

CV Dr. Thomas Moen.

Short CV Thomas Moen

Personal information

Date of birth 5. November 1971

Civil status Married, two children (Lavrans, 7 years; Tellev 4 years)

Address Aqua Gen, Postboks 1240, Pirsenteret, 7462 Trondheim

Phone (47) 64 96 52 89 /

E-mail thomas.moen@aquagen.no

Employment record

1997-99
Teacher in several laboratory courses, School of Pharmacy, University of Oslo.

1999
Research fellow, The Biotechnology Centre of Oslo, University of Oslo.

1999-2004
Research fellow (Dr.Scient student), AKVAFORSK, Ås, Norway.

2004-2008
Senior Scientist, AKVAFORSK (Nofima), Ås, Norway.

2008-
Senior Scientist, Aqua Gen AS, Ås/Trondheim, Norway.

Education

Cand.Mag

Faculty of Mathematics and Biological Sciences, University of Oslo. 1991- 94.

Cand.Scient

Department of Biochemistry, University of Oslo. Thesis: "Use of *Saccharomyces cerevisiae* for studies of the human transcription factor TCF11." 1996-99.

Dr.Scient

Department of Animal and Aquacultural Sciences, Agricultural University of Norway, Ås, Norway. Thesis: "Mapping of Quantitative Trait Loci in Atlantic salmon and tilapia." 1999-2004.

Peer-reviewed scientific publications

Fjalestad K.T., Moen T. & Gomez-Raya L. (2002) Prospects for genetic technology in salmon breeding programmes. *Aquaculture Research* 34, 397-406.

Moen T., Fjalestad K.T., Munck H. & Gomez-Raya L. (2002) Detection of quantitative trait loci affecting disease resistance in Atlantic salmon. *Proceedings from the 7th World Congress on Genetics Applied to Livestock Production*.

Moen T. (2004) Mapping of Quantitative Trait Loci in Atlantic salmon and tilapia. Norwegian University of Life Science, Dr.Scient. Thesis: 2004: 11.

Moen T., Fjalestad K.T., Munck H. & Gomez-Raya L. (2004) A multi-stage testing strategy for detection of quantitative trait loci affecting disease resistance in Atlantic salmon. *Genetics* 167, 851-8

Moen T., Høyheim B., Munck H. & Gomez-Raya L. (2004) A linkage map of Atlantic salmon (*Salmosalar*) reveals an uncommonly large difference in recombination rate between the sexes. *Animal Genetics* 35, 81-92.

Moen T., Agresti J.J., Cnaani A., Moses H., Famula T.R., Hulata G., Gall G.A.E. & May B. (2004) A genome scan of a four-way tilapia cross supports the existence of a QTL for cold tolerance on UNH linkage group 23. *Aquaculture Research* 35, 893-904.

Hayes B., Moen T & Goddard M (2005) Dissection of genetics of complex traits and progress in aquaculture and livestock species. *AgBiotech Reviews* 7, ABN 136.

Hayes B., Jie H.I.E., Moen T. & Bennewitz J. (2006) Use of molecular markers to maximise diversity of founder populations for aquaculture breeding programs. *Aquaculture* 255, 573-578.

Grindflek E., Moe M., Taubert H., Simianer H., Lien S. & Moen T. (2006) [Genome-wide linkage analysis of inguinal hernia in pigs using affected sib pairs](#). *BMC Genetics* 7: 25.

Sonesson A.K., Meuwissen T.H.E. & Moen T. (2007) QTL mapping methods for disease challenge test data. *Proceedings of the 8th World Congress on Genetics Applied to Livestock Production*, Belo Horizonte,

Hayes B., Lærdahl J.K., Lien S., Moen T., Hindar K., Davidson W.S., Koop B.F., Adzhubei A. & Høyheim B. (2007) An extensive resource of single nucleotide polymorphism markers associated with Atlantic salmon (*Salmosalar*) expressed sequences *Aquaculture* 265, 82-90.

Østbye T-K., Wetten O.F., Tooming-Klunderud A., Jakobsen K.S., Yafe A., Etzioni S., Moen T. & Andersen Ø. (2007) Myostatin (MSTN) gene duplications in Atlantic salmon (*Salmo salar*): evidence for different selective pressure on teleost MSTN-1 and -2. *Gene* 403, 159-169.

Moen T., Sonesson A., Lien S., Hayes B., Munck H. & Meuwissen T. H. E. (2007) Mapping of a quantitative trait locus for resistance against infectious salmon anaemia in Atlantic salmon (*Salmo salar*): comparing survival analysis with analysis on affected/resistant data. *BMC Genetics* 8: 53.

Boulding E.G., Culling M., Glebe B., Berg P.B., Lien S. & Moen T. (2007) Conservation genomics of Atlantic salmon: SNPs associated with QTLs for adaptive trait differences in parr from a trans-Atlantic backcross. *Heredity* 101, 381-391.

Moen T., Hayes B., Nilsen F., Delghandi M., Fjalestad K.T., Fevolden S-E., Berg P.R. & Lien S. (2008) Identification and characterisation of novel SNP markers in Atlantic cod: Evidence for directional selection. *BMC Genetics* 9: 18.

Moen T., Hayes B., Baranski M., Berg P.R., Kjøglum S., Koop B.F., Davidson W.S., Omholt S.W. & Lien S. (2008) A linkage map of the Atlantic salmon (*Salmo salar*) based on EST-derived SNP markers. *BMC Genomics* 9: 223

Moen T., Baranski M., Sonesson A.K., Kjøglum S. (2009) Confirmation and fine-mapping of a major QTL for resistance to infectious pancreatic necrosis in Atlantic salmon (*Salmo salar*): population-level associations between markers and trait. *BMC Genomics* 10: 368.

Moen T., Delghandi M., Wesmajervi M.S., Westgaard J.-I. & Fjalestad K.T. (2009) A SNP/microsatellite genetic linkage map of the Atlantic cod (*Gadus morhua*). *Animal Genetics* 40, 993-996

Lorenz S., Brenna-Hansen S., Moen T., Roseth A., Davidson W.S., Omholt S.W., Lien S. (2009) BAC-based upgrading and physical integration of a genetic SNP map in Atlantic salmon. *Aquaculture* 41, 48-54.

Salte R., Bentsen H.B., Moen T., Tripathy S., Bakke T.A., Ødegård J., Omholt S.W. & Hansen L.P. (2010) Prospects for a genetic management strategy to control *Gyrodactylus salaris* infection in wild Atlantic salmon (*Salmo salar*) stocks. *Canadian Journal of Fisheries and Aquatic Sciences* 67, 121-129.

Nielsen E.E., Hemmer-Hansen J., Poulsen N.A., Loeschcke V., Moen T., Johansen T., Mittelholzer C., Taranger G-L., Ogden R. & Carvalho G.R. (2010) Genomic signatures of local directional selection in a high gene flow marine organism; the Atlantic cod (*Gadus morhua*). *BMC Evolutionary Biology*, in press.

Sundvold H., Ruyter B., Knutsdatter-Østbye T-K. & Moen T. (2010) Identification of a novel allele of peroxisome proliferator-activated receptor gamma (PPARG) and its association with resistance to *Aeromonas salmonicida* in Atlantic salmon (*Salmo salar*). *Fish and Shellfish Immunology*, in press.

Karlsson S., Moen T. & Hindar K (2010) Contrasting patterns of gene diversity between microsatellites and mitochondrial SNPs in farm and wild Atlantic salmon. *Conservation Genetics* 11, 571-572.

Baranski M., Moen T. & Våge D.I. (2010) Mapping of quantitative trait loci for flesh colour and growth traits in Atlantic salmon (*Salmo salar*) *Genetics Selection Evolution* 42, 17.

Karlsson S. & Moen T. (2010) The power to detect artificial selection acting on single loci in recently domesticated species. *BMC Research Notes* 2010, 3:232.

Karlsson S., Moen T., Lien S., Glover, K.A. & Hindar K. (2011) Generic genetic differences between farmed and wild Atlantic salmon identified from a 7K SNP-chip. *Molecular Ecology Resources* 11, Suppl. 1, 247-253

Popular science

Storset A., Wetten M., Santi N. & Moen T. (2008) IPN – hemmelighetentil kontrollavsykdommen finnes i fiskens gener. *Norsk Fiskeoppdrett* 4, 2008.

Moen T. & Storset A. (2009) Bruk av genmarkører markerer starten på en ny æra i avlsarbeidet. *Norsk Fiskeoppdrett* 6, 2009.

Santi N., Moen T., Isdal E. & Storset A. (2010) Avlørser oppdrettsnæringens IPN-problemer. *Norsk Fiskeoppdrett* 7, 2010
Santi N., Moen T. & Isdal E. (2011) Resistent laks – endelig løsning på IPN-problemet? *Fiskehelse*, April 2011

Other publications

Fjalestad K-T., Gjedrem T. & Moen T. (2002) Avlsarbeid i akvakultur. Lærebok i Naturbruk, Ganforlag AS, Oslo (textbook).

Syrstad O. & Moen T. (2002) Forvaltning av genetiske ressurser – husdyr. Lærebok i Naturbruk, Ganforlag AS, Oslo (textbook).

Moen T. Breeding for Resistance to Viral Diseases in Salmonids. In *Breeding for Disease Resistance in Farm Animals*, 3rd Edition, edited by Bishop et al., CABI 2010 (textbook)

Visiting scholar

2002-2003

Visiting scholar at the laboratory of Dr. Bernie May, Department of Animal Science, University of California, Davis.

Research grants/project leader experience

2003-2004

“Development of SNP markers from AFLP polymorphisms” (AKVAFORSK project requested by CIGENE). Initiator and project leader 2005-2008

“Marker-assisted selection for IPN-resistance in Atlantic salmon” (Aqua Gen AS and Research Council of Norway). Initiator and scientific leader.

2005-2008:

“Disease resistance in Atlantic cod: constructing a genetic map, QTL mapping and implementing QTLs in a genetic improvement programme” (Research Council of Norway and Fiskeriforskning AS). Responsible for AKVAFORSK’s part.

2005-2008:

“Breeding for increased resistance to Gyrodactylus salaries in Atlantic salmon” (internal CIGENE sub-project). Project leader.

2006-2010:

“Genomics as a tool for detecting selection in farm Atlantic salmon and interactions between escaped farm and wild salmon” (Research Council of Norway). Initiator and project leader (until 2008).

2009-

“Development and use of DNA markers for increase viral resistance in Atlantic salmon breeding programmes” (Aqua Gen AS and Research Council of Norway). Initiator and project leader.

2010-

“Marker-assisted selection of sea lice resistance and other traits in the breeding goal (Aqua Gen AS and Research Council of Norway). Initiator and project leader.

2011-

”Genomikk mot IPN – markørassistertseleksjon for umiddelbarforbedring av IPN-status i regnbueørretoppdrett” (Aqua Gen AS and Research Council of Norway). Initiator and project leader

Memberships, awards etc.

Fulbright Scholar (Fulbright Foundation for Educational Exchange), 2002

Member of the International Steering Committee for the International Collaborative Project to Sequence the Atlantic Salmon Genome

Nominee for the 2010 Innovation Prize of the Research Council of Norway (Aqua Gen; for the implementation of QTL for IPN in salmon egg production)

Winner of the North Atlantic Seafood Forum (NASF) Innovation Award 2011 (Aqua Gen; for the implementation of QTL for IPN in salmon egg production)