



TRÓNDUR J. KRAGESTEEN

CONTACT

 Fiskaaling
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EDUCATION

2016 – 2019 **Ph.d. in Computer Science and Ocean Engineering**

Thesis title: Lice Management in Salmon Aquaculture: Using the Faroe Islands as a case site

Supervised by: Prof. Ken H. Andersen, Andre W. Visser and Kund Simonsen

2016 – 2018 **Master of Science (MSc) in Engineering**

Aquatic science and technology

Thesis title: Modelling dispersal of salmon lice in a tidal energetic island system: Faroe Islands.

Supervised by: Prof. Ken H. Andersen, Andre W. Visser and Knud Simonsen.

Synopsis:

- What is the connectivity between the Faroese salmon farms.
- Does the connectivity pattern vary between: i) Summer and winter ii) The spring-neap cycle.
- How can this information aid in a treatment management plan for Faroe Islands?

2013 – 2016 **Bachelor of Science (BSc) in Biology**

Thesis title: Description of a new Syndinium species, *Syndinium* sp. Nov.

Supervised by: Alf Skovgaard.

RESEARCH INTERESTS

I'm currently a Post Doc at Fiskaaling. Since 2016 I have been working with salmon lice in aquaculture focussing on the spread and population dynamics of salmon lice with special emphasis on Faroese conditions.

I started this work with a successful master thesis about the dispersion of salmon lice in Faroe Islands using a particle tracking model forced by a baroclinic tidal model. Later I was rewarded a PhD to carry on this work. In the past 2 years my work has been focusing on developing a salmon lice population dynamic model which is force by the connectivity estimated by the hydrodynamic dispersion of lice. Here I have aimed to validate the model by doing an inside where I compare the model output against salmon lice counts which have been performed regularly In the Faroe Islands since 2012. The salmon lice model has been developed in python and lice counts and number of farmed fish has been provided

by the three Faroese salmon farming companies. The aim is to develop a software which can aid the management of lice in aquaculture decreasing lice numbers while increasing fish welfare.

GRANTS AND COLLABORATIONS

FUNDING AWARDED:

2016	Danmarks Innovationsfond (DKK 1,194,000)
2017	Faroese Research Council Research Grant (DKK 443.472.00)
2019	Faroese Research Council Research Grant (DKK 832.27800)

SUCCESSFUL COLLABORATIONS:

2016 onwards As an employee of Fiskaaling, collaboration with industry is a requirement. All of the work since 2016 has to some extent been in collaboration with salmon farmers, particularly the work carried out on sea farms.

RESEARCH EXPERIENCE

2016-2018	DISPERSION OF SALMON LICE – Fiskaaling and DTU
2018-2020	SALMON LICE POPULATION DYNAMICS – Fiskaaling and DTU
2020-present	FAROESE SALMON LICE PREDICTION APPLICATION for MANAGEMENT PURPOSES – Fiskaaling and DTU

PUBLICATIONS

Kragesteen, T. J., Simonsen, K., Visser, A. W., & Andersen, K. H. (2020). Estimation of external infection pressure and salmon-lice population growth rate in Faroese salmon farms. *Aquaculture Environment Interactions*, In press DOI: <https://doi.org/10.3354/aei00386>

Kragesteen, T. J., Simonsen, K., Visser, A. W., & Andersen, K. H. (2019). Optimal salmon lice treatment threshold and tragedy of the commons in salmon farm networks. *Aquaculture*, 512, 734329. DOI: <https://doi.org/10.1016/j.aquaculture.2019.734329>

Kragesteen, T. J., Simonsen, K., Visser, A. W., & Andersen, K. H. (2018). Identifying salmon lice transmission characteristics between Faroese salmon farms. *Aquaculture Environment Interactions*, 10, 49-60. DOI: <https://doi.org/10.3354/aei00252>

PRESENTATIONS

11th International Sea Lice Conference 27 Sep. 2016, Westport, Ireland.

Presentation: Connectivity and Dispersal of Salmon Lice in a Tidal Energetic System: Faroe Islands. Price for second best lecture

Dansk Havforsker møde 27 Feb. 2017, Helsingør, Dansk Nationalråd for Oceanologi.

Presentation: Connectivity and Dispersal of Salmon Lice in a Tidal Energetic System: Faroe Islands

Dept. of Health Management 8 Sept. 2017, University of Prince Edward Islands (UPEI), Canada.

Presentation: Tidal Driven Connectivity and Dispersal of Salmon Lice in Faroe Islands

Fróskaparfelagið 16 Nov. 2017, Norðlandahúsið, Tórshavn.

Poster: Sjóvarfalsdrivið smittu samband millum alíðkir í Føroyu

Vísindavøka á ferð 25 Sept. 2018, Granskingarráðið, Tekniski Skúlin, Klaksvík.

Optimal Salmon Lice Treatment Threshold and Tragedy of the Commons in Salmon Farm Networks.

Vísindavøka 28 Sept. 2018, Granskingarráðið, Sjóvinnuhúsið, Tórshavn.

Winner of poster pitch: Sjóvarfalsdrivið smittu samband millum alíðkir í Føroyum

Frøði 1/2018.

Eingin sleppur undan lúsini (2018)

12th International Sea Lice Conference 6 Nov. 2018, Patagonia, Chile.

Presentation: Optimal Salmon Lice Treatment Threshold and Tragedy of the Commons in Salmon Farm Networks

Aliráðstevnan 1 March 2019, Tórshavn, Faroe Islands

Presentation: Optimal Salmon Lice Treatment Threshold and Tragedy of the Commons in Salmon Farm Networks.