



**PROGRAM**  
**12<sup>th</sup> International Conference**  
 Punta Arenas, Chile - November, 4<sup>th</sup> - 8<sup>th</sup>



**SUNDAY 04 NOVEMBER**

**DREAMS HOTEL**

TIME	ACTIVITIES
16:00 - 20.00	<i>Registration - Dreams Hotel</i>
16.00 - 18.00	<i>Poster Assemble - Dreams Hotel</i>
18:00 - 20.00	<i>Welcome Reception - Dreams Hotel</i>

**MONDAY 05 NOVEMBER**

**DREAMS HOTEL**

08.30 - 09.00	<p><b>Climate change impacts upon hydrological systems hosting aquaculture</b>  <i>René Garreaud, Universidad de Chile.</i></p>
09.00 - 09.30	<p><b>Public &amp; private initiatives to Sea Lice control:</b>  <b>Sea Lice Research Center (SLRC).</b>  <i>Tor Horsberg, Norwegian University of Life Sciences, Norway.</i>  <b>Health Management Program in Aquaculture.</b>  <i>Alicia Gallardo L., National Marine Fisheries and Aquaculture Service, Chile.</i></p>
<b>SEA LICE BIOLOGY SESSION</b>	
09.50 - 10.00	<p><i>Welcome Session - Chairperson: Mark Fast / Co- Chairperson: Jorge Pino</i></p>
10.00 - 10.20	<p><b>Distribution and abundance of sea lice larvae around salmon farms determined by manual counting and DNA barcoding.</b>  <i>Uglem I., Fernandez V., Sanchez-Jerez P., Casado-Coy N., Toledo-Guedes K., Ulvan E.M., Fossøy F. and Klebert P.</i></p>
10.20 - 10.40	<p><b>Experimental temporal and spatial infestation studies of sea louse <i>Caligus rogercresseyi</i> infesting Atlantic salmon (<i>Salmo salar</i>) and Coho salmon (<i>Oncorhynchus kisutch</i> L).</b>  <i>Hawes C., Jodaa Holm H. and Pino, J.</i></p>
10.40 - 11.00	<p><b>The effects of lufenuron (IMVIXA™) on reproductive parameters of <i>Caligus rogercresseyi</i>, under laboratory conditions.</b>  <i>Marín S.L., Mancilla M., Fariás A., Jaramillo J., Wolter M., Jung M., Lewis R.L., Rodriguez J.F. , Hosking B.C. and Macdonald A.M.</i></p>
11.00 - 11.30	<b>COFFEE BREAK</b>
11.30 - 11.50	<p><b>Critical links between GFAT, the chitin synthesis pathway, and infection in <i>Lepeophtheirus salmonis</i>.</b>  <i>Braden L., Igboeli O., Dundrop M., Hamre L., Nilsen F., Dalvin S. and Fast M.</i></p>
11.50 - 12.10	<p><b>Energy availability during the early development of <i>Caligus rogercresseyi</i>, delayed settlement and the implications for fixation success and development times.</b>  <i>Cumillaf J.P., Paschke K., Mancilla-Schulz J., Barría P., Ruiz K., Montory J., Mancilla M., Gebauer P. and Urbina M.</i></p>

TIME	ACTIVITIES
12.10 - 12.30	<b>The Atlantic salmon (<i>Salmo salar</i>) antimicrobial peptide cathelicidin-2 is a molecular host recognition cue for the salmon louse (<i>Lepeophtheirus salmonis</i>)</b> <i>Núñez-Acuña G., Gallardo-Escarate C., Fields D., Shema S., Berit A., Ormazabal I. and Browman H.</i>
12.30 - 12.50	<b>Assessment of <i>Caligus rogercresseyi</i> as potential vector on the transmission of <i>Piscirickettsia salmonis</i>.</b> <i>Labra A., Marshall S. and Bravo S.</i>
13.00 - 14.30	<b>Technical Talks - Lunch - Presentation by SalmoClinic</b>
<b>EPIDEMIOLOGY AND MODELLING SESSION</b>	
14.50 - 15.00	<b>Welcome Session - Chairperson: Crawford Revie / Co- Chairperson: Daniel Jimenez</b>
15.00 - 15.20	<b>Using a biological-physical model to quantify sea lice larvae connectivity among salmon farms in the Broughton Archipelago, British Columbia, Canada.</b> <i>Burnett D., Rees E., Vanderstichel R., Grant J., Filgueira R. and Revie C.</i>
15.20 - 15.40	<b>Endemic-epidemic modeling of areal count time series of sea lice and mortalities due to piscirickettsiosis in farmed Atlantic salmon in Chile.</b> <i>Mardones F., Rubio D., Alba A., Lepe M., Escobar-Dodero J. and Zimin-Veselkoff N.</i>
15.40 - 16.00	<b>Temporal and spatio-temporal patterns of caligidosis and piscirickettsiosis co-occurrence in salmon farms in Chile.</b> <i>Arriagada G., Lara M., Gallardo A., Artacho P., Ibarra R. and Gallardo-Escarate C.</i>
16.00 - 16.20	<b>State-space modelling for sea lice data: applications to Canadian and Chilean data.</b> <i>Elghafghuf A., Vanderstichel R., St-Hilaire S. and Stryhn H.</i>
16.20 - 16.50	<b>COFFEE BREAK</b>
16.50 - 17.10	<b>Abundance patterns of juvenile stages of <i>Caligus rogercresseyi</i> (Boxshall &amp; Bravo 2000) in Atlantic salmon (<i>Salmo salar</i>) related with farming practices - sanitary management and environmental factors in the south of Chile.</b> <i>Mancilla-Schulz J., Marín S. and Molinet C.</i>
17.10 - 17.30	<b>Optimal salmon lice treatments and tragedy of the commons in salmon farm networks.</b> <i>Kragestein T., Simonsen J., Visser A. and Andersen K.</i>
17.30 - 17.50	<b>The benefits of agent-based modelling for investigating sea lice infestations on Atlantic salmon farms</b> <i>McEwan G., Fast M., MacDonald, A. and Revie C.</i>
18.00 - 20.00	<b>Welcome to the Sea Lice Conference 2018 - Steering Committee and Authorities</b> <b>Chilean Wine and Salmon Tasting - Dreams Hotel</b>

TUESDAY 06 NOVEMBER

DREAMS HOTEL

TIME	ACTIVITIES
08.30 - 9.00	<b>Title to confirm</b> <i>Michiel Fransen, Head of Standards and Science, Aquaculture Stewardship Council</i>
<b>TREATMENT AND CONTROL SESSION</b>	
09.00 - 09.10	<i>Welcome Session - Chairperson: Frode Oppedal / Co- Chairperson Rolando Ibarra</i>
09.10 - 09.30	<b>Drastic changes in the management of salmon lice in Norway.</b> <i>Helgesen K.O., Jensen E.M., Sevattal S. and Horsberg T.E.</i>
09.30 - 09.50	<b>The impact of Caligus treatments on unit production costs of heterogeneous salmon farms: evidence from Chilean aquaculture.</b> <i>Dresdner J., Chávez C., Quiroga M., Jiménez D., Artacho P. and Tello A.</i>
09.50 - 10.10	<b>High survival by attached copepodids to hyposaline treatments suggests access to host ions and raises concerns about commercial application.</b> <i>Sievers M., Oppedal F. and Wright D. W.</i>
10.10 - 10.30	<b>Developing in vitro bioassay methods to determine the efficacy of freshwater and heat treatment on the salmon louse, <i>Lepeophtheirus salmonis</i>.</b> <i>Andrews M. and Horsberg T.E.</i>
10.30 - 10.50	<b>Commercial snorkel sea cages significantly reduced newly attached lice stages in a year-long trial</b> <i>Geitun, L., Wright D., Dempster T., Stien L. H., Karlsbakk E. and Oppedal F.</i>
10.50 - 11.20	<b>COFFEE BREAK</b>
11.20 - 11.40	<b>Feasibility of reducing lice infestations on farmed salmon using an airdome for swim bladder refilling during continuous submergence</b> <i>Oppedal F., Folkedal O. Nilsson J. and Stien L.</i>
11.40 - 12.00	<b>The cleaning efficacy of lumpfish in Faroese salmon farming pens in relation to food availability.</b> <i>Eliassen, K.</i>
12.00 - 12.20	<b>Functional feeds impact molecular responses of Atlantic salmon (<i>Salmo salar</i>) to Co-infection with <i>Lepeophtheirus salmonis</i> and infectious salmon anemia virus.</b> <i>Carvalho L. A., Whyte S. K., Braden L., Purcell S., Taylor R., Rise M., Gagné N. and Fast M.</i>
12.20 - 12.40	<b>Efficacy of recombinant vaccines against the sea louse <i>Caligus rogercresseyi</i> infecting Atlantic salmon (<i>Salmo salar</i>).</b> <i>Ilardi P., Fuentealba P., Rivera-Bohle J., Madrid E., Valenzuela-Muñoz V., Gallardo-Escarate C. and Gajardo-Córdova J.</i>
12.40 - 13.00	<b>Atlantic salmon (<i>Salmo salar</i>) resistance against the sea louse parasites <i>Lepeophtheirus salmonis</i> and <i>Caligus rogercresseyi</i> share a common genetic basis.</b> <i>Ødegård J., Emilsen V., Kjøglum S. Korsvoll S.A., Moen T. and Santi N.</i>
13.15 - 14.30	<b>Technical Talks - Lunch - Presentation by Benchmark</b>

TIME	ACTIVITIES
<b>PHARMACOLOGY SESSION</b>	
14.50 - 15.00	<i>Welcome Session - Chairperson: Armin Sturm / Co - Chairperson Sandra Marín</i>
15.00 - 15.20	<b>Development of statistical models to estimate the performance of IMVIXA™ following administration to Atlantic salmon in Chile.</b> <i>Jung M., Lewis R., Boettiger J., Lopez-Clasing J.P., Silva M.T., Dabin B., Rodriguez J.F., Hosking B.C., and Macdonald A.</i>
15.20 - 15.40	<b>Lufenuron impacts on <i>Caligus rogercresseyi</i> and gene expression signatures of ageing in copepodids.</b> <i>Poley J.D., Michaud D., Mueller A.M., Marín S.L., Koop B.F. and Fast M.D.</i>
15.40 - 16.00	<b>New insight into the resistance mechanism against deltamethrin in <i>L. salmonis</i> and a possible new mode of action for pyrethroids.</b> <i>Bakke M.J., Agusti-Ridaura C., Bruusgaard J.C., Sundaram A.Y.M. and Horsberg T.E.</i>
16.00 - 16.20	<b>Hydrogen peroxide as anti-lice chemical: mode of action and resistance mechanisms.</b> <i>Agusti-Ridaura C., Helgesen K.O., Sundaram A.Y.M., Bakke M.J., Lefevre S., Aspehaug V., Aaen S.M. and Horsberg T.E.</i>
16.20 - 16.50	<b>COFFEE BREAK</b>
16.50 - 17.10	<b>Time-to-response toxicity analysis using molecular biomarkers as alternative bioassay for delousing drug sensitivity.</b> <i>Núñez-Acuña G., Arriagada G., Valenzuela-Muñoz V., Saez and Gallardo-Escárate C.</i>
17.10 - 17.30	<b>Susceptibility to azamethiphos of <i>Caligus rogercresseyi</i> from a native fish species, <i>Eleginops maclovinus</i>.</b> <i>González M.P., Marín S.L., Ovalle L., Menanteau M., Spinetto C., Oyarzún R., Oyarzo C., and Mancilla M.</i>
17.30 - 17.50	<b>The effects of hydrogen peroxide on mortality, escape response and oxygen consumption of <i>Calanus spp.</i></b> <i>Escobar-Lux R., Fields D., Browman H., Shema S.D., Bjelland R.M., Agnalt A.L., Skiftesvik A.B., Samuelsen O.B. and Durif C.M.</i>
18.00 - 19.30	<b>Poster Session: Treatment and Control, Sea Lice Biology and Pharmacology sessions</b>
From 20.00 until 20.30	<i>Transportation to Official Reception</i>
21.00 - 23.30	<i>Conference Official Reception, Club Leñadura - Punta Arenas</i>

WEDNESDAY 7 NOVEMBER

DREAMS HOTEL

TIME	ACTIVITIES
<b>GENETICS AND MOLECULAR BIOLOGY SESSION</b>	
09.00 - 09.10	Welcome Session - Chairperson: Laura Braden / Co - Chairperson Cristian Gallardo
09.10 - 09.30	<b>Virulence factors of the salmon louse.</b> <i>Braden L., Poley J., Michaud D., Øvergård A., Kongshaug H., Dalvin S., Jones S. and Fast M.</i>
09.30 - 09.50	<b><i>Caligus rogercresseyi</i> transcriptome reveals a chemosensory protein: Insights into its potential role for ectoparasite pest control.</b> <i>Jiménez H., Godoy R., Venthur H., Mutis A., Larama G., Pino J., Skugor S., Wadsworth S. and Quiroz A.</i>
09.50 - 10.10	<b>Salmon non-coding RNAs repertoire and their modulation during <i>C. rogercresseyi</i> infestation.</b> <i>Valenzuela-Muñoz V., Valenzuela-Miranda D. and Gallardo-Escárate C.</i>
10.10 - 10.30	<b>Negative-stranded RNA-viruses in salmon lice a reverse genetics approach.</b> <i>Skoge R. H., Økland A. L., Øvergård A., Plarre H. and Nylund A.</i>
10.30 - 10.50	<b>Reverse vaccinology applied to the development of new vaccines against <i>Caligus rogercresseyi</i>.</b> <i>Gallardo-Escárate C., Valenzuela-Muñoz V., Nuñez-Acuña G. and Valenzuela-Miranda D.</i>
10.50 - 11.20	COFFEE BREAK
11.20 - 11.40	<b>Exploring the functional basis of genetic resistance to sea lice in Atlantic salmon using RNA-seq.</b> <i>Robledo D., Gutierrez A., Barria A., Yáñez J. M. and Houston R.</i>
11.40 - 12.00	<b><i>Caligus rogercresseyi</i> acetylcholinesterase types and variants: a plausible mechanism for organophosphate resistance.</b> <i>Agusti-Ridaura C., Dondrup M., Leong J., Koop B., Bravo S., Horsberg T.E., Mendoza J. and Kaur K.</i>
12.00 - 12.20	<b>Genetic determinants of EMB resistance in the salmon louse (<i>Lepeophtheirus salmonis</i>)</b> <i>Guidi D., Carmona-Antoñanzas G., Humble J.L., Bassett D.I., Houston R.D., Gharbi K., Bekaert M., Albalat A., Bron J.E. and Sturm A.</i>
12.20 - 12.40	<b>Genetic architecture and genomic selection for host resistance to sea lice in Atlantic salmon.</b> <i>Houston R. D., Robledo D., Gutierrez A. and Yáñez J. M.</i>
12.40 - 13.00	<b>Comparative genomic analysis identifies genes involved in sea lice (<i>Caligus rogercresseyi</i>) resistance in Atlantic salmon and rainbow trout.</b> <i>Yáñez J.M., Caceres P., Barria A., Correa K., Figueroa R. and Lhorente J.P.</i>
13.00 - 14.00	LUNCH
14.30 - 15.00	<i>Bid presentations for 13th Sea Lice Conference 2020</i>

TIME	ACTIVITIES
<b>WILD FISH INTERACTION SESSION</b>	
15.00 - 15.10	<i>Welcome Session - Chairperson: Bengt Finstad/ Co - Chairperson Sandra Bravo</i>
15.10 - 15.30	<b>Life history plasticity mediates the impact of a marine ecto-parasite in Atlantic salmon.</b> <i>Vollset K. and Krkosek M.</i>
15.30- 15.50	<b>Timing is everything: extremely low survival of migrating wild Atlantic salmon <i>Salmo salar</i> (L.) during events of high salmon lice densities.</b> <i>Bøhn T., Llinares R.M. and Bjørn P.A.</i>
15.50 - 16.10	<b>Making the best of a lousy situation: The impact of salmon lice (<i>Lepeophtheirus salmonis</i>) on depth preference of sea trout (<i>Salmo trutta</i>).</b> <i>Mohn A. M. and Vollset K. W.</i>
16.10 - 16.30	<b>The use of pit-tagging technology to monitor sea trout behaviour due to salmon lice.</b> <i>Finstad B., Berg M., Bjørn P.A. and Berntsen H.H.</i>
16.30 - 17.00	<b>COFFEE BREAK</b>
17.00 - 17.20	<b>Parasitic salmon lice infestations on wild sea trout: attempting to separate the role of fish farms and temperature.</b> <i>Vollset K., Qviller L., Skår B., Barlaup B. and Dohoo I.</i>
17.20 - 17.40	<b>To live or to grow? Costs and benefits of sea trout adaptive behavior to heavy salmon lice (<i>Lepeophtheirus salmonis</i>) infestations.</b> <i>Serra-Llinares R.M., Nilsen R., Albretsen J., Bøhn T., Schrøder-Elvik K.M., Freitas C., Haraldstad T., Karlsen Ø. and Bjørn P.A.</i>
17.40 - 18.00	<b>The river position within fjords affects salmon lice infestation on trawled post smolt Atlantic salmon.</b> <i>Karlsen Ø., Harvey A., Wennevik V., Glover K and Nilsen N.</i>
18.00 - 19.30	<b>Poster Session: Epidemiology and Modelling, Sea Lice Biology and Genetics and Molecular Biology sessions.</b>
20.00	<b>Awards Sea Lice Conference 2018 and 13th Conference Bid results</b>

## TECHNICAL WORKSHOP PROGRAM

THURSDAY 8 NOVEMBER

UNIVERSIDAD DE MAGALLANES

WORKSHOP	DESCRIPTION	SCHEDULE
<p><b>Current status of aquaculture in Chile and the world</b></p> <p><b>Room:</b> Ernesto Livacic UMAG</p>	<p>The objective is given to know the local community about aquaculture in Chile and the world, emphasizing the advances and challenges that must be faced. Recognized speakers will be in charge of this workshop.</p> <p>The target group is students, academics and researchers from the Magallanes Region, as well as research centers and NGOs in the area.</p> <p>Previous registration is required.</p> <p>Number of participants: 80</p> <p>This workshop will be in Spanish languages</p> <p><b>Speakers:</b></p> <p>FAO, to Confirm Adolfo Alvial, ORBE 21. Paulina Artacho, SalmonChile INTESAL. Pablo Gallardo, UMAG. Doris Doto, Investigador INCAR.</p>	<p>10.00 - 13.00</p>
<p><b>Bioassay Standardization: Updating the handbook for Sea Lice sensitivity monitoring</b></p> <p><b>Room:</b> Terra Australis UMAG</p>	<p>This workshop is a continuation of the Bioassay Workshop which was held at the 2016 Sea Lice Conference in Westport, Ireland. An updated version of the SEARCH document, 'Sea Lice Resistance to Chemotherapeutants: A Handbook in Resistance Management' will be presented step by step, and the workshop will highlight those procedures which were modified and the reasons for this. Group of subject experts will provide their inputs to the proposed new version of the handbook. Participants will also have the opportunity to share their comments and suggestions, in order to agree on the final version for publication.</p> <p>Previous registration is required.</p> <p>Number of participants: 80</p> <p>Simultaneous translation will be available</p>	<p>All day</p>



WORKSHOP	DESCRIPTION	SCHEDULE
<p><b>CaligusLIFE</b></p> <p><b>Room:</b> Aula Tecnológica UMAG</p>	<p>The challenges for the control of <i>Caligus rogercresseyi</i> is mainly associated with the limited and fragmented knowledge available on the biology, population dynamics, and genomics of sea lice species. For example, the life cycle under different environmental conditions, changes in their population dynamics, genetic and molecular mechanisms of drug resistance to need to be addressed. The present research consortium is entitled “CaligusLIFE: Scientific research of excellence towards understanding sea lice biology and its application in control strategies for the salmon industry”. The goal of this consortium is to uncover the complexity of the <i>C. rogercresseyi</i> biology through interdisciplinary research. We aimed to identify those environmental and genetic factors that significantly impact the lifecycle of <i>Caligus rogercresseyi</i>. This information will be used to generate mathematical models that explain the observed epidemiological patterns of infection. Furthermore, the whole genome of <i>C. rogercresseyi</i> will be sequenced by cutting-edge next-generation sequencing technologies. The proposed workshop is to inform the scientific community on the most recent advances from the fields of genomics to the epidemiology of <i>C. rogercresseyi</i>.</p> <p>Previous registration is required. Number of participants: 50 Simultaneous translation will be available</p>	<p>10.00 - 13.00</p>
<p><b>Non-Chemotherapeutical Control: Progress and challenges</b></p> <p><b>Room:</b> Aula Tecnológica UMAG</p>	<p>We are glad to announce the technical workshop on the use of alternate (non-chemotherapeutic methods) of sea lice control. The goal of this seminar is to inform on the current use of non-chemotherapeutic methods primarily about efficacies, negative impact, challenges and cost of implementation and future alternatives and considerations as part of an integrated pest management program for control of sea lice on farmed salmon.</p> <p>Previous registration is required. Number of participants: 50 Simultaneous translation will be available</p>	<p>15.00 - 18.00</p>



# OFFICIAL CONFERENCE`S TOUR

FRIDAY 9 NOVEMBER

(OPTIONAL WITH ADDITIONAL COST (~US \$80))

ACTIVITIES	DESCRIPTION	SCHEDULE
<p><b>Official tour</b> Excursion to Straits of Magellan Park &amp; Lunch in Estancia El Galpon with shearing show</p>	<p>Departs from the hotel southward along the Brunswick peninsula to the “Parque del Estrecho” offers you a look at the natural and human history of the legendary Straits of Magellan. Our route hugs the coastline near the Straits, letting you observe the ample marine bird life here, including enjoy the allowing you to enjoy sightings of Magellanic oystercatchers, wild geese, several species of ducks, cormorants and if we’re lucky, maybe porpoises and sea lions. The park is located 60 km (about 40 miles) south of the Punta Arenas city and has been recently updated with new features. During our excursion we will be able to visit Visitor Center, Fuerte (Fort) Bulnes, Straits Lookout Point, Coast Trail, Estancia El Galpon (Patagonic Lunch)</p> <p>If you want participate in the official tours, please contact to <a href="mailto:receptivo-14@comapa.cl">receptivo-14@comapa.cl</a></p> <p>Further information visit: <a href="https://www.sealice2018.cl/copia-de-official-tour">https://www.sealice2018.cl/copia-de-official-tour</a></p>	<p>8.30-16.00</p>



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