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Personal

Born on December 20, 1983
Norwegian Citizen

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Citations^a: 65
h-index^a: 5
i10-index^a: 2

^aWeb of Science 29.06.2018

Education

Degrees

PhD Biology, Norwegian University of Science and Technology, 2010-2016
– Thesis title: *Evolution by natural selection in age-structured populations in fluctuating environments.*

MSc Ecology, Norwegian University of Science and Technology, 2008-2010
– Thesis title: *Correlates of egg size variation in a population of house sparrow *Passer domesticus*.*

BSc Ecology, ethology and Evolutionary Biology, Norwegian University of Science and Technology, 2005-2008.

Courses

Short course in Evolutionary Quantative Genetics. 2016. University of Edinburgh, Edinburgh, United Kingdom, 31. October-4. November 2016
– *a comprehensive introduction to the topic by Bruce Walsh.*

Fuglekjennskap. 2008. Høgskolen i Nord-Trøndelag, Levanger.
– *3osp on the determination of bird species in the field by song, calls and appearance.*

Employment

Post doctoral researcher, Norwegian University of Science and Technology, Centre for Biodiversity Dynamics, 2016–Present.

PhD-student, Norwegian University of Science and Technology, 2010–2016.

Field assistant, Norwegian University of Science and Technology, 2008–2010.

Shop assistant, Ark bookstore, Bodø and Trondheim, 2003–2008.

Appointments to committees and boards

Member of Organizing Committee, Oikos Conference 2018, 19.-22. February, Trondheim, Norway, August 2017–February 2018

Chairman, Norwegian Ornithological Society Sør-Trøndelag, 2015–Present

Board Member, Norwegian Ornithological Society Sør-Trøndelag, 2010–2015

Member of PhD Educational Committee, Norwegian University of Science and Technology, November 2013–February 2015

Board Member, Department of Biology, Norwegian University of Science and Technology, June 2011–November 2013

Publications

Journal Articles

Lundregan, S.L., Niskanen, A.K., Muff, S., Holand, H., **Kvalnes, T.**, Ringsby, T.H., Husby, A., Jensen, H. 2019. Resistance to gapeworm parasite has both additive and dominant genetic components in house sparrows, with evolutionary consequences for ability to respond to parasite challenge. *Submitted*

Ranke, P.S., Araya-Ajoy, Y.G., Pärn, H., Rønning, B., Holand, H., **Kvalnes, T.**, Myhre, A.M., Saatoglu, D., Wright, J., Jensen, H., Ringsby, T.H., Sæther, B.-E. 2018. Habitat-specific effects of a sexually selected trait on successful dispersal. *Submitted*

Niskanen, A., Billing, A., Hagen, I.J., Holand, H., Huisman, J., Araya-Ajoy, Y.G., Husby, A., Rønning, B., Myhre, A.M., Ranke, P.S., **Kvalnes, T.**, Pärn, H., Ringsby, T.H., Lien, S., Sæther, B.-E., Muff, S., Jensen, H. 2019. Highly consistent inbreeding depression in a house sparrow metapopulation through space and time. *In review*

Holand, H., **Kvalnes, T.**, Røed, K.H., Holand, Ø., Sæther, B.-E., Kumpula, J. 2018. Stabilizing selection on a combination of two natal traits in an arctic ungulate. *In review*

Holand, H., Ringsby, T.H., Jensen, H., **Kvalnes, T.**, Tufto, J., Pärn, H., Sæther, B.-E. 2019. Parasite prevalence increases with temperature in an avian metapopulation in northern Norway. *Parasitology*: **146**, 1030-1035. doi: 10.1017/S0031182019000337

Araya-Ajoy, Y.G., Ranke, P.S., **Kvalnes, T.**, Rønning, B., Holand, H., Myhre, A.M., Pärn, H., Jensen, H., Ringsby, T.H., Sæther, B.-E., Wright, J. 2019. Characterizing morphological (co)variation using structural equation models: body size, allometric relationships and evolvability in a house sparrow metapopulation. *Evolution*: **73**, 452-466. doi: 10.1111/evo.13668

Lundregan, S.L., Hagen, I.J., Gohli, J., Langaas, M., Niskanen, A., Ringsby, T.H., **Kvalnes, T.**, Pärn, H., Rønning, B., Holand, H., Myhre, A.M., Ranke, P.S., Båtnes, A.S., Selvik, L.-K., Sæther, B.-E., Lien, S., Husby, A., Jensen, H. 2018. Investigating the Genetic Architecture of Bill Morphology in a Free-Living House Sparrow Metapopulation: Utilising a 200K SNP Array. *Molecular Ecology*: **27**, 3498-3514. doi: 10.1111/mec.14811

Kvalnes, T., Røberg, A., Jensen, H., Holand, H., Pärn, H., Sæther, B.-E., Ringsby, T.H. 2018. Offspring fitness and the optimal propagule size in a fluctuating environment. *Journal of Avian Biology*: e01786. doi: 10.1111/jav.01786

- Kvalnes, T.**, Ringsby, T.H., Jensen, H., Hagen, I.J., Rønning, B., Pärn, H., Holand, H., Engen, S., Sæther, B.-E. 2017. Reversal of response to artificial selection on body size in a wild passerine bird. *Evolution*, **71**, 2062-2079. doi: 10.1111/evo.13277
- Silva, C., McFarlane, S.E., Hagen, I.J., Rönnegård, L., Billing, A.M., **Kvalnes, T.**, Kemppainen, P., Rønning, B., Ringsby, T.H., Sæther, B.-E., Qvarnström, A., Ellegren, H., Jensen, H., Husby, A. 2017. Insights into the genetic architecture of morphological and sexually selected traits in two passerine bird species. *Heredity*, **119**, 197-205. doi: 10.1038/hdy.2017.29
- Ranke, P.S., Skjelseth, S., Pärn, H., Herfindal, I., Borg, Å.A., Stokke, B.G., **Kvalnes, T.**, Ringsby, T.H., Sæther, B.-E., Jensen, H. 2017. Demographic influences of translocated individuals on a resident population of house sparrows. *Oikos*, **126**, 1410-1418. doi: 10.1111/oik.04065
- Kemppainen, P., Rønning, B., **Kvalnes, T.**, Hagen, I., Ringsby, T.H., Billing, A., Pärn, H., Lien, S., Husby, A., Sæther, B.-E., Jensen, H. 2017. Controlling for p-value inflation in allele frequency change in experimental evolution and artificial selection experiments. *Molecular Ecology Resources*, **17**, 770-782. doi: 10.1111/1755-0998.12631
- Stubberud, M.W., Myhre, A.M., Holand, H., **Kvalnes, T.**, Ringsby, T.H., Sæther, B.-E., Jensen, H. 2017. Sensitivity analysis of effective population size to demographic parameters in house sparrow populations. *Molecular Ecology*, **26**, 2449-2465. doi: 10.1111/mec.14057
- Kvalnes, T.**, Sæther, B.-E., Haanes, H., Engen, S., Solberg, E.J. 2016. Harvest-induced phenotypic selection in an island population of moose, *Alces alces*. *Evolution*, **70**, 1486-500. doi: 10.1111/evo.12952
- Holand, H., **Kvalnes, T.**, Gamelon, M., Jensen, H., Pärn, H., Ringsby, T.H., Sæther, B.-E. 2016. Spatial variation in senescence rates in a bird metapopulation. *Oecologia*, **181**, 865-871. doi: 10.1007/s00442-016-3615-4
- Ringsby, T.H., Jensen, H., Holand, H., Pärn, H., Boner, W., Gillespie, R., **Kvalnes, T.**, Rønning, B., Sæther, B.-E., Monaghan, P. 2015. One being the right size; selection for increased body size reduces telomere length and increased growth rate. *Proc. R. Soc. B.*, **282**, 20152331. doi: 10.1098/rspb.2015.2331
- Engen, S., **Kvalnes, T.**, Sæther, B.-E. 2014. Estimating phenotypic selection in age structured populations by removing transient fluctuations. *Evolution*, **68**, 2509-2523. doi: 10.1111/evo.12456
- Westneat, D., Bokony, V., Burke, T., Chastel, O., Jensen, H., **Kvalnes, T.**, Lendvai, A., Liker, A., Mock, D., Schroeder, J., Schwagmeyer, P., Sorci, G., Stewart, I.R.K. 2014. Multiple aspects of plasticity in clutch size vary among populations of a globally distributed songbird. *Journal of Animal Ecology*, **83**, 876-887. doi: 10.1111/1365-2656.12191
- Kvalnes, T.**, Ringsby, T.H., Jensen, H., Sæther, B.-E. 2013. Correlates of egg size variation in a population of house sparrow *Passer domesticus*. *Oecologia*, **171**, 391-402. doi: 10.1007/s00442-012-2437-2
- Engen, S., Sæther, B.-E., **Kvalnes, T.**, Jensen, H. 2012. Estimating fluctuating selection in age-structured populations. *Journal of Evolutionary Biology*, **25**, 1487-1499. doi: 10.1111/j.1420-9101.2012.02530.x

Reports and theses

- Kvalnes, T.** 2016. Evolution by natural selection in age-structured populations in fluctuating environments. Phd Thesis, NTNU, Trondheim.
- Kvalnes, T.** 2010. Correlates of egg size variation in a population of house sparrow *Passer domesticus*. MSc Thesis, NTNU, Trondheim.

Software

Kvalnes, T., Engen, S., Sæther, B.-E., Jensen, H. 2012. Package 'lmf': Functions for estimation and inference of selection in age-structured populations. *R package version 1.0*. URL: <http://CRAN.R-project.org/package=lmf>

– An R package available through The Comprehensive R Archive Network. Currently version 1.2.

Newspaper and Magazine Articles

Brandslet, S., **Kvalnes, T.** 2017. Why aren't house sparrows as big as geese? **19. September 2017**, *Gemini*. URL: geminiresearchnews.com/2017/09/arent-house-sparrows-big-geese/

Kvalnes, T., Eggen, M. 2016. Gaulosen og Rødberg marine verneområder er opprettet. *Trøndersk natur*, **43(1)**, 22-23.

Kvalnes, T., Eggen, M. 2016. Nye verneområder er sikret! *Vår fuglefauna*, **3**, 130-131.

Hjorthol, M., **Kvalnes, T.** 2014. Tidlig vår en fare for fugleunger. **23. April 2014**, *Gemini*. URL: geminino.no/2014/04/tidlig-var-en-fare-for-fugleunger og *Forskning.no*: forskning.no/artikler/2014/april/388457

Kvalnes, T., Nygaard, S., Sandberg, S. 2012. Vindkraft: Store planer, store problemer. *Fosna-Folket*, **22. June 2012**, 12.

Kvalnes, T. 2010. Høstavslutning med amerikansk fyrverkeri. *Feltornitologen*, Årbok 2009, **8**, 43-45.

Hana, M., Kristjansson, K., **Kvalnes, T.**, Nesse, S.-I., Røed, C.-O., Slåtsveen, M.A. 2009. Hva skjer med biodrivstoff? *Under dusken*, **14**, 22.

Conference, Seminar and workshop presentations

Kvalnes, T. 2018. *Talk*: Hvor stor er en gråspurv? *Meeting in the Norwegian Ornithological Society Trondheim division*. Trondheim, Norway, 3. April 2018

Kvalnes, T. 2017. *Talk*: Reversal of response to artificial selection on body size in a wild passerine bird. *Hole-Nesting Bird Conference 2017*. Trondheim, Norway, 30. October - 2. November 2017

Kvalnes, T. 2017. *Talk*: Reversal of response to artificial selection on body size in a wild passerine bird. *Evolution 2017*. Portland, OR, USA, 23.-27. June 2017

Kvalnes, T. 2017. *Talk*: ggplot2: From exploration to publication ready figures. *Centre for Biodiversity Dynamics (CBD) R Seminar*. Trondheim, Norway, 4. April 2017

Kvalnes, T. 2016. *Talk*: Estimating evolution by natural selection in age-structured populations. *ReiGN modelling seminar*. Center for Biodiversity Dynamics, NTNU, Trondheim, Norway, 26. October 2016

Kvalnes, T., Sæther, B.-E., Haanes, H., Røed, K. H., Engen, S., Solberg, E.J. 2015. *Poster*: Harvest-induced phenotypic selection in an island moose *Alces alces* population. *Congress of the European Society for Evolutionary Biology (ESEB) 2015*. Lausanne, Switzerland, 10.-14. August 2015

Kvalnes, T., Ringsby, T.-H., Jensen, H., Engen, S., Sæther, B.-E. 2015. *Talk*: Is there an optimal body size? Lessons from an artificial selection experiment. *Centre for Biodiversity Dynamics (CBD) Annual Conference*. Trondheim, Norway, 21. January 2015

Kvalnes, T., Engen, S., Sæther, B.-E. 2014. *Talk*: Estimating phenotypic selection in age-structured populations. *Evolution 2014*. Raleigh, NC, USA, 20.-24. June 2014

Kvalnes, T. 2014. *Talk: Graphics in R: ggplot2. Centre for Biodiversity Dynamics (CBD) R Seminar.* Trondheim, Norway, 29. April 2014

Kvalnes, T., Sæther, B.-E., Engen, S., Jensen, H., Haanes, H., Solberg, E.J. 2013. *Talk: Natural selection in age-structured populations. Centre for Biodiversity Dynamics (CBD) Opening Conference.* Trondheim, Norway, 14.-16. October 2013

Kvalnes, T., Engen, S., Sæther, B.-E., Jensen, H. 2013. *Talk: Estimating fluctuating selection in age-structured populations. Congress of the European Society for Evolutionary Biology (ESEB) 2013.* Lisbon, Portugal, 19.-24. August 2013

Kvalnes, T., Engen, S., Sæther, B.-E. 2011. *Talk: Estimating fluctuating selection in age-structured populations. PhD seminar, Department of Biology, Norwegian University of Science and Technology.* Trondheim, Norway, 10. January 2011

Kvalnes, T., Ringsby, T.H., Jensen, H., Sæther, B.-E. 2010. *Talk: Fitness-consequences of egg size variation in populations of house sparrow (Passer domesticus). International Ornithological Student Conference.* Oxford, England, 6.-8. January 2010

Media

TV

NRK 1, "Midtnytt", 2017.10.11 – *A short feature on the recently published results from the artificial selection experiment on house sparrows at Leka and Vega.*

Radio

NRK P1, "God ettermiddag Trøndelag", 2017.10.11 – *A 4 minutes feature on the recently published results from the artificial selection experiment on house sparrows at Leka and Vega.*

NRK P1, "Norgesglasset", 2017.09.26 – *Contributed with expert opinions on why ravens "steal" golf balls from a golf course in Alta, Norway.*

NRK P1, "God ettermiddag Trøndelag", 2017.06.12 – *A 5 minutes feature on some recent scientific achievements and the development in a nest box with blue tits at NTNU with live web camera.*

NRK P1, "Naturens Verden", 2016.07.16 – *A 10 minutes feature on the ornithological qualities at the island Tautra in Trondheimsfjorden.*

NRK P1, "God morgen Trøndelag", 2015.10.06
– *A contribution to the discussion of preserving a piece of wetland threatened by destruction in Ørland community.*

NRK P1, "Norgesglasset", 2015.10.08
– *A short interview about crows in light of a recent study by John Marzluff showing that crows learn novel predators to know by their vicinity to dead conspecifics.*

NRK P1 Trøndelag, "Morgensendingen", 2012.10.05
– *A short interview about timing of migratory birds departure from Norway and how they find their way to their destinations.*

Web

Kvalnes, T., Pedersen, M.P. 2017. Sporene etter oppvekstforholdene kan vare livet ut. **22. June 2017**, *NTNU TechZone*. URL: ntnutechzone.no/2017/06/sporene-etter-oppvekstforholdene-kan-vare-livet-ut/

Kvalnes, T. 2017. Egg i fuglekassa! **16. May 2017**, *NTNU TechZone*. URL: ntnutechzone.no/2017/05/egg-i-fuglekassa/

Kvalnes, T. 2016. Ringmerking av fugl. **10. June 2016**, *NTNU Fakultet for naturvitenskap og teknologi blogg*. URL: blog.nt.ntnu.no/ringmerking-av-fugl/

Peer review

I have made peer reviews for the following scientific journals.

- Acta Ornithologia
- American Naturalist
- Behaviour
- Evolution
- Ibis
- Integrative Zoology
- Journal of Field Ornithology
- Journal of Ornithology
- Plos One
- Transactions of the Royal Norwegian Society of Sciences and Letters

Supervising graduate students

Master students

Anja Ås Røberg, 2016. 60 credits, Department of Biology, Norwegian University of Science and Technology.

Kristina Johansen, 2018. 60 credits, Department of Biology, Norwegian University of Science and Technology.

Mari Krogfjord, 2018. 30 credits, Department of Biology, Norwegian University of Science and Technology.

Marte Jakobsen, 2018. 30 credits, Department of Biology, Norwegian University of Science and Technology.

Martin Gjestrud Julseth, 2018. 60 credits, Department of Biology, Norwegian University of Science and Technology.

Cathrine Thurman-Nielsen, 2019. 60 credits, Department of Biology, Norwegian University of Science and Technology.

PdD students

Michael Pepke Pedersen, 2016. Department of Biology, Norwegian University of Science and Technology.

Teaching

Statistical modelling for biologists and biotechnologists (ST2304), NTNU. Spring 2013 and 2012.

– *The course was aimed at undergraduate students in biology and biotechnology, and taught how to handle and analyse collected datasets using the software package R. I assisted students during practicals, held lectures in statistics and practical use of R and provided feedback on reports.*

Faunistics and Floristics (BI1002), NTNU. Summer 2013 and spring and summer 2012.

– *The course was aimed at undergraduate students in biology and gave an introduction to the biological kingdoms, and their evolution and taxonomic classification. I assisted students during lab hours (2012), and were in charge of one-day excursions (2012) and a longer four day excursion at a field station (2012 and 2013).*

R assistance, NTNU. 2012 (all-year).

– *This was a service provided by the Department of Biology at NTNU for graduate students in Biology. Students got advice and help with R and general statistical issues during analyses of their own data when writing MSc thesis.*

Evolutionary analysis (BI3051), NTNU. Spring 2012 and 2011.

– *The course was aimed at graduate students in biology and aimed to learn student how to analyse existing data sets related to specific evolutionary questions and write up the results in scientific reports. I was assisting and helping students during practicals and provided feedback on reports.*

Population Ecology (BI2033), NTNU. Spring 2012.

– *An undergraduate course which covered ecology on both the individual and population levels. Important topics are demography, dynamics and regulation of populations, and interactions between populations. I was setting up and leading computation exercises for the students and assisting students during project work.*

Evolutionary Biology, Ecology and Ethology (BI1003), NTNU. Autumn 2010 and 2011.

– *An undergraduate course which provided an introduction to evolutionary biology, ecology and ethology. I assisted students during project work where students got assigned a certain problem and asked to present this in a clear way during a talk and a poster.*

Physiology (BI1004), NTNU. Autumn 2010 and 2011.

– *This undergraduate course covered the connection between structure and function on the organ and organism level. I was the lab leader during lab exercises within the plant physiology part of the course.*

Biology path, NTNU. Autumn 2010 and 2011.

– *This was an arrangement for pupils in middle school, where they were invited to the university to learn more about biology. I participated in the set-up of the arrangement and brought the pupils around the university on their tour.*