Short Course on Passage of Lamprey and Anguillid Eels

*Fish Passage 2017 - International Conference on Engineering and Ecohydrology for Fish Passage*
19-21 June 2017
Oregon State University, Corvallis, Oregon, USA

**Course Location:** Nash Hall, Department of Fisheries and Wildlife, OSU

**Time and Date:** 1:00-5:00 p.m., Sunday, 18 June 2017

**Goal:** Provide information on life history, behavior, and engineering design/operation for upstream and downstream passage of juvenile and adult Pacific and Sea Lamprey, and anguillid eels.

**Instructors:**
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**Lamprey Passage – M. Moser**

**Background**
- Lamprey conservation and control worldwide
- Lamprey life history
- Lamprey swimming performance and behavior
- Species specific differences in lamprey swimming and climbing performance

**Adult Lamprey Passage**
Modifications to salmon fishways
- Attraction flows and entrance conditions
- Bulkheads and weirs (sharp corners, sheer flows, variable width weirs, etc.).
- Bulkhead slots and stop logs
- Diffuser grating
- Rest areas and refuge boxes
- Attachment surfaces
- Collection and transition areas
- Weir Sections
- Dead Ends
Juvenile Lamprey Passage
  Structural modifications to protect juvenile lamprey (bar screens, raceway tailscreens, etc.)
  Operational modifications to protect juvenile lamprey (timing of screen placement)
  Predation effects

Guidance of Adult and Juvenile Lamprey (A. Haro)

Break

Anguillid Eel Passage – A. Haro

Eel Upstream Passage
  Eel migratory biology
  Dams and “distraction” flow
  Passage of technical fishways
  Climbing behavior
  Low-tech passes
  Example ramp passes
  Climbing substrates
  Design criteria and recommendations
  References and sources of information

Break

Eel Downstream Passage
  Potential impacts barriers of downstream passage
  Life history variability
  Spatial and temporal variability and patterns in downstream migration
  General downstream migratory behaviors
  Behaviors in hydro forebays
  Bypass structures
  Options for downstream passage mitigation
    Bar racks and screens
Louvers
Behavioral Barriers
Operational alternatives/shutdown
Fish-friendly turbines
Trap and transport
Spill mortality
Delays
New and emerging technologies
References and sources of information

Location Map for Nash Hall, OSU campus: