Curriculum Vitae for Yniv Palti

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Current Position: Research Geneticist (since Sep. 2001); Lead Scientist of the Genomics Unit (since April 2008)

Research Interests and Ongoing Projects in my Lab:
My main focus is in developing genomic tools and protocols for improving selective breeding strategies in aquaculture, primarily in rainbow trout and other salmonids. I am also interested in using genomics and genetics to dissect complex traits and improve our knowledge of the underline fish biology and physiology. Current ongoing projects in my lab and in collaboration with other labs include:

- Generating an improved reference genome map for rainbow trout.
- Evaluating and optimizing genomic selection strategies for disease resistance in rainbow trout aquaculture breeding programs.
- Conduct genome-wide association analyses to identify SNPs and genome regions affecting disease resistance and other aquaculture production traits in rainbow trout aquaculture breeding programs. Current ongoing traits: columnaris disease (CD) resistance and infectious haematopoietic necrosis virus (IHNV) resistance.
- Fine mapping of previously identified QTL in the NCCCWA rainbow trout germplasm and chromosome walking to identify the causative genes and alleles affecting variation in resistance to bacterial cold water disease (BCWD).

University Education and Additional Training

2000 - 2001	Research Associate, Cardeza Foundation for Hematologic Research, Thomas Jefferson University, Philadelphia, PA, USA.
1999 – 2000	Visiting Lecturer and Head of the DNA Analysis and Sequencing Unit, Dept. of Food Engineering and Biotechnology, Technion – Israel Institute of Technology, Haifa, Israel.
1998 – 1999	Postdoctoral fellow, Animal Science Institute, Agricultural Research Organization, Beit-Dagan, Israel.
1994 - 1997	Ph.D., Genetics & Cell Biology, Washington State University, Pullman, WA, USA.
1992 - 1994	M.S., Genetics & Cell Biology, Washington State University, Pullman, WA, USA.
1988 - 1991	B.Sc., Economics, Faculty of Agriculture of the Hebrew University of Jerusalem, Rehovot, Israel.

List of Recent Relevant Publications

1) Vallejo, R.L., **Palti, Y.**, Evenhuis, J.P., Gao, G., Rexroad III, C.E., and Wiens, G.D. Detection of QTL in rainbow trout affecting survival when challenged with *Flavobacterium psychrophilum*. *Marine Biotechnology* 16: 349-360. 2014.

2) **Palti, Y.**, Gao, G., Miller, M.R., Vallejo, R.L., Wheeler, P.A., Quillet, E., Yao, J., Thorgaard, G.H., Salem, M., and Rexroad III, C.E. A resource of single-nucleotide polymorphisms for rainbow trout generated by RAD sequencing of doubled haploids. *Molecular Ecology Resources* 14: 588-596. 2014.

3) **Palti, Y.**, Gao, G., Liu, S., Kent, M.P., Lien, S., Miller, M.R., Rexroad III, C.E., and Moen, T. The Development and Characterization of a 57K SNP Array for Rainbow Trout. *Molecular Ecology Resources*, 15: 662-672. 2015.

4) Marancik, D., Gao, G., Paneru, B., Ma, H., Hernandez, A.G., Salem, M., Yao, J., **Palti, Y**. and Wiens, G.D. Whole-body transcriptome of selectively bred, resistant-, control-, and susceptible-line rainbow trout following experimental challenge with Flavobacterium psychrophilum. *Frontiers in Genetics*, 5**:** 1-15. 2015.

5) **Palti, Y.**, Vallejo, R.L., Gao, G., Liu, S., Hernandez, A.G., Rexroad, C.E., III and Wiens, G.D. Detection and Validation of QTL Affecting Bacterial Cold Water Disease Resistance in Rainbow Trout Using Restriction-Site Associated DNA Sequencing. *PLoS ONE*, 10**:** e0138435. 2015.

6) Andersson, L., Archibald, A., Bottema, C., Brauning, R., Burgess, S., Burt, D., Casas, E., Cheng, H., Clarke, L., Couldrey, C., Dalrymple, B., Elsik, C., Foissac, S., Giuffra, E., Groenen, M., Hayes, B., Huang, L., Khatib, H., Kijas, J., Kim, H., Lunney, J.K., Mccarthy, F.M., Mcewan, J.C., Moore, S., Nanduri, B., Notredame, C., **Palti, Y.**, Plastow, G.S., Reecy, J.M., Rohrer, G.A., Sarropoulou, E., Schmidt, C.J., Silverstein, J., Tellam, R.L., Tixier-Boichard, M., Tosser-Klopp, G., Tuggle, C.K., Vilkki, J., White, S.N., Zhao, S., and Zhou, H. Coordinated international action to accelerate genome-to-phenome with FAANG, the Functional Annotation of Animal Genomes project. *Genome Biology*, 16**:** 57. 2015.

7) Vallejo, R.L., Leeds, T.D., Fragomeni, B.O., Gao, G., Hernandez, A.G., Misztal, I., Welch, T.J., Wiens, G.D. and **Palti, Y.** Evaluation of genome-enabled selection for bacterial cold water disease resistance using progeny performance data in rainbow trout: Insights on genotyping methods and genomic prediction models. *Frontiers in Genetics*, 7. 2016.

8) Paneru, B., Al-Tobasei, R., **Palti, Y.**, Wiens, G.D. and Salem, M. Differential expression of long non-coding RNAs in three genetic lines of rainbow trout in response to infection with Flavobacterium psychrophilum. *Scientific Reports*, 6**:** 36032. 2016.

9) Gonzalez-Pena, D., Gao, G., Baranski, M., Moen, T., Cleveland, B.M., Kenney, P.B., Vallejo R.L., **Palti, Y.** and Leeds, T.D. Genome-Wide Association Study for Identifying Loci that Affect Fillet Yield, Carcass, and Body Weight Traits in Rainbow Trout (Oncorhynchus mykiss). *Frontiers in Genetics*, 7:203. 2016.

10) Liu, S., **Palti, Y.**, Gao, G. and Rexroad III, C.E. Development and validation of a SNP panel for parentage assignment in rainbow trout. *Aquaculture*, 452**:** 178-182. 2016.

11) Danzmann, R.G., Kocmarek, A.L., Norman, J.D., Rexroad III, C.E. and **Palti, Y.** Transcriptome profiling in fast versus slow-growing rainbow trout across seasonal gradients. *BMC Genomics*, 17**:** 1-18. 2016.

12) Lien, S., Koop, B.F., Sandve, S.R., Miller, J.R., Kent, M.P., Nome, T., Hvidsten, T.R., Leong, J.S., Minkley, D.R., Zimin, A., Grammes, F., Grove, H., Gjuvsland, A., Walenz, B., Hermansen, R.A., Von Schalburg, K., Rondeau, E.B., Di Genova, A., Samy, J.K.A., Olav Vik, J., Vigeland, M.D., Caler, L., Grimholt, U., Jentoft, S., Inge Våge, D., De Jong, P., Moen, T., Baranski, M.,

Palti, Y., Smith, D.R., Yorke, J.A., Nederbragt, A.J., Tooming-Klunderud, A., Jakobsen, K.S., Jiang, X., Fan, D., Hu, Y., Liberles, D.A., Vidal, R., Iturra, P., Jones, S.J.M., Jonassen, I., Maass, A., Omholt, S.W. and Davidson, W.S. The Atlantic salmon genome provides insights into rediploidization. *Nature*, 533**:** 200-205. 2016.

13) Liu, S., **Palti, Y.**, Martin, K.E., Parsons, J.E. and Rexroad III, C.E. Assessment of genetic differentiation and genetic assignment of commercial rainbow trout strains using a SNP panel. *Aquaculture*, 468, Part 1**:** 120-125. 2017.

14) Vallejo, R.L., Leeds, T.D., Gao, G., Parsons, J.E., Martin, K.E., Evenhuis, J.P., Fragomeni, B.O., Wiens, G.D. and **Palti, Y**. Genomic selection models double the accuracy of predicted breeding values for bacterial cold water disease resistance compared to a traditional pedigree-based model in rainbow trout aquaculture. *Genetics Selection Evolution*, 49**:** 17. 2017.

15) Al-Tobasei, R., Ali, A., Leeds, T.D., Liu, S., **Palti, Y.**, Kenney, B. and Salem, M. Identification of SNPs associated with muscle yield and quality traits using allelic-imbalance analyses of pooled RNA-Seq samples in rainbow trout. *BMC Genomics*, 18**:** 582. 2017.

16) Abdelrahman, H., Elhady, M., Alcivar-Warren, A., Allen, S., Al-Tobasei, R., Bao, L., Beck, B., Blackburn, H., Bosworth, B., Buchanan, J., Chappell, J., Daniels, W., Dong, S., Dunham, R., Durland, E., Elaswad, A., Gomez-Chiarri, M., Gosh, K., Guo, X., Hackett, P., Hanson, T., Hedgecock, D., Howard, T., Holland, L., Jackson, M., Jin, Y., Kahlil, K., Kocher, T., Leeds, T., Li, N., Lindsey, L., Liu, S., Liu, Z., Martin, K., Novriadi, R., Odin, R., **Palti, Y.**, Peatman, E., Proestou, D., Qin, G., Reading, B., Rexroad, C., Roberts, S., Salem, M., Severin, A., Shi, H., Shoemaker, C., Stiles, S., Tan, S., Tang, K.F.J., Thongda, W., Tiersch, T., Tomasso, J., Prabowo, W.T., Vallejo, R., Steen, H.V.D., Vo, K., Waldbieser, G., Wang, H., Wang, X., Xiang, J., Yang, Y., Yant, R., Yuan, Z., Zeng, Q. and Zhou, T. Aquaculture genomics, genetics and breeding in the United States: current status, challenges, and priorities for future research. *BMC Genomics*, 18**:** 191. 2017.

17) Macqueen, D.J., Primmer, C.R., Houston, R.D., Nowak, B.F., Bernatchez, L., Bergseth, S., Davidson, W.S., Gallardo-Escárate, C., Goldammer, T., Guiguen, Y., Iturra, P., Kijas, J.W., Koop, B.F., Lien, S., Maass, A., Martin, S.A.M., Mcginnity, P., Montecino, M., Naish, K.A., Nichols, K.M., Ólafsson, K., Omholt, S.W., **Palti, Y.**, Plastow, G.S., Rexroad, C.E., Rise, M.L., Ritchie, R.J., Sandve, S.R., Schulte, P.M., Tello, A., Vidal, R., Vik, J.O., Wargelius, A. and Yáñez, J.M. Functional Annotation of All Salmonid Genomes (FAASG): an international initiative supporting future salmonid research, conservation and aquaculture. *BMC Genomics*, 18**:** 484. 2017.

18) Larson, W.A., **Palti, Y.**, Gao, G., Warheit, K.I., Seeb, J.E.. Rapid discovery of SNPs that differentiate hatchery steelhead trout from ESA-listed natural-origin steelhead trout using a 57K SNP array. *Canadian Journal of Fisheries and Aquatic Sciences*, E-Published. DOI 10.1139/cjfas-2017-0116. 2018.

19) Gao, G., Nome, T., Pearse, D.E., Moen, T., Naish, K.A., Thorgaard, G.H., Lien, S. and **Palti, Y**. A New Single Nucleotide Polymorphism Database for Rainbow Trout Generated Through Whole Genome Resequencing. *Frontiers in Genetics*, 9**:** 147. 2018.

20) Vallejo R.L., *Silva R.M.O.*, Evenhuis J.P., Gao, G., Liu, S., Parsons J.E., Martin K.E., Wiens G.D., Lourenco D.A.L., Leeds T.D. and **Palti, Y**. Accurate genomic predictions for BCWD resistance in rainbow trout are achieved using low-density SNP panels: Evidence that long-range LD is a major contributing factor. *Journal of Animal Breeding and Genetics*, E-Published. DOI 10.1111/jbg.12335. 2018.