

# *The Genesis of Tenacibaculum 2*

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# Recap Biomarker workshop

- Biomarker workshop held in April 2019, Campbell River
  - Innovation for BC Aquaculture Research: GAPP Status and Future Initiatives
- Cargill Innovation presented together with collaborators from Memorial University the Status and future initiatives of two Genome Canada and Genome Atlantic funded GAPP projects (Genome Applications Partnership Program)
  - Use of biomarkers to determine the impact of dietary formulation and functional additives on infection and co-infection
- The workshop was followed by industry meetings to discuss specific needs and potential applications/collaborations

# Open Innovation

## Genomic Applications Partnership Program (GAPP)



- Collaboration between Cargill, MUN and AVC
- 2 projects funded by Genome Canada and Genome Atlantic
  - Biomarker platform for commercial aquaculture (3 year funding)
  - Integrated pathogen management of co-infection in Atlantic salmon IPMC (3 year funding)
- Aim
  - Identify best biomarkers as indicators for salmon growth and health phenotyping
- Early career scientist support:
  - 2 MSc, 8 Phd, 8 Post Doc, 8 publications so far

Integrated Pathogen Management of Co-infection in Atlantic Salmon

Funded by the Government of Canada through Genome Canada and Genome Atlantic

This work was supported by Mitacs through Mitacs Accelerate Program

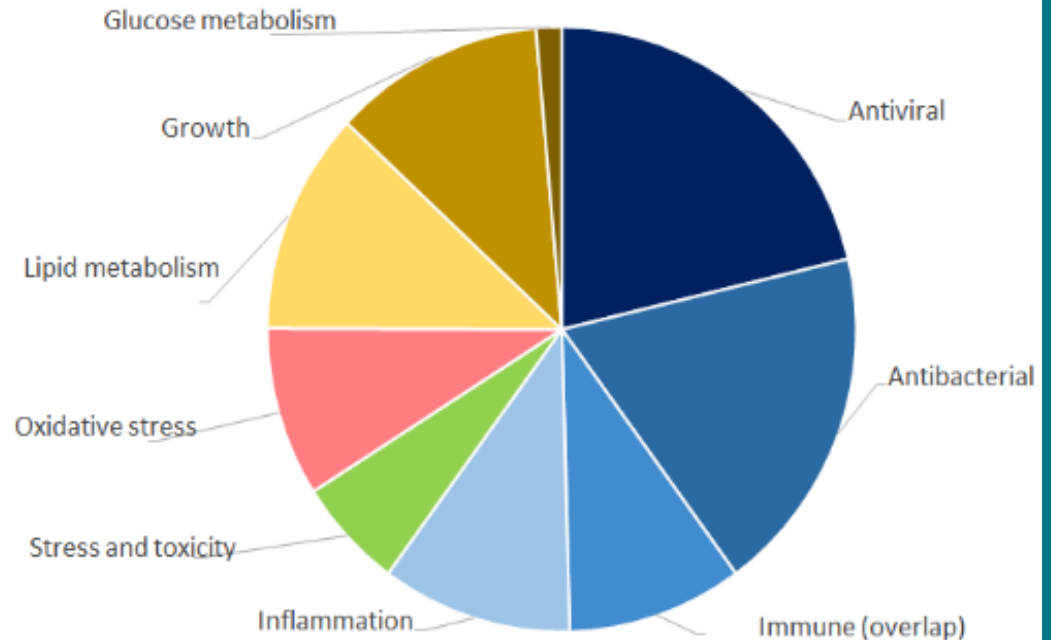
# Open Innovation

## Genomic Applications Partnership Program (GAPP)



Figure 1. Summary of all qPCR assays developed.

Function	N of biomarkers
Antiviral	75
Antibacterial	66
Immune (overlap)	34
Inflammation	37
Stress and toxicity	21
Oxidative stress	32
Lipid metabolism	42
Growth	41
Glucose metabolism	5
<b>TOTAL</b>	<b>353</b>



Nine phenotypes are targeted to extend trial data way beyond growth, feed intake and mortality

# Industry meeting

## Topic Gill Health



- Caused by a variety and combination of factors
  - Algae, Amoeba, Bacteria, low DO, etc
  - Different challenges in each salmon farming area
- A collaboration with MUN is underway to better understand the molecular pathways behind Complex Gill Disease
  - Mitacs Postdoc position approved
  - Basic knowledge to support continuous product development
- Field trials are underway in **Canada**, Chile and Scotland to evaluate diets under the different challenges

# Industry meeting

## Topic *Tenacibaculum*



*Different challenges  
in different farming  
regions*



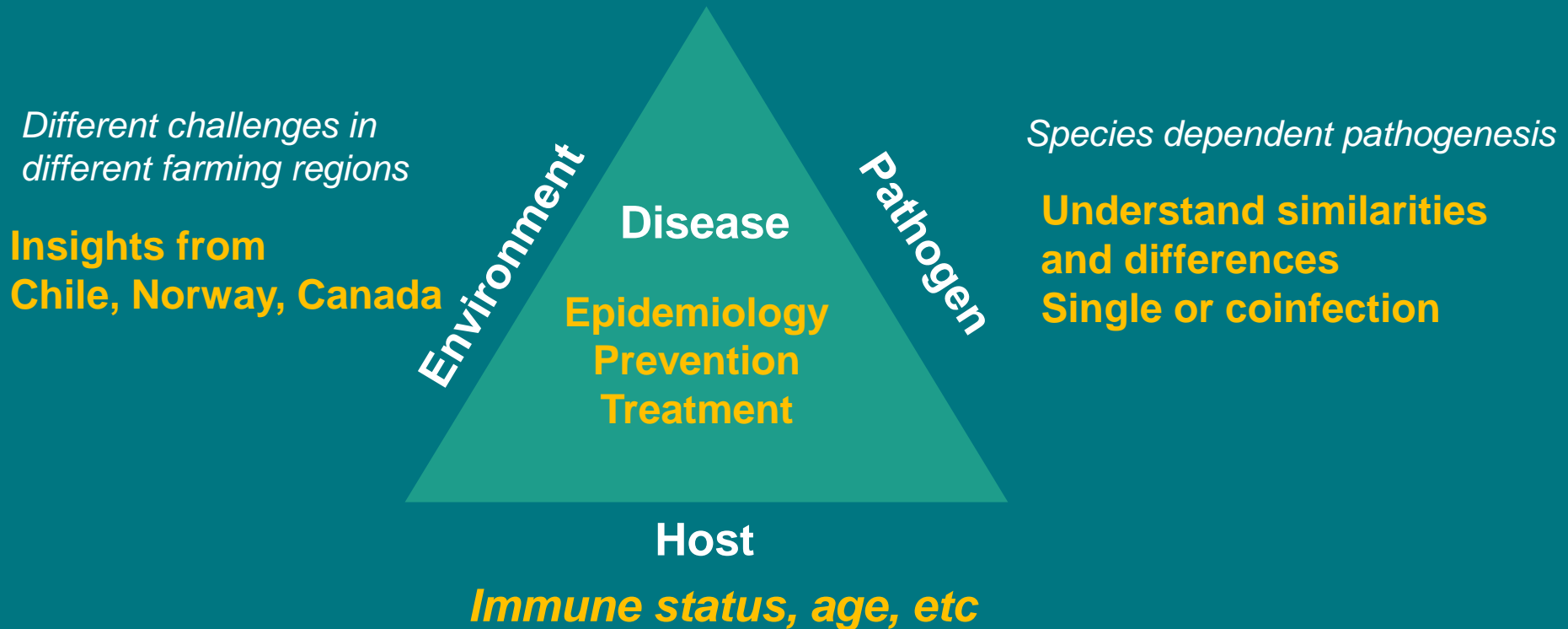
*Species dependent  
pathogenesis*

**Host**

*Immune status, age, etc*

# Aim of Tenaci 2

Review current knowledge and identify future research needs



**Thanks for your attention!**

**Enjoy the workshop!**



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