

Research contributions. All research contributions are listed, grouped by category. Total citations 4000; h-index 34 (Google Scholar).

Refereed contributions since 2000 [Rise highly qualified personnel (HQP) underlined]

Gallardi D, Xue X, Mercier E, Mills T, Lefebvre F, **Rise ML**, and Murray HM. 2021. RNA-seq analysis of the mantle transcriptome from *Mytilus edulis* during a seasonal spawning event in deep and shallow water culture sites on the northeast coast of Newfoundland, Canada. *Marine Genomics* (in press) (DOI: 10.1016/j.margen.2021.100865)

Osmond ATY, Arts MT, Hall JR, **Rise ML**, Bazinet RP, Armenta RE, and Colombo SM. 2021. *Schizochytrium* sp. (T18) oil as a fish oil replacement in diets for juvenile rainbow trout (*Oncorhynchus mykiss*): effects on growth performance, tissue fatty acid content, and lipid-related transcript expression. *Animals* 11, article 1185.

Beemelmans A, Zanuzzo FS, Xue X, Sandrelli RM, **Rise ML**, and Gamperl AK. 2021. The transcriptomic responses of Atlantic salmon (*Salmo salar*) to high temperature stress alone, and in combination with moderate hypoxia. *BMC Genomics* 22, article 261.

Hall JR, Lehnert SJ, Gonzalez E, Kumar S, Hanlon JM, Morris CJ, and **Rise ML**. 2021. Snow crab (*Chionoecetes opilio*) hepatopancreas transcriptome: Identification and testing of candidate molecular biomarkers of seismic survey impact. *Fisheries Research* 234, article 105794.

Mohammad Ali Jalali A, Parrish CC, Caballero-Solares A, **Rise ML**, and Taylor RG. 2021. Effects of varying dietary docosahexaenoic, eicosapentaenoic, linoleic, and α -linolenic acid levels on fatty acid composition of phospholipids and neutral lipids in the liver of Atlantic salmon, *Salmo salar*. *Agricultural and Food Chemistry* 69, 2697-2710.

Beemelmans A, Ribas L, Anastasiadi D, Moraleda-Prados J, Zanuzzo FS, **Rise ML**, and Gamperl AK. 2021. DNA methylation dynamics in Atlantic salmon (*Salmo salar*) challenged with high temperature and moderate hypoxia. *Frontiers in Marine Science* 7, article 604878.

Katan T, Xue X, Caballero-Solares A, Taylor RG, **Rise ML**, and Parrish CC. 2020. Influence of dietary long-chain polyunsaturated fatty acids on $\omega 6$ to $\omega 3$ ratios on head kidney lipid composition and expression of fatty acid and eicosanoid metabolism genes in Atlantic salmon (*Salmo salar*). *Frontiers in Molecular Biosciences* 7, article 602587.

Xue X, Hall JR, Caballero-Solares A, Eslamloo K, Taylor RG, Parrish CC, and **Rise ML**. 2020. Liver transcriptome profiling reveals that dietary DHA and EPA levels influence suites of genes involved in metabolism, redox homeostasis, and immune function in the Atlantic salmon (*Salmo salar*). *Marine Biotechnology* 22(2), 263-284.

Eslamloo K, Kumar S, Caballero-solares A, Gnanagobal H, Santander J, and **Rise ML**. 2020. Profiling the transcriptome response of Atlantic salmon head kidney to formalin-killed *Renibacterium salmoninarum*. *Fish and Shellfish Immunology* 98, 937-949.

- Ignatz EH, Braden LM, Benfey TJ, Caballero-Solares A, Hori TS, Runighan CD, Fast MD, Westcott JD, and **Rise ML**. 2020. Impact of rearing temperature on the innate antiviral immune response of growth hormone transgenic female triploid Atlantic salmon (*Salmo salar*). *Fish and Shellfish Immunology* 97, 656-668.
- Ignatz EH, Dumas A, Benfey TJ, Hori TS, Braden LM, Runighan CD, **Rise ML**, and Westcott JD. 2020. Growth performance and nutrient utilization of growth hormone transgenic female triploid Atlantic salmon (*Salmo salar*) reared at three temperatures in a land-based freshwater recirculating aquaculture system (RAS). *Aquaculture* 519, article 734896.
- Soto-Dávila M, Valderrama K, Inkpen SM, Hall JR, **Rise ML**, and Santander J. 2020. Effects of vitamin D₂ (ergocalciferol) and D₃ (cholecalciferol) on Atlantic salmon (*Salmo salar*) primary macrophage immune response to *Aeromonas salmonicida* subsp. *salmonicida* infection. *Frontiers in Immunology* 10, article 3011.
- Caballero-Solares A, Xue X, Cleveland BM, Foroutani MB, Parrish CC, Taylor RG, and **Rise ML**. 2020. Diet-induced physiological responses in the liver of Atlantic salmon (*Salmo salar*) inferred using multiplex PCR platforms. *Marine Biotechnology* 22(4), 511-525.
- Umasuthan N, Xue X, Caballero-Solares A, Kumar S, Westcott JD, Chen Z, Fast MD, Skugor S, Nowak BF, Taylor RG, and **Rise ML**. 2020. Transcriptomic profiling in fins of Atlantic salmon parasitized with sea lice: evidence for an early imbalance between chalimus-induced immunomodulation and the host's defense response. *International Journal of Molecular Sciences* 21(7), article 2417.
- Zanuzzo FS, Beemelmanns A, Hall JR, **Rise ML**, and Gamperl AK. 2020. The innate immune response of Atlantic salmon (*Salmo salar*) is not negatively affected by high temperature and moderate hypoxia. *Frontiers in Immunology* 11, article 1009.
- Emam M, Katan T, Caballero-Solares A, Taylor RG, Parrish KS, **Rise ML**, and Parrish CC. 2020. Interaction between ω6 and ω3 fatty acids of different chain lengths regulates Atlantic salmon hepatic gene expression and muscle fatty acid profiles. *Philosophical Transactions of the Royal Society B: Biological Sciences* 375, article 20190648.
- Smith NC, Christian SL, Woldemariam NT, Clow KA, **Rise ML**, and Andreassen R. 2020. Characterization of miRNAs in cultured Atlantic salmon head kidney monocyte-like and macrophage-like cells. *International Journal of Molecular Sciences* 21(11), article 3989.
- Smith NC, Wajnberg G, Chacko S, Woldemariam NT, Lacroix J, Crapoulet N, Ayre DC, Lewis SM, **Rise ML**, Andreassen R, and Christian SL. 2020. Characterization of miRNAs in extracellular vesicles released from Atlantic salmon monocyte-like and macrophage-like cells. *Frontiers in Immunology* 11, article 587931.

- Eslamloo K, Caballero-Solares A, Inkpen SM, Emam M, Kumar S, Bouniot C, Avendaño-Herrera R, Jakob E, and **Rise ML**. 2020. Transcriptomic profiling of the adaptive and innate immune responses of Atlantic salmon to *Renibacterium salmoninarum* infection. *Frontiers in Immunology* 11, article 567838.
- Foroutani MB, Parrish CC, Wells J, Taylor RG, and **Rise ML**. 2020. Minimizing marine ingredients in diets of farmed Atlantic salmon (*Salmo salar*): effects on liver and head kidney lipid class and fatty acid composition. *Fish Physiology and Biochemistry* 46(6), 2331-2353.
- Longjohn MN, Hudson JBJ, Smith NC, **Rise ML**, Moorehead PC, and Christian SL. 2020. Deciphering the messages carried by extracellular vesicles in hematological malignancies. *Blood Reviews* 14, article 100734.
- Dhanasiri AKS, Johny A, Xue X, Berge GM, Bogevik AS, **Rise ML**, Fæste CK, and Fernandes JMO. 2020. Plant-based diets induce transcriptomic changes in muscle of zebrafish and Atlantic salmon. *Frontiers in Genetics* 11, article 575237.
- Inkpen SM, Solbakken MH, Jentoft S, Eslamloo K, and **Rise ML**. 2019. Full characterization and transcript expression profiling of the interferon regulatory factor (IRF) gene family in Atlantic cod (*Gadus morhua*). *Developmental and Comparative Immunology* 98, 166-180.
- Xue X, Woldemariam NT, Caballero-Solares A, Umasuthan N, Fast MD, Taylor RG, **Rise ML**, and Andreassen R. 2019. Dietary immunostimulant CpG modulates microRNA biomarkers associated with immune responses in Atlantic salmon (*Salmo salar*). *Cells* 8(12), article 1592.
- Eslamloo K, Ghorbani A, Xue X, Inkpen SM, Larijani M, and **Rise ML**. 2019. Characterization and transcript expression analyses of Atlantic cod viperin. *Frontiers in Immunology* 10, article 311.
- Polinski MP, Bradshaw JC, **Rise ML**, Johnson SC, and Garver KA. 2019. Sockeye salmon demonstrate robust yet distinct transcriptomic kidney responses to rhabdovirus (IHNV) exposure and infection. *Fish and Shellfish Immunology* 94, 525-538.
- Katan T, Caballero-Solares A, Taylor RG, **Rise ML**, and Parrish CC. 2019. Effect of plant-based diets with varying ratios of $\omega 6$ to $\omega 3$ fatty acids on growth performance, tissue composition, fatty acid biosynthesis and lipid-related gene expression in Atlantic salmon (*Salmo salar*). *Comparative Biochemistry and Physiology part D: Genomics and Proteomics* 30, 290-304.
- Soto-Dávila M, Hossain A, Chakraborty S, **Rise ML**, and Santander J. 2019. *Aeromonas salmonicida* subsp. *salmonicida* Early Infection and Immune Response of Atlantic Cod (*Gadus morhua* L.) Primary Macrophages. *Frontiers in Immunology* 10, article 1237.
- Smith NC, **Rise ML**, and Christian SL. 2019. A comparison of the innate and adaptive immune systems in cartilaginous fish, ray-finned fish, and lobe-finned fish. *Frontiers in Immunology* 10, article 2292.

- Gallardi D, Xue X, Hamoutene D, Lush L, and **Rise ML**. 2019. Impact of origin (wild vs. farmed) and sea lice (*Lepeophtheirus salmonis*) infestation on expression of immune-relevant genes in Atlantic salmon (*Salmo salar* L.) skin. *Aquaculture* 499, 306-315.
- Caballero-Solares A, Xue X, Parrish CC, Foroutani MB, Taylor RG, and **Rise ML**. 2018. Changes in the liver transcriptome of farmed Atlantic salmon (*Salmo salar*) fed experimental diets based on terrestrial alternatives to fish meal and fish oil. *BMC Genomics* 19(1), article number 796.
- Foroutani MB, Parrish CC, Wells J, Taylor RG, **Rise ML**, and Shahidi F. 2018. Minimizing marine ingredients in diets of farmed Atlantic salmon (*Salmo salar*): Effects on growth performance and muscle lipid and fatty acid composition. *PLoS One* 13(9), e0198538.
- Smith NC, Christian SL, Taylor RG, Santander J, and **Rise ML**. 2018. Immune modulatory properties of 6-gingerol and resveratrol in Atlantic salmon macrophages. *Molecular Immunology* 95, 10-19. E
- Eslamloo K, Inkpen SM, **Rise ML**, and Andreassen R. 2018. Discovery of microRNAs associated with the antiviral immune responses of Atlantic cod macrophages. *Molecular Immunology* 93, 152-161.
- Collins SA, Xie S, Hall JR, White MB, **Rise ML**, and Anderson DM. 2018. Evaluation of enzyme- and *Rhizopus oligosporus*-treated high oil residue camelina meal on rainbow trout growth performance and distal intestine histology and inflammatory biomarker gene expression. *Aquaculture* 483, 27-37.
- Eslamloo K, Xue X, Hall JR, Smith NC, Caballero-Solares A, Parrish CC, Taylor RG and **Rise ML**. 2017. Transcriptome profiling of antiviral immune and dietary fatty acid dependent responses of Atlantic salmon macrophage-like cells. *BMC Genomics* 18, article number 706.
- Caballero-Solares A, Hall JR, Xue X, Eslamloo K, Taylor RG, Parrish CC, and **Rise ML**. 2017. The dietary replacement of marine ingredients by terrestrial animal and plant alternatives modulates the antiviral immune response of Atlantic salmon (*Salmo salar*). *Fish and Shellfish Immunology* 64, 24-38.
- Macqueen DJ, Primmer CR, Houston RD, Nowak BF, Bernatchez L, Bergseth S, Davidson WS, Gallardo-Escarate C, Goldammer T, Guiguen Y, Iturra P, Kijas JW, Koop BF, Lien S, Maass A, Martin SAM, McGinnity P, Montecino M, Naish KA, Nichols KM, Olafsson K, Omholt SW, Palti Y, Plastow GS, Rexroad CE, **Rise ML**, Ritchie RJ, Sandve SR, Schulte PM, Tello A, Vidal R, Vik JO, Wargelius A, Yanex JM, The FAASG Consortium. 2017. Functional Annotation of All Salmonid Genomes (FAASG): an international initiative supporting future salmonid research, conservation and aquaculture. *BMC Genomics* 18, article number 484.

- Hixson SM, Parrish CC, Xue X, Wells JS, Collins SA, Anderson DM, and **Rise ML**. 2017. Growth performance, tissue composition, and gene expression responses in Atlantic salmon (*Salmo salar*) fed varying levels of different lipid sources. *Aquaculture* 467, 76-88.
- Solbakken MH, **Rise ML**, Jakobsen KS, and Jentoft S. 2016. Successive losses of central immune genes characterize the Gadiformes' alternate immunity. *Genome Biology and Evolution* 8(11), 3508-3515.
- Polinski MP, Bradshaw JC, Inkpen SM, Richard J, Fritsvold C, Poppe TT, **Rise ML**, Garver KA, and Johnson SC. 2016. *De novo* assembly of Sockeye salmon kidney transcriptomes reveal a limited early response to piscine reovirus with or without infectious hematopoietic necrosis virus superinfection. *BMC Genomics* 17, article number 848.
- Eslamloo K, Xue X, Booman M, Smith NC, and **Rise ML**. 2016. Transcriptome profiling of the antiviral immune response in Atlantic cod macrophages. *Developmental and Comparative Immunology* 63, 187-205.
- Brown TD, Hori TS, Xue X, Ye CL, Anderson DM, and **Rise ML**. 2016. Functional genomic analysis of the impact of camelina (*Camelina sativa*) meal on Atlantic salmon (*Salmo salar*) distal intestine gene expression and physiology. *Marine Biotechnology* 18, 418-435.
- Katan T, Nash GW, **Rise ML**, Hall JR, Fernandes, JMO, Boyce D, Johnsen CE, and Gamperl AK. 2016. A little goes a long way: Improved growth in Atlantic cod (*Gadus morhua*) fed small amounts of wild zooplankton. *Aquaculture* 451, 271-282.
- Rise ML**, Hall JR, Nash GW, Xue X, Booman M, Katan T, and Gamperl AK. 2015. Transcriptome profiling reveals that feeding wild zooplankton to larval Atlantic cod (*Gadus morhua*) influences suites of genes involved in oxidation-reduction, mitosis, and selenium homeostasis. *BMC Genomics* 16, 1016.
- Alzaid A, Hori TS, Hall JR, **Rise ML**, and Gamperl AK. 2015. Cold-induced changes in stress hormone and steroidogenic transcript levels in cunner (*Tautoglabrus adspersus*), a fish capable of metabolic depression. *General and Comparative Endocrinology* 224, 126-135.
- Inkpen SM, Hori TS, Gamperl AK, Nash GW, and **Rise ML**. 2015. Characterization and expression analyses of five interferon regulatory factor transcripts (*Irf4a*, *Irf4b*, *Irf7*, *Irf8*, *Irf10*) in Atlantic cod (*Gadus morhua*). *Fish and Shellfish Immunology* 44(1), 365-381.
- Xue X, Hixson SM, Hori TS, Booman M, Parrish CC, Anderson DM, and **Rise ML**. 2015. Atlantic salmon (*Salmo salar*) liver transcriptome response to diets containing *Camelina sativa* products. *Comparative Biochemistry and Physiology, Part D: Genomics and Proteomics* 14, 1-15.
- Zanuzzo FS, Urbinati EC, **Rise ML**, Hall JR, Nash GW, and Gamperl AK. 2015. *Aeromonas salmonicida* induced immune gene expression in *Aloe vera* fed steelhead trout, *Oncorhynchus mykiss* (Walbaum). *Aquaculture* 435, 1-9.
- Hall JR, Clow KA, **Rise ML**, and Driedzic WR. 2015. Cloning and characterization of aquaglyceroporin genes from rainbow smelt (*Osmerus mordax*) and transcript expression in response to cold temperature. *Comparative Biochemistry and Physiology, Part B: Biochemistry and Molecular Biology* 187, 39-54.

- McDonald M, Mannion M, Pike D, Lewis K, Flynn A, Brannan AM, Browne MJ, Jackman D, Madera L, Power Coombs MR, Hoskin DW, **Rise ML**, and Booth V. 2015. Structure-function relationships in histidine-rich antimicrobial peptides from Atlantic cod. *Biochimica et Biophysica Acta - Biomembranes* 1848(7), 1451-1461.
- Evans ML, Hori TS, **Rise ML**, and Fleming, IA. 2015. Transcriptomic responses of Atlantic salmon (*Salmo salar*) to environmental enrichment during juvenile rearing. *PLoS One* 10(3), e0118378.
- Søfteland L, Kurwan JA, Hori TS, Størseth TR, Sommer U, Berntssen MH, Viant MR, **Rise ML**, Waagbø R, Torstensen BE, Booman M, and Olsvik PA. 2014. Toxicological effect of single contaminants and contaminant mixtures associated with plant ingredients in novel salmon feeds. *Food and Chemical Toxicology* 73:157-174.
- Tuziak SM, **Rise ML**, and Volkoff H. 2014. An investigation of appetite-related peptide transcript expression in Atlantic cod (*Gadus morhua*) brain following a *Camelina sativa* meal-supplemented feeding trial. *Gene* 550, 253-263.
- Xue X, Feng CY, Hixson SM, Johnstone K, Anderson DM, Parrish CC, and **Rise ML**. 2014. Characterization of the fatty acyl elongase (elovl) gene family, and hepatic elovl and delta-6 fatty acyl desaturase transcript expression and fatty acid responses to diets containing camelina oil in Atlantic cod (*Gadus morhua*). *Comparative Biochemistry and Physiology, Part B: Biochemistry and Molecular Biology* 175, 9-22.
- Andrews CD, Payne JF, and **Rise ML**. 2014. Identification of a gene set to evaluate the potential effects of loud sounds from seismic surveys on the ears of fishes: a study with *Salmo salar*. *Journal of Fish Biology* 84(6), 1793-1819.
- Booman M, Xu Q, and **Rise ML**. 2014. Evaluation of the impact of camelina oil-containing diets on the expression of genes involved in the innate anti-viral immune response in Atlantic cod (*Gadus morhua*). *Fish and Shellfish Immunology* 41(1), 52-63.
- Rise ML**, Nash GW, Hall JR, Booman M, Hori TS, Trippel EA, and Gamperl AK. 2014. Variation in embryonic mortality and maternal transcript expression among Atlantic cod (*Gadus morhua*) broodstock: a functional genomics study. *Marine Genomics* 18:3-20.
- Dunham RA, Taylor JF, **Rise ML**, and Liu Z. 2014. Development of strategies for integrated breeding, genetics and applied genomics for genetic improvement of aquatic organisms. *Aquaculture* 420-421, S121-S123.
- Hori TS, Gamperl AK, Nash GW, Booman M, Barat A, and **Rise ML**. 2013. The impact of a moderate chronic temperature increase on spleen immune-relevant gene transcription depends on whether Atlantic cod are stimulated with bacterial versus viral antigens. *Genome* 56, 567-576.
- Xu Q, Feng CY, Hori TS, Plouffe DA, Buchanan JT, and **Rise ML**. 2013. Family-specific differences in growth rate and hepatic gene expression in juvenile triploid growth hormone (GH) transgenic Atlantic salmon (*Salmo salar*). *Comparative Biochemistry and Physiology, Part D: Genomics and Proteomics* 8, 317-333.

- Liu Q, **Rise ML**, Spitsbergen JM, Hori TS, Mieritz M, Geis S, McGraw JE, Goetz G, Larson J, Hutz RJ, and Carvan MJ III. 2013. Gene expression and pathologic alterations in juvenile rainbow trout due to chronic dietary TCDD exposure. *Aquatic Toxicology* 140-141, 356-368.
- Rise ML**, Hall JR, Alcock BP, and Hori TS. 2012. Dynamic expression profiles of virus-responsive and putative antimicrobial peptide-encoding transcripts during Atlantic cod (*Gadus morhua*) embryonic and early larval development. *Gene* 509(2), 232-246.
- Hori TS, Gamperl AK, Booman M, Nash GW, and **Rise ML**. 2012. A moderate increase in ambient temperature modulates the Atlantic cod (*Gadus morhua*) spleen transcriptome response to intraperitoneal viral mimic injection. *BMC Genomics* 13, 431.
- Hall JR, Short CE, **Rise ML**, and Driedzic WR. 2012. Expression analysis of glycerol synthesis-related liver transcripts in rainbow smelt (*Osmerus mordax*) exposed to a controlled decrease in temperature. *Physiological and Biochemical Zoology* 85(1), 74-84.
- Hori TS, **Rise ML**, Johnson SC, Afonso LO, and Gamperl AK. 2012. The mRNA expression of cortisol axis related genes differs in Atlantic cod (*Gadus morhua*) categorized as high or low responders. *General and Comparative Endocrinology* 175(2), 311-320.
- Hall JR, Clow KA, **Rise ML**, and Driedzic WR. 2011. Identification and validation of differentially expressed transcripts in a hepatocyte model of cold-induced glycerol production in rainbow smelt (*Osmerus mordax*). *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* 301(4), R995-R1010.
- Feng CY and **Rise ML**. 2011. Identification and molecular cloning of Atlantic cod (*Gadus morhua*) activating transcription factor 3 (ATF3) transcript and its induction in spleen following intraperitoneal polyriboinosinic polyribocytidylic acid injection. *Fish and Shellfish Immunology* 31, 475-481.
- Booman M, Borza T, Hori TS, Feng CY, Higgins B, Culf A, Leger D, Chute I, Hall JR, Belkaid A, Rise M, Gamperl AK, Hubert S, Kimball J, Ouelette R, Johnson SC, Bowman S, and **Rise ML**. 2011. Development and experimental validation of a 20K Atlantic cod (*Gadus morhua*) oligonucleotide microarray based on a collection of over 150,000 ESTs. *Marine Biotechnology* 13, 733-750.
- Bowman S, Hubert S, Higgins B, Stone C, Kimball J, Borza T, Bussey JT, Simpson G, Hall JR, Hori TS, Feng CY, Gamperl AK, Booman M, Rise M, Symonds J, Johnson SC, and **Rise ML**. 2011. An integrated approach to gene discovery and marker development in Atlantic cod (*Gadus morhua*). *Marine Biotechnology* 13, 242-255.
- Browne MJ, Feng CY, Booth V, and **Rise ML**. 2011. Characterization and expression studies of Gaduscidin-1 and Gaduscidin-2; paralogous antimicrobial peptide-like transcripts from Atlantic cod (*Gadus morhua*). *Developmental and Comparative Immunology* 35, 399-408.
- Borza T, Stone C, **Rise ML**, Bowman S, and Johnson SC. 2010. Atlantic cod (*Gadus morhua*) CC chemokines: diversity and expression analysis. *Developmental and Comparative Immunology* 34, 904-913.
- Callahan AG, Deibel D, McKenzie CH, Hall JR, and **Rise ML**. 2010. Survey of harbours in Newfoundland for indigenous and non-indigenous ascidians and an analysis of their cytochrome c oxidase I gene sequences. *Aquatic Invasions* 5, 31-39.

- Feng CY and **Rise ML**. 2010. Characterization and expression analyses of anti-apoptotic Bcl-2-like genes NR-13, Mcl-1, Bcl-X1, and Bcl-X2 in Atlantic cod (*Gadus morhua*). *Molecular Immunology* 47, 763-784.
- Hori TS, Gamperl AK, Afonso LOB, Johnson SC, Hubert S, Kimball J, Bowman S, and **Rise ML**. 2010. Heat-shock responsive genes identified and validated in Atlantic cod (*Gadus morhua*) liver, head kidney and skeletal muscle using genomic techniques. *BMC Genomics* 11, 72.
- Lewis JM, Hori TS, **Rise ML**, Walsh PJ, and Currie S. 2010. Transcriptome responses to heat stress in the nucleated red blood cells of the rainbow trout (*Oncorhynchus mykiss*). *Physiological Genomics* 42, 361-373.
- Rise ML**, Hall JR, Rise M, Hori TS, Browne M, Gamperl AK, Hubert S, Kimball J, Bowman S, and Johnson SC. 2010. Impact of asymptomatic nodavirus carrier state and intraperitoneal viral mimic injection on brain transcript expression in Atlantic cod (*Gadus morhua*). *Physiological Genomics* 42, 266-280.
- Workenhe ST, Rise ML, Kibenge MJT, and Kibenge FS. 2010. The fight between the teleost fish immune response and aquatic viruses. *Molecular Immunology* 47, 2525-2536.
- Devlin RH, Sakhrani D, Tymchuk WE, **Rise ML**, and Goh B. 2009. Domestication and growth hormone transgenesis cause similar changes in gene expression in coho salmon (*Oncorhynchus kisutch*). *Proceedings of the National Academy of Sciences USA* 106, 3047-3052.
- Feng CY, Johnson SC, Hori TS, Rise M, Hall JR, Gamperl AK, Hubert S, Kimball J, Bowman S, and **Rise ML**. 2009. Identification and analysis of differentially expressed genes in the immune tissues of Atlantic cod stimulated with formalin-killed, atypical *Aeromonas salmonicida*. *Physiological Genomics* 37, 149-163.
- Goetz FW, **Rise ML**, Rise M, Goetz GW, Binkowski F, and Shepherd BS. 2009. Stimulation of growth and changes in the hepatic transcriptome by estradiol-17 β in the yellow perch (*Perca flavescens*). *Physiological Genomics* 38, 261-280.
- Lang AS, **Rise ML**, Culley AI, and Steward GF. 2009. RNA viruses in the sea. *FEMS Microbiology Reviews* 33, 295-323.
- Workenhe ST, Hori TS, **Rise ML**, Kibenge MJT, and Kibenge FSB. 2009. Infectious salmon anaemia virus (ISAV) isolates induce distinct gene expression responses in the Atlantic salmon (*Salmo salar*) macrophage/dendritic-like cell line TO, assessed using genomic techniques. *Molecular Immunology* 46, 2955-2974.
- Carvan MJ, Incardona JP, and **Rise ML**. 2008. Meeting the challenges of aquatic vertebrate ecotoxicology. *BioScience* 58, 1015-1025.
- King Heiden TC, Struble CA, **Rise ML**, Hessner MJ, Hutz RJ, and Carvan MJ. 2008. Molecular targets of 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (TCDD) within the zebrafish ovary: Insights into TCDD-induced endocrine disruption and reproductive toxicity. *Reproductive Toxicology* 25, 47-57.
- Pérez-Casanova JC, **Rise ML**, Dixon B, Hall JR, Afonso LOB, and Gamperl AK. 2008. Immune and stress responses of juvenile Atlantic cod (*Gadus morhua*) to a chronic thermal challenge. *Fish and Shellfish Immunology* 24, 600-609.

- Rise ML**, Hall J, Rise M, Hori T, Gamperl AK, Kimball J, Hubert S, Bowman S, and Johnson SC. 2008. Functional genomic analysis of the response of Atlantic cod (*Gadus morhua*) spleen to the viral mimic polyribonucleosinic polyribocytidylic acid (pIC). *Developmental and Comparative Immunology* 32, 916-931.
- von Schalburg KR, Cooper GA, Leong J, Robb A, Lieph R, **Rise ML**, Davidson WS, and Koop BF. 2008. Expansion of the genomics research on Atlantic salmon *Salmo salar* L. project (GRASP) microarray tools. *Journal of Fish Biology* 72, 2051-2070.
- Gahr SA, Rexroad CE, **Rise ML**, Hunt P, Koop B. 2007. A survey of expressed sequence tags from the rainbow trout (*Oncorhynchus mykiss*) pituitary. *Animal Biotechnology* 18, 213-230.
- Morrison RN, Cooper GA, Koop BF, **Rise ML**, Bridle AR, Adams MB, and Nowak BF. 2006. Transcriptome profiling of the gills of amoebic gill disease (AGD)-affected Atlantic salmon (*Salmo salar* L.): a role for the tumor suppressor protein p52 in AGD-pathogenesis? *Physiological Genomics* 26, 15-34. *Cover Article*.
- Rise ML**, Douglas SE, Sakhrani D, Williams J, Ewart KV, Rise M, Davidson WS, Koop BF, and Devlin RH. 2006. Multiple microarray platforms utilized for hepatic gene expression profiling of growth hormone transgenic coho salmon with and without ration restriction. *Journal of Molecular Endocrinology* 37, 259-282.
- von Schalburg KR, McCarthy SP, **Rise ML**, Hutson JC, Davidson WS, and Koop BF. 2006. Expression of morphogenic genes in mature ovarian and testicular tissues: potential stem-cell niche markers and patterning factors. *Molecular Reproduction and Development* 73, 142-152.
- Ng SH, Artieri CG, Bosdet IE, Chiu R, Danzmann RG, Davidson WS, Ferguson MM, Fjell CD, Hoyheim B, Jones SJ, de Jong PJ, Koop BF, Krzywinski MI, Lubieniecki K, Marra MA, Mitchell LA, Mathewson C, Osoegawa K, Parisotto SE, Phillips RB, **Rise ML**, von Schalburg KR, Schein JE, Shin H, Siddiqui A, Thorsen J, Wye N, Yang G, and Zhu B. 2005. A physical map of the genome of Atlantic salmon, *Salmo salar*. *Genomics* 86, 396-404.
- von Schalburg KR, **Rise ML**, Brown GD, Davidson WS, and Koop BF. 2005. A comprehensive survey of the genes involved in maturation and development of the rainbow trout ovary. *Biology of Reproduction* 72, 687-699.
- von Schalburg KR, **Rise ML**, Cooper GA, Brown GD, Gibbs AR, Nelson CC, Davidson WS, and Koop BF. 2005. Fish and chips: Various methodologies demonstrate utility of a 16,006-gene salmonid microarray. *BMC Genomics* 6, 126.
- Rise ML**, Jones SRM, Brown GD, von Schalburg KR, Davidson WS, and Koop BF. 2004. Microarray analyses identify molecular biomarkers of Atlantic salmon macrophage and hematopoietic kidney response to *Piscirickettsia salmonis* infection. *Physiological Genomics* 20, 21-35.
- Rise ML**, von Schalburg KR, Brown GD, Mawer MA, Devlin RH, Kuipers N, Busby M, Beetz-Sargent M, Alberto R, Gibbs AR, Hunt P, Shukin R, Zeznik JA, Nelson C, Jones SRM, Smailus DE, Jones SJM, Schein JE, Marra MA, Butterfield YSN, Stott JM, Ng SHS, Davidson WS, and Koop BF. 2004. Development and application of a salmonid EST database and cDNA

microarray: data mining and interspecific hybridization characteristics. *Genome Research* 14, 478-490.

Burke RD, Murray GA, **Rise M**, and Wang D. 2004. Integrins on eggs: the β C integrin subunit is essential for formation of the cortical actin cytoskeleton in sea urchin eggs. *Developmental Biology* 265, 53-60.

Rise M and Burke RD. 2002. SpADAM, a sea urchin ADAM, has conserved structure and expression. *Mechanisms of Development* 117, 275-281.

Murray G, Reed C, Marsden M, **Rise M**, Wang D, and Burke RD. 2000. The alphaBbetaC integrin is expressed on the surface of the sea urchin egg and removed at fertilization. *Developmental Biology* 227, 633-647.

Non-refereed contributions

Editorial

Rise ML, Martyniuk CJ, and Chen M. 2019. Comparative physiology and aquaculture: Toward Omics-enabled improvement of aquatic animal health and sustainable production. *Comparative Biochemistry and Physiology part D: Genomics and Proteomics* 31, article 100603.

Co-editor of book:

Aquaculture Biotechnology (edited by Fletcher GL and **Rise ML**). 2012. Wiley-Blackwell, Ames, IA. 379 pages.

Book chapters (Rise trainees underlined):

Torresen OK, **Rise ML**, Jin X, Star B, MacKenzie S, Jakobsen KS, Nederbragt AJ, and Jentoft S. 2016. An improved version of the Atlantic cod genome and advancements in functional genomics: implications for the future of cod farming. In *Genomics in Aquaculture* (eds. S. MacKenzie and S. Jentoft), Academic Press (Elsevier, London, UK). pp. 45-72.

Rise ML. 2012. Functional genomics research of Atlantic cod (*Gadus morhua*). In *Functional Genomics in Aquaculture* (eds. M. Saroglia and Z. Liu), John Wiley & Sons, Ames, IA. pp. 339-348.

Booman M and **Rise ML**. 2012. Genomic tools for understanding the molecular basis of production-relevant traits in finfish. In *Aquaculture Biotechnology* (eds. G.L. Fletcher and M.L. Rise), Wiley-Blackwell, Ames, IA. pp. 3-20.

Rise ML, Liu ZJ, Douglas SE, Brown LL, Nash JHE, and McFall-Ngai MJ. 2009. Aquaculture-related applications of DNA microarray technology. In *Molecular Research in Aquaculture* (ed. K. Overturf), Wiley-Blackwell, Ames, IA. pp. 63-101.

Rise ML, von Schalburg KR, Cooper GA, and Koop BF. 2007. Salmonid DNA microarrays and other tools for functional genomics research. In *Aquaculture Genome Technologies* (ed. Z. Liu), Blackwell Publishing, Ames, IA. pp. 369-411.

Carvan MJ, **Rise ML**, and Klaper RD. 2005. Genomic Technologies in Biomonitoring. In *Water Encyclopedia, Vol. 5, Water Quality and Resource Development* (ed. J.H. Lehr, J. Keeley, and J. Lehr), John Wiley and Sons, New York.