

# Sustaining iconic diadromous fishes: The potential and pitfalls of cultivation

IMPRESS Conference

Hotel Tyholmen Arendal, June 17-19 2018

## Sunday 17 June

- 15.00 - 18.00 Registration  
18.00 - 20.00 Welcome reception – social buffet with regional food and beer, including an informal presentation *On the geology and wildlife in the Arendal region*

## Monday 18 June

### 08.30 - 10.15 *Opening session*

Session chair: Ian Mayer & Elena S. Yebra-Pimentel

- 08.30 - 08.40 **Frode Kroglund** (Agder County, Norway) – *Opening address*  
08.40 - 09.00 **Finn-Arne Weltzien** (Norwegian University of Life Sciences, Norway) – *The IMPRESS project: overview and main aims*  
09.00 - 09.30 **Keynote: Alan Walker** (Centre for Environment, Fisheries and Aquaculture Science, United Kingdom) – *Challenges for diadromous species in the 21<sup>st</sup> Century*  
09.30 - 10.15 **Keynote: Eva Thorstad** (Norwegian Institute for Nature Research, Norway) & **Jörn Gessner** (Leibniz Institute for Freshwater Ecology and Inland Fisheries, Germany) – *Atlantic salmon, European eel, and sturgeons: Living with a complex life cycle*  
10.15 - 10.30 Coffee break

### 10.30 - 12.40 *General biology, ecology and behaviour*

Session chair: Caroline Durif & Mitchell S. Fleming

- 10.30 - 10.50 **Caroline Durif** (Institute of Marine Research, Norway) – *Understanding the decline in eels*  
10.50 - 11.10 **Johan Höjesjö** (University of Gothenburg, Sweden) – *Insights from SalmoInvade: The need to manage salmonid invasions in Europe to protect native biodiversity*

11.10 - 11.25 **Tormod Haraldstad** (Norwegian Institute for Water Research, Norway) – *Guidance efficiency of descending Atlantic salmon smolts at hydroelectric power plants*

11.25 - 11.40 Coffee break

11.40 - 11.55 **Mitchell S. Fleming** (Conservatoire National du Saumon Sauvage, France) – *Environmental influence on teleost specific paralogs of thyrotropin beta subunit during Atlantic salmon smoltification*

11.55 - 12.10 **Øyvind Øverli** (Norwegian University of Life Sciences, Norway) – *The concepts of animal personality and stress coping styles, and their implication for cultivation*

12.10 - 12.25 **Sahana Shivaramu** (University of South Bohemia, Czech Republic) – *The influence of intraspecific hybridization on fitness traits in sterlet (*Acipenser ruthenus*)*

12.25 - 12.40 **Marco A. Vindas** (Norwegian University of Life Sciences, Norway) – *Behavioral inhibition and chronic stress in salmonids: the role of the serotonergic system as a welfare indicator*

12.40 - 14.00 Lunch and Poster session

#### 14.00 - 16.25 **Growth, reproduction and gamete quality**

Session chair: Finn-Arne Weltzien & Carina Caldeira

14.00 - 14.20 **Ian Mayer** (Norwegian University of Life Sciences, Norway) – *Importance of environmental cues on the life cycle of diadromous fishes*

14.20 - 14.35 **Ishwar Atre** (Hebrew University of Jerusalem, Israel) – *Molecular characterization of two Russian sturgeon gonadotropin receptors: cDNA cloning, expression analysis, and functional activity*

14.35 - 14.50 **Elia Ciani** (Norwegian University of Life Sciences, Norway) – *Regulation of follicle-stimulating hormone expression during pubertal development in *Salmo salar* parr males*

14.50 - 15.05 **Aurora Campo** (Muséum National d'Histoire Naturelle, France) – *Comparative evolution of tachykinin peptides and receptors after teleost whole genome duplication*

15.05 - 15.20 **Romain Fontaine** (Norwegian University of Life Sciences, Norway) – *Plasticity of pituitary Lh cells caused by phenotypic conversion and estradiol-sensitive proliferation*

- 
- 15.20 - 15.40 Coffee break
- 15.40 - 15.55 **Carles Soler** (Proiser, Spain) - *The study of gamete quality improves conservation biology programs*
- 15.55 - 16.10 **Juan Germán Herranz-Jusado** (Universitat Politècnica de València, Spain) – *Development, standardization and improvement of European eel sperm cryopreservation*
- 16.10 - 16.25 **Carina Caldeira** (Proiser, Spain) – *Standardization of sperm motility analysis by using CASA-Mot for Atlantic salmon (*Salmo salar*), European eel (*Anguilla anguilla*) and Siberian sturgeon (*Acipenser baerii*)*
- 16.25 - 16.40 **Benjamin Boehm** (Hebrew University of Jerusalem, Israel) – *In vitro germinal vesicle breakdown applying recombinant gonadotropins in *Acipenser gueldenstaedtii**
- 16.40 – 16.50 Coffee break

**16.50 - 17.20** *Dissemination in science*

Session chair: [Martin Pšenička](#) & [Aurora Campo](#)

- 16.50 - 17.10 **John Crump** (GRID Arendal, Norway) & **Hannah Harrison** (Norwegian University of Life Sciences, Norway) – *Fish tales – telling science stories*
- 17.10 - 17.20 **Eirill Ager-Wick** (Norwegian University of Life Sciences, Norway) & **Levi Westerveld** (GRID Arendal, Norway) – *Fitter fish for stocking purposes: The IMPRESS Story Map*
- 17.20 - 17.55 **Keynote: William V. Holt** (University of Sheffield, United Kingdom) – *Reality and conservation biology: what (and how) can a biotechnologist achieve?*
- 18.00 - 19.30 Bus trip to *Raet Marine Protected Area*
- 20.00 - 21.30 Dinner at the hotel

## Tuesday 19 June

### 08.30 - 10.15 *Genetics and -omics technologies*

Session chair: Berta Levavi-Sivan & Elia Ciani

08.30 - 09.00 **Keynote: Sten Karlsson** (Norwegian Institute for Nature Research, Norway) – *Molecular genetics tools for a better stocking practise – Maintaining genetic integrity and genetic variation*

09.00 - 09.15 **Martin Pšenička** (University of South Bohemia, Czech Republic) – *Application of germ cell technologies in sturgeons*

09.15 - 09.30 **A. Rasheed Baloch** (University of South Bohemia) – *Targeting dnd1 in sterlets (*Acipenser ruthenus*) by Crispr/Cas9 generates phenotypic abnormalities*

09.30 - 09.45 **Elena S. Yebra-Pimentel** (ZF-Screens, The Netherlands) – *An inventory of heatshock-responsive genes in Atlantic sturgeon, *Acipenser oxyrinchus**

09.45 - 10.00 **Christiaan Henkel** (Norwegian University of Life Sciences, Norway) – *The metamorphoses of eel genome sequencing*

10.00 - 10.15 **Ingerid J. Hagen Arnesen** (Norwegian Institute for Nature Research, Norway) – *Stocking accentuates genetic introgression of farmed escaped salmon in a wild salmon population*

10.15 - 10.35 Coffee break

### 10.35 - 12.30 *Cultivation strategies*

Session chair: Jörn Gessner & Sahana Shivaramu

10.35 - 11.05 **Keynote: Kyle A. Young** (University of Zürich, Switzerland) – *The evolutionary and population ecology of (not) stocking*

11.05 - 11.20 **Martin Flajšhans** (University of South Bohemia, Czech Republic) – *Spontaneous triploidization in sturgeons, a hidden danger for restocking, farming and experimental activities*

11.20 - 11.35 **Alexander D. Crawford** (Norwegian University of Life Sciences, Norway) – *Fishing for functional feeds: Zebrafish as a laboratory model for rapid evaluation of experimental salmon diets*

11.35 - 11.45 Coffee break

11.45 - 12.00 **Daan Mes** (Norwegian University of Life Sciences, Norway) – *Optimization of*

*hatchery technology to improve neuroplasticity and stocking efficiency in Atlantic salmon*

12.00 - 12.15 **Maria Cámara Ruiz** (Leibniz Institute for Freshwater Ecology and Inland Fisheries, Germany) – *Trait-related optimization of hatchery technology to improve fitness and stocking efficiency in sturgeon*

12.15 - 12.30 **Avshalom Hurvitz** (Dan Fish Farms, Israel) – *Effluent treatment in combined sturgeon and carp culture systems*

12.30 - 14.00 Lunch and Poster session

### **14.00 - 16.30** *Cultivation for conservation & Human dimensions of cultivation*

Session chair: Øystein Aas & Daan Mes

14.00 - 14.20 **Nick Measham** (Salmon & Trout Conservation, United Kingdom) - From research to action: Protecting wild salmonids from open-net salmon farming

14.20 – 14.35 **Ketil Skår** (Norwegian Veterinary Institute, Norway) – *The fall and rise of a Norwegian river*

14.35 – 14.50 **Sophia Kochalski** (Leibniz Institute for Freshwater Ecology and Inland Fisheries, Germany) – *Changing the public perception of migratory fishes: Results of an experiment under natural conditions using a before-after, control-impact design*

14.50 – 15.05 **Devrim Memiş** (Istanbul University, Turkey) – *Diadromous fish species of Turkey: The European eel, Black sea trout and sturgeon species*

15.05 – 15.20 **Øystein Aas** (Norwegian Institute for Nature Research, Norway) – *Governance of salmonid stocking in five North Atlantic jurisdictions – identifying drivers and barriers for policy change*

15.20 - 15.35 Coffee break

15.35 - 15.50 **Hannah L. Harrison** (Norwegian University of Life Sciences, Norway) – *Disputing nature: human-nature relations in the techno-social world of small-scale cultivation of wild Atlantic salmon (*Salmo salar*) in Norway and Wales*

15.50 - 16.05 **Kurt Johansen** (University of Agder, Norway) – *Recreational sea trout (*Salmo trutta*) fishing –what underlies a good experience?*

16.05 - 16.35 **Keynote: Robert Arlinghaus & Sophia Kochalski** (Leibniz Institute for Freshwater Ecology and Inland Fisheries, Germany) – *The human dimensions of fish stocking*



16.35 - 16.45 Coffee break

**16.45 - 17.45** *Panel debate and closing of conference*  
Moderated by John Crump (GRID)

18.00 - 22.30 Conference banquet/boat trip in the Arendal archipelago

### Wednesday 20 June

08.30 - 11.30 IMPRESS Early Stage Researchers presenting the project at Arendal High School

09.00 - 14.00 Guided fishing trip (for those registered)