

Programme

All oral presentations take place in Peter Froggatt Centre, Room PFC/0G/024

Coffee, Tea, Lunch, and Conference Desk are situated in the South Dining Hall

Monday 26 July

- 11:00 Registration opens
- 13:00 LUNCH
- 14:00 Welcome and Symposium Opening
Professor Ian Montgomery, Head of School of Biological Sciences, Queen's University, Belfast
- 14:10 Introduction by Conveners
Chris Harrod and David Sims

Session 1: Climate Effects on Fish Physiology and Growth

Chair: David Sims

- 14:15 Keynote - Climate change impacts on fish and fisheries: towards a cause and effect understanding
Hans Pörtner
- 15:15 Effects of elevated temperature on fish reproduction and the potential for acclimation
Jennifer Donelson, Philip Munday and Mark McCormick
- 15:30 Molecular mechanisms involved in cellular responses of fish to warm temperatures in relation to thermal tolerance
Shugo Watabe, Shigeharu Kinoshita, Hidehiro Kondo and Toshinao Ineno
- 15:45 Is there evidence for a shift in fish growth and recruitment success linked to climate change?
Andrew D. Nunn, Paul A. Frear, Michael Lee, and Ian G. Cowx
- 16:00 TEA
- 16:30 Environmental warming in estuarine nursery areas decreases the physiological fitness of the allochthonous african sparid fish *Diplodus bellottii*
Catarina Vinagre, Luís Narciso, Henrique Cabral, Maria José Costa and Rui Rosa
- 16:45 Effects of global warming on vertical distribution and metabolism of two sympatric cold-water fishes: a bioenergetics approach
Susan Busch, Brett Johnson, Georgyi Kirillin and Thomas Mehner
- 17:00 Early growth of juvenile atlantic salmon: disentangling the effects of climate change and local environmental factors
Guillaume Bal, Etienne Rivot, Etienne Prévost, Jean-Marc Roussel and Jean-Luc Baglinière
- 17:15 Implications of a warming North Sea on past and future haddock growth rates
Alan Baudron, Stelios Katsanevakis, Coby Needle and C. Tara Marshall
- 17:30 Meeting of the World Fisheries Council

Room 126, Medical Biology Centre, Lisburn Road, Belfast

- 17.30 Welcome Reception
Canada Room and Council Chamber, Lanyon Building, Queen's University Belfast
- 19.00 Dinner
Cloisters Restaurant, Students' Union Building

Tuesday 27 July

- 09:05 Welcome and housekeeping
Chris Harrod and David Sims

Session 1: Climate Effects on Fish physiology and Growth (continued)

Chairs: Hans Pörtner and David Righton

- 09:15 Keynote - Temperature requirements of Atlantic salmon, brown trout and Arctic charr: predicting the impacts of climate change
Malcolm Elliott
- 10:15 Some (worms) like it hot! elevated water temperature increases parasite growth in the stickleback-*Schistocephalus* system
Vicki Macnab and Iain Barber
- 10:30 Impacts of climate change on growth and migration of Japanese sardine (*Sardinops melanostictus*) in the western North Pacific
Takeshi Okunishi, Shin-ichi Ito, Taketo Hashioka, Naoki Yoshie, Hiroshi Sumata and Yasuhiro Yamanaka
- 10:45 Possible effects of climate change on the recruitment of *Merluccius capensis* and *M. paradoxus*
Britta Grote, Werner Ekau, Hans M. Verheye, Marek R. Lipinski, Erling K. Stenevik, Catriona Clemmesen, and Wilhelm Hagen
- 11:00 COFFEE
- 11:30 Implications of climate change for the reproductive capacity and survival of atherinopsid fish species
Carlos A. Strüssmann, David O. Conover, Gustavo M. Somoza and Leandro A. Miranda
- 11:45 Rising temperatures impact reproductive timing in sand eel, *Ammodytes marinus*
Peter Wright, James Orpwood and Beth Scott
- 12:00 Ocean acidification affects the replenishment of reef fish populations
Philip L. Munday, Danielle L. Dixson, Mark I. McCormick, and Mark Meekan
- 12:15 Effect of solar activity on recruitment of the Japanese eel, *Anguilla japonica*, in the coastal waters of Taiwan
Wann-Nian Tzeng, Yu-San Han and Chih-Chieh Hsu
- 12:30 Temperature as a direct effect on maturation
Declan Tobin, Peter J. Wright and Martha O'Sullivan

12:45 Physiological constraints and competitive exclusion in a changing climate: relevance of the thermal niche?
Anders G. Finstad, Torbjørn Forseth, Bror Jonsson, Edwige Bellier, Trygve Hesthagen and Arne J. Jensen

13:00 LUNCH

Session 2: Behaviour, Population Biology and Future Distributions

Chairs: Colin Bean and Keith Brander

14:00 Keynote - Ecological effects of climate change on marine systems
Nils Christian Stenseth

15:00 What can observed seasonal differences in behaviour and habitat use tell us about the likely effects of climate change on time budgets, space use and growth in Atlantic salmon?
James E. Orpwood, John D. Armstrong and Siân W. Griffiths

15:15 Describing the dynamics of predation in a changing predator landscape
Clive Fox, Martin Taylor, Natasha Taylor, Jeroen van der Kooij, Steven Milligan and Hunter
Ewan

15:30 Exploring the dynamic relationship between climate and atlantic salmon smolting and marine returns
Richard D. Hedger, Line E. Sundt-Hansen, Torbjørn Forseth, Anders G. Finstad and Ugedal
Ola

15:45 Thermal ecology of Atlantic cod in the north-east Atlantic
David Righton, Ken Haste Andersen, Francis Neat, Vilhjalmur Thorsteinsson, Petur Steingrund, Henrik Svedang, Kathrine Michalsen, Hans-Harald Hinrichsen, Victoria Bendall, Stefan Neuenfeldt, Peter Wright, Patrik Jonsson, Geir Huse, Jeroen van der Kooij, Henrik Mosegaard, Karin Hüsey and Metcalfe, Julian

16:00 TEA

16:30 Climate effects on competitive interactions between arctic charr and brown trout
Ingeborg P. Helland, Ola Ugedal, Torbjørn Forseth and Anders G. Finstad

16:45 The potential impact of climate change on spawning behaviour and reproductive output of pumpkinseed *Lepomis gibbosus* in its introduced northern range
Grzegorz Zięba, Gordon H. Copp and Michael G. Fox

17:00 Vulnerability of silverside (*Odontesthes bonariensis*) populations to climate change in Pampean Lakes of Argentina
Germán A. Kopprio, Rubén J. Lara, R. Hugo Freije, Carlos A. Strüssmann, Gerhard Kattner, Mónica S. Hoffmeyer and Cecilia A. Popovich

17:15 Identification of marine feeding areas of atlantic salmon: climate control of river stocks
Kirsteen M. MacKenzie, Clive N. Trueman, Martin R. Palmer and Andy Moore

17:30 Poster Session 1 and Drinks Reception sponsored by Wiley-Blackwell
South Dining Hall

19:00 Dinner
Cloisters Restaurant, Students' Union Building

Wednesday 28 July

09:10 Welcome and housekeeping
Chris Harrod and David Sims

Session 2: Behaviour, Population Biology and Future Distributions (continued)

Chair: Peter Wright and Kimmo Kahilainen

Jack Jones Memorial Lecture

09:15 Climate change perspectives from the fish thermal niche and from long-term, lake ice dynamics
John J Magnuson

10:15 Blacktip whaler sharks may be indicators for climate change along the east coast of Australia
Jess A.T. Morgan, Jennifer R. Ovenden and David J. Welch

10:30 Rapid climate-driven changes in the demography of the western gregory, *Stegastes obreptus*
Mark G. Meekan, Piers Bramhall and Stephen D. Simpson

10:45 Barriers to dispersal: a missing link in predicting climate-driven range expansions of fishes
Catherine L. Hein, Göran Englund and Gunnar Öhlund

11:00 COFFEE

11:30 Predicted shifts in the broad-scale distribution of stream fishes in Wisconsin, USA, in response to climate change
John Lyons, Jana Stewart and Matthew Mitro

11:45 Temperature alters the outcome of pike-salmonid interactions
Gunnar Öhlund, Catherine L. Hein and Göran Englund

12:00 Spatial patterns and life history stage transitions in the ICES mackerel egg survey 1977-2007
Kathryn Hughes, Mark P. Johnson and Leonie Dransfeld

12:15 Accounting for dispersal when projecting shifts in the distribution of stream fish species under climate change
Laëtitia Buisson, Gaël Grenouillet and Sovan Lek

12:30 FSBI ANNUAL GENERAL MEETING

13:00 LUNCH

Session 3: Climate effects on Population and Community Ecology

Chair: Doug Beard

14:00 Keynote - Cod and climate change: processes, productivity and prediction
Keith Brander

15:00 Long-term climate-driven changes in UK marine fish communities

- 15:15 Stephen D. Simpson, Mark P. Johnson, David W. Sims, Pieter-Jan Schön, Julia L. Blanchard, Simon Jennings and Martin J. Genner
TEA
- 15:45 Temperature mediated effects on top consumer populations in subarctic lakes
Per Ask, Jenny Ask, Pär Byström, Mats Jansson, Jan Karlsson and Lennart Persson
- 16:00 Juvenile flatfish catch ratios as indicators of climate change and anthropogenic effects
Claus Reedtz Sparrevohn
- 16:15 Climate change and “green” energy paradox: the consequences for *Alosa fallax* from the River Severn, England
Miran Aprahamian, Christine Aprahamian and Tony Knights
- 16:40 Poster Session 2 and Drinks Reception sponsored by the School of Biological Sciences, Queen's University, Belfast
South Dining Hall
- 19:00 Dinner
Cloisters Restaurant, Students' Union Building
- 20:00 Pub Quiz
Bar Sub – Queen's University Students' Union Building

Thursday 29 July

- 09:10 Welcome and housekeeping
Chris Harrod and David Sims

Session 3: Climate effects on Population and Community Ecology (continued)

Chair: Shugo Watabe

- 09:15 Fish communities on the world's warmest reefs: what can they tell us about impacts of a climate change future?
David Feary, John Burt, Andrew Bauman and Paolo Usseglio
- 09:30 Long term fish community dynamics in coastal lakes will be overturned by rising sea levels
Göran Englund, Catherine L. Hein and Gunnar Öhlund
- 09:45 Temperature driven regime shifts in size-structured populations
Jan Ohlberger, Eric Edeline, Asbjørn Vøllestad and David Claessen
- 10:00 Do fish get smaller in response to global warming?
Jan G. Hiddink

Session 4: Conservation and Management – a North American Perspective
American Fisheries Society sponsored session

Chairs: John J Magnuson and David Sims

- 10:15 INTRODUCTION
AFS representative

- 10:30 Developing a national infrastructure for climate adaptation research on fisheries in the United States
T. Douglas Beard, Jr.
- 10:45 Effects of a changing climate on freshwater fish and fisheries: driving environmental factors and shifting baselines — what to expect, how to adapt
John M. Casselman
- 11:00 COFFEE
- 11:30 Relating spatial and temporal scales of climate and ocean cycles on Pacific north west chinook survival and maturation
Rishi Sharma, Nathan Mantua and Robert C. Francis
- 11:45 The potential influence of changing climate on the persistence of riverine fishes: how do managers use science information to build adaptation strategies for the future?
Jeffery L. Kershner, R. Gresswell, C. Muhlfeld, S. Hostetler, A. Todd, A. Haak, H. Neville, J. Williams and D. Isaak
- 12:00 Conserving Pacific salmonids in a changing climate
Doug Demko, Michele Palmer and Harmony C. Patricio
- 12:15 The influence of changing climate on the ecology and management of Great Lakes fisheries
William W. Taylor and Abigail J. Lynch
- 12:30 Approaches for fisheries management agencies to incorporate climate change into fisheries management programs
Michael D. Stone
- 13:00 LUNCH
- 14:00 Climate change and North American fish and fisheries: impact, management, and adaptation
William W. Taylor, Elda Varela-Acevedo and Abigail J. Lynch
- 14:15 Technical and social challenges of climate change adaptation for aquatic resource managers
Donald L. Pereira, Kathy A. DonCarlos, Peter C. Jacobson, Ray Valley and Andrew Carlson
- 14:30 Where do we go from here; how do we generate the necessary scientific infrastructure in fisheries to adapt to a changing climate?
Susan Haseltine, T. Douglas Beard, Jr. and Robin O'Malley
- 14:45 TEA
- 15:15 Workshop on successful publishing for early career fish biologists
John Craig, Editor, Journal of Fish Biology
Ian Winfield, Guest Editor, Journal of Fish Biology
Chris Harrod, Associate Editor, Marine Biology
- 19:30 Drinks Reception, FSBI Symposium Banquet
Canada Room
- 20:00 FSBI Symposium Banquet
Great Hall, Lanyon Building

Friday 30 July

09:05 Welcome and housekeeping
Chris Harrod and David Sims

Session 5: Conservation and Management 2

Chair: Malcolm Elliott

- 09:15 Declining length-at-age and age-at-maturity in North Sea cod (*Gadus morhua*):
temperature effects and implications for management in a changing climate
Anne Neuheimer and P. Grønkjær
- 09:30 Predicting interactive effects of climate change and dams on success of
downstream-migrating salmon
Martha E. Mather, Donna L. Parrish and Elizabeth A. Marschall
- 09:45 Does climate change brighten or darken the future of the critically endangered
European eel?
Géraldine Lassalle, Patrick Lambert and Eric Rochard
- 10:00 Sea trout on the Welsh Dee and neighbouring rivers: exploring the response of an
anadromous species to changing freshwater and marine environments
Ian C. Davidson, Nigel J. Milner, Miran W. Aprahamian and Richard J. Cove
- 10:15 Cryoconservation and species diversity
Tiziana Zampolla, Tiantian Zhang and David Rawson
- 10:30 An overview of the influence of environmental variation and marine survival of
Atlantic salmon (*Salmo salar* L.) in the River Bush, Northern Ireland
R. Kennedy, W.C.K. O'Connor, T. McDermott, W.W. Crozier and Robert Rosell
- 10:45 Socioeconomic drivers of freshwater fish declines in a changing climate
Nick Ling
- 11:00 COFFEE
- 11:30 The effect of ocean warming on the early life history of *Latris lineata* inferred through
a lagrangian bio-physical dispersal model
Sean Tracey and Alistair Hobday
- 11: 45 Will climate change influence fish population dynamics in temperate rivers?
Ryan Taylor, J. Solana, J.P. Harvey and Ian G. Cowx
- 12:00 Present status of studies on climate change effects on fish populations in the
Japanese waters
Kaoru Nakata
- 12:15 FSBI Symposium concluding remarks
Chris Harrod and David Sims
- 12:30 LUNCH
- End of Symposium