersal trawl (including seines) fishery in the Western Baltic. J. nr. 21/1027731

#### Educational tasks at academical level (last 5 years)

- 2024: Special course "Animal behavior in relation to active fishing gear" – creator, course responsible and lecturer
- 2023-: PhD students and early career researchers in the Network on Behaviour in Relation to Fishing Gear (BeFish) for researchers – mentoring
- 2022-2023: Created virtual reality (VR) material for teaching
- 2022-: 25335 Sustainability of Fish Capture Methods – creator, course responsible and lecturer
- 2022: Danish Fish Inspectors – guest lecturer
- 2020-2021: Contributor to revising the MSc programme "Aquatic Science and Technology" to "Sustainable Fisheries and Aquaculture"
- 2020: Greenlandic Fish Inspectors – guest lecturer
- 2014-: 25616 Fish Capture Technology – guest lecturer

#### Supervision (ongoing or finished in the last 5 years)

|          | Principal/main supervisor | Co-supervisor |
|----------|---------------------------|---------------|
| PhD:     | 1                         | 1             |
| Postdoc: | 2                         | N/A           |

#### Innovation activities (last 5 years)

- Development of observation and analytical methodologies to monitor and quantify animal behaviour in relation to fishing gear.
- Development of trawl gears and bycatch reduction devices to influence animal behavior to improve selectivity in collaboration with net lofts (design specifications).
- Development of sensory stimulations for altering animal behaviour, new material in collaboration with net and twine producers (design specifications of new material/stimuli).

#### Collaboration with other stakeholders (within last 5 years)

- Sustainable gear designs, stimulation devices, bycatch reduction devices: Danish Fishermen Producer Organisation (DFPO), net producer (Euronete Scandinavia, Lankhorst); net lofts (Hampidjan, Vonin, Egersund Trål), certification bodies (MSC).
- Value-chain innovation: circular production (Danish Ocean Cluster, fishers, processing industry, retailers)
- Advice on experimental design for discard survival, assessment on the effect of fishery specific variables on discard survival: DFPO, managers (Ministry).
- Meetings with fishing industry, net lofts, net producers, and managers.
- Dissemination: the fishery newspaper FiskeriTidende, SoMe, public meetings such as national Nature Meeting, and DanFish International fishing fair.
- Education: real-world input and establish relationships between industry and students (DPPO, Ocean Institute, Danish Ocean Cluster, DFPO, Euronete Scandinavia, Fisheries Control, Cosmos Trawl)

#### Grants (competitive) (ongoing or finished within last 5 years)

- 2025-2030: **ECO-CATCH**, European Climate, Infrastructure and Environment Executive Agency (CINEA), HEU, **Work Package Leader**. Budget: 5 mill. EUR
- 2025-2026: **Exploring the replacement of single-use chemical lightsticks with reusable LEDs to reduce marine plastic and toxic pollution and mitigate bycatch of at-risk species in pelagic longline fisheries**, Bycatch Reduction Engineering Program, US National Marine Fisheries Service, **PI**. Budget: <0.1 mill. USD
- 2024-2027: **ACCELERATOR**: Accelerate a transformation towards a sustainable and value optimized catch and processing of fish caught by bottom trawling. European Maritime, Fisheries and Aquaculture Fund (EMFAF), **Coordinator**. Budget: 5.4 mill. DKK
- 2024-2027: **SONUS Vanes**. European Maritime, Fisheries and Aquaculture Fund (EMFAF), **PI**. Budget: 4.2 mill. DKK
- 2024-2027: **SONUS Fishery**. European Maritime, Fisheries and Aquaculture Fund (EMFAF), **PI**. Budget: 1.7 mill. DKK
- 2023-2026: **Tech-Care**: Technological advancements for carbon-footprint reduction in the northern shrimp fishery, European Maritime, Fisheries and Aquaculture Fund (EMFAF), **Work Package Leader**
- 2023-2024: **SeaMe Consort**. Nordic Council of Ministers Fisheries Cooperation, **Coordinator**. Budget: <1 mill. DKK
- 2022-2023: **STIMLOG**: Målinger af lys og fysiske stimuli for reduktion af bifangst i trawlfiskeriet. H.C. Ørstedes Fond, **Coordinator**. Budget: <1 mill. USD
- 2022-2023: **Selekt**: Udvikling af SELEKTive redskaber og teknologier til kommercielle fiskeriet, European Maritime and Fisheries Fund (EMFF), **Work Package Leader**. Budget: 15 mill. DKK
- 2020-2022: **MatRedEx**: Innovative MATERIALs to REDuce fuel emission and increase cod Exits, European Maritime and Fisheries Fund (EMFF), **Coordinator**. Budget: 3.0 mill. DKK
- 2020-2022: **COPE2**: Caught and released: an Overview of fishes' sensitivity to being discarded as a tool to aid Pursuing Ecosystem-based management. European Maritime and Fisheries Fund (EMFF), **Work Package Leader**. Budget: 2.7 mill. DKK

#### Selected publications

- Krag LA, Melli V, O'Neill FG, Hansen K, **Karlsen JD** (2025) DragLess – a holistic approach to gear development: reducing roundfish bycatch and drag in the trawl fishery of Norway lobster (*Nephrops norvegicus*) off Denmark. *Ocean and Coastal Management*, 267: 107722
- Yochum N\*, **Karlsen JD\***, Senko JF, Wang JH, Melli V, Geraci ML, Utne-Palm AC, Breen M, Cuende E, Bayse SM, Somerville J, Hermann A, Edridge A, Mackenzie EK, Ljungberg P, Chladek J, Van Opstal M, Watson D, Lomeli MJM, Oliver M (2024) Guidelines for evaluating artificial light to mitigate unwanted fisheries bycatch. *Reviews in Fisheries Science and Aquaculture* 32(4): 612–656. <https://doi.org/10.1080/23308249.2024.2359417>
- **Karlsen JD**, Krag LA, Herrmann B (2024) One mesh does not fit all: A dual compartment codend provides flexible selectivity opportunities to manage mixed fisheries. *Ocean & Coastal Management* 247: 106890. <https://doi.org/10.1016/j.ocecoaman.2023.106890>
- **Karlsen JD**, Melli V, Krag LA (2021) Exploring new netting material for fishing: the low light level of a luminous netting negatively influences species separation in trawls. *ICES Journal of Marine Science* 78(8):2818-2829. <https://doi.org/10.1093/icesjms/fsab160>

- **Karlsen JD**, Krag LA, Albertsen CM, Frandsen RP (2015) From fishing to fish processing: separation of fish from crustaceans in the Norway lobster directed multispecies trawl fishery improves seafood quality. PLoS ONE 10(11): e0140864. <https://doi.org/10.1371/journal.pone.0140864>  
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