

## Program

The 43rd Scientific Symposium of UJNR Aquaculture Panel

### **Evaluation of the impact of breeding organisms on the ecosystem and aquaculture industry**

Date:

November 10                      15:00-17:30      Poster Session

November 11                      9:30-17:30      Oral Session, Poster Session during lunch break

Venue:

Lecture room, 2F General education and research building, Bunkyo Campus, Nagasaki University

#### Aim of the Symposium

Breeding research will be of great help with the improvement of aquaculture technology. The utilization of wild broodstock/seeds does not result in genetically improved stocks, and the importance of genetics and breeding studies has increased to meet various needs. Although genetic improvement is common in agriculture and the resulting benefits unquestioned, there are few selectively bred commercially available strains in the aquaculture industry except in inland aquaculture.

Moreover, we should pay attention to the ecological impacts of breeding technology. At the same time selection may increase risks when selected animals escape and breed with wild stocks unless proper safeguards are put into place. Integration of scientific knowledge of the benefits and risks can help contribute to genetic improvement programs. Our UJNR activity should deepen discussions on the issue of genetics/breeding studies, which is expected to contribute to the development of the aquaculture industry in both countries of Japan and United States.

This Symposium consists of oral session and poster session.

In oral session, we will strictly deal with the subjects relating to 'genetics and breeding' such as: the impact of breeding organisms on the ecosystem and aquaculture industry; selective breeding techniques; bioinformatics, etc. We will expect 6-7 presentations from each side of the Panel. In poster session, we will accept presentations about broader topics relating to Aquaculture.

## Tuesday, November 10<sup>th</sup>, 2015

Registration 14:00-17:30

### **Opening Session.**

(Moderators: Dr. M. B. Rust & Dr. Y. Machiguchi)

#### **Welcome to Nagasaki University**

Atsushi Hagiwara (Dean of the Graduate School of Fisheries Science and Environmental Studies,  
Nagasaki University) 15:00-15:10

#### **Aim of the Symposium**

Fuminari Itoh (Japan Chair, Fisheries Research Agency)  
15:10-15:20

#### **Poster Session**

Poster presentation 15:20-17:30

## Wednesday, November 11<sup>th</sup>, 2015

Registration 9:00-12:00

### **Oral Session**

#### **Session I. Breeding technique**

(Moderators: TBD )

1. Appropriate conditions for the production of triploidy induced by cold shock in yellowtail

*Seriola quinqueradiata*

Yukinori Shimada (National Research Institute of Aquaculture, FRA) 9:30-9:55

2. Potential Application of Germplasm Preservation in Breeding Programs for Molluscan Shellfish Aquaculture and Restoration

Huiping Yang (University of Florida) 9:55-10:15

3. Improving Aquaculture Production in *Haliotis* Species Through the Development of a Genomic Toolkit

Catherine Purcell (NOAA Fisheries) 10:15-10:35

4. Culture Protocols and Production of Triploid Purple-Hinge Rock Scallops

Paul Olin (California SeaGrant) 10:35-10:55

#### **Session II. Genetic improvement 1**

(Moderators: TDB )

5. Big Data in Agriculture and the USDA/ARS Initiative

Jeffrey Silverstein (USDA Agricultural Research Service) 11:00-11:20

6. Signature of artificial selection in a breed of coho salmon *Oncorhynchus kisutch*

Sho Hosoya (Fisheries Laboratory, University of Tokyo) 11:20-11:50

Group Photo 11:50-12:00  
Lunch Break 12:00-13:00

7. Genetic Selection in Animals Using Pedigree, Phenotypic, and Genomic Information

Shogo Tsuruta (University of Georgia)  
13:00-13:30

8. Exploring Transcriptomic Patterns in Slow- and Fast-Growing *Seriola dorsalis* Larvae

Catherine Purcell (NOAA Fisheries) 13:30-13:50

**Session III. Risk evaluation of escaped fish**

(Moderators: TBD )

9. Modeling the Variable Effects of Using Wild and Cultured Broodstock on the Fitness Risk  
Due to Escaped Farmed Fish

Kristen Gruenthal (NOAA Fisheries) 13:55-14:15

10. Did farmed Coho salmon *Oncorhynchus kisutch* that escaped during the earthquake and  
tsunami disaster of 2011 interbreed with native Masu salmon *Oncorhynchus masou*?

Kei Sasaki (Tohoku National Fisheries Research Institute, FRA) 14:15-14:40

11. Evaluation of the tsunami impact on the genetic diversity of the marbled flounder

*Pseudopleuronectes yokohamae* in Sendai Bay, Miyagi, Japan 14:40-15:05

Yuki Minegishi (Tohoku Ecosystem-Associated Marine Sciences, Tohoku University)

12. Competition between Atlantic salmon (*Salmo salar*) and Japan's native salmonids.

Kazuo Araki (National Research Institute of Aquaculture, FRA) 15:05-15:30

Break 15:30-15:50

**Session III. Genetic improvement 2**

(Moderators: TBD )

13. Hybrid Striped Bass National Breeding Program: Research Towards Genetic Improvement of  
a Non-Model Species

Adam Fuller (USDA Agricultural Research Service)  
15:50-16:10

14. Production of Benedenia-resistant Yellowtail (*Seriola quinqueradiata*) Families –A  
Preliminary Approach to the Candidates–

Tsutomu Noda (Seikai National Fisheries Research Institute, FRA)  
16:10-16:35

15. Coho Salmon Broodstock Development: A Case Study of the Domsea Coho (1977 to 2015)

Bob Iwamoto (Spring Salmon LP) 16:35-16:55

16. Development of Improved Catfish Germplasm at the Warmwater Aquaculture Research Unit,  
USDA-ARS

Brian Bosworth (USDA Agricultural Research Service)  
16:55-17:15

Discussion 17:20-17:50

Closing remarks (Michael B. Rust, U.S.A. Panel Chair) 17:50-18:00