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Email: Audrey.Geffen@uib.no <http://www.uib.no/en/persons/Audrey.Geffen#>

Date of Birth: May 16, 1956

Education:

1976 B.Sc. with honours (Biological Oceanography, Fisheries) University of Michigan (USA)

1982 Ph.D. University of Stirling (UK)

Positions held:

2018 – present: Senior Strategic Teaching Fellow, Imperial College London

2003 – present: Professor, Department of Biology, University of Bergen

1995-2003: Research Fellow, Port Erin Marine Laboratory, University of Liverpool, Port Erin, IOM.

1993-1994: Post-doctoral Research Fellow, Port Erin Marine Laboratory, University of Liverpool, Port Erin, IOM Wellcome Foundation Fellowship: *Metal accumulation in fish otoliths*

1990-1993: Post-doctoral Research Fellow, Port Erin Marine Laboratory, University of Liverpool, Port Erin, IOM. Natural Environment Research Council funded: *X-ray microanalysis of fish otoliths*

1989-1990: Post-doctoral Research Assistant, Port Erin Marine Laboratory, University of Liverpool, Port Erin, IOM. Compilation and editing of the 6 volume reports for the Irish Sea Study Group. *Participation in organization of Irish Sea Conference, October 1990, Isle of Man.*

1988-1989: Honorary Research Fellow, Port Erin Marine Laboratory, University of Liverpool, Port Erin, Isle of Man

1985-Dec87: Assistant Professor (Lecturer), Environmental Sciences Center, Unity College, Unity, Maine, USA. Responsible for development of program and curriculum leading to a Bachelor's degree in Aquaculture. Teaching responsibilities included courses in vertebrate biology, zoology, physiology, ichthyology, fisheries science, aquaculture, and marine biology.

1982-1985: Project Associate, Center for Limnology, University of Wisconsin, Madison, WI. Wisconsin Sea Grant project: *Species Interactions and early life history dynamics of forage fish in Lake Michigan.*

1978-1979: Project Head, Mariculture Unit, Israel Oceanographic and Limnological Research Company, Eilat, ISRAEL. Broodstock management.

1977-1978: Laboratory Assistant, Kinneret Limnological Laboratory, Israel Oceanographic and Limnological Research Company, Tiberias, ISRAEL. *Zooplankton physiology and distributions, Primary and secondary production, Development of early feeding behaviour in Tilapia.*

1976-1977: Research Assistant, Mariculture Unit, Israel Oceanographic & Limnological Research Company, Eilat, ISRAEL. Nutrition, Diet preparation and testing, Cage culture design and construction, Broodstock management, Larval rearing, Food chain and hatchery techniques.

Research Grants awarded:

Natural Environment Research Council Small Grants. "Tidally induced resource limitation in juvenile plaice". (with R.D.M. Nash) 1990. £10,000

Natural Environment Research Council Research Grant. "X-ray microanalysis of fish otoliths". 1990-1993. £77,587

Natural Environment Research Council Research Grant. "Analysis of the growth increments in squid statoliths and their elemental composition". (with J.P. Thorpe, supplement to existing grant) 1990-92. £2790.

Ministry of Agriculture, Fisheries and Food Research Grant. "Validation of otolith ring deposition in larval cod otoliths." 1992-1993. £15,600

Wellcome Foundation Toxicology Fellowship. "Metal accumulation in fish otoliths" 1993- 1994 £45,900

Ministry of Agriculture, Fisheries and Food Research Grant. "Development and implementation of otolith microchemistry techniques in fisheries science". 1995-1998 £185,000.

University of Liverpool, Research Development Fund " The effects of temperature and growth rate on isotopic ratios of fish otoliths and mussel shells" 1996-1997 £4500

EU-FAIR CT96-1371 "PARS- Precision and accuracy of tools in recruitment studies" 1997-2000 £92,000

EU DGXIV - - 96-075 “The use of otolith microchemistry to validate age determination of commercially exploited fish species” 1997-1999 £63,663

British Council ALIS programme: Research exchange with Croatia. 1999 - 2001

Natural Environment Research Council Research Grant. “Dietary quantity and quality as determinants of molecular damage, growth and survival of larval plaice exposed to natural and pollutant stressors”. 1998-2001 (with S. George, University of Stirling). £188,250

EU FAIR CT98 4365 “OTOMIC – Otolith microchemistry as a means of identifying stocks of deep-water demersal fish” 1999-2002 £ 74,337

EU Framework 5 Q5RS-2001-01697 “CODTRACE - Establishing traceability for cod (*Gadus morhua*): determining location of spawning and harvest” 2002 – 2004 €308,000

EU Framework 5 Q5RS-2002-01610 “IBACS - Integrated Approach to the Biological Basis of Age Estimation in Commercially Important Fish Species” 2002 – 2005 £97,525

EU Framework 5 Q5RS-2002-01056 “WESTHER - A multidisciplinary approach to the identification of herring (*Clupea harengus* L.) stock components west of the British Isles using biological tags and genetic markers” 2002 -2005 £158,306

EU Framework 5 Q5CA-2002-01891 “TACADAR - Towards accreditation and certification of age determination of aquatic resources” 2002 - 2005

EU Accompanying Measures Q5AM-2002-00527 “FIFS - International Symposium on the Role of Flatfishes in Benthic Ecosystems” 2002 – 2004 €92,452

Norwegian Research Council (NFR) – PROOF programme – “Effects of Production Water on reproductive success of cod “ 2004-2006

Meltzer Fund – “High latitude climate variability and its effect on human settlement and fishery resources as revealed by fossil otoliths” 2004-2006

NFR – PROOF programme – “Study of long-term effect in Atlantic Herring (*Clupea harengus*) there have been eating oil polluted *Calanus finmarchius*. Effects of trophic transfer of hydrocarbons after oil spill on the reproduction and immune systems of herring “ 2007-2009

EU Framework 6 SSP-022717 “UNCOVER - Understanding the Mechanisms of Stock Recovery” 2006 – 2010

Meltzer Fund – “JELLY STONES: statolith tools for jellyfish biogeography and population ecology” 2007-2008

EU - Framework 7 – “FishPopTrace” - The structure of fish populations and traceability of fish and fish products 2008 - 2011

EU - Framework 7 – “CalMarO” - Calcification of Marine Organisms - A Marie Curie ITN (Initial Training Network) concerned with understanding biomineralization and the effects of ocean acidification on calcifying organisms 2008 – 2011

NFR - HAVKYST - PRIBASE: Pollution Risk and Impact Analysis for the Barents Sea Ecosystem 2009-2011

EEA - Managing effects of global climate on estuarine biodiversity and productivity, network project PT0010, Norway-Netherlands-Portugal 2008-2012

NFR - The occurrence of skipped spawning and its importance for population dynamics in Northeast Arctic gadoids - 2009 – 2012

EU - Framework 7 – “ARAMACC” Annually-resolved archives of marine climate change – development of molluscan sclerochronology for marine environmental monitoring and climatology. Marie Curie ITN, associated partner 2014-2017

RANNIS – Long-term chronology of cod growth. Icelandic Research Council, partner 2017-2020

EASME – Age validation of Hake and Anglerfish. Partner 2018 – 2019

Academic activities:

Editorial:

Editorial experience, peer review, conference preparation, and compilation of proceedings (since 1985).

Invited guest editor of the Journal of Fish Biology supplement for the 1997 Ichthyoplankton Ecology symposium held in Galway IRELAND

Assistant editor, Journal of Fish Biology (1993-1997)

Editor, ICES Journal of Marine Science (2005 – 2013)

Editor, Journal of Sea Research (2013 - 2017)

Guest editor, International Otolith Symposium special issue, Marine and Freshwater Research (2014-2015)

Editor-in-Chief, Marine Biology Research, (2017-2019)

Evaluation:

Quality Assessor, Welsh Funding Council (Higher Education Funding Council for Wales) (1994-95)

Member, European Fish Ageing Network, European Union concerted action (1997-1999)

Review panel: Charles Lindberg Awards (1995-2000)

Review panel: Enterprise Ireland panel Basic Research Grant Programme (2001-2005)

Expert review panel: INTAS - European Union (2001-2009);

Chair, Marine Sciences Evaluation Panel, FCT, Portuguese Research Council (2012, 2017)

Member, Expert panel bio4 (applied biology) FWO, Flemish Research Council (2013-2017)

Chair, Fellowship panel bio4 (applied biology) FWO, Flemish Research Council (since 2018)

Ad-hoc proposal and programme review – Marsden (New Zealand), SARF (Scotland)

Co-Chair, Agriculture, Forestry, Fisheries Evaluation Panel, FCT, Portuguese Research Council (2022)

International Committee work:

Steering Committee, International Otolith Symposium, Otolith Research & Application (since 1993)
Co-convenor, International Symposium on Ichthyoplankton Ecology. Fisheries Society of the British Isles 1997
Conference Organising Committee, International Symposium on Flatfish Ecology (2000-2002)
Steering Committee: TACADAR (European Fish Ageing Network) Concerted Action 2003 – 2005
Co-convenor, 5th International Otolith Symposium, 2014

University Committee work:

Head of MSc programme in Aquaculture Biology, changed to specialization within Biology MSc (2003-2015)
Member, Joint committee on Aquarium facilities (since 2003)
Member, Scoping study for re-siting of Marine Biological Station (2010)
Member, MSc study programme steering committee (2003-2008)
Member, Departmental education steering committee (since 2008)
Internal MSc examination panel, Department of Biology (2012-2014)
Internal PhD examiner, head of evaluation panel – (12 since 2003)

External examiner (PhD):

1990 – P.J. Wright, Department of Zoology, University of Glasgow
1998 – P. Fallon-Cossins, University of Aberdeen
2000 – D. Conway, University of Plymouth
2004 – E. Fancourt, University of Wales, Aberystwyth
2008 – O. Dwane, University College Galway
– N. Burke, Galway-Mayo Institute of Technology
– D. Demain, University of Aberdeen
2009 – A. Harwood, University of East Anglia
2010 – C. Longmore, University College Dublin
2012 – A. Lewis, University of Southampton
– R. Maneja, University of Kiel
2014 – D. March, University of the Balearics
– S. R. Sørensen, DTU-Aqua (Danish Technical University)
2019 – J. I. Macdonald, University of Iceland

Student Supervision:

PhD students at University of Liverpool

M. Dickey-Collas 1988-1991 Studies on the effect of enriched live food on the growth performance and pigmentation of flatfish larvae
P. Panagiotaki 1988-1992 Development of size variation in flatfish larvae.
T. Exadactylos 1993-1996 Genetic and aquaculture performance differences in sole of different stocks (co-supervision with J. P. Thorpe)
F. Watson 1994-1998 Behavioural basis of size hierarchies in marine fish larvae
S. Morley 1994-1998 Environmental and parental influences on the growth and survival of larval herring (co-supervision with R.S. Batty)
J. Tomas Olague 1997-2001 Microchemistry of Fish Otoliths
W. Rowlands 2001-2005 Is prey selection in young gadoids in the Irish Sea limited by gape size or by the spectrum of prey available? (co-supervision with R.D.M. Nash, M. Dickey-Collas)
J. Kennedy 2002-2006 Maternal effects and fecundity of plaice (*Pleuronectes platessa*) in the Irish Sea (co-supervision with R.D.M. Nash, C.J. Fox, P.R. Witthames)

PhD students at University of Bergen

A.L. Groison 2007-2010 Male reproductive biology of European hake *Merluccius merluccius*
T. Trofimova 2013-2016 expected finish. Annually resolved reconstructions of the variability of the Norwegian Atlantic Current based on growth chronologies of bivalves in the eastern Norwegian Sea (ARAMACC network)
F. Bonitz 2013-2016 expected finish. Annually resolved sclerochronological reconstructions of the climate variability of North Atlantic water masses around the Faroe Islands (ARAMACC network)
H-T. T. Nguyen 2016-2020 Adaptation of anemonefish to their host anemones: From Genetics to Physiology (NORHED)
C. Denechaud 2018-2021 Cod otolith chronology (RANNIS)

MSc students University of Bergen

2006

Nkambo Mujibu, Assessing body and otolith morphological differences in fish (Cod, *Gadus morhua*) with vaterite and non-vaterite otoliths.

Oddbjorn Selsjet, Importance of prey abundance and size spectra for growth and survival in larval cod.

Marianne Pedersen, The effects of exposure of Atlantic cod spawners to alkylphenols and Produced Water on the survival characteristics of their offspring.

Marita Larsen, The effects of alkylphenols and oil production water on gamete characteristics and fertilization success of Atlantic cod.

2007

Rudi Jakobsen, Thermal marking of cod Otoliths (*Gadus morhua*).

Silje Siem, Shape changes during the growth of cod larvae, *Gadus morhua*, reared on different diets.

Anne-Christine Knag, The effect of produced water on the fecundity of Atlantic Cod (*Gadus morhua*).

2008

Heidi Finden. Estimating reproductive potential of male Barents Sea cod

2010

Roslizawati Ab Lah. Development and survival of herring eggs after parental exposure to oil-contaminated food

Sansanee Srichanngam. Age and growth determination and stock identification using statolith microstructure of Indian squid, *Loligo duvaucei*

2011

Godfrey Ngupula. Characterization of the Atlantic cod (*Gadus morhua* L) eggs for estimation of spawning time and proportion of spawning females

2012

Ana Rita Guillot Caldas. Latitudinal gradients in goby morphology

2014

Lucasz Rebelski. Temperature dependent egg development in ballan wrasse

2015

Kristoffer Nordbø. Effects of fish cage effluent on coldwater corals

Karl-Michael Werner. Interaction of local and migratory populations of hake in western Norway coastal waters

Professional Memberships:

American Fisheries Society: Early Life History Section, Fisheries Society of the British Isles, Marine Biological Association of the United Kingdom, Scottish Association for Marine Science, European Aquaculture Society, World Aquaculture Association

Publications

Peer-reviewed journal articles

A-1. **Geffen, A.** (1979) Rotating cage to prevent fouling. *Aquaculture* 16:83-85.

A-2. **Geffen, A.J.** (1982) Otolith ring deposition in relation to growth rate in herring (*Clupea harengus*) and turbot (*Scophthalmus maximus*) larvae. *Marine Biology* 71:317-326,

A-3. **Geffen, A.J.** (1983) The deposition of otolith rings in Atlantic salmon (*Salmo salar*) embryos. *Journal of Fish Biology* 23 :467-474.

A-4. **Geffen, A.J.** (1986) The growth of herring larvae (*Clupea harengus* L.) in the Clyde, an assessment of the suitability of otolith ageing methods. *Journal of Fish Biology* 28:279-288.

A-5. **Geffen, A.J.** (1990) Response of rainbow smelt, *Osmerus mordax* (Mitchill), eggs to low pH. *Journal of Fish Biology* 37:865-871.

A-6. Nash, R.D.M. & **A.J. Geffen.** (1991) Spatial and temporal changes in the offshore larval fish assemblage in southeastern Lake Michigan. *Journal of Great Lakes Research* 17:25-32.

A-7. Nash, R.D.M., **A.J. Geffen** & R.S. Santos. (1991) The wide-eyed flounder, *Bothus podas* Delaroches, a singular flatfish in varied shallow-water habitats of the Azores. *Netherlands Journal of Sea Research* 27:367-373.

A-8. Nash, R.D.M., **A.J. Geffen** & G. Hughes. (1992) Winter growth of juvenile plaice on the Port Erin Bay (Isle of Man) nursery ground. *Journal of Fish Biology* 41:209-215

A-9. Dickey-Collas, M. & **A.J. Geffen.** (1992) The importance of the fatty acids 20:5 ω 3 and 22:6 ω 3 in the diet of plaice (*Pleuronectes platessa* L.) larvae. *Marine Biology* 113:463-468.

A-10. **Geffen A.J.** & R.D.M. Nash. (1992) The life history strategy of deepwater sculpin (*Myoxocephalus thompsoni*) in Lake Michigan: dispersal and settlement patterns during the first year of life. *Journal of Fish Biology* 41 (Supplement B):101-110

- A-11. Panagiotaki, P. & **A.J Geffen**. (1992) Parental effects on size variation in fish larvae. *Journal of Fish Biology* 41 (Supplement B):37-42
- A-12. **Geffen, A.J.** and O. Frayer. (1993) Retention of sperm motility in turbot (*Scophthalmus maximus*) the effects of time from activation, thermal shock, and ATP levels. *Aquaculture & Fisheries Management* 24:203-9.
- A-13. Nash, R.D.M., R.S. Santos, **A.J. Geffen**, G. Hughes, and T. Ellis. (1994) Diel variability in catch rate of juvenile flatfish in two small nursery grounds (Port Erin Bay, Isle of Man and Porto Pim, Faial, Azores). *Journal of Fish Biology* 44:35-45.
- A-14. Panagiotaki, P. & **A.J. Geffen**. (1994). The effect of temperature and delayed initial feeding on the size variation in plaice larvae, *Pleuronectes platessa*. *Animal Science Review* 19:87-102.
- A-15. Nash, R.D.M., **Geffen, A.J.** & Hughes, G. (1994) Individual growth of juvenile plaice on an Irish Sea nursery ground (Port Erin Bay, Isle of Man). *Netherlands Journal of Sea Research*. 32: 369-378.00
- A-16. **Geffen, A.J.** (1995) Growth and otolith structure of cod (*Gadus morhua* L.) larvae. *Journal of Plankton Research*. 17: 783-800.
- A-17. **Geffen, A.J.** (1996) Effect of experimental manipulation of feeding conditions on the population structure of larval cod (*Gadus morhua*) and herring (*Clupea harengus*). *Marine and Freshwater Research* 47: 291-300.
- A-18. Exadactylos, A., **Geffen, A.J.**, & Thorpe, J.P. (1998) Population structure of Dover Sole, *Solea solea* L. against a background of high gene flow. *Journal of Sea Research*. 40:117-129
- A-19. **Geffen, A.J.**, Pearce, N.J., & Perkins, W.P. (1998) Metal concentrations in fish otoliths in relation to body composition after laboratory exposure to mercury and lead. *Marine Ecology Progress Series*. 165:235-245
- A-20. Evans, J. P. & **A.J. Geffen**. (1998) Male condition, sperm traits, and reproductive success in winter-spawning Celtic Sea herring *Clupea harengus*. *Marine Biology* 132:179-186
- A-21. Exadactylos, A., **Geffen, A.J.**, & Thorpe, J.P. (1999) Growth and heterozygosity in hatchery reared larval and juvenile Dover sole, *Solea solea* (L.). *Aquaculture*. 176: 209-226.
- A-22. **Geffen, A.J.** (1999) Variations in motility of Atlantic herring sperm. *Marine Biology*. 134: 637-643.
- A-23. Nash, R.D.M. & **Geffen, A.J.** (1999) Variability in stage 1 plaice, *Pleuronectes platessa*, egg production on the west side of the Isle of Man, Irish Sea. *Mar. Ecol. Prog. Ser.* 189: 241-250.
- A-24. Morley, S.A., Batty, R.S., **Geffen, A.J.** & Tytler, P. (1999). Egg size manipulation: a technique for investigating maternal effects on the hatching characteristics of herring. *Journal of Fish Biology* 55A: 233-238.
- A-25. **Geffen, A.J.** & Evans, J.P. (1999). Sperm traits and fertilisation success of male and sex-reversed female rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* 182: 61-72
- A-26. George, S., Wright, J., Bell, G., Geffen, A., Taylor, S. (2000) Dietary effects on xenobiotic-induced oxidative damage in 'O' group plaice. *Mar Environ Res* 50:80-81
- A-27. van der Veer, H.W., **Geffen, A.J.**, & Witte, J.I.J. (2000). Exceptional strong year-classes in plaice *Pleuronectes platessa* L.: are they generated only during the pelagic stage, or also in the juvenile stage? *Mar. Ecol. Prog. Ser.* 199:255-262
- A-28. Nash, R.D.M. & **Geffen, A.J.** (2000). The influence of nursery ground processes in the determination of year class strength in juvenile plaice *Pleuronectes platessa* L. in Port Erin Bay, Irish Sea. *J. Sea Res.* 44:101-110
- A-29. Glamuzina B, Tutman P, **Geffen AJ**, Kozul V, Skaramuca B. (2000) First record of white grouper, *Epinephelus aeneus* (Serranidae) in the south eastern Adriatic. *Cybium* 24:306-308.
- A-30. McFarlane, G.A., and A. Geffen. (2000) Section 3: Otoliths in studies of populations. *Fisheries Research*. 46. 189-190.
- A-31. **Geffen, A.J.** (2002) Length of herring larvae in relation to age and hatching order. *Journal of Fish Biology* 60: 479-485.
- A-32. Exadactylos, A., **A.J. Geffen**, P. Panagiotaki, and J.P. Thorpe. (2003) Population structure of Dover sole *Solea solea*: RAPD and allozyme data indicate divergence in European stocks. *Marine Ecology-Progress Series*. 246. 253-264.
- A-33. Swan, S.C., J.D.M. Gordon, B. Morales-Nin, T. Shimmield, T. Sawyer, and **A.J. Geffen**. (2003) Otolith microchemistry of *Nezumia aequalis* (Pisces: Macrouridae) from widely different habitats in the Atlantic and Mediterranean. *Journal of the Marine Biological Association of the UK*. 83. 883-886.
- A-34. Tomas, J. and **Geffen, A.J.** (2003) Morphometry and composition of aragonite and vaterite otoliths of deformed laboratory reared juvenile herring from two populations. *Journal of Fish Biology*. 63, 1 - 19
- A-35. Fox, C.J., A. Folkvord, and **A.J. Geffen**. (2003) Otolith micro-increment formation in herring *Clupea harengus* larvae in relation to growth rates. *Marine Ecology (Progress Series)*. 264, 97-108
- A-36. Fox, C.J., **A.J. Geffen**, R. Blyth, and R.D.M. Nash. (2003) Temperature dependent development rates of plaice (*Pleuronectes platessa* L.) eggs from the Irish Sea. *Journal of Plankton Research*. 25, 1319-1329
- A-37. **Geffen, A.J.**, K. Jarvis, J.P. Thorpe, R.T. Leah, and R.D.M. Nash. (2003) Trace element concentrations in the otoliths of plaice *Pleuronectes platessa* and whiting *Merlangius merlangus* in the eastern Irish Sea. *Journal of Sea Research*. 50, 245-254. DOI:10.1016/j.seares.2003.06.001
- A-38. Nash, R. D. M. and **A. J. Geffen**. (2004) Seasonal and interannual variation in abundance of *Calanus finmarchicus* (Gunnerus) and *Calanus helgolandicus* (Claus) in inshore waters (west coast of the Isle of Man) in the central Irish Sea. *Journal of Plankton Research*. 26, 265-273
- A-39. Tomas, J., Geffen, A.J., Allen, I.S., & Berges, J. (2004) Analysis of the soluble matrix of vaterite otoliths of juvenile herring (*Clupea harengus*): do crystalline otoliths have less protein? *Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology*, 139, 301-308.
- A-40. Rowlands, W.LI, Dickey-Collas, M., Geffen, A.J., Nash, R.D.M. (2004) Abundances of *Metridia lucens* in the western Irish Sea. *Journal of the Marine Biological Association of the UK*. 84. 617-618
- A-41. Nash, R.D.M. & Geffen, A.J. (2005) Aspects of the general biology of Sars' eelpout, *Lycenchelys sarsi* (Collett, 1871) (Pisces, Zoarcidae), in Oslofjorden, Norway. *Marine Biology Research*, 1: 33-38

- A-42. Morales-Nin B, Swan SC, Gordon JDM, Palmer M, **Geffen AJ**, Shimmield T and Sawyer T. (2005) Age-related trends in otolith chemistry of *Merluccius merluccius* from the northeastern Atlantic Ocean and the western Mediterranean Sea. *Marine and Freshwater Research*. 56:1-9
- A-43. Appelberg M, Formigo N, **Geffen AJ**, Hammer C, McCurdy W, Modin J, Moksness E, Mosegaard H, Morales-Nin B, Troadec H, and Wright P. (2005) A cooperative effort to exchange age reading experience and protocols between European fish institutes. *Fisheries Research* 76: 167–173
- A-44. Swan SC, **Geffen AJ**, Gordon JDM, Morales-Nin B and Shimmield T (2006) Effects of Handling and Storage Methods on the Concentrations of Elements in Deep-water Fish Otoliths. *Journal of Fish Biology* **68**, 891–904
- A-45. Swan SC, **Geffen AJ**, Morales-Nin B, Gordon JDM, Shimmield T, Sawyer T, and Massuti E (2006) Otolith chemistry: an aid to stock separation of *Helicolenus dactylopterus* (bluemouth) and *Merluccius merluccius* (European hake) in the Northeast Atlantic and Mediterranean *ICES Journal Of Marine Science* **63**, 504-513
- A-46. Tomás J, **Geffen AJ**, Millner RS, Piñeiro CG, and Tserpes G. (2006) Elemental composition of otolith growth marks in three geographically separated populations of European hake (*Merluccius merluccius*), *Marine Biology* **148**, 1399-1413
- A-47. Rowlands W. LL, Dickey-Collas M, **Geffen AJ** and Nash RDM. (2006) Gape morphology of cod (*Gadus morhua* L.), haddock (*Melanogrammus aeglefinus* L.) and whiting (*Merlangius merlangus* L.) through metamorphosis from larvae to juveniles in the western Irish Sea. *Journal of Fish Biology* **69**, 1379-1395
- A-48. Nash RDM, Valencia AH and **Geffen AJ** (2006) Fulton's Condition Factor – setting the record straight. *Fisheries* 31: 236-238
- A-49. **Geffen AJ**, Fox CJ, and Nash RDM. (2006) Temperature-dependent development rates of cod (*Gadus morhua* L.) eggs. *Journal of Fish Biology* 69: 1060 – 1080.
- A-50. **Geffen AJ**, van der Veer HW, and Nash RDM. (2007) The cost of metamorphosis in flatfishes. *Journal of Sea Research* 58: 35-45.
- A-51. Kennedy J, **Geffen AJ**, and Nash RDM. (2007) Maternal influences on egg and larval characteristics of plaice (*Pleuronectes platessa* L.) *Journal of Sea Research* 58: 65-77.
- A-52. Fox CJ, **Geffen AJ**, Taylor N, Davison P, Rossetti H, and Nash RDM (2007) Does 'birth-date-selection' occur for the early life stages of plaice (*Pleuronectes platessa* L.)? A field study in the eastern Irish Sea (British Isles). *Marine Ecology Progress Series* 345: 255-269. DOI: 10.3354/meps06967
- A-53. Nash RDM, **Geffen AJ**, Burrows MT, and Gibson RN. (2007) Dynamics of shallow-water juvenile flatfish nursery grounds: application of the 'self-thinning rule' *Marine Ecology Progress Series* 344: 231–244
- A-54. Morales-Nin B, **Geffen A**, Cardona F, Kruber C, Saborido-Rey F. (2007) An assessment of the effect of Prestige oil ingestion on turbot otolith growth and microcomposition. *Marine Pollution Bulletin* 54:1732–1741
- A-55. Høie H, Folkvord A, Mosegaard H, Li L, Worsøe Clausen LA, Norberg B, **Geffen AJ**. (2007) Reduced fish feeding influences cod otolith opacity. *Journal of Applied Ichthyology* 2007:1-6. DOI: 10.1111/j.1439-0426.2007.01014.x
- A-56. Exadactylos A, Rigby MJ, **Geffen AJ**, Thorpe JP. (2007) Conservation aspects of natural populations and captive bred stocks of turbot, *Scophthalmus maximus* (L.) and Dover sole, *Solea solea* (L.) using genetic diversity estimates. *ICES Journal of Marine Science* 64: 1173–1181
- A-57. Rowlands WLI, Dickey-Collas M, **Geffen AJ**, Nash RDM. (2008) Diet overlap and prey selection through metamorphosis in Irish Sea cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*) and whiting (*Merlangius merlangus*). *Canadian Journal of Fisheries and Aquatic Sciences* 65: 1297 – 1306.
- A-58. Li L, Høie H, **Geffen AJ**, Heegaard E, Skadal J, and Folkvord A (2008) Back-calculation of previous fish size based on tagged and marked Atlantic cod (*Gadus morhua*). *Canadian Journal of Fisheries and Aquatic Sciences* 65: 2496–2508
- A-59. Nash RDM, Kjesbu OS, Trippel EA, Finden H, and **Geffen AJ**. (2008) Potential variability in the paternal contribution to stock reproductive potential of Northeast Arctic cod (*Gadus morhua*). *Journal of Northwest Atlantic Fishery Science* 41: 71–83
- A-60. **Geffen AJ** (2009) Advances in herring biology: from simple to complex, coping with plasticity and adaptability. *ICES Journal of Marine Science* 66: 1688–1695
- A-61. van der Veer HW, Bolle LJ, **Geffen AJ**, Witte J IJ. (2009). Variability in transport of fish eggs and larvae. IV. Interannual variability in larval stage duration of immigrating plaice in the Dutch Wadden Sea. *Marine Ecology Progress Series* 390: 213–223 DOI: 10.3354/meps08176
- A-62. Hufthammer AK, Høie H, Folkvord A, **Geffen AJ**, Andersson C, Ninnemann US (2010). Seasonality of human site occupation based on stable oxygen isotope ratios of cod otoliths. *Journal of Archaeological Science*, 37: 78–83. DOI:10.1016/j.jas.2009.09.001
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- Geffen, A. "Otolith microchemistry: what do the data really mean?" European Fish Aging Network, October 2000 Palma de Mallorca Spain
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- Geffen, A. "Bio-tags and their use against IUU in the Baltic" PROFET Policy: EU FP5/FP6 Baltic Fisheries Research Results Workshop April 2007 Vilnius, Lithuania
- Geffen, A. Høie, H. and Folkvord, A. "Climate changes and their effects, as observed using hard tissues analyses" Mineralized tissues – Biomarkers of the past and for the future: An International workshop. February 2008 Bergen, Norway
- Geffen, A.J. "Recent Advances in Herring Biology" **Keynote**, Linking Herring, ICES International Herring Symposium, August 2008 Galway Ireland
- Geffen, A.J. "Multi-signals in otoliths - interpreting the covarying environmental and physiological imprints in calcified tissues" Biomineralization and Microanalytical Methods on Microstructures Workshop, February 2010, Kiel Germany
- Geffen, A.J. "Imprints of recent climate variations: coastal cod fisheries in the middle ages" **Keynote**, EECLima Estuaries in a Changing Climate, April 2011 Porto Portugal
- Geffen, A.J. and Morales-Nin, B. "Episodic events recorded in otoliths – keeping an ear to the ground" **Keynote**, Theme session J Beyond routine ageing: otoliths and other bony structures as windows into fisheries, fish ecology, and the environment. ICES Annual Science Conference, September 2012, Bergen, Norway
- Geffen, A.J. "Connectivity and its Implications towards Conservation and Management" **Keynote**, ECSA54 May 2014 Sesimbra Portugal
- Geffen, A.J. "Aquaculture diversification" **Keynote**, Hydromedits November 2014 Volos Greece
- Geffen, A.J. "Multi-signals in otoliths – interpreting the Black Box" **Keynote**, Chilean Marine Science Congress, May 2015, Coquimbo Chile

Selected Poster presentations

- Geffen, A.J., Folkvord, A., Fox, C.J. Larval herring otoliths: Coping with reality Third International Symposium on Otolith Research and Application July 2004 Townsville Australia
- Hatfield, E.M.C., Zuur, A.F., Boyd, J., Campbell, N., Chubb, J.C., Collins, C.M., Coughlan, J., Cross, M., Cross, T.F., Cunningham, C.O., Geffen, A.J., MacKenzie, K., Nash, R.D.M., Jansen, S., Kay, S., Kelly, C.J., O'Leary, D.B., Schlickeisen, J., Schön, P.-J., Watts, P.C. & Zimmermann, C. 2005. WESTHER: A multidisciplinary approach to the identification of herring (*Clupea harengus* L.) stock components west of the British Isles using biological tags and genetic markers. ICES ASC 18-27th September 2005. Aberdeen Scotland.
- Kennedy, J., Geffen, A.J. & Nash, R.D.M. 2005. Maternal effects on egg and larval characteristics of the European plaice (*Pleuronectes platessa* L.). The 6th International Symposium on Flatfish Ecology, Maizuru, Kyoto, Japan, 20-25 October 2005. Kyoto University.
- Kruber, C., Geffen, A.J., Tumyr, O., Kosler, J. 2006. Analysis of fish otoliths by Laser Ablation ICP Mass Spectrometry as a tool for tracing migration of cod. Third Nordic Conference on Plasma Spectrochemistry - June 2006, Loen, Norway
- Audrey J. Geffen, Hans Hoie, Beatriz Morales-Nin, José Manuel Hidalgo, Javier Tomas. "Oxygen isotope variation in European hake otoliths: comparing high resolution mass spectrometry and ion probe (SIMS) techniques" poster. First International Sclerochronology Conference; July 2007 St Petersburg Florida USA
- Nash, Richard D.M., Olav S. Kjesbu, Edward A. Trippel, Audrey J. Geffen & Heidi Finden. "The paternal contribution to the 'Stock Reproductive Potential' of North-East Arctic cod (*Gadus morhua*): are males important?" " Reproductive and Recruitment Processes of Exploited Marine Fish Stocks, NAFO Symposium, 1-3 October 2007, Lisbon PORTUGAL
- Geffen AJ, Nash, RDM, Dickey-Collas M. "Connectivity between nursery areas and spawning stocks of Atlantic herring (*Clupea harengus*) on the west side of the British Isles, based on otolith microchemistry." Linking Herring, ICES International Herring Symposium, August 2008, Galway Ireland
- Geffen AJ, Nash, RDM, Dickey-Collas M. "Identification of spawning components in mixed aggregations of Atlantic herring (*Clupea harengus*) along the west coast of the British Isles based on chemical composition of otolith cores." Linking Herring, ICES International Herring Symposium, August 2008, Galway Ireland
- Sonnich Meier, Audrey Geffen, Bjørn Einar Grøsvik, Pål Olsvik, H. Craig Morton, Tor Andreas Samuelsen, Trond Nordtug, Anders Thorsen, "Study of the long-term effects on Atlantic Herring (*Clupea harengus*) exposed to an oil-polluted *Calanus finmarchicus* diet." PRIMO 15 Bordeaux, 17-20 May 2009
- Geffen AJ, Ogden R, Chang M-Y, Clausen LW, Dundas SH, Roldan AC, Stagioni M, the FishPopTrace Consortium. The validation of otolith traceability tools within a robust, reproducible and transferable forensic framework. 5th International Otolith Symposium, October 2014, Mallorca Spain
- Audrey J. Geffen, Mei-Yu Chang, Gregory E. Maes, Lotte Worsøe Clausen, Henrik Mosegaard, Els L. Cuveliers, Siv Hjorth Dundas, Jan Kosler, Julie Skadal, Christian Irgens, Gyda Christophersen, Marco Stagioni, the FishPopTrace Consortium. Vaster than empires...but more fast: large-scale otolith analyses in population and traceability studies (the FishPopTrace collection). 5th International Otolith Symposium, October 2014, Mallorca Spain