europass

Ennio Silvestri

Nationality: Italian **Email address:** ennio.silvestri@szn.it

LinkedIn: https://www.linkedin.com/in/ennio-silvestri-3282a1265/

EDUCATION AND TRAINING

PhD in Biomedical Sciences

University of Geneva, Geneva, Switzerland [Feb 2019 – Aug 2023]

Thesis: Overactive Aurora-A At Spindle Poles In Prometaphase Disrupts Mitotic Progression

Supervisor and Mentor: Prof. Patrick Meraldi

EMBO YIP PhD Course 2022

EMBO, Heidelberg, Germany [21 Mar 2022 – 1 Apr 2022]

This annual course is designed for about 25 PhD students eager to advance their careers in academic research. The program's goal is to guide the group, expand their network, and provide them with the tools to advance their careers.

Master of Science in Molecular and Cellular Biology

University of Siena, Siena, Italy [Oct 2016 – Oct 2018]

Final grade: 110/110 Cum Laude | **Thesis:** LRG1 Expression and Role with Neovascular Age-Related Macular Degeneration

Supervisors: Prof. Federico Galvagni (UniSiena) and Prof. Stephen Moss (UCL)

Bachelor of Science in Biotechnology

University of Siena, Siena, Italy [Oct 2011 – Jul 2016]

Thesis: Glucose and Insulin Response in sAnk1.5 KnockOut Mice

Supervisors: Prof. Vincenzo Sorrentino and Dr. Enrico Pierantozzi

WORK EXPERIENCE

Arnone-Ferrante labs, Stazione Zoologica Anton Dohrn, Naples, Italy

PostDoc (Contrattista di Ricerca)

[22 May 2025 – Current]

I use optical microscopy and Ultra-Expansion Microscopy (UExM) to describe the diffent stages on Pseudo-Nitzschia Multistriata sexual reproduction. Our goal is to integrate genomic and transcriptomic data with ultrastructural analyses to gain a deeper understanding of diatom biology and uncover the fundamental events that govern raphid pennate diatom architecture and life cycle.

Arnone-Ferraro labs, Stazione Zoologica Anton Dohrn, Naples, Italy

PostDoc (Assegnista di ricerca)

[16 Feb 2024 – 21 May 2025]

I participated in a comparative study investigating the role of Golgi structural rearrangements that occur during the development of marine organisms as well as the differentiation of mouse embryonic stem cells. Using confocal light microscopy coupled with Ilastik, a deep learning software, I automated the segmentation of acquired samples and quantified Golgi conformation data from different specimens.
I developed a pipeline to maintain and identify the sex of sea urchins and performed microinjection on sea urchin embryos. Additionally, I provided my expertise in handling mature sea urchins for field activities in collaboration with the Rhythms@Sea TREC sub-project for the repopulation of *Paracentrotus lividus* at the designed site in Ischia.
During this time, I was asked to translate and troubleshoot cell biology experimental procedures for marine organisms. I established various protocols to increase the range of techniques available for these echinoderms in the laboratory.

Meraldi lab, University of Geneva, Geneva, Switzerland

Scientific collaborator in Cell and Molecular Biology

[1 May 2022 – 31 Aug 2023]

In the last year of my Ph.D., I was identified as "senior" due to my experience, which resulted in a slight increase to my work contract (from 70% to 75%). I was responsible for handling the fluorescence microscopes in the lab and providing training to newcomers on how to use them. I also helped collaborators set up their experiments to use our microscopes efficiently, as well as troubleshoot difficulties for research fellows.

Meraldi lab, University of Geneva, Geneva, Switzerland

PhD research experience

[1 Feb 2019 – 31 Aug 2023]

For my PhD thesis work I joined the lab of Prof. Patrick Meraldi. There, I began a project evaluating the activity of Aurora-A kinase at spindle poles during mitotic progression. Through this experience, I gained extensive knowledge in imaging, cell and molecular biology.
In particular, I developed a novel methodology in the lab called light-induced dimerization. In short, I used a specific laser wavelength to displace the exogenous protein at a specific location as the laser pulsed. I displaced Aurora-A kinase to sites within the mitotic spindle during cell division. Intringuingly, I observed that when Aurora-A-tag exgenous protein was recruited at the spindle poles during prometaphase, this triggered overactivity of the Aurora-A kinase disrupting mitotic progression.
The dimerizer compound required for our experimental strategy was generated in collaboration with Prof. David M. Chanoweth and his lab members at the University of Pennsylvania in Philadelphia.

Moss lab, Institute of Ophtalmology, University College London, United Kingdom

Erasmus for Traineeship in Molecular Biology

[1 Mar 2018 – 31 Aug 2018]

Moss lab focus is on the activity of LRG1 protein as a positive modulator of the TGFβ pathway for clinical purposes. In particular, I studied the roles of LRG1 in the neovascular Age-related Macular Degeneration (nAMD) of the retina, a disease that causes blindness in elderly people and for which there was no cure at that time. I worked with two mouse strains: one wild type and one transgenic strain expressing the LRG1 protein only in the eye.
My main duty was to set up and optimize the choroid sprouting assay. I had direct access to the mice and proceeded to microdissect the eyes to develop ex vivo experiments for molecular biology.

Life Science Department, University of Siena, Siena, Italy

Tutor (guidance and mentoring services)

[1 Jul 2017 – 30 Jun 2018]

During the final year of my Master's degree, I provided 140 hours of guidance and mentoring services to the Life Sciences Department. I offered guidance to young students before and after matriculation. I also helped some students late in their careers to regain motivation and complete their Bachelor's degree.

Sorrentino lab, University of Siena, Siena, Italy

Traineeship in Genetics and Molecular Biology

[16 Nov 2015 – 14 Jul 2016]

During my bachelor studies, I got my foots in lab at the Sorrentino Lab. In this first experience I investigated the glucose and insulin response of mice lacking a small protein (sAnk1.5) involved in the correct assembly of the sarcomere in striated muscle. I run intravenous Glucose and insulin tolerance test from adult KO and control mice. I observed that the KO mice had a reduced capacity to maintain glucose and insulin levels compared to the control animals.

PUBLICATIONS

H index 1

Number of publications 1, Citations 15

LRG1 Expression Is Elevated in the Eyes of Patients with Neovascular Age-Related Macular Degeneration. Mundo, L.; Tosi, G.M.; Lazzi, S.; Pertile, G.; Parolini, B.; Neri, G.; Posarelli, M.; De Benedetto, E.; Bacci, T.; Silvestri, E.; et al. ***Int. J. Mol. Sci.*** **2021**, 22, 8879.doi: 10.3390/ijms22168879

Overactive Aurora-A At Spindle Poles In Prometaphase Disrupts Mitotic Progression. Silvestri, Ennio. ***Doctoral Thesis,*** **2023**.doi: 10.13097/archive-ouverte/unige:174510

HONOURS AND AWARDS

[Jun 2022] EMBO
Travel grant to participate at the EMBO workshop - Dynamic kinetochore 2022

[Mar 2022] EMBO
Course fellowship for EMBO YIP PhD Course 2022

[Sep 2021] SciMed PhD Conference Committee
2nd Best Talk Award

NETWORKS AND MEMBERSHIPS

[2019 – 2023] Switzerland
Member of the Life Science Switzerland (LS2)

[11 Dec 2023] Benevento, Italy
Qualification for the profession of biologist

SOCIAL AND POLITICAL ACTIVITIES

[Oct 2020 – Dec 2022] Geneva, Switzerland
Social Manager - PhD Student Union. Guided colleagues and led of the student union at University of Geneva

[8 Sep 2020 – 9 Sep 2020] Remote, Switzerland
SciMed PhD conference 2020. I have been part of the organizing committee of the 1th PhD student conference of the faculties of Science and Medicine at the University of Geneva.

[2013 – 2014] Siena, Italy
President of the University Student Council. I did serve as the leader and president of the Student Council of the University of Siena. The Student Council articulated the concerns, ideas, and needs of the student body. We informed and setup the work from the University of Siena to address the concerns related to academic organization, facilities or student life.

[Oct 2011 – Jul 2015] Siena, Italy

Organizational Manager - LinkSiena Student Union. Responsible for planning and coordinating events, such as conferences, seminars, workshops, and social activities for students. This included selecting venues, setting dates, and managing logistics.Member of the team for budget management, which was in charge to apply for fundings.

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

French

LISTENING A2 **READING** A2 **WRITING** A2

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

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

SKILLS

Molecular and Cell Biology

Biopsies microdissection / DNA/RNA extraction and PCR / siRNA and shRNA mediated gene silencing / Cell Culture (cell freezing, cell thawing, cell passage and cell counting) / Stable Cell Line Generation / Immunofluorescence (IF) / S mall molecule inhibutor incubation / Embriology / Mouse Embryonic Stem Cells / Gene Cloning (Designing Plasmid Vector, Transformation, Colony Screening) / In-vivo protein tagging / Gene silencing via RNAi microinjection / Western Blots / qPCR / digitalPCR / ELISA (Enzyme Linked Immunosorbent Assay)

Marine Biology

Developmental Biology / Sex Determination of Sea Urchins / Microinjection into zygotes / Sea urchin adult handling and gamete collection

Microscopy and Image Analysis

Confocal microscopy / Light-induced Dimerization Microscopy / Spinning disk epifluorescence / Process and analyze time-lapse images / 3D reconstruction / Cell movement tracking / ImageJ-Fiji / Napari / NIS-elements / Deltavision / Ze iss ZEN / Imaris 9.2

Statisical Analysis

Microsoft Office / R statistics, Pyton / SSPSS / GraphPad Prism

Presentations

Microsoft Powerpoint / Adobe Illustrator / GIMP (graphics editor software)

DIGITAL SKILLS TEST RESULTS

Information and data literacy	**ADVANCED**	Level 6 / 6
Communication and collaboration	**ADVANCED**	Level 5 / 6
Digital content creation	**ADVANCED**	Level 6 / 6
Safety	**ADVANCED**	Level 6 / 6

Results from a self-assessment based on The Digital Competence Framework 2.1

PERSONAL SKILLS

Commitment

I am committed and self-motivated to achieve defined goals at work

Independency

Enhanced critical thinking skills improved during my PhD journey

Leadership

Guided colleagues and leader of the student unions, both in Siena and Geneva

Communication

Skilled in delivering engaging presentations

Inclusiveness

I have an easy-going personality, and many people recognize that I have a talent for making others feel valued.

Creativity

I am a creative thinker. I love discussing problems. I also love finding solutions.

Application and Informatics

Advanced user for software analysis, PC maintenance, and microscope use.

In charge of developing command-line functions in Python

Hobbies and Interests

Reading historical novels and sci-fi, group sports, outdoor activities, music and movie festival attendance, traveller