Publications:

A spatiotemporal model for snow crab (Chionoecetes opilio) stock size in the southern Gulf of St. Lawrence
Cadigan, N. G., Wade, E. & Nielsen, A. 2017 In : Canadian Journal of Fisheries and Aquatic Sciences. 74, 11, p. 1808-1820
Publication: Research - peer-review › Journal article – Annual report year: 2017

Choosing the observational likelihood in state-space stock assessment models
Albertsen, C. M., Nielsen, A. & Thygesen, U. H. 2017 In : Canadian Journal of Fisheries and Aquatic Sciences. 74, 5, p. 779-789
Publication: Research - peer-review › Journal article – Annual report year: 2017

Connecting single-stock assessment models through correlated survival
Publication: Research - peer-review › Journal article – Annual report year: 2017

Validation of ecological state space models using the Laplace approximation
Publication: Research - peer-review › Journal article – Annual report year: 2017

Accounting for correlated observations in an age-based state-space stock assessment model
Berg, C. W. & Nielsen, A. 2016 In : ICES Journal of Marine Science. 73, 7, p. 1788-1797
Publication: Research - peer-review › Journal article – Annual report year: 2016

Fish stock assessment under data limitations developing a new method based on a size-structured theoretical ecology framework
Publication: Research › Ph.D. thesis – Annual report year: 2016

Ontogeny and growth of early life stages of captive-bred European eel
Publication: Research - peer-review › Journal article – Annual report year: 2016

TMB: Automatic differentiation and laplace approximation
Kristensen, K., Nielsen, A., Berg, C. W., Skaug, H. J. & Bell, B. 2016 In : Journal of Statistical Software. 70, 5, p. 1-21
Publication: Research - peer-review › Journal article – Annual report year: 2016

Validation of state-space models using Template Model Builder
Publication: Research › Conference abstract for conference – Annual report year: 2016

Accounting for correlated observations in an age-based state-space stock assessment model
Berg, C. W. & Nielsen, A. 2015
Publication: Research › Conference abstract for conference – Annual report year: 2015
Archived DNA reveals fisheries and climate induced collapse of a major fishery
Publication: Research - peer-review › Journal article – Annual report year: 2015

Choosing the observational likelihood in state-space stock assessment models
Albertsen, C. M., Nielsen, A. & Thygesen, U. H. 2015
Publication: Research › Conference abstract for conference – Annual report year: 2015

Fast fitting of non-Gaussian state-space models to animal movement data via Template Model Builder
Publication: Research - peer-review › Journal article – Annual report year: 2015

Limits to the reliability of size-based fishing status estimation for data-poor stocks
Publication: Research - peer-review › Journal article – Annual report year: 2015

Optimal bæredygtig udnyttelse af tilgængelige torskebestande for dansk fiskeri
Publication: Research › Report – Annual report year: 2015

RevFisk – et projekt som kvantificerer stenrevs betydning for fisk
Publication: Research › Poster – Annual report year: 2015

RevFisk – et projekt som kvantificerer stenrevs betydning for fisk
Publication: Research › Conference abstract for conference – Annual report year: 2015

Robust statistical method in a single species age-structured state-space assessment model
Nielsen, A. & Berg, C. W. 2015
Publication: Research › Conference abstract for conference – Annual report year: 2015

Simulation testing the robustness of stock assessment models to error: some results from the ICES strategic initiative on stock assessment methods
Publication: Research - peer-review › Journal article – Annual report year: 2014

Sustainable development of the Nephrops fishery in the Kattegat-Skagerrak region
The history of cod in Greenland: A major fishery collapse explained by archived DNA
Publication: Research › Conference abstract for conference – Annual report year: 2015

Depth preference in released juvenile turbot Psetta maxima
Publication: Research - peer-review › Journal article – Annual report year: 2014

Effects of dietary fatty acids on the production and quality of eggs and larvae of Atlantic cod (Gadus morhua L.)
Publication: Research - peer-review › Journal article – Annual report year: 2014

Estimation of time-varying selectivity in stock assessments using state-space models
Nielsen, A. & Berg, C. W. 2014 In : Fisheries Research. 155, p. 96-101
Publication: Research - peer-review › Journal article – Annual report year: 2014

Evaluation of alternative age-based methods for estimating relative abundance from survey data in relation to assessment models
Berg, C. W., Nielsen, A. & Kristensen, K. 2014 In : Fisheries Research. 151, p. 91-99
Publication: Research - peer-review › Journal article – Annual report year: 2013

Introducing time-varying natural mortality in the length-based assessment model for the Pandalus Borealis stock in ICES Div. IIIa and IVa east
Publication: Research › Paper – Annual report year: 2014

Addressing challenges in single species assessments via a simple state-space assessment model.
Nielsen, A. 2013
Publication: Research › Conference abstract for conference – Annual report year: 2013

A stochastic length-based assessment model for the Pandalus stock in Skagerrak and the Norwegian Deep
Publication: Research › Conference article – Annual report year: 2014

Size-based estimation of the status of fish stocks: simulation analysis and comparison with age-based estimations
Publication: Research › Conference abstract for conference – Annual report year: 2013

Statistical aspects of fish stock assessment
Publication: Research › Ph.D. thesis – Annual report year: 2014

Strategies for fitting nonlinear ecological models in R, AD Model Builder, and BUGS
Publication: Research - peer-review › Journal article – Annual report year: 2014
Does predation by grey seals (Halichoerus grypus) affect Bothnian Sea herring stock estimates?
Publication: Research - peer-review › Journal article – Annual report year: 2012

AD Model Builder: using automatic differentiation for statistical inference of highly parameterized complex nonlinear models
Publication: Research - peer-review › Journal article – Annual report year: 2011

Depleted marine fish stocks and ecosystem-based management: on the road to recovery we need to be precautionary
Publication: Research - peer-review › Journal article – Annual report year: 2010

Effects of mammal predation on small pelagic fish

Estimation methods for nonlinear state-space models in ecology
Publication: Research - peer-review › Journal article – Annual report year: 2011

Fishing power increases from technological development in the Faroe Islands longline fishery
Publication: Research - peer-review › Journal article – Annual report year: 2011

Postrelease survival, vertical and horizontal movements, and thermal habitats of five species of pelagic sharks in the central Pacific Ocean
Publication: Research - peer-review › Journal article – Annual report year: 2011

Ecological forecasting under climate change - the case of Baltic cod
Lindegren, M., Möllmann, C., Nielsen, A., Brander, K. & MacKenzie, B. 2010 Publication: Research › Conference abstract for conference – Annual report year: 2010

Ecological forecasting under climate change: the case of Baltic cod
Publication: Research - peer-review › Journal article – Annual report year: 2010

Incorporating sea-surface temperature to the light-based geolocation model TrackIt
Lam, C. H., Nielsen, A. & Sibert, J. R. 2010 In : Marine Ecology - Progress Series. 419, p. 71-84
Publication: Research - peer-review › Journal article – Annual report year: 2010

Movements of olive ridley sea turtles Lepidochelys olivacea and associated oceanographic features as determined by improved light-based geolocation
Publication: Research - peer-review › Journal article – Annual report year: 2010

Lessons from a prototype geolocation problem
Preventing the collapse of the Baltic cod stock through an ecosystem-based management approach
Publication: Research - peer-review › Journal article – Annual report year: 2009

Removing bias in latitude estimated from solar irradiance time series
Publication: Research - peer-review › Book chapter – Annual report year: 2009

State space model for light based tracking of marine animals: validation on swimming and diving creatures
Publication: Research - peer-review › Book chapter – Annual report year: 2009

Improving light and temperature based geolocation by unscented Kalman filtering
Publication: Research - peer-review › Journal article – Annual report year: 2008

Indirect observation of fish movements: a general methodology applied at different scales
Publication: Research › Paper – Annual report year: 2008

Optimizing smoothed sea surface temperature for improving archival tag geolocation
Galuardi, B., Nielsen, A. & Lutcavage, M. 2008 In : Marine Ecology - Progress Series. 365, p. 35-44
Publication: Research - peer-review › Journal article – Annual report year: 2008

Reconstructing migrations of individual cod (Gadus morhua L.) in the Baltic Sea by using electronic data storage tags
Publication: Research - peer-review › Journal article – Annual report year: 2007

State-space model for light-based tracking of marine animals
Nielsen, A. & Sibert, J. R. 2007 In : Canadian Journal of Fisheries and Aquatic Sciences. 64, 8, p. 1055-1068
Publication: Research - peer-review › Journal article – Annual report year: 2007

Using the particle filter to geolocate Atlantic cod (Gadus morhua) in the Baltic Sea, with special emphasis on determining uncertainty
Publication: Research - peer-review › Journal article – Annual report year: 2007

Geolocation of tagged Baltic Cod using the particle filter
Publication: Research › Conference abstract in proceedings – Annual report year: 2006

Improving light-based geolocation by including sea surface temperature
Publication: Research - peer-review › Journal article – Annual report year: 2006

Interannual variation in large-scale movement of Atlantic bluefin tuna (Thunnus thynnus) determined from pop-up satellite archival tags
Sibert, J. R., Lutcavage, M. E., Nielsen, A., Brill, R. W. & Wilson, S. G. 2006 In : Canadian Journal of Fisheries and Aquatic Sciences. 63, 10, p. 2154-2166
Hvor har fisken været før den blev fangt?
Nielsen, A. 2005 In : Fisk og Hav. 59, p. 54-59
Publication: Research › Journal article – Annual report year: 2005

A method to geolocate eastern Baltic cod by using Data Storage Tags (DSTs)
Publication: Research › Conference article – Annual report year: 2004

Estimating fish movement
Nielsen, A. 2004 Royal Veterinary and Agricultural University. 119 p.
Publication: Research › Ph.D. thesis – Annual report year: 2004

Stock dynamics of sandeel in the North Sea and sub-regions including uncertainties
Publication: Research - peer-review › Journal article – Annual report year: 2004

Modelling stochastic fish stock dynamics using Markov Chain Monte Carlo
Publication: Research - peer-review › Journal article – Annual report year: 2003

Comparison of the frequentist properties of Bayes and the maximum likelihood estimators in an age-structured fish stock assessment model
Nielsen, A. & Lewy, P. 2002 In : Canadian Journal of Fisheries and Aquatic Sciences. 59, 1, p. 136-143
Publication: Research - peer-review › Journal article – Annual report year: 2002

Diffusion of fish from a single release point
Sparrevoorn, C. R., Nielsen, A. & Støttrup, J. 2002 In : Canadian Journal of Fisheries and Aquatic Sciences. 59, 5, p. 844-853
Publication: Research - peer-review › Journal article – Annual report year: 2002

Projects:

Assessment and management of linked stocks (39325)
Nielsen, A., Albertsen, C. M., Berg, C. W., Kristensen, K. & Thygesen, U. H.
14/12/2015 → 13/12/2017
Project

State-Space Modelling in Marine Science
Albertsen, C. M., Nielsen, A., Thygesen, U. H., Andersen, K. H., Cadigan, N. G. & Fernández, C.
01/12/2014 → 30/11/2017
Project: PhD

Boulder reefs as spawning and nursery areas for fish (RevFisk) (39144)
Stenberg, C., Støttrup, J. G., Christoffersen, M., van Deurs, M., Nielsen, A., Mariani, P. & Dinesen, G. E.
01/12/2013 → 01/02/2015
Project

Initiative to improve mackerel assessment via tagging data (39080)
Nielsen, A.
23/07/2013 → 01/05/2015
Project
Optimal sustainable use of cod stocks accessible for Danish fisheries (DEL-TORSK) (39147)
Eero, M., Hansen, J. H., Mariani, P., Berg, C. W., Hüsey, K., Huwer, B., Nielsen, A. & Eg Nielsen, E.
17/07/2013 → 30/04/2015
Project

Assessment of a mixed hake stocks off Namibia
15/12/2012 → 26/09/2017
Project: PhD

Economically sustainable fishery for Nephrops in Skagerrak and Kattegat (ØBJ-FISK) (38865)
Frandsen, R., Madsen, N., Lundgren, B., Seekings, J. P., Karlsen, J. D., Nielsen, A. & Krag, L. A.
01/06/2012 → 31/12/2014
Project

Grey-box methods for size-based estimation of fish stocks
Kokkalis, A., Andersen, K. H., Nielsen, A., Thygesen, U. H., Mosegaard, H., Fernández, C. & O’Brien, C. M.
01/03/2012 → 02/06/2016
Project: PhD

Maximizing yield of fisheries while balancing ecosystem, economic and social concerns (MYFISH) (38850)
01/01/2012 → 29/02/2016
Project

Optimal sustainable exploitation of Nephrops norvegicus in Kattegat and Skagerrak (38909)
01/01/2011 → 31/12/2014
Project

Geographical distribution of fish resources and optimizing of fishery practice in the north-eastern North Sea (RESOURCE) (38878)
Beyer, J., Wieland, K., Andersen, N. G., Pedersen, E. M., Andersen, B. S., Hüsey, K., Kristensen, K., Nielsen, A., Stage, B., Mosegaard, H., Christensen, A., Mariani, P. & Madsen, N.
01/01/2010 → 30/09/2012
Project

Sustainable shrimp fishery in Skagerrak (38994)
Eigaard, O. R., Munch-Petersen, S., Nielsen, A., Andersen, B. S., Egekvist, J. & Holm, N.
01/01/2010 → 31/12/2013
Project

Statistik modellering af marine økosystemer
Berg, C. W., Madsen, H., Nielsen, A., Thygesen, U. H., Andersen, K. H., Cadigan, N. G. & Nielsen, S. F.
01/11/2009 → 30/08/2013
Project: PhD

Development of a method for long term spatially resolved management of the herring fishery in the North Sea and Illa taking the migration of the primary herring stocks, the fishery pattern and by-catch of mackerel into consideration (URSIN) (38731)
Worsøe Clausen, L., Ulrich, C., Payne, M., Mosegaard, H., Dijkman, T. J. & Nielsen, A.
01/01/2009 → 31/12/2011
Project
Judgement and knowledge in fisheries involving stakeholders (JAKFISH) (38132)
Ulrich, C., Worsøe Clausen, L., Payne, M., Nielsen, A. & Mosegaard, H.
01/01/2008 → 31/12/2011
Project

Coastal habitats (3117)
Støttrup, J. G., Sparrevohn, C. R., Nicolajsen, H. & Nielsen, A.
01/01/2005 → 31/12/2010
Project

Activities:

ICES - Benchmark Workshop for North Sea Stocks - WKNSEA (External organisation)
Nielsen, A. (Participant)
2015
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

ICES - Baltic Fisheries Assessment Working Group - WGBFAS (External organisation)
Nielsen, A. (Participant)
2012 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

ICES - Inter Benchmark Protocol for Pandalus in Skagerrak and Norwegian Deep - IBPPand (External organisation)
Nielsen, A. (Participant)
2012 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

ICES - Joint NAFO/ICES Pandalus Assessment Working Group - NIPAG (External organisation)
Nielsen, A. (Participant)
2012 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

ICES - Symposium on “Forage fish interactions: Creating the tools for ecosystem based management of marine resources” (External organisation)
Nielsen, A. (Participant)
2012 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar