europass

Danilo Basili

WORK EXPERIENCE

01/06/2023 – CURRENT Lausanne, Switzerland
SENIOR SPECIALIST IN COMPUTATIONAL TOXICOLOGY NESTLE

Working on developing and establishing a Next-Generation Risk Assessment (NGRA) framework to assess the safety of Nestlé products without the use of animal testing

31/05/2021 – 26/05/2023 Cambridge, United Kingdom
COMPUTATIONAL SAFETY SCIENTIST UNILEVER

Involved in the development and refinement of Next Generation Risk Assessment (NGRA) framework to assess the safety of Unilever products for both human health and the environment for DART, Inhalation, microbiome, systemic and environmental toxicity. My focus is on bioactivity characterisation by both estimating PoDs from concentration-response studies (including omics) and define chemical toxicity profiles from a biological point of view (genes and pathways)

05/2012 – 12/2012 San Diego, California, United States
VISITING RESEARCHER UNIVERSITY OF CALIFORNIA SAN DIEGO (UCSD)

Master Degree thesis was carried out in the BIOGEM facility led by Prof. Gary Hardiman at University of California - San Diego (UCSD).
The project overall goal was to characterize changes in fish microbiota following exposures to endocrine disrupting chemicals using next-generation sequencing technologies (Illumina HiSeq 2000 and PacBio RS)

01/12/2019 – 30/05/2021 Cambridge, United Kingdom
POSTDOCTORAL RESEARCH ASSOCIATE UNIVERSITY OF CAMBRIDGE, DEPARTMENT OF CHEMISTRY, CENTRE FOR MOLECULAR INFORMATICS

I'm leading a project funded by Unilever and in collaboration with US EPA with the goal of advancing Next-Generation Risk Assessment (NGRA) by developing Novel Approach Methodologies (NAMs) able to discriminate adaptive and adverse responses with the final goal of deriving more reliable point of departures (PoDs) for improving current risk assessment frameworks. Moreover, I'm involved in multiple projects in collaboration with AstraZeneca, Unilever and Universities across Europe and U.S. In addition, I do provide supervision and support to PhD and Master's students.

11/2017 – 12/2019 Ancona, Italy
POSTDOCTORAL RESEARCHER MARCHE POLYTECHNIC UNIVERSITY, DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES (DISVA)

As Computational Biologist I have been delivering expertise in experimental designs that leverage omics technologies to address complex biological questions. Moreover, I provided bioinformatic solutions spanning from pathway analysis and mathematical modelling to more complex machine learning application and network analysis to extrapolate biological meanings from the data. My research activity focused on the application of omics technologies to 1) investigate chemical Mode of Action (MoA) in the context of the Adverse Outcome Pathway (AOP) framework, 2) investigate chemical toxicity effects on the microbiota, 3) Mining spectroscopy data to evaluate the effects of different soil tillage methods and nitrogen fertilization levels on the biochemical composition of durum wheat (Triticum turgidum subsp. durum) leaves and caryopses and 4) De novo genome and transcriptome assembly approaches on swordfish and tuna larvae to increase the biological knowledge needed to support the development of successful stock management plans. Moreover, I have been involved in the writing of both national and international research grants

07/2018 – 09/2018 Liverpool, United Kingdom
CAUSAL WORKER COMPUTATIONAL BIOLOGY FACILITY (CFB), UNIVERSITY OF LIVERPOOL, UK

As casual worker at CBF (http://cbf.liverpool.ac.uk/), I have been offering computational biology expertise in the analysis of Omics datasets in Life Sciences. The CBF seeks to remove the informatics bottleneck in the Omics pipeline by offering services and bioinformatics solutions ranging from large scale analysis, such as full systems biology investigations to smaller scale and bespoke services. More specifically I have been collaborating in a project analysing PVL Cancer epigenomic data.

EDUCATION AND TRAINING

30/04/2013 – 02/09/2018 Liverpool, United Kingdom

DOCTOR OF PHILOSOPHY (PHD) IN BIOLOGICAL SCIENCES University of Liverpool - Institute of Integrative Biology

Address Crown Street, L69 7ZB, Liverpool, United Kingdom |

Website https://www.liverpool.ac.uk/integrative-biology/

08/2010 – 26/02/2013 Ancona, Italy

MASTER'S DEGREE IN MARINE BIOLOGY Marche Polytechnic University - Department of Health and Environmental Science (DiSVA)

Address Via Brecce Bianche, 60131, Ancona, Italy | **Website** https://www.univpm.it/Entra/

08/2007 – 12/2010 Rome, Italy

BACHELOR'S DEGREE IN BIOLOGICAL SCIENCES University of Rome "La Sapienza"

Address Piazzale Aldo Moro 5, 00185, Rome, Italy | **Website** https://www.uniroma1.it/en/pagina-strutturale/home

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	A1	A1	A1	A1	A1
SPANISH	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Microsoft Office: Word, Excel, Access, Power Point, Outlook. | R programming | Python programming | LINUX / UNIX / MAC OSX / WINDOWS | problems solving | decision-making | Team-working skills

ADDITIONAL INFORMATION

PUBLICATIONS

Endocrine-disrupting chemicals (EDCs) in environmental matrices and human bodily fluids – 2023

Elsevier

Genes-to-Pathways Species Conservation Analysis: Enabling the Exploration of Conservation of Biological Pathways and Processes Across Species

– 2023

Environmental Toxicology and Chemistry

Data-driven learning of narcosis mode of action identifies a CNS transcriptional signature shared between whole organism Caenorhabditis elegans and a fish gill cell line

– 2022

Science of The Total Environment (STOTEN)

Latent Variables Capture Pathway-Level Points of Departure in High-Throughput Toxicogenomic Data

– 2022

Chemical Research in Toxicology

A Comparison of Reproductive Performances in Young and Old Females: A Case Study on the Atlantic Bluefin Tuna in the Mediterranean Sea

– 2021

Animals

The probiotic Lactobacillus rhamnosus mimics the dark-driven regulation of appetite markers and melatonin receptors' expression in zebrafish (Danio rerio) larvae: Understanding the role of the gut microbiome

– 2021

Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology

A Spectroscopic Approach to Evaluate the Effects of Different Soil Tillage Methods and Nitrogen Fertilization Levels on the Biochemical Composition of Durum Wheat (Triticum turgidum subsp. durum) Leaves and Caryopses

– 2021

Agriculture

Opsins and gonadal circadian rhythm in the swordfish (Xiphias gladius) ovary: Their potential roles in puberty and reproductive seasonality

– 2021

General and Comparative Endocrinology

De novo transcriptome assembly, functional annotation and characterization of the Atlantic bluefin tuna (Thunnus thynnus) larval stage

– 2020

Marine Genomics

New Associations between Drug-Induced Adverse Events in Animal Models and Humans Reveal Novel Candidate Safety Targets

– 2020

Chemical Research in Toxicology

Maturity assignment based on histology-validated macroscopic criteria: Tackling the stock decline of the Mediterranean swordfish (Xiphias gladius)

– 2020

Aquatic Conservation: Marine and Freshwater Ecosystems

Photoperiod Manipulation Affects Transcriptional Profile of Genes Related to Lipid Metabolism and Apoptosis in Zebrafish (Danio rerio) Larvae: Potential Roles of Gut Microbiota

– 2019

Microbial Ecology

Nitrogen and chlorophyll status determination in durum wheat as influenced by fertilization and soil management: Preliminary results

– 2019

PLoS One

A de novo transcriptome assembly approach elucidates the dynamics of ovarian maturation in the swordfish (Xiphias gladius)

– 2019

Scientific Reports

Setting of a precision farming robotic laboratory for cropping system sustainability and food safety and security: preliminary results

– 2019

IOP Conference Series: Earth and Environmental Science

Endocrine-disrupting chemicals in aquatic environment: what are the risks for fish gametes? – 2018

Fish Physiology and Biochemistry

In Silico Computational Transcriptomics Reveals Novel Endocrine Disruptors in Largemouth Bass (Micropterus salmoides)

– 2018

Environmental Science & Technology

VOLUNTEERING

12/2011 – 02/2012 Seal Rehabilitation and Research Centre, Pieterburen, Netherlands
Volounteer Responsible in the caring of the seals, providing medicines, food and pool cleaning

Link https://www.zeehondencentrum.nl/

CONFERENCES AND SEMINARS

26/09/2021 – 30/09/2021 – Virtual
Eurotox 2021 I have been presenting a poster about "A transcriptomic-based new approach methodology (NAM) identifies points of departures (PoDs) of adaptive stress in HepG2 cells"

Link https://www.eurotox2021.com/

22/08/2021 – 26/08/2021 – Virtual
11th World Congress on Alternatives and Animal Use in the Life Sciences (WC11)

Link https://www.concawe.eu/event/11th-world-congress-on-alternatives-and-the-use-of-animal-in-the-life-sciences-wc11/

20/09/2020 – 24/09/2020 – Virtual
OpenTox 2020 I have been organizing the conference and charing the session on "New Methods in Predictive Toxicology"

Link https://opentox.net/events/virtual-conference-2020

02/05/2020 – 06/05/2020 – Dublin - Virtual
SETAC Europe 30th Annual Meeting Conference helded virtually due to covid pandemic.
I have been presenting two posters:
1) Towards distinguishing adaptive and adverse response to chemicals using gene expression data
2) Investigating the potential of probiotic to mitigate BPA toxicity in zebrafish (Danio rerio): A metagenomic perspective

Link https://dublin.setac.org/

25/05/2019 – 29/05/2019 – Helsinki, Finland
SETAC Europe 29th Annual Meeting I have been delivering a platform presentation and I have been presenting two posters:
1) Daphnia as a test organism for endocrine disruption (Platform)
2) Concerns for Di-isononyl phthalate contaminated diet in marine fish: focus on the effects on both the hepatic lipid metabolism and the muscle proteolysis of male gilthead sea bream (Spaurus aurata)"
3) Chemical prioritization by computational transcriptomics: a two case studies

Link http://helsinki.setac.org/

03/11/2018 – 07/11/2018 – Sacramento, California, U.S.A.
SETAC North America 39th Annual Meeting I have been delivering a platform presentation:
1) In silico computational transcriptomics reveals novel endocrine disruptors in Largemouth bass (Micropterus salmoides)

12/05/2018 – 16/05/2018 – Rome, Italy
SETAC Europe 28th Annual Meeting I have been delivering a platform presentation and following a training course:
1) Predicting in vivo toxicity from in vitro transcriptional responses following chemical exposure (Platform)
2) The Endocrine System: Global Perspectives on Testing Methods and Evaluation of Endocrine Activity
In addition, I have been awarded both a registration and a training course grant for this conference. Last, I have been awarded a prize for the best research proposal in a competition between the italian and Uk branch. Title of the proposal was:
MONSTER: eMerging endOcrine disruptiNg chemicalS: Mode of action and associaTed mEtabolic disordeRs

Link http://rome.setac.org/

14/09/2014 – 17/09/2014 – Liverpool, UK
iEOS 2014

Link http://environmentalomics.org/ieos2014/

10/05/2014 – 14/05/2014 – Basel, Switzerland
SETAC Europe 24th Annual Meeting I have been presenting a poster and following a training course:
1) New toxicity outcome using a non-model fish species Largemouth bass (Micropterus salmoides) (Poster)
2) Modelling human and ecosystems exposure and impacts for life-cycle assessment the USEtox® consensus model”

Link http://basel.setac.eu/?contentid=763

08/09/2013 – 10/09/2013 – Cardiff, UK
iEOS 2013

Link http://environmentalomics.org/ieos2013/

HONOURS AND AWARDS

2018
SETAC prize for the student's best research proposal – Society of Environmental Toxicology and Chemistry (SETAC) The UK and Italian branch of the SETAC organized a competition for writing the best research proposal and I have been awarded the prize of a free registration grant for the next SETAC conference who took place in Helsinki.
The title of my research proposal was:
MONSTER: eMerging endOcrine disruptiNg chemicalS: Mode of action and associaTed mEtabolic disordeRs

2012
Campusworld scolarship – Marche Polytechnic University I have been awarded a scholarship for my grades which allowed me to move to the University of Califonria San Diego (UCSD) to carry out my Master's thesis

TEACHING EXPERIENCE

31/03/2021 – CURRENT
R programming courses

Along with the Turtles of the Adriatic Organization (TAO) nonprofit organization we have been developed an R course for beginners which we run multiple times over the year in order to provide students and professionals with the skills needed to analyse and represent their data. I'm one of the teachers of this course.

Link https://www.taoproject.it/corso-r/