europass Curriculum vitae

## PERSONAL INFORMATION


# Mirko Mutalipassi

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Sex Male | Date of birth 09/07/1983 | Nationality Italian

## WORK EXPERIENCE

### 01/09/2011–31/12/2013 Author

Online Magazine Aquariophylia, Ischia, Naples (Italy)

Author of "review and news" section

▪Reviews of technical equipment for marine and freshwater aquariums

▪Tests of filters, skimmers, fertilizers and other equipment

▪Didactic articles on planted marine aquarium, refugium, marine aquarium, corals, nanoreef etc.

### 01/01/2012–31/01/2012 Volunteer

No profit Association Vivara Onlus, Procida (Naples) (Italy)

- Authorized collection of marine sands and organogenic rocks to set up of a DSB filtering sistems.
- Live fishing of marine organisms for educational aquariums.
- Design and construction of filtration systems, skimmers and tanks as well as modification of existing material in order to optimize the set-up of mesocosms.
- Setting up and design of a mesocosms for educational purposes.
- Collaboration with the Costal Guard for no-kill fishing purposes of marine organisms in the marine protected areas (AMP di Nettuno, Areas A and B).
- Preparation and communication to the competent authorities of a specific list of compatible aquarium species.
- Transport and tank stabulation of marine organisms taken from the sea.
- Conditioning feeding techniques and food cofeeding as encouragement to eat dry and freeze food.
- Workshop on marine biology/ecology for students.
- Workshop on the maintenance of a Mediterranean mesocosm.

### 05/03/2011–20/04/2011 Consultant

Giumar S.r.l. fish facility, Volla (Naples) (Italy)

▪Quarantine of tropical marine organisms

▪Management of tropical invertebrates

▪Feeding and maintenance of Anthozoa

Treatment of tropical animal diseases

### 01/01/2010–31/01/2011 Volunteer Research Assistant

University of Naples Federico II, Naples (Italy)

- Interactive lessons to undergraduate students on marine biodiversity through the use of stereomicroscope
- Water and sediments samples analysis on saline environments
- Analysis of phytoplankton, zooplankton and macrobentos populations
- Use of laboratory techniques such as sorting, species identification, dichotomous keys.

- Data processing
- Calculation of Biotic indices
- Analysis of the anthropogenic impacts
- Culturing of planktonic microalgae and zooplankton (*Daphnia magna*, *Brachionus plicatilis*, *Moina salina)* for biological, ecotoxicological and ecophysiological assays.
- Preparation of multiple culture to feed larvae and postlarvae of Decapod crustaceans of genus *Caridina, Lysmata, Hippolyte* for biomedical purposes.
- Setting-up of tanks used for breeding and larval development of small size teleosts to be used for scientific purposes.

01/03/2009–31/07/2009

### Scientific Consultant

LGMAquari, Naples (Italy)

Theoretical and practical training on mesocosms filtration systems (Protein skimmer, filters, etc ...).

Theoretical and pratical training on marine and freshwater live food cultures.

Shopkeepers training on the main physical and chemical parameters in the ornamental marine fish breeding.

01/04/2007–01/04/2008

### Public voluntary service

Assessorato alle politiche sociali (Social Policies Department), Naples (Italy)

Public relations, records and protocols management (project I-Care), Central Directorate for Social Affairs and educational policies

## EDUCATION AND TRAINING

01/10/2015–Present

### Ph.D.

Stazione Zoologica Anton Dohrn / Open University, Ischia (Italy)

**Re-defining the concept of model species: an experimental approach on a range of marine animals**

- Identification of eligible new model organisms for marine science.
- Effects of natural compounds (VOCs, WACs, Secondary metabolites) on marine organisms.
- New model organisms culture / rearing methods
- MO desirable characteristics
- MO and acidification: a laboratory and in field approach
- Physiology and molecular assays
- DNA, RNA and proteins extraction
- Pro-apoptogenic compounds

23/06/2014–28/09/2015

### Research fellow

Scuola Normale Superiore di Pisa, Pisa (Italy)

I'm working on the optimization breeding protocol of the annual fish Nothobranchius furzeri, a promising, short lived, model organisms for aging studies.

I built a new and improved larval facility with the aim to increase significantly the culture density and the larvae health.

I introduced Dapnia magna intensive cultures to be used as N. furzeri live food. Nannochloropsis sp. microalgae intensive culture, was specifically adapted to freshwater, was setted up as Daphnia enrichment.

Experiments were conducted in order to determine how the temperature affects the embryos

diapause and how temperature in early days (Epiboly) determines in an irreversible manner the development fate of the eggs.

I developed a complete photographic atlas of the N.furzeri development of each development stages from deposition until the age of 15 days post-hatching.

Screening activities have been carried out with fluorescence microscopy with the aim to document the expression transgenes pattern in animals lines, created by graduated students of SNS, that use promoters Kif5a, ubiC and cmlc2.

Finally i have performed a pilot experiment to characterize the accumulation of metformin as a potential anticancer agent.

Acquired skills:

▪Nothobranchius furzeri adult and larval cultures

▪Handling and management of killifish eggs

▪Screening of transgenic animals

▪Food enrichment

▪Timelaps and analysis techniques on diapause eggs

01/10/2013–01/09/2014

## Scholarship

Department of Veterinary Medicine and Animal Production of University of Naples Federico II, Naples (Italy)

Project funded by "FEP 2007-2013" with the aim to improve and defend the fauna and flora biodiversity in the artificial lake Angitola (Pizzo Calabro).

Techniques acquired and used:

- freshwater macrozoobenthos sampling
- lake and river macrozoobenthos populations analysis
- determination of biotic and biodiversity indices
- fish population analysis through the use of multimesh standardized fishing net
- populations analysis of birds and mammals using visual-census and indirect evidence

15/12/2010–28/05/2013

## Master Degree in Biology of Marine Productions: 110/110 summa cum laude

EQF level 7

University of Naples Federico II, Naples (Italy)

Master degree in Biology of the Marine Productions at University of Naples Federico II.

Supervisor: Valerio Zupo. Laboratory of Benthos Marine Ecology of Ischia, Stazione Zoologica Anton Dohrn.

Thesis title: “Devising of experimental tools for the reproduction and breeding of model invertebrates".

Vote : 110/110 cum laude.

The research activity has developed over a period of approximately 18 months.

Skills acquired:

- rearing of larval and postlarval marine invertebrates with focus on marine decapod crustaceans.,
- maintenance of breeding animals in specific mesocosms,
- sampling of breeding animals with pelagic trawl nets,
- water analysis (spectrophotometry),
- analysis of chemical and physical parameters through the use of probes and
- refractometer,
- use of filtering systems such as biological filters, skimmers and ozone generators,
- breeding brine shrimp as live food,
- setting up and management of parallel cultures of planktonic microalgae
- construction and management of rotifers reactors

- use of laboratory instruments

I have also acquired the ability to program in LADDER language (and FBD), a system based on PLC technology.

I designed and built an automated system for larval rearing basend on PLC and i have tested the validity of the project during 3 reproductive seasons of the model organism *Hyppolite inermis*

01/01/2012–31/03/2012 **Apprenticeship**

Stazione Zoologica Anton Dohrn (Research Institute), Ischia (Naples) (Italy)

Acquired skills:

- Water filtration
- Culturing and freeze drying of diatoms
- Zooplancton cultures
- Microalgae cultures
- Sorting of marine sediments

19/06/2011–23/06/2011 **Theorical and pratical course for marine Biologists**

Area Marina Protetta Punta Campanella, Massa Lubrense, Naples (Italy)

Theoretical / Practical Course of Marine Biology

Theoretical lessons on the following topics:

- Characteristics of of the marine environment.
- Introduction to geomorphology.
- The Marine life: introduction to evolution and systematics.
- Elements of marine ecology.
- Identification of marine animals.
- Study of the underwater environments and animal adaptations.
- Protection of the marine environment.
- Biodiversity and marine protected areas.

Acquisition of sampling techniques (Sorbona, visual census, non-destructive sampling)

01/02/2010–31/05/2010 **Apprenticeship**

Bioservice Cooperative S.c.r.l., Naples (Italy)

- acquisition of required skills for soft bottoms macrozoobenthos studies.
- acquisition of the basic knowledge for the study of biological indicators.
- acquisition of required skills for the recognition of the most interesting taxa for ecological studies.

01/09/2006–15/02/2010 **First degree in Biology of the Marine Productions: 108/110** EQF level 6

University of Naples Federico II (Italy)

Degree in Biology of the Marine Productions, curriculum ecophysiology of the marine productions at University of Naples Federico II.

Supervisor: Olga Mangoni. Laboratory of Zoology and Marine Ecology .

Thesis title: “Caracterization of the phytoplankton populations in a model costal basin: the Tarquinia salt marshes".

Vote 108/110.

Acquisition of the following skills:

- Identification of different classes of planktonic microalgae
- use of spectrofluorometer
- analysis of seasonal phytoplankton population
- approach to the use of HPLC for the separation of accessory pigments and identification of the main phytoplankton classes
- acquisition of sampling techniques on field

## PERSONAL SKILLS

Mother tongue(s): Italian

Other language(s)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---|---|---|---|---|---|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | B2 | C1 | B2 | B2 | B2 |

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

**Communication skills**

I have excellent communication skills and ability to work in group.

The Laboratory activities as well as the activities with the online magazine Aquariophylia and the Asssociation Goccia Blu Campania, gave me the opportunity to acquire high communication skills.

The attendance at Universities and multicultural Research Institutes has enriched my knowledge of English and my vision of the world.

During the long period of my thesis I worked for months side by side with researchers of all nationalities from all over the world and I had examples of the dynamics that can be established in any human group.

I have the ability to speak to an audience, thanks to the experience gained during these years in both academic and associative fields.

**Organisational / managerial skills**

I am president, since 2012, of the no-profit association Goccia Blu Campania. As president, it is my job to organize all the meetings and activities of the association that range from the organization of conferences, to activities with schools and universities, ending with the setting up of aquariums, workshops, demonstrations etc.

In the period 01/06/2013 to 09/6/2013 I organized all preparation phases of the Napoli Aquatica event which took place in Naples on 27-28-29 september 2013.

This experience has made it possible to test my organizational skills having to organize with few money a stand of 36 square meters about the activities of our association.

**Job-related skills**

The activities of study and apprenticeship allowed me to gain knowledge in order to properly use numerous laboratory equipments such as temperature controlled rooms, autoclaves, optical, inverted and stereo microscopes, spectrophotometers and spectrofluorometers, analytical balances and filtration systems, multiparameter probes and columns chromatography.

I have gained knowledge in order to use several sampling tools: sorbona, bucket, core drills, gill nets, trammel nets, static nets, traps, nets trawl for sampling zooplankton and benthos.

The passion for freshwater and marine aquarium led me, in the past 15 years, to investigate every aspect of this field. I designed, setted-up and managed several freshwater and marine aquariums using different techniques (biological filters, OTRAC method,Berlin filtration system, bacterial overgrowth, DSB filters, algae etc.).

I have designed specific biotopes and reproduced particular marine and freshwater environment. I am therefore perfectly able to use all major systems for the analysis of chemical / physical parameters of the water (using reagents, litmus paper or spectrophotometer).

I've built and I'm perfectly able to use ozone generators, skimmers, biological filters of various kinds (fluidized bed, forced-flow, air flow and undergravel). I am able to use reactors of Kalkwasser, calcium

reactors, dosing pumps, denitrification and percolation filters as well as resins of various kinds in special reactors. I have built and designed some LED lighting systems for specific purposes (growth of plants and / or coral) determining from time to time the best combination of the emission spectra.

I own a patent sub OPEN WATER (SSI) that allows me to dive up to 18 meters deep and I took a course for biologists who have been taught underwater sampling techniques.

**Digital competence**

I have knowledge of C + + programming. I have high knowledge of programming in Ladder language. I have high ability to use Windows (95-98 - XP - 7 - 8 - 10). I have long used some linux distributions such as Red Hat, Debian, Suse and Ubuntu, and of these, I always preferred and used Gnome desktop.I have an excellent knowledge of Shell and Ms-dos. I have good skills in configuration of routers, access points,online browsing as well asuse of scientific search engines and scientific database.

## ADDITIONAL INFORMATION

**Seminars**

(01/06/2009 - 30/06/2009)

Department of Biology, University of Naples Federico II, Italy

N°2 seminars related to:

- Different aquarium typologies
- Technology in aquarium
- Setting up of mesocosms.
- Bacterial populations growth and their use as artificial proliferation systems in marine aquarium
- Skimming
- Biological and mechanical filtration
- Chemical and physical parameters in marine and freshwater
- Care of marine invertebrates and vertebrates

**Conference presentations**

Mutalipassi, M., Di Natale, M., Russo, M.,Cirella, F., Scopino, G., Andreozzi, G., Pititto,F.M., De Vico, G. and Esposito,L. (2013) Salaria fluviatilis: a Mediterranean, endangered,freshwater blenny. VIII international symposium on wild fauna, Leon, Spain, 31 october - 03 november

Borgonuovo, C., Mutalipassi, M., Faugno, S.,Motta, C.M., Agnisola, C., Pititto, F.M., DeMartinis, C., Carella, F. and Esposito, L. (2013) Angitola lake sediments: preliminary data and bioticindices. VIII international symposium on wild fauna, Leon, Spain, 31 october - 03 november

Esposito, L., Mutalipassi, M., Di Meo, C.,Calamo, A.,Tamburis, O., Iannaccone, F.,Fauno, S. and Auletta, L. (2013) Fish survey in Angitola lake: in field non-invasive evaluation of weight. VIII international symposium on wild fauna, Leon, Spain, 31 october - 03 november

Mutalipassi M. (2015) Gestione di un impianto per l'allevamento di teleostei e rilevazione dello stato di salute degli organismi modello. IZSLER/AISAL conference: Monitoraggio Sanitario: Modelli acquatici ed altre specie, Brescia, Italy, 15 May

Butera, E., Fink, P., Di Natale, M., Mutalipassi M.,Massa Gallucci A.,Porzio L., Zupo V. (2015) Epiphyte-borne volatile infochemicals influence the behavioral patterns of seagrass-associated mesograzers. Aquatic Sciences Meeting, Granada, Spain, 22-27 February

**Publications**

Mutalipassi M., Di Natale M., Auletta L., Agnisola C., Pititto F.M. and Esposito L. (2014) Food web in an artificial basin of Southern Italy: lake Angitola. Journal of Nutritional Ecology and Food Research, 1, 1-6.

**Patents**

Zupo V., Mutalipassi M., A small automatic culture plant for laboratory model organism. Ufficio Italiano Brevetti e Marchi (Italian Patents office) Patent application number 102015000012043 16/04/2015.

Stazione Zoologica “A. Dohrn”, Benthic Ecology Laboratory, Punta San Pietro, 80077, Ischia, Italy