

NoWPaS 2019

SCENE

Rowardennan, Scotland

5th – 9th March 2019



@NoWPaS #nowpas2019



NoWPaS



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Preface

NoWPaS – International (formerly Nordic) Workshop for PhD and post-doctoral fellows on Salmonid research NoWPaS stands for International - formerly known as Nordic - workshop of PhD and post-doctoral fellows working on anadromous salmonids. The annual workshop aims to build and maintain an international network of young scientists working on migratory salmonids, such as Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*). The workshops have helped facilitate the sharing and dissemination of salmonid science. They have also been instrumental in initiating new international collaborations, as well as in identifying novel and timely research topics for the coming years.

The first NoWPaS workshop was held in 2005 in Norway, and was followed by others in Sweden, Finland, Denmark, England, Scotland, France, Canada and Wales. Although it started out as European initiative, due to the migratory nature of the species, it has grown into a global meeting with Canadian and US early stage researchers regularly attending.

In 2019, NoWPaS will be held in the Scottish Centre for Ecology and the Natural Environment, a part of the University of Glasgow, in Rowardennan, Scotland. The Centre is located in south-west Scotland, in the beautiful region of Loch Lomond. Delegates will be surrounded by beautiful wilderness, giving the opportunity to experience some Scottish nature between scientific sessions. In addition, we will visit the IBAHCM fish labs and the Pitlochry fish ladder, giving the delegates a spectrum of the research undergoing in Scotland.

Schedule

Monday, March 4th Arrival to Glasgow

Time	Activity
19.00 – 22.00	Casual Meet & Greet at Curley's Rest Address: 260 Byres Road, Glasgow, G12 8SH <i>This activity is totally optional; dinner/drinks not included in registration</i>

Tuesday, March 5th Day 1: Excursion

Time	Activity
9.00	Meet at the Graham Kerr Building, University of Glasgow campus
9.00 – 10.30	IBAHCM fish labs <i>We will have a tour of the facilities and some talks by guest speakers Dr. Martin Llewellyn and Dr. Shaun Killen</i>
10.30 – 13.00	Travel to Pitlochry
13.00 – 14.00	Lunch in Pitlochry
14.00 – 15.30	Tour and tasting at the Blair Athol Distillery
15.30 – 16.30	Pitlochry Fish Ladder <i>We will have a tour of the facility and a talk by Alastair Stephens (SSE)</i>
16.30 – 19.30	Travel to SCENE <i>We will stop at a supermarket for optional refreshments and snacks. All meals will be provided during the workshop, but perhaps you want to bring a few treats!</i>
19.30 – 20.30	Arrival at SCENE and dinner
20.30	Socializing – Quiz night

Wednesday, March 6th
Day 2

Time	Activity
7.30 – 8.40	Breakfast <i>Breakfast will be self-serve in the dining area</i>
8.55 – 9.00	Opening Day 1: Ecology & Ecosystems Session 1 Chair: Isabel Moore
9.00 – 9.30	Invited speaker: Felicity Huntingford <i>How smart are fish and why does it matter to fishers?</i>
9.30 – 10.15	Keynote speaker 1: Neil Metcalfe <i>Ecological impacts of individual variation in metabolic rate in juvenile salmon</i>
10.15 – 10.45	Coffee Break Session 2 Chair: Angus Lothian
10.45 – 11.00	Cecile Trehin <i>Long-term changes in marine growth and relationships with life history strategies in Atlantic salmon <i>Salmo salar</i></i>
11.00 – 11.15	Aisling Doogan <i>Early migration behaviour and mortality of Atlantic salmon (<i>Salmo salar</i>) from the Burrishoole National Index River, western Ireland</i>
11.15 – 11.30	Shad Mahlum <i>Spatial distribution of escaped Atlantic salmon in riverine systems</i>
11.30 – 11.45	Mikolaj Kundergorski <i>Effects of group size on downstream migration of Atlantic Salmon smolts: an artificial stream study with a choice chamber</i>
11.45 – 12.00	Coffee Break Session 3 Chair: William Perry
12.00 – 12.15	Aurora Hatanpää <i>Foraging success, swimming performance and morphology of semi-wild and hatchery-reared landlocked salmon juveniles</i>
12.15 – 12.30	Linda Vikstrom <i>Aspects of salmonid migration in rivers</i>

- 12.30 – **Isabel Moore**
12.45 *Long-term national changes in populations of anadromous *S. trutta**
- 12.45 – **Lunch**
13.45
Session 4 Chair: Sarah Ryan
- 13.45 – **Jessica Minett**
14.00 *Brown trout in the Falkland Islands: invasion ecology, population structure and genetic diversity*
- 14.00 – **Ross Glover**
14.15 *Separating natural population regulation from the effects of river discharge and temperature on catchment-scale production of juvenile Atlantic salmon (*Salmo salar*)*
- 14.15 – **Olivia Simmons**
14.30 *Predicting the implications of changes in migration phenology for the conservation of Atlantic Salmon (*Salmo salar*)*
- 14.30 – **Coffee Break**
15.00
Session 5 Chair: Isabel Moore
- 15.00 – **Angus Lothian**
15.15 *Boldly going: the relationship between individual personalities on the upstream passage performance of juvenile brown trout (*Salmo trutta*) at a nature-like bypass.*
- 15.15 – **Invited speaker: Colin Bean**
15.45
- 15.45 – **Coffee Break**
16.00
- 16.00 – **Tour of SCENE's lab**
16.30
- 16.30 – **Free time**
18.00 *If weather permits, we will walk to the local pub for dinner*
- 18.00 – **Dinner at the Oak Tree**
20.00

Thursday, March 7th
Day 3

Time	Activity
7.30 – 8.40	Breakfast
8.55 – 9.00	Opening Day 2: Conservation & Management Session 6 Chair: Kim Birnie-Gauvin
9.00 – 9.45	Keynote speaker 2: Lisa Crozier <i>Assessing salmon vulnerability to climate change: lessons from Pacific salmon</i>
9.45 – 10.00	Jamie Dodd <i>Passage rate and behaviour of upstream migrating sea trout (<i>Salmo trutta</i>) at a co-located fish pass and Archimedean screw hydropower turbine</i>
10.00 – 10.15	Rowena Diamond <i>Diagnosing and mitigating the adverse effects of extreme climate on salmonid spawning and juvenile populations</i>
10.15 – 10.30	Martin Gaugher <i>Effects of fine sediment and temperature on early life stages of brown trout (<i>Salmo trutta</i>)</i>
10.30 – 11.00	Coffee Break Session 7 Chair: Ross Glover
11.00 – 11.15	Marius Kambestad <i>Advances in salmonid abundance estimation by electrofishing</i>
11.15 – 11.30	Magdalene Papatheodoulou <i>The immediate and transgenerational effects of catch and release on the Atlantic salmon, <i>Salmo salar</i></i>
11.30 – 11.45	Ali Mokdad <i>Upstream and downstream movement behaviour of hard and soft released juvenile Atlantic salmon</i>
11.45 – 12.00	Delegate to be determined...
12.00 – 12.30	Invited Speaker: Jon Grey <i>River restoration needn't cost the east: the WTT approach</i>

- 12.30 – **Lunch**
13.30
- 13.30 – **Outdoor activities**
18.00 *Activities will include hill walking, west highland way, fly fishing...)*
- 18.00 – **Dinner**
19.00
- 20.00 – **Ceilidh**
22.30 *A true Scottish tradition*

Friday, March 8th
Day 4

Time	Activity
7.30 – 9.15	Breakfast
9.25 – 9.30	Opening Day 3: Salmonics & Physiology Session 8 Chair: William Perry
9.30 – 10.15	Keynote speaker 3: Holly Shiels <i>Salmonid cardiac physiology in a changing world</i>
10.15 – 10.30	Jóhannes Guðbrandsson <i>Extensive genetic differentiation between sympatric Arctic charr morphs in Lake Þingvallavatn, Iceland</i>
10.30 – 10.45	Marcos Lagunas <i>Uncovering the genetic diversity of Icelandic brown trout</i>
10.45 – 11.00	Christina O’Toole <i>Unlocking the archive: investigating long-term trends in growth patterns and chemical composition of Atlantic salmon scales</i>
11.00 – 11.30	Coffee Break Session 9 Chair: Christina O’Toole
11.30 – 11.45	Sarah Ryan <i>A study of introgression and persistence of farm genes in a wild Irish salmon population</i>
11.45 – 12.00	Astrid Raunsgard <i>Life-history strategy and its genetic basis in Atlantic salmon</i>

- 12.00 – **Carlie Muir**
 12.15 *Developmental plasticity of thermal performance and cardiorespiratory morphology in Atlantic salmon*
- 12.15 – **Kim Birnie-Gauvin**
 12.30 *Cortisol predicts migration timing and success in both Atlantic salmon and sea trout kelts*
- 12.30 – **Lunch**
 13.45
 Session 10 Chair: Carlie Muir
- 13.45 – **Keynote speaker 4: Phil McGinnity**
 14.15 *Application of molecular methods for the study of salmonids*
- 14.15 – **Sunny Bradbury**
 14.30 *Integrating biotelemetry and genetics to inform conservation and management of Atlantic salmon*
- 14.30 – **Yann Czorlich**
 14.45 *Sexual dimorphism in salmon age at maturity predicts sex-dependent dominance in a large effect locus: support for a role in sexual conflict resolution*
- 14.45 – **Coffee Break**
 15.15
 Session 11 Chair: Kim Birnie-Gauvin
- 15.15 – **Daniel Guy**
 15.30 *Quantifying interbreeding between aquaculture escape and wild salmon populations in Scotland and its potential consequences*
- 15.30 – **William Perry**
 15.45 *Sexy salmon: the implications of sexual selection, age and aquaculture on secondary sexual characters in Atlantic salmon (*Salmo salar*)*
- 16.00 – **NoWPaS Committee Meeting**
 17.00
- 17.00 – **Free time**
 18.00
- 18.00 – **Dinner**
 19.00
- 19.00 – **Invited speaker: Colin Adams**
 20.30 *Darwin's Fishes: salmonids and the origin of diversity*
- 20-30 – **Rowardennan pub**
 22.30

Saturday, March 9th
Departure home

Time	Activity
7.30 – 9.30	Breakfast
10.00	Leaving SCENE <i>A shuttle will take you back, either at the airport or the West End of Glasgow. Travel time is estimated to be 1 hour to each destination</i>

The NoWPaS Committee

Isabel Moore, University of Glasgow

Ross Glover, Marine Scotland

Angus Lothian, Durham University

Christina O’Toole, Galway-Mayo Institute of Technology

Sarah Ryan, University College Cork

William Perry, Bangor University

Carlie Muir, University of Western Ontario

Jessica Marsh, Queen Mary University of London

Kim Birnie-Gauvin, Technical University of Denmark

Acknowledgements

NoWPaS 2019 has been made possible largely in thanks to the voluntary dedication of the organizing committee who have contributed their time and effort to ensure the continuation and success of the workshop. However, the workshop would not succeed without the contributions of the delegates whose presence and support is the lifeblood of the network. A huge thank you also goes to the keynote speakers and invited speakers, who have generously donated their time in presenting and participating at the workshop.

One of the founding and foremost principles of the NoWPaS network is that it be free to attend to all participants. Because of this we are especially grateful to the generous support and contributions from the following sponsors:

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Marine Alliance for
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