



CURRICULUM VITAE

Name: Kjell Ø. Midling
Title: M.Sc. Fisheries Biology
Position: Principal Scientist
Languages: Norwegian (mother tongue), English (fluent orally / writing), German (fluent orally)
Personal: Born 20.08.58, wife Irene Andreassen (Communication Advisor), children Ida (1983) and Daniel (1981)
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Education:
1979-1982: B. Sc., The University of Bergen
1990: M. Sc., Cand. Scient. University of Bergen, Department of Fisheries Biology
Thesis: Fjordbranching with conditioned cod

Other work experiences:

1977: 1 year as industrial worker at ELKEM – NORWAY
1982-85: 1,5 year as a teacher.
1 year as advisor and worker at a commercial salmon farm,
1,5 year as fisherman aboard a purse-seiner (capelin) and a coastal seine-netter.
Journalist

Scientific career:

1987: Appointed scientist at Institute of Marine Research, Bergen.
1988: Appointed scientist at Institute of Fisheries Technology, Tromsø
1991: Responsible for research on marine aquaculture at the Norwegian Institute of Fisheries and Aquaculture (Fiskeriforskning).
1995-1999: Senior Scientist at Fiskeriforskning.
1999: Principal Scientist at Fiskeriforskning
2010- Director of the Norwegian National Centre for Capture-based aquaculture

Scientific commissions:

1992-94: Team-leader at Centre of Aquaculture, Fiskeriforskning.
1993: Member of “Aquaculture technology forum”, North-Norway.
1993: Substitute member of the board: “Finnmarksforskning”, Alta.
1994-2000: Norwegian Research Council.
Member of the scientific program committee “Technological development in the Fisheries”
1994: Member of working-group “ Showcase Norwegian Industries”, Department of Fisheries.
1996: Member of National Reference- and Advisory group towards the European FAIR-program.
1997: Member of Scientific Advisory Board at Biosoft as.
1998-2004: Norwegian Research Council
Member of the scientific program committee “Fisheries technology”
1998: Elected employees” representative in the board of the NORUT-group.

Engagements abroad:

- 1987: 1 month stay in Japan
1991: 14 days studying sea-ranching of salmonids in Canada and Alaska.
1992: Fish-Asia – Symposium in Singapore, visit to Prince of Songkla University in Malaysia.
1993: 14 days in Japan as guest of Marino Forum 21.
1994: 1 month study-tour to Indonesia, Singapore, Malaysia and Thailand.
1994: 14 days in South-Africa feasibility-study for salmon farming.
1995: Participation at the Fourth Fisheries Forum in Beijing, visit and lecturer at Fisheries University Shanghai.
1996: 1 month as a guide for norwegian students in Malaysia and Thailand. Visits to China (Fuzian Province and Taiwan).
1998-1999: Engaged as scientist and advisor in ROI (Hainan Refa Orient Ocean Industries Co., Ltd.), the Hainan Province, China.
1999: Engaged as scientist in establishing fisheries and aquaculture of Yellowfin-tuna in Cape Verde, Africa.
2001-2002 Visiting academic at *Centre for Food Technology (CFT)* i Brisbane, Queensland. CFT - Queensland er en del av det føderale *Department of Primary Industries (DPI)*

A selection of my production:

In Norwegian:

- Isaksen og Midling. (1996). **A new concept to increase holding capacity and reduce mortality in live captured cod.** Sluttrapport til Effektiviseringsmidlene nr. 005.94
- Midling, K. Ø. 1998. **Restitution cage for seine-net caught cod.** Sluttrapport Norges forskningsråd-nr. 107952/120.
- Midling, K.Ø. 1998. **Technology for transport and storage of live plaice and other species without a gas-bladder.** Sluttrapport Norges forskningsråd-nr. 111339/121.
- Albert, O.T., Midling, K. Ø., Gundersen, A., Rasmussen, T. og Siikavuopio, S. 1999. **Greenland halibut in captivity. Experiences from preliminary experiments and its implications for stock assessments.** Fiskeriforskning Rapport 14/1999. ISBN-nr: 82-7251-424-9
- Isaksen, B, Midling, KØ, Humborstad, O-B and Kristiansen T. 2004. **Capture-based aquaculture, report to the scientific commission for food safety (VKM).**
- Akse, L., Tobiassen, T., Joensen, S., Midling, K. Aas, K. 2005. **Capture-related damages and the quality of the filet.** Fiskeriforskning Rapport 4/2005 ISBN-82-7251-552-0.
- Akse, L., Tobiassen, T., Joensen, S., Midling, Eilertsen, G.2005. **Catch handling on large seine-net vessels.** Fiskeriforskning Rapport 9/2005. ISBN-82-7251-557-1
- Aas, K. Midling, K., 2005. **Cod escaping – a study of behaviour in cages.** Fiskeriforskning Rapport 13/2005 ISBN-10827251-563-6
- Sørensen, N.K., Tobiassen, T., Midling, K., Akse, L. 2005. **Farmed cod – feeding, growth and quality.** Fiskeriforskning Rapport 16/2005. ISBN-10827251-566-0
- Midling, K., Aas, K., Tobiassen, T., Akse.,L., Isaksen, B., Løkkeborg, S., Humborstad, O-B. 2005. **Capture-based aquaculture – solutions for small coastal vessels.** Fiskeriforskning Rapport 22/2005. ISBN-10827251-572-5
- Midling, K. Aas, K. 2005. **Growth and healing of injuries from long-line caught cod.** Fiskeriforskning Rapport 8/2006. ISBN-10827251-583-0
- Midling, K., Koren, C. and Sæther B-S. 2006. **Gas-bladder in cod – on the healing mechanism during restoration in capture-based aquaculture.** Fiskeriforskning Rapport 18/2006. ISBN-10827251-594-6
- Midling, K.Ø., Evensen, T.H., Kristiansen, F. (2008) **Live haddock. Survival, exhaustion and restitution in haddock caught by seine-net. Restitution and Rigor mortis post mortem. Rapport/Report 31/2008.**
- Midling, K.Ø., Mejdell, C., Olsen, S.H., Tobiassen, T., Aas-Hansen, Ø., Aas, K., Harris, S., Oppedal, K., ,, Fremsteinevik, Å. (2008) **Dead-haul; harvest of salmon directly from the cage .Rapport/Report 6/2008.**
- Midling, K.Ø., Mejdell, C., Olsen, S.H., Tobiassen, T., Aas-Hansen, Ø., Aas, K., Harris, S., Oppedal, K., Femsteinevik, Å., 2008. **Slaughtering farmed fish directly from cage and onboard in boats,** Nofima Report 6/2008. (in Norwegian). NOFIMA AS, Tromsø, Norway.
- Sæther, B.S., Bjørn, P.A., Midling, K.Ø., Nilsen, R., Jakobsen, R., Siikavuopio, S.I. (2009) **Capture-based aquaculture. Weaning of cod to dry feed.** Rapport/Report 4/2009.
- Akse, L., Joensen, S., Tobiassen, T., Martinsen, G., Midling, K.Ø., Breiland, M.S.W. (2010) **Cod chilled in RSW – processing quality for filleting and salting.** Report 34/2010.
- Midling, K.Ø., Harris, S., Humborstad, O.-B., Akse, L., Noble, C., Evensen, T.H., Jakobsen, R., Tobiassen, T. (2011) **Harvest directly from the cage. Tauranga – phase 3.** Report 44/2011.
- Tobiassen, T., Mejdell, C., Midling, K.Ø., Akse, L. (2010) **Sanitary slaughter at the cage.** Report 48/2010.

- Akse, L., Midling, K.Ø., Joensen, S., Tobiassen, T., Martinsen, G. (2011) **Pumping cod and salmon. WP 3. White fish- effects of pumping**/Report 9/2011.
- Espmark, Å.M.O., Humborstad, O.-B., Midling, K.Ø. (2012) **Pumping cod and salmon, factors influencing welfare and quality.** Report 6/2012.
- Midling, K.Ø., James, P., Evensen, T.H., Humborstad, O.-B. (2012) **Live cod and Norwegian lobster; the development of traditional fisheries in Skagerrak and the North Sea.** Report 1/2012.
- Sæther, B.S., Bjørn, P.A., Midling, K.Ø., Nilsen, R., Jakobsen, R., Siikavuopio, S.I. (2009) **Capture-based aquaculture Weaning to dry pellets.**Report 4/2009.
- Sæther, B.S., Noble, C., Humborstad, O.-B., Martinsen, S., Velivulin, E., Misimi, E., Midling, K.Ø. (2012) **Capture-based aquaculture. Storage, feeding and processing of wild caught fish.** Report 14/2012.
- Siikavuopio, S.I., James, P., Midling, K.Ø., Evensen, T.H. (2011) **Capture, storage, feeding and transport of live king crab.** Report 47/2011.
- Sæther, B.S., Løkkeborg, S., Humborstad, O.-B., Tobiassen, T., Hermansen, Ø., Midling, K.Ø. (2012) **Capture and storage of wild fish caught at cage farm sites.** Report 8/2012.
- Tobiassen, T., Herland, H., Heide, M., Østli, J., Sogn-Grundvåg, G., Midling, K.Ø., Erikson, U., Digre, H. (2012) **Anesthesia of salmonids – state of the art with regards to legislations and quality challenges.** Report 32/2012.
- Jakobsen, R., Evensen, T.H., Sæther, B.S., Isaksen, B., Humborstad, O.-B., Midling, K.Ø. (2012) **Automatic counting, measuring and weighing live cod-evaluation of technology for approval during sale.** Report 9/2012.
- Isaksen, B. and Midling, K. Ø. 2012. **Capture-based aquaculture on cod – a handbook.** ISBN 978-82-8296-114-1

In English:

- Akse, L. and Midling, K. Ø. (1995): **Live capture and starvation of capelin cod (*Gadus morhua* L.) in order to improve the quality.** Poster at the International Sea Food Conference. 25th Anniversary WEFTA.
- Isaksen, B. and Midling, K. Ø. (1995). **Fishing strategy, gear modifications and new holding tanks in order to keep seine net caught fish alive.** (*in prep.*).
- Midling, K. Ø. and Isaksen, B. (1995). **New netpen constructions to increase surviving rate during acclimatization of seine net captured cod (*Gadus morhua* L.) for aquaculture.** (*in prep.*)
- Midling, K.Ø., Beltestad, A.K. and Isaksen (1997) **Live Fish Technology- Historical convenience to modern multispecies strategy in Norway.** In Making the most of the catch (63-68), Brisbane, Australia, 25.-27. July 1996. ISBN 0 7242 7559 2.
- Midling, K.Ø., Beltestad, A.K. and Isaksen, B. (1997). **Live Fish Technology: Modern multi-Species Holding Strategies in Norway.** Northeast Regional Agriculture Engineering Service. Cooperative Extension, 152 Riley-Robb Hall. Ithaca, New York 14853-5701.
- Akse, L. And Midling, K. (1997). **Live capture and starvation of capelin cod (*Gadus morhua* L.) in order to improve the quality.** In Seafood from producer to consumer, integrated approach to quality. ISBN 0 444 82224 0.
- Midling, K. Ø., Aas, K., Pettersen, J. and Jørgensen, S.H. (1998). **Flat-bottom net cage sets marine aquaculture afloat.** Poster at the 28th WEFTA Meeting, October 4-7, 1998, Tromsø, Norway.
- Midling, K. Ø., Aas, K., Pettersen, J. and Jørgensen, S.H. (1998). **A new design in transportation and net cage technology for live seafood and aquacultural purposes.** ICES, CM 1998/L:15, Lisboa, Portugal.
- Akse, L. and Midling, K. Ø. 1998. **Slaughtering stress in Atlantic halibut (*Hippoglossus hippoglossus*), effects on quality and storing capacity.** Poster at the 28th WEFTA Meeting, October 4-7, 1998, Tromsø, Norway.
- Soerensen, N. K., Tobiassen, T, Joensen, S., Midling, K.Ø. and Akse, L. 1999. **A mechanical compression test to assess development of rigor mortis in fish; Atlantic salmon, Atlantic halibut and Plaice.** Poster at International Conference on farmed fish quality (7-9 April), The Hilton Hotel, Bristol, U.K.
- Akse, L. and Midling, K.Ø. 1999. **Slaughtering of Atlantic halibut (*Hippoglossus hippoglossus*), effects on quality and storing capacity.** Poster at International Conference on farmed fish quality (7-9 April), The Hilton Hotel, Bristol, U.K.
- Midling, K.Ø. 1999. **Cagey solutions for quality products.** Key-note at “’99 Innovations for seafood”, Queensland, Australia.
- Holm, M., Arnold G. P., Holst, J. C. and Midling K.Ø. 1999. **Capture and handling of fish for electronic tagging- a review and some new non- intrusive capture methods.** ICES CM 1999/AA:03
- Thorsen, T.A. and Midling, K.Ø. 1999. **FARFISH 2000. A study of sustainable tuna fishery in the Cape Verde Islands.** NORAD, P.O. Box. 8034, Dep. 0030 OSLO

- Zhang, Z. Midling, K. 2001. **Evolution of deep-sea net cage farming techniques**. China Fisheries (4): 57-59, in Chinese
- Zhang, Z. Midling, K. 2001. **Introduction of offshore cage-farming technology**. China Fisheries (7): 43-45, in Chinese
- Midling, K.Ø., Soldal, A.V., Fosseidengen, J.E. and Øvredal, J.T. **Calls of the Atlantic cod: does captivity restrict their vocal repertoire?**. Bioacoustics. The International Journal of Animal Sound and its Recording, 2002, Vol. 12, pp. 219-244.
- Midling K.Ø., Mao, X.H. and Zhang, Z. 2003. **Evaluation of Norwegian Technology to Offshore Fish Farming in Hainan, China**. In: Phillips, B, Megrey, B.A. and Zhou, Y. (Eds.) Proceeding of the Third World Fisheries Congress: Feeding World with Fish in the Next Millennium – The Balance between Production and Environment.
- Sunnanå, K. and Midling, K. Ø. 2003. **Technological and environmental challenges for a ten times increase in value of the Norwegian seafood industry**. In: Phillips, B, Megrey, B.A. and Zhou, Y. (Eds.) Proceeding of the Third World Fisheries Congress: Feeding World with Fish in the Next Millennium – The Balance between Production and Environment.
- Sørensen, N.K., Tobiassen, T. Joensen, S., Midling, K, Akse, L. 2003. **A method to Assess Rigor Mortis in Fish**. In: Proceedings of the TAFT 2003 Conference. First Joint Trans-Atlantic Fisheries Technology Conference, 33rd WEFTA Meeting and 48th Atlantic Fisheries Technology Conference, (pp.126-128).
- Midling, K. Aas, K. 2004. **High velocity towing of live fish**. Poster at Aquaculture 2004 March 1-5, Hawaii Convention Center, Honolulu, Hawaii, USA
- Cooper, M. Midling, K. 2004. **The use of anti-mouse tyrosinase antibody to investigate mechanism melanisation in farmed cod**. In: H. Rehbein, H. Karl, M. Manthey-Karl, Oehlenschläger, R. Schubring (eds.) Proceedings of the 34th WEFTA Conference 12-15 September 2004. Lübeck, Germany. Published by the German Federal Research Centre for Nutrition and Food, Department for Fish.
- Cooper, M. Midling, K., Seliussen, J, Gannefors, C. 2006. **Reduction in Mineral Additives to Feed Reduces the Occurance of Black Blood Vessels in Farmed Cod**. Poster at “Sats på torsk”, Tromsø 16-17 February.
- Tobiassen, T, Akse, L. Midling, K, Aas, K. Dahl, R. Eilertsen, G. **Pre-rigor processing of cod – effects on quality and shelf life**. Poster at “Sats på torsk”, Tromsø 16-17 February.
- Dreyer B., Nøstvold, B., Midling, K. and Hermannsen, Ø. 2008 **Capture-based aquaculture of cod**. In Lovatelli, A & PF Holthus. Capture-based aquaculture – Global overview. FAO Fisheries technical paper 508. FAO, Rome.
- FAO. 2011. Use of fisheries resources as seed in aquaculture**. FAO Technical Guidelines for Responsible Fisheries No 5., Suppl. 6., Rome, FAO. 81 pp. ISBN 978-92-5-106974-5.
- Midling, K.Ø., Koren, C., Humborstad, O.-B., Sæther, B.-S., 2012. **Swimbladder healing in Atlantic cod (Gadus morhua), after decompression and rupture in capture-based aquaculture**. Mar Biol Res. 8, 373-379.
- Noble, C., Jones, H.A.C., Damsgård, B., Flood, M.J., Midling, K.Ø., Roque, A., Sæther, B.S., Cottee, Y. (2012) **Injuries and deformities in fish: their potential impacts upon aquacultural production and welfare**. Fish Physiology and Biochemistry, 38, 1, 61-83.
- Olsen, S.H., Tobiassen, T., Akse, L., Evensen, T.H., Midling, K.Ø., 2013. **Capture induced stress and live storage of Atlantic cod (Gadus morhua) caught by trawl: Consequences for the flesh quality**. Fish Res.
- Manuscript
- Midling, K.Ø. and Isaksen, B. **Pen and cage constructions to increase surviving rate of seine net captured cod (Gadus morhua L.)**. Fisheries Research, Elsevier Science B.V. Amsterdam
- Submitted
- Isaksen, B. and Midling, K.Ø. **Fishing strategies, gear modifications and holding tanks to keep alive fish caught by seine net**. Fisheries Research, Elsevier Science B.V. Amsterdam