

Scotland's Rural College

Artificial Intelligence for Computer-Assisted Diagnosis of Hyperplasia in Atlantic Salmon Gill Histology Images

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GILL HEALTH INITIATIVE MEETING 2023

RED CROSS CONFERENCE CENTER, HAUSMANNSGATE 5, OSLO

MEETING PROGRAMME

DAY 1: 25 October 2023

TIME	PROGRAMME
10.00-10.05	WELCOME: Mona Gjessing / Christine Huynh
10.05-10.15	Gill Health initiative 10 year Anniversary Hamish Rodger
10.15-11.10	INTERNATIONAL SECTOR UPDATE: Chair: Christine Huynh
	Australia/New Zealand Chile Norway Scotland Ireland
	GILL HEALTH MANAGEMENT, PART I Chair: Ingunn Sommerset
11.10-11.50	KEYNOTE: Gill diseases; Field experiences and possible interpretations, Magnus Nyborg, Kvamvet
11.50-12.10	BREAK: COFFEE AND FRUIT
12.10-12.30	Using gill mucus to monitor immune gene expression of farmed Atlantic salmon Amanda Vang, Fiskaaling
12.30-12.50	Longitudinal analysis of the gill microbiomes of Atlantic salmon from four Scottish farms reveals dynamics in bacterial richness and seasonal trends in diversity. Will J. Barr , University of Glasgow
12.50-13.10	Clinical blood biochemistry as a predictive tool for managing gill challenges, Josip Barisic, WellFish Diagnostics
13.10-13.30	Temporal assessment of gill health during natural outbreak of AGD Sam Martin, University of Aberdeen
13.30-14.10	BREAK: LIGHT LUNCH

TIME	PROGRAMME
	GILL HEALTH MANAGEMENT, PART II Chair: Ingunn Sommerset
14.10-14.30	Scotland's SAIC funded "Gill Health in Scottish Farmed Salmon" project 2018 – 2023: Highlights, Annette Boerlage, Scotland's Rural College
14.30-14.50	NeoGiant, a natural alternative treatment for Amoebic Gill Disease Gaston Caspe, Moredun Research Institute
14.50-15.10	Agile training to help enable standardisation of phytoplankton sampling and gross gill terminology across the Scottish sector Janina Costa, Sustainable Aquaculture Innovation Centre (SAIC)
	MODEL SYSTEMS Chair: Annette Boerlage
15.10-15.30	The Atlantic salmon gill epithelial cell line ASG-10 as tool for in vitro gill research Anita Solhaug, Norwegian Veterinary Institute
15.30-15.50	Optimization of transfection methods and gene editing of the Atlantic salmon gill cell line ASG-10 Maria Dahle, Norwegian Veterinary Institute
15.50-16.10	BREAK: COFFEE AND CAKES
	GILL HEALTH AND ARTIFICIAL INTELLIGENCE Chair: Christine Huynh
16.10-16.30	Harnessing the power of computer vision to provide early warning of jellyfish in fish farms Kylie Pitt, Griffith University, Queensland
16.30-16.50	Artificial Intelligence for computer-assisted diagnosis of hyperplasia in Atlantic salmon gill histology images Alexander F. B. Carmichael, University of Stirling
16.50-17.10	Digital pathology and specific markers: opportunities to expedite and harmonize microscopic gill assessment Ole Bendik Dale, Norwegian Veterinary Institute



GILL HEALTH INITIATIVE MEETING 2023

RED CROSS CONFERENCE CENTER, HAUSMANNSGATE 5, OSLO

DAY 2: 26 October 2023

MEETING PROGRAMME

TIME	PROGRAMME
	HARMFUL PLANKTON BLOOMS AND THEIR IMPACT ON GILL HEALTH <i>Chair: James Wynne</i>
09.00-09.20	Harmful phytoplankton, cnidarian blooms and fish farms Ana Herrero, Patogen AS
09.20-09.40	Mechanisms, monitoring, and mitigation for harmful plankton in salmon aquaculture Connor Dibble, Scoot Science
09.40-10.00	Developing an experimental model for gill disease caused by gelatinous zooplankton Hamish Rodger
10.00-10.20	BREAK: COFFEE AND FRUIT
	AMOEBA AND GILL PATHOLOGY <i>Chair: Renate Johansen</i>
10.20-10.40	Insights into the viability and infective potential of <i>Neoparamoeba perurans</i> post freshwater exposure , James Wynne, CSIRO
10.40-11.00	Metagenomic analysis of Nodular Gill Disease in rainbow trout in Switzerland James Wynne, CSIRO
11.00-11.20	Gill pathology as part of systemic infectious disease in farmed Atlantic salmon (<i>Salmo salar</i>) , Marta Alarcón, Pharmaq Analytiq
11.20-11.40	Gill transcriptomics of autumn and spring Atlantic salmon smolts , Ela Krol, University of Aberdeen
11.40-12.00	Challenges and Opportunities in Addressing Amoebic Gill Disease (AGD) in Salmon Farming: A Global Perspective , Per Kristian Sætre, Aqua Pharma Group
12.00-12.40	BREAK, LIGHT LUNCH

TIME	PROGRAMME
	GILL HEALTH AND WELFARE <i>Chair: Brit Tørud</i>
12.40-13.00	Gill health from analog descriptions to digital quantification: towards standards , Karin Anna Pittman, University og Bergen, Quantidoc AS
13.00-13.20	Ontogeny: New technique to assess gill health and animal welfare in salmonids - Clinical cases , Patricio Bustos, ADL Diagnostic Chile
13.20-13.40	Leveraging an Integrated Fish Welfare Index to drive operational decisions , Iwen Su, Scoot Science
13.40-14.00	GILL PROJECT CHILE , Daniel Woywood Wijnanat, Aquabench
14.00-14.20	CLOSING AND CONCLUSIONS <i>Christine Huynh</i>

