Third International Symposium  
Advances in Marine Mussel Research  
Chioggia, 26-28 August 2019

Scientific programme  
(main/selected talks and posters)

**Talks**

**Monday, August 26**

08:30-17:00  Reception service, delivery of virus-checked ppt/pdf files and 70x100 posters
09:00-09:30  Welcome. Introductory remarks

**SESSION 1. News and views on genetic and functional traits of the Mediterranean mussel**  
Chairpersons: Beatriz Novoa, Angel E. Perez Diz

09:30-10:10  Antonio Figueras. *Advances in genomics and immunity of *Mytilus galloprovincialis* (opening lecture)
10:10-10:30  Marco Gerdol. *Disentangling the impact of PAV by high throughput sequencing. Implications for the interpretation of gene expression data*
10:30-10:50  Beatriz Novoa. *Innate immune memory in mussel (*Mytilus galloprovincialis*): tolerance of hemocytes after a repeated contact with *Vibrio splendidus*

11:10-11:35  Coffee break

11:35-12:15  Angel E. Perez Diz. *Proteomics analysis of sperm samples from two different *Mytilus* species including hybrids*
12:15-12:35  Rebeca Moreira. *Immunostimulating *Mytilus galloprovincialis* hemocytes: description of transcriptomics, miRNomics and functional capacities*
12:35-12:55  Cristian Gallardo-Escárate. The dark matter of the mussel’s genome: long non-coding RNAs as key players in *Mytilus*

13:15-14:15  Buffet lunch

**SESSION 2. The *Mytilus* species complex in a changing environment: from the past to the future**  
Chairpersons: Cynthia Riginos, Nicolas Bierne

14:20-15:00  Nicolas Bierne. Mussel melting-pots: hybridization and admixture in the *Mytilus edulis* complex of species
15:00-15:20  Iva Popovic. Twin introductions by divergent *Mytilus galloprovincialis* lineages are associated with high levels of genetic admixture with a native congener in Australia
15:20-15:40  Petr Strelkov. Variable patterns of hybridization and locus-specific introgression in hybrid zones of *Mytilus edulis* and *M. trossulus* assessed by the traditional set of markers
15:40-16:00  Marina Katolikova. A farewell to allozymes? Reanalysis of the classical dataset on blue mussels (McDonald, Seed, Koehn 1991)

16:05-16:30  Coffee break

16:35-17:15  Sarah E. Kingston. Adaptive potential in a changing ocean: unraveling the genomic architecture of a climate stress response in blue mussels (*Mytilus edulis* and *M. trossulus*) in the Gulf of Maine
17:15-17:35  Vadim Khaitov. Analyses of distribution and long-term dynamics of sympatric mussels *Mytilus edulis* and *M. trossulus* in the White Sea using the semi-diagnostic conchological marker
17:35-17:55  Robert Ellis. Hybridization in a future ocean: a mechanism for adaptation of mussels to multiple environmental Challenges

20:00 -  Free evening in Chioggia or Venice
Tuesday, August 27

SESSION 3. Mussels and mussel-associated microorganisms in the light of evolution
Chairpersons: Paola Venier, K. Mathias Wegner

08:30-09:10 K. Mathias Wegner. *Macrobial and microbial symbionts of mussels. Direct and indirect effects of parasite invasions
09:10-09:30 Stefano Carboni. Microbiome diversity in blue mussel (Mytilus edulis L.) during larval development
09:30-09:50 Maud Charles. Experimental infection of Mytilus edulis by two Vibrio splendidus-related strains: evaluation of virulence, the influence of the origin of mussels and season
09:50-10:10 Manon Auguste. *Nanoparticle exposure affects the microbiota composition of mussels hemolymph: possible interplay with the host immune system

10:15-10:40 Coffee break

SESSION 4. The weird case of transmissible cancers in mussel species
Chairpersons: K. Mathias Wegner, Nicolas Bierne

10:45-11:25 Michael Metzger. A single clonal lineage of transmissible cancer identified in two marine mussel species in South America and Europe
11:25-11:45 Maurine Hammel. Genotype typing of transmissible cancers in the Mytilus edulis complex of species

SESSION 5. Mussels as biological models for in vitro and in vivo toxicological testing
Chairpersons: Loriano Ballarin, Laura Canesi

11:45-12:05 Marta Sendra. Internalization, uptake routes pathways and effects of polystyrene nanoplastics in hemocytes of Mytilus galloprovincialis through an in vitro approach
12:05-12:25 Giulia Liberatori. Using marine mussels for testing the ecosafety and the efficacy of nanostructured cellulose sponges for remediation of zinc in sea water

12:30-13:30 Buffet lunch

14:15-14:35 Maria Giovanna Parisi. Multi-level responses of Mytilus galloprovincialis to environmental stressors
14:35-14:55 Marina Piscopo. Contribution to the study of molecular effects of copper on Mytilus galloprovincialis during reproductive period
14:55-15:15 Claudia La Corte. Mytilus galloprovincialis haemocytes activity as biomarker for evaluation of methylmercury effect

15:20-15:45 Coffee break

SESSION 6. Advancing tools and strategies
Chairpersons: Stefano Carboni, Paola Venier

16:20-16:40 Cynthia Riggins. MytiMap: a tool for making publication quality species distribution maps for Mytilus mussels
16:40-17:00 Laura Canesi. Estrogens in bivalves revisited: lesson learnt from Mytilus
17:00-17:20 Marina Piscopo. Mytilus galloprovincialis protamine-like proteins are new bactericidal molecules active also against antibiotic resistant bacteria
17:20-17:30 Annelie Declercq. Hemolymph extraction sites and 3D visualization of the cardiovascular system and related structures of the blue mussel (Mytilus edulis)
17:30-18:00 Aad C. Smaal. More with mussels (closing lecture)

20:00-23:00 Social Dinner. Two Travel Awards (SIICS) and three Awards in books (Zanichelli) will be assigned to young participants selected during the symposium.

*An asterisk highlights talk contents consistent with the scientific purposes of VIVALDI (H2020 project Preventing and Mitigating Farmed Bivalve Diseases, GA 679589).
Posters

Discussion of posters with their authors is possible any time on Mon 26 and Tue 27 August 2019.

P1  Chang-Ming Bai. Mussel aquaculture in China.

P2  Loriano Ballarin and V. Matozzo. Preliminary data on immune priming in the Mediterranean mussel *Mytilus galloprovincialis*.

P3  Ersilia Maria Epifanio et al. Risk factors analysis for cadmium contamination in *Mytilus galloprovincialis* harvesting areas of Marche region (Italy) for the purposes of chemical sanitary survey.


P5  Riccardo Frizzo et al. NMR-based metabolite profiles in *Mytilus galloprovincialis*: experimental set-up and preliminary data.

P6  Ilker Keskin and A. Ekici. Spat settlement and growth of *Mytilus galloprovincialis* on the ropes in Gökçeada island.


P8  Donatella Ottaviani et al. *Halobacteriovorax* isolated from marine water of the Adriatic Sea to challenge *V. parahaemolyticus* in *Mytilus galloprovincialis*.


P10 Marina Piscopo et al. Molecular effects on spermatozoa of *Mytilus galloprovincialis* exposed to severe hyposaline conditions: a case of fertility preservation strategy due to gamete plasticity.

P11 Federico Rampazzo et al. Traceability of bivalves (*Mytilus galloprovincialis*) through the application of stable carbon and nitrose isotopes.


P13 Federica Di Giacinto et al. Water quality monitoring station in the bivalve purification centre of Giulianova city (Abruzzo Region, Italy): one year results. Late abstract

**Wednesday, August 28**

08:00-18:00 Excursion in the Po river delta area, with lunch and visit to the mussel producer organization Consorzio Cooperative Pescatori del Polesine (https://www.scardovari.org). This is one among other alternatives, according to the individual preference. More info in the web page AMMR 2019. The indicated time interval aims to cover the tracts Chioggia-Porto Barricata (bus), Porto Barricata to delta lagoons including Sacca di Scardovari (boat), including lunch time and visit to bivalve production sites and bivalve processing facility, return Scardovari-Chioggia (bus).