

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*  
**10:50-11:10** Umberto Rosani. \*What does macrophage migration inhibitory factor do in *Mytilus galloprovincialis*?

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*  
**12:55-13:15** Artur Burzynski. Distribution and features of DUI in Mytilidae

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.** \*Microbial 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: Lorian 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
- 13:35-14:15 **Massimo Milan.** Ecotoxicological assessment for the herbicide glyphosate and its degradation product AMPA: analysis of host and microbiota response in the mussel *Mytilus galloprovincialis*.
- 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

- 15:50-16:20 **Alessandro Laudicella.** Effect of temperature during broodstock conditioning in blue mussel (*Mytilus edulis* L.): a lipidomics perspective.
- 16:20-16:40 **Cynthia Riginos.** 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.
- P4**            **Gianluca Fichi** et al. Characterisation of the intracellular protozoan MPX in mussels, *Mytilus edulis* Linnaeus, 1758.
- 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
- P7**            **Manuel Mendoza** et al. Application of monoclonal antibodies in *Mytilus galloprovincialis* hemocytes subpopulation sorting.
- P8**            **Donatella Ottaviani** et al. *Halobacteriovorax* isolated from marine water of the Adriatic Sea to challenge *V. parahaemolyticus* in *Mytilus galloprovincialis*.
- P9**            **Pablo A. Oyarzún** et al. Genetic variability of *Mytilus galloprovincialis* (Mollusca: Bivalvia): The genetic pattern of an Invasive marine species.
- 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 nitroge isotopes.
- P12**          **K. Mathias Wegner** et al. Invasions create competitors: how novel interactions among native and invasive parasites influence coevolution with blue mussel hosts.
- 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).