



UNIVERSITÀ
POLITECNICA
DELLE MARCHE



BIOMEDAQU 2nd SUMMER SCHOOL

Roma (Italy)

23-25 and 30 September 2019

Program

Monday 23 September

Summer school: 'Monitoring of Fish Skeletal Anomalies'

Location: Laboratory of Experimental Ecology and Aquaculture – University of Rome Tor Vergata

Topic: Data analyses – Students are invited to exercise on their data

This section will be devoted to theory and application of basic data analyses: the applicants are invited to bring their data on which they will apply what showed in the lectures. OPEN to the public

- 9:00-10:00 C. Boglione - *How to record skeletal anomalies (meristic counts and deformities) in model and commercial fish*
- 10:00-11:00 E. Catucci - *How to manage a worksheet with Microsoft Excels and with other (free) statistics programs (pivot tables, functions, formulae, graph,)*
- 11:00-11:30 Coffee break
- 11:30-13:00 F. Mattei - *Basic elaboration of data set. Part 1: testing inter- and intra-groups differences*
- 13:00-14:30 Lunch
- 14:30-17:00 E. Catucci - *Basic elaboration of data set. Part 2: meristic counts*

Tuesday 24 September

Location: Laboratory of Experimental Ecology and Aquaculture – University of Rome Tor Vergata

Topic: Survey, data input

- 9:00-10:00 F. Mattei - *Basic elaboration of data set. Part 3: skeletal deformities*
- 10:00-11:30 C. Boglione - *Is this a skeleton anomaly or not?* Theory: ontogenetic stages, artefacts, species-specific features.
- 11:00-11:30 Coffee break
- 11:30-13:00 C. Boglione - *Is this a skeleton anomaly or not?* Theory and Practice: examples and practice exercise on ontogenetic stage, multiple or complex anomalies. – **Students are invited to submit any puzzling anomaly**
- 13:00-14:30 Lunch
- 14:30-17:00 C. Boglione, P. Gavaia, P.E. Witten: *Practical survey of skeletal anomalies on species used in Biomedaqu activities: seabream, zebrafish, medaka, meagre, salmon.* The students will be divided into groups according to the target species, each one supervised by a tutor.

Wednesday 25 September

Location: Laboratory of Experimental Ecology and Aquaculture – University of Rome Tor Vergata

- 9:00-9:40 C. Winkler - *Identification of a novel chemokine that controls osteoclast recruitment in medaka*

BIOMEDAQU SS2

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- 9:40-10:20 P.E. Witten - *The skeletal tissues of basal and derived teleosts. How different are they from mammalian skeletal tissues?*
- 10:20-11:00 Visiting Scientist: P.-Y. Rescan - *The study of fish axial musculature*
- 11:00-11:30 Coffee break
- 11:30-12:00 P.E. Witten - *What we can learn from studying skeletal cells about bone and cartilage pathologies in farmed teleosts*
- 12:00- 13:00 P. Gavaia - *Differences among the many whole-mount staining procedures for bone and cartilage according to the life stage and species*
- 13:00-14:30 Lunch
- 14:30-17:30 Speed dating with students and SS lecturers.
- 19:30-24:00 Social dinner in Rome (reserved bus service to go and return from Rome centre to Campus X) Open to all participants**

Monday 30 September: API section in the Summer School: 'Socio-economic impact of skeletal anomalies in aquaculture'

Location: Palazzo S. Andrea della Valle, Corso Vittorio Emanuele II, 101 – Rome

Chairman: P.A. Salvador

9:30-10:00 Welcome from P. A. Salvador (President of API)

10:00-10:30 F. Postorino (General Director of Confagricoltura)

10:30-11:00 V. Lenucci (Director Economic Division Confagricoltura) - *Starting a SME company*

11:00-11:30 Coffee break

11:30-12:30 A. Fabris (Chairman of the Fish Health and Welfare FEAP Commission and Director of API) - *The problem of skeletal anomalies in market size fish: management and solutions*

12:30-13:00 Contribution of a Representative of the Italian Ministry of Agricultural, Alimentary, Forestry and Tourism Politics

13:00-14:30 Lunch

14:30-18:00 Open table with the participation of Italian aquaculture farmers:

M. Caggiano Panlitta Italia s.r.l.

M. Gilmozzi Cosa s.r.l.

E. Franzolini Civalttica s.r.l.