CAMILLO IACOMETTI

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⌂ Leiden, Netherlands

EDUCATION

MSc in Cellular & Molecular Biology (international)   **2018**
University of Turin, Italy
  Final Grade: 110 /110
  Dissertation: "*Roo* retroelement insertion clusters in *D.melanogaster*: experimental validation and roles in
          alternative transcription"

BSc in Biological Sciences   **2015**
University of Genoa, Italy
  Final Grade: 103 /110
  Dissertation: "Study of the effect of emerging contaminants on *Artemia salina*'s development: a mosaic
          embryo model"

RESEARCH EXPERIENCE

PhD Student   **09.2021 – Present**
Institute of Biology Leiden (IBL), Leiden University
Supervisor: Lennart Schada von Borzyskowski – Natural and Synthetic Microbial Metabolism
Currently working on genetic tool validation and development for non-model marine Alphaproteobacteria. My project is aimed at harnessing the biotechnological potential of Roseobacter group bacteria for bio-geoengineering applications such as bioremediation of pollutants in marine environments.

Research Assistant   **02.2020 – 08.2021**
Max-Planck Institute of Molecular Plant Physiology (MPIMP)
Supervisors: Arren Bar-Even & Steffen Lindner – Systems & Synthetic Metabolism group
Rational engineering of *E.coli* central metabolism aimed at uncovering latent metabolic pathways that can replace canonical glycolysis for novel bioproduction routes.

Master Thesis Student   **07.2017 – 02.2018**
Institute of Evolutionary Biology (IBE: CSIC-UPF), Barcelona Biomedical Research Park (PRBB)
Supervisors: Miriam Merenciàno & Josefa González - Functional and Evolutionary Genomics lab
Characterization of *de novo roo* retrotransposon insertions in promoter regions across different strains of *D.melanogaster*. Study of the effects of specific *roo* insertions on fly fecundity and on the alternative transcription of a candidate cold-stress gene.

Bachelor Thesis Student   **11.2012 – 01.2014**
Hearth, Enviroment & Life Sciences Department (DISTAV), University of Genoa
Supervisors: Chiara Gambardella & Carla Falugi - Developemental Biology lab
Bachelor thesis project on the evaluation of the effects that emerging contaminants, as organophosphate pesticides, exert on *A.salina* viability and cholinergic system during development, according to the EU regulation on *Registration, Evaluation and Authorization of Chemicals* (REACH).

RELEVANT TECHNICAL SKILLS

Genetic Engineering
  E.coli: gene knock-out/in using P1 phage transduction, λ-red recombineering, Direct mutagenesis using Multiplex Automated Genomic
      Engineering (MAGE), gene overexpression from plasmid and from genome.
  Marine Alphaproteobacteria: gene knock-out with classic homologous recombination-based approach, isolation of gDNA, characterization
          of genomic constitutive promoters' activity by fluorescent reporter measurement, conjugation with *E.coli* ST18.
Molecular Cloning
  Construction of plasmids through Gibson or Ligation-mediated assembly, preparation and transformation of chemically-competent (DH5α)
  and electrically-competent *E.coli* cells (SIJ488), Preparation of competent cells (chem. & electrochem.).

Molecular biology & Microbiology:
DNA extraction from tissues, microbial cultures, PCR mixtures & Gel, quantification by spectrophotometry.
RNA extraction from tissues (*D.melanogaster*) and microbial cultures (*E.coli*) & purification, cDNA synthesis, quantification;
Relative quantitation of gene expression by Real-Time qRT-PCR (*AB 7900HT Fast Real-Time PCR System*), comparative Ct analysis.
Oligonucleotides design for DNA amplification (PCR), for MAGE and for PCR-mediated site-directed mutagenesis, PCR protocols, Gel electrophoresis. Sequence Analysis of DNA products and whole genomic DNA (*pairwise alignment, consensus sequence, multiple alignment, identification of mutations & indels*).
Solid & Liquid culture media preparation (LB, MX, M9), Growth Experiments in tube and 96-well plates (Biotek & Tecan plate readers)

Biochemistry
Protein expression using *E.coli* BL21, protein extraction and purification using AKTA Start FPLC system, SDS-gel electrophoresis;
In vitro enzyme kinetic assays with Agilent Cary UV 60 spectrophotometer; enzyme quantification (Bradford protein assay);
^{13}C-based metabolic flux analysis, MS data analysis of interested AAs; Immunohystochemical localization of cholinestheras in *A.salina*.

Bioinformatics & IT
Basic Python code, Basic Unix; MatLab: growth plots generation
NGS reads (.fastq) mapping and analysis using *breseq* pipeline or *Geneious*, Sanger seq. reads mapping and analysis using *Geneious,*
GraphPad Prism (enzyme kinetics analysis, growth curve and fluorescence plotting)
Databases (e.g. *ENCODE, EcoCyc, Biocyc*, *Metacycic*, *NCBI*), Office 365 (MS Word, Excel, Power Point), figures editing with Adobe Illustrator

LANGUAGES

ITALIAN – *Native speaker*
ENGLISH – *Fluent* (FIRST certificate, Level B2 – University of Cambridge, 2009 + MSc taught in English & international experience)
SPANISH – *Fluent*
FRENCH – *Intermediate*

AKNOWLEDGEMENTS

EDISU Scholarship	**2015 - 2016**
Region of Piedmont	**2016 - 2017**
Erasmus Plus-Traineeship	**2016 - 2017**
The first months of my master thesis project were funded through the *Erasmus plus traineeship program*.	

EXTRACURRICULAR ACTIVITIES

Info operator at Science Festival of Genoa	**October 2014**
Teaching assistant in the *Image Analysis Laboratory* course held by Prof. Giancarlo Panzica (University of Turin). The course aimed at developing basic skills with image manipulation and quantification through *Fiji-ImageJ* software; understanding the characteristics of the digital image, the principles of morphometry and statistical interpretation.	**March - June 2017**
Private Tutor for students from primary school to bachelor	**2016 – 2020**
Volunteer for *m'IMporta*, no-profit association promoting environmental awareness and projects with local authorities, mainly in order to cope with the sanitation service deficit in my city area.	**2018 – 2020**

PUBLICATIONS

Iacometti C., Marx K., Hönick M., Biletskaia V., Schulz-Mirbach H., Dronsella B., Satanowski A., Delmas V.A., Berger A., Dubois I., Bouzon M., Döring V., Noor E., Bar-Even A. and **Lindner S.N.** Activating Silent Glycolysis Bypasses in *Escherichia coli*. BioDesign Research, volume 2022**,** doi: https://doi.org/10.34133/2022/9859643

Merenciano M., **Iacometti C**., González J. A unique cluster of roo insertions in the promoter region of a stress response gene in *Drosophila melanogaster*. Mobile DNA, 2019 10:10 doi:*10.1186/s13100-019-0152-9*

Gambardella C., Nichino D., **Iacometti C.**, Ferrando S., Falugi C., Faimali M. Long term exposure to low dose neurotoxic pesticides affects hatching, viability and cholinesterase activity of *Artemia sp.* Aquat Toxicol. 2018 Mar;196:79-89.
doi: *10.1016/j.aquatox.2018.01.006*

REFERENTS

Lennart Schada von Borzyskowski (Main Supervisor)
Assistant Professor @ Institute of Biology Leiden

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Steffen Lindner (Project Supervisor)
Postdoc @ Charité - Biochemistry and Systems biology of Metabolism

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Josefa González Pérez (MSc Thesis Supervisor)
CSIC Tenured Scientist @ Institute of Evolutionay Biology of Barcelona

Pg. Marítim de la Barceloneta 37-49, 08003 Barcelona, Spain
josefa.gonzalez@ibe.upf-csic.es   www.gonzalezlab.eu

Chiara Gambardella (BSc Thesis Supervisor)
NRC Researcher, *Institute of Marine Sciences* (ISMAR)

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