

20



PROGRAMME SEALICE CONFERENCE 2025

November 30th to December 04th
Puerto Varas – CHILE



Instituto de Acuicultura
y Medio ambiente

25

PROGRAMME

SEALICE CONFERENCE 2025

Sunday, Nov 30th. **Hotel Wyndham Puerto Varas Pettra**

15:00 – 18:00

Posters and trade show setup

18:00 – 19:30

Ice Breaker

Monday Dec 1st. **Hotel Wyndham Puerto Varas Pettra**

09:00 – 09:20

- Opening Ceremony.
- Cristian Gallardo-Escárate. INCAR.
- Sylvia Soto Alvarado. UACH.
- Arturo Clément, SalmonChile Intesal.
- Mónica Rojas. SERNAPESCA.

09:20 – 10:00

- KeynoteTalk: "Aquatic animal welfare as a gateway to resilient and sustainable aquaculture". Paula Medina, MetroCiencia, Chile.

➤ Session 1: Fish Welfare

10:00 – 10:15

- Effects of parasite co-infection on lice acquisition and body condition. Rachel Paterson, Norwegian Institute for Nature Research, Norway.

10:15 – 10:30

- Differential effects of sea lice treatments at different temperatures on Atlantic salmon skin indicators. Karina Gajardo, Aquabyte, Chile.

10:30 – 10:45

- Improving fish welfare during lice treatments. Dario Mascolo, MSD

10:45 – 11:00

- Phytogenic feed additive l-end modulates mucosal immunity and reduces *Caligus rogercresseyi* burden in Atlantic salmon. Paula Miranda, Acuanativa, Chile.

11:00 - 11:30

➤ **Coffee break**

➤ **Session 2: Non-Pharmacological Treatments I**

11:30 – 11:45

- Trade-offs in sea lice control: assessing mechanical/ thermal treatments and bacterial outbreak risks in Chilean salmon aquaculture. **Alex Miguel Moyano Escobar, Aquabench, Chile.**

11:45 – 12:00

- Harbor fence: innovative pulse technology as a measure against sea lice. **Tarald Kleppa Ovreboe, Harbor, Norway.**

12:00 – 12:15

- Krill meal reduces sea lice infestation and enhances skin mucosal health in Atlantic salmon. **Jorge Eduardo Pino Marambio, Aker Qrill Company, Norway.**

12:15 – 12:30

- In vitro and in vivo susceptibility of *Caligus rogercresseyi* to plant-derived phytogetic premixes for in-feed use. **Sara Cavini, Greenvolution, Chile.**

12:30 – 12:45

- Recombinant lice antigen vaccines and whole lice antigens provide protection against sea lice in Atlantic salmon. **Koestan Gadan, Norwegian University of Live Sciences, Norway.**

12:45 – 13:00

- Reprogramming sea lice microbiota through precision probiotics: a novel preventive tool for salmon aquaculture. **Valentina Valenzuela Muñoz, INCAR, Chile.**

13:00 – 14:30

➤ **Lunch**



> Session 3: Sea lice Biology and Ecology I

14:30 – 14:45

Temperature predicts development in a similar fashion in *Lepeophtheirus salmonis*, *Caligus elongatus* and *C. rogercesseyi*. **Sussie Dalvin, Institute of Marine Research, Norway.**

14:45 – 15:00

Sex-biased epigenetic signatures in the sea louse *Caligus rogercesseyi*. **Cristian Gallardo-Escárate, INCAR, Chile.**

15:00 – 15:15

Survival, reinfestation and behaviour in parasitic stages of salmon louse (*Lepeophtheirus salmonis*) and *Caligus elongatus* without host. **Cecilie Miljeteig, Norwegian University of Science and Technology, Norway.**

15:15 – 15:30

Metagenomic and metatranscriptomic analysis of bacterial microbiome of *Caligus rogercesseyi* according to sex and ontogenic development. **Marcelo Muñoz Troncoso, INCAR, Chile.**

15:30 – 15:45

Comparative microbiome analysis of the salmon louse, *Lepeophtheirus salmonis*, using illumina and nanopore sequencing technologies. **Bela Klimesova, Atlantic Technological University, Ireland.**

16:00 – 16:30

Coffee break



Session 4: Genetics and Genomics I

16:30 – 16:45

The cellular and genetic response to sea lice infection: how might we use this knowledge to improve Atlantic salmon host-resistance to sea lice? **Nick Robinson, NOFIMA, Norway.**

16:45 – 17:00

Metagenomic and metabolomic signatures associated with the tolerance of Atlantic salmon to sea lice infestation. **Diego Valenzuela Miranda, INCAR, Chile.**

- 17:00– 17:15** ● Sea lice under pressure: how host resistance shapes the transcriptome and microbiota of *Caligus rogercresseyi*. **Constanza Sáez Vera, INCAR, Chile.**
- 17:15– 17:30** ● Effect of seasonal temperature on the skin transcriptome of Atlantic salmon naturally infested with *Caligus rogercresseyi* in open-ocean cages. **Felipe E. Reyes-López. Universidad de Santiago de Chile, Chile.**
- 17:30 – 17:45** ● Genomic markers associated with tolerance to emamectin benzoate in *Lepeophtheirus salmonis* from British Columbia, Canada. **Shelby Reimer, University of Prince Edward Island, Canada.**
- 18:00** **Poster session I – Chilean wine and cheese.**

Tuesday, Dec 2nd. **Hotel Wyndham Puerto Varas Pettra**

- 09:00 – 09:40** ➤ Opening talk: "From Genes to Environment: Shaping our understanding of salmon immunity". **Mark Fast, University of Prince Edward Island, Canada.**
- 09:45 – 10:00** ➤ **Current status of caligidosis disease in Chile. Osvaldo Sandoval, SERNAPESCA, Chile.**
- **Session 5: Wild Fish Interaction**
- 10:00 – 10:15** ● Trends in abundance of sea lice *Lepeophtheirus salmonis* and *Caligus clemensi* on juvenile wild pacific salmon unchanged following cessation of salmon aquaculture in two regions of coastal British Columbia, Canada. **Lance Stewardson, Mainstream Biological Consulting, Canada.**
- 10:15 – 10:30** ● Quantifying the impact of salmon lice on wild Atlantic salmon sea survival: in situ experimental infestation trials in Norway. **Tormod Haraldstad, Institute of Marine Research, Norway.**



10:30 – 10:45

In situ experiments reveal effects of salmon lice on all wild salmonid species in Norway. **Thomas Bohn, Institute of Marine Research, Norway.**

10:45 – 11:00

Interactive effects of temperature and *Lepeophtheirus salmonis* infection on growth and health metrics in wild-caught post-smolt Atlantic salmon. **David Pioch, Institute of Marine Research, Norway.**

11:00 – 11:30

Coffee break

> Session 6: Sea lice Biology and Ecology II

11:30 – 11:45

Demographic alleLe effect in *Lepeophtheirus salmonis*: implications for reproductive success and management. **Kirstin Eliassen, FIRUM, Faroe Islands.**

11:45– 12:00

Characterization of abundance patterns of *Caligus rogercresseyi* larvae in different geographical zones of the Los Lagos and Aysén Regions. **Margarita del Pilar González Gómez, Universidad San Sebastián, Chile.**

12:00 – 12:15

(Mis) understanding salmon lice larvae: measuring their objective distribution has in different outcomes than lab and mesocosm trials. **Snorre Bakke, Norwegian University of Science and Technology, Norway.**

12:15 – 12:30

Freshwater preference in salmon louse copepodids is heritably affected by exposure and domestication. **Sussie Dalvin, Institute of Marine Research, Norway.**

12:30 – 12:45

Novel insights into frontal filament formation in salmon louse chalimus larvae. **Christiane Eichner, Universidad de Bergen, Norway.**

12:45 – 13:00

Lepeophtheirus salmonis larvae originating from submerged and surface salmon farms: behavioral responses to light, salinity and pressure stimuli. **Anna Solvang Batnes , Norwegian University of Science and Technology, Norway.**

13:00 – 14:30

> Lunch

Session 7: Pharmacological Treatments I

14:30 – 14:45

● Evolution of *Caligus rogercresseyi* management strategies in Chilean aquaculture. **Daniel Felipe Woywood Wijnant, Aquabench, Chile.**

14:45 – 15:00

● A new sensitivity test of salmon lice larvae enables more sustainable use of sea lice medicines. **Lene Hoegset, MSD Animal Health, Norway.**

15:00 – 15:15

● Methods to increase DNA vaccine efficiency against a salmon louse labial gland protein. **Patrick Alexander Nelson, Universidad de Bergen, Norway.**

15:15 – 15:30

● Defining nicotinic acetylcholine receptor stoichiometry in *Lepeophtheirus salmonis* to advance targeted pesticide development. **Hanna Magdalena Sahlstrom, Norwegian University of Life Sciences, Norway.**

15:30 – 15:45

● Integrated evaluation of Emamectin use: from field efficacy and fish muscle concentration to laboratory sensitivity assessment. **Marlen Brisa Espinoza Lagos, Mowi, Chile.**

15:45 – 16:00

● Mucoadhesive chitosan-alginate microparticles loaded with azamethiphos for targeted control of *Caligus rogercresseyi* in salmon aquaculture. **Jose Antonio Matus Uribe, Universidad San Sebastián, Chile.**

16:00 – 16:30

> Coffee break

Session 8: Genetics and Genomics II

16:30 – 16:45

● Uncovering the important genetic defenses against sea lice in coho salmon via CRISPR-mediated gene editing. **Shawna L. Semple, University of Prince Edward Island, Canada.**



- 16:45 – 17:00** • IPath® vaccine reduces sea lice infestation and enhances the transcriptome responses of Atlantic salmon to hypoxia. **Yeny Leal, INCAR, Chile.**
- 17:00 – 17:15** • Mining *Lepeophtheirus salmonis* transcriptomes unearths keys to stage-specific quantification of parasitic larvae. **Nathan Mertz, Norwegian University of Science and Technology, Norway.**
- 17:15 – 17:30** • Commercial vaccines do not impact the efficacy of the Ipath sea lice vaccine. **Antonio Casuso, INCAR, Chile.**
- 17:30** **Poster session II – Beers and snacks.**

Wednesday, Dec 3rd. Hotel Cabañas del Lago

- 09:00 – 09:45** Opening talk: “Navigating the Blue Frontier: Harnessing AI for Marine Sustainability and Addressing Ethical Challenges”. **Andrea Rodríguez-Tastets, Universidad de Concepción, Chile.**
- **Session 9: Modelling and Epidemiology**
- 09:45 – 10:00** • Patterns of antiparasitic use in Atlantic salmon farming in Los Lagos region, Chile (2015–2024). **Alexander Jaramillo-Torres, INTESAL, Chile.**
- 10:00 – 10:15** • Harnessing currents to quantify parasites: ddPCR analysis of passively collected plankton provides new empirical data for risk assessments. **Nathan Mertz, Norwegian University of Science and Technology, Norway.**
- 10:15 – 10:30** • Can we predict *Caligus rogercresseyi* abundances in farming sites by monitoring the plankton stages of the parasite? **Jorge Mancilla Schulz, Mowi Chile.**

- 10:30 – 10:45** ● Detecting long-term abundance changes and epidemic transitions of sea lice in salmon farming areas using complexity measures and early warning indicators. **Rodrigo M. Montes, INCAR, Chile**
- 10:45 – 11:00** Official Conference Photograph
- 11:00 – 11:30** Coffee break
- **Session 10: Pharmacological Treatments II**
- 11:30 – 11:45** ● Effects of caligus bath treatments on salmon production mortality, growth and feed conversion ratio in Chilean salmon aquaculture (2020 – 2025). **Alex M. Moyano Escobar, Aquabench, Chile.**
- 11:45 – 12:00** ● Haplotypes associated with deltamethrin-sensitivity in salmon lice collected from fish farms along the Norwegian coast. **Linas Johan Hauge Wenghaug, Norwegian University of Life Sciences, Norway.**
- 12:00 – 12:15** ● Ion channels from salmon lice in frog oocytes – new knowledge on pharmacological properties. **Marit Jorgensen Bakke, Norwegian University of Life Sciences, Norway.**
- 12:15 – 12:30** ● Efficacy of a novel insecticidal formulation for the control of the salmon lice *Lepeophtheirus salmonis* and *Caligus rogercresseyi* in Atlantic salmon. **Marcela P. Delgado Uribe, SUDVET, Chile.**
- 12:30 – 12:45** ● A new molecular approach for monitoring pesticide resistance in the sea lice (*Caligus rogercresseyi*) based on gene copy number variants (CNVs). **Diego Valenzuela Miranda, INCAR, Chile.**
- 13:00 – 14:30** Lunch



➤ Session 11: Non -Pharmacological Treatments II

- 14:30 – 14:45** • Technological transition aquaculture: evaluating wellboat performance against traditional Tarpulin methods for control of *Caligus rogercresseyi*. **Daniel F. Jiménez Delgado, Aquabench, Chile.**
- 14:45 – 15:00** • Efficacy of natural feed additives for the control of *Caligus rogercresseyi* in Atlantic salmon (*Salmo salar*). **Marcela P. Delgado Uribe, SUDVET**
- 15:00 – 15:15** • Development of a standardized polyvalent phytogetic product with multi-stage efficacy as a treatment for *Caligus rogercresseyi*. **Margarita del Pilar González G., Universidad San Sebastián, Chile.**
- 15:15 – 15:30** • Salmon lice dislodged in delousing of farmed salmon can survive and reattach to new fish. **Sussie Dalvin, Institute of Marine Research, Norway**
- 15:30 – 15:45** • Drivers of sea lice consumption in lumpfish (*Cyclopterus lumpus*): effects of prey availability, lumpfish size, and deployment strategy. **Sandra Ljósá Østerø, FIRUM, Faroe Islands.**
- 15:45 – 16:00** • Assessment of different kind of shielding skirt to reduce *Caligus rogercresseyi* infestation in salmon farming sites in southern Chile. **Jorge Mancilla Schulz, MOWI, Chile.**

16:00 – 16:30

Coffee break

➤ Session 12: Management and regulations

- 16:30 – 16:45** • Assessing governance influence on sustainable sea lice management: an aquaculture governance indicators (AGIs) approach across key salmon-producing nations. **Rolando Ibarra, Monterrey Bay Aquarium, USA.**

- 16:45 – 17:00 ● Mobile lice detach during crowding but can be retained by fine-meshed crowding net. **Sussie Dalvin, Institute of Marine Research, Norway.**
- 17:00 – 17:15 ● Impact of antiparasitic treatments on the efficacy of best management practices and sanitary tools in Chilean salmon aquaculture evidence from the Pincoy initiative. **Pablo Ibieta Hillerns, Pincoy Project, Chile.**
- 17:15 – 17:30 ● Balancing regulation and sustainability - managing salmon lice in Irelands organic aquaculture sector. **Neil Ruane, Marine Institute, Galway Ireland.**
- 17:30 – 18:00 Conference wrap-up and SeaLice2025 Awards
- 20:00 Official Dinner, **Hotel Cabañas del Lago.**

Thursday Dec 4th.

- 09.00 – 12.00 Official Tours
"Vicente Pérez Rosales " National Park.
- 12.30 – 14.00 Brunch.
- 14.00 – 16.30 Social event - "Patagonian Evening". Outdoors Activities and free time. **Yanke Way Lodge, located in Ensenada Village**
- 17.00 Arrived to Puerto Varas



Poster Session. Hotel Wyndham Puerto Varas Petra

Fish welfare

Critical evaluation of nociceptive assessment tools used to estimate animal welfare in Atlantic salmon (*Salmo salar*) infested with *Caligus rogercresseyi*. **Rudy Suarez Nuñez. Universidad San Sebastian, Chile.**

Targeting sea lice with ai and reverse vaccinology: oral vaccine antigen discovery for Atlantic salmon. **Xuhang Wu. Moredun Research Institute, Edinburgh, UK.**

Wild fish interaction

Validating tolerance limits to lice in wild salmon. **Astrid Raunsgard. Norwegian Institute for Nature Research, Trondheim, Norway.**

Evaluating the effect of sea lice from aquaculture on wild sea trout, the anadromous brown trout. **Rachel Paterson. Norwegian Institute for Nature Research, Trondheim, Norway.**

Investigation of sessile sea lice on Atlantic salmon post-smolts reveals substantial predominance of *Lepeophtheirus salmonis* compared to *Caligus elongatus*. **Rosa Maria Serra-Llinares. Institute of Marine Research, Tromsø, Norway.**

Sea lice monitoring on pink salmon in Norway. **Rosa Maria Serra-Llinares. Institute of Marine Research, Tromsø, Norway.**

The Norwegian salmon lice surveillance program (NALO): methods and findings from the last decade of monitoring wild salmonids. **Rune Nilsen. Institute of Marine Research, Tromsø, Norway.**

Poster Session

Sea lice biology and ecology

The contribution of host transfer to the infection dynamics of *Caligus elongatus* and *Lepeophtheirus salmonis* in a salmon farming network. **Gunnvor a Nordi. Firum, Hvalvík, Faroe Islands.**

Salmon louse (*Lepeophtheirus salmonis*) from submerged salmon farms: larvae development and response to pressure between family groups. **Maja Hatlebakk. Norwegian University of Science and Technology (NTNU), Trondheim, Norway.**

Effects of in vitro pH variation on biological-behavioral aspects of sea lice (*Caligus rogercresseyi*). **Rocío Barría. Universidad San Sebastian, Chile.**

Re-evaluating the development rate of the different stages of *Caligus rogercresseyi* under controlled conditions. **Melinka Mancilla. Pontificia Universidad Católica de Valparaíso, Chile.**

Transcriptomic and morphological changes triggered by salinity and temperature in *Caligus rogercresseyi* copepodites. **Antonio Casuso. INCAR, Chile.**

Genetics and genome

Aquaculture biotechnology and genomics laboratory, 12 years of research on *Caligus rogercresseyi*. **Alvaro Gallardo. INCAR, Chile.**

Unveiling the role of RNA editing and lncRNA splicing after infestation with sea lice (*Caligus rogercresseyi*) in Atlantic salmon. **Rodrigo Vidal. University of Santiago of Chile, Chile.**

Pharmacological treatments

Effects of cypermethrin and deltamethrin on hatching and survival of sea lice larvae of *Caligus rogercresseyi*. **María Fernanda Barrientos. Universidad San Sebastian, Chile.**



Non-Pharmacological treatments

Derivation of a therapeutic dose for a novel parasiticide's use in pivotal field trials. **Mélanie Brunelle. EVAH Corp, Canada.**

Comparative sensitivity of *Caligus rogercresseyi* to Lyptus plus®, Rosseus plus® and hydrogen peroxide. **Christian Correa. Universidad Austral de Chile, Chile.**

Evaluation of *Pichia pastoris* expressing IPath antigen as a functional additive in Atlantic salmon for sea lice control. **Javiera Briones. INCAR, Chile.**

Efficacy of different treatments against *Caligus*: a Chilean field experience. **Karina Gajardo. Aquabyte, Chile.**

Botanical-based strategies for sea lice (*Lepeophtheirus salmonis*) control: in vitro and in vivo assessment in Atlantic salmon. **Marcela Paz Delgado Uribe. SUDVET, Chile.**

Non-pharmacological approaches against *Caligus rogercresseyi* and their impact on health and animal welfare in Atlantic salmon. **Marcela Paz Delgado Uribe. SUDVET, Chile.**

Evaluation of five botanical formulations with antiparasitic effect against *Caligus rogercresseyi* via feed. **SUDVET, Chile.**

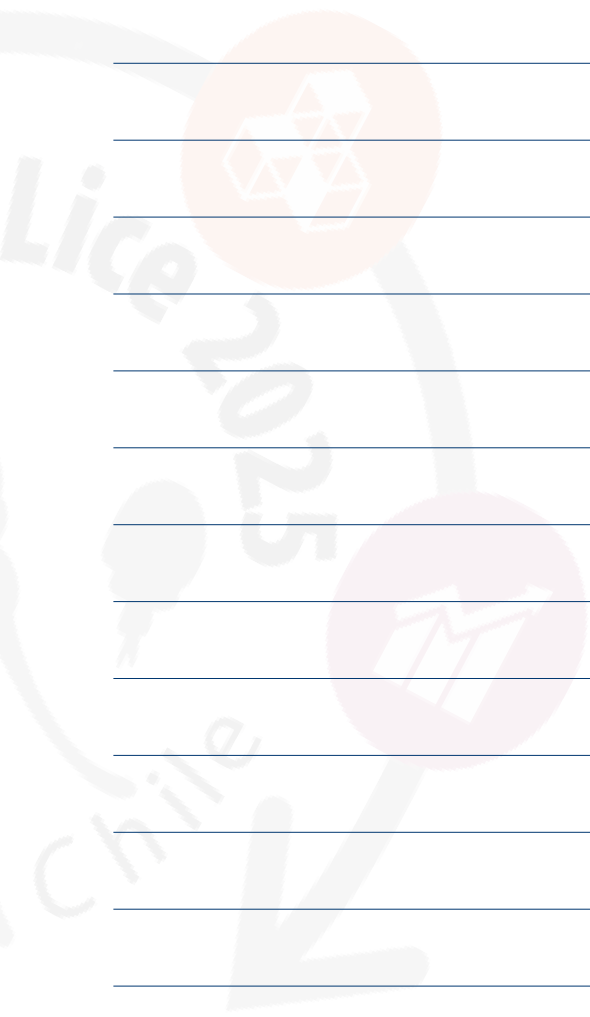
Transcriptome survey of precision probiotics against *Caligus rogercresseyi*. **Mateo Costa Inostroza. INCAR, Chile.**

Modelling and epidemiology

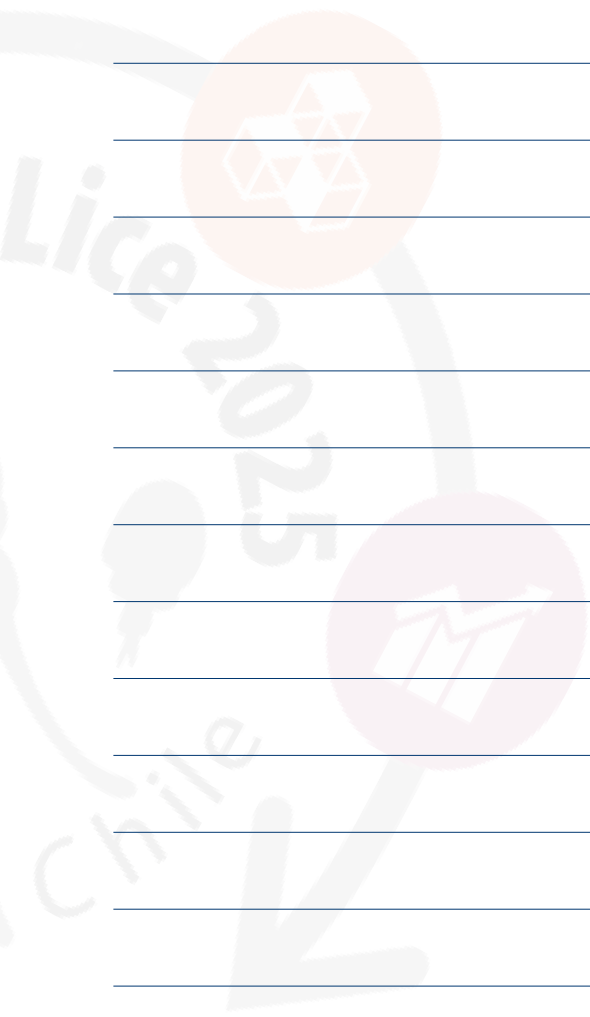
Modeling dynamics of adult female lice at salmon farming sites in eastern Canada: a stochastic, state-based approach. **Francisco Bravo. Dalhousie University, Canada.**

NOTES





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