

ASTRA BERTELLI

Undergraduate student
Department of Biology and Biotechnology “Lazzaro Spallanzani”
University of Pavia

EDUCATION

University of Pavia

Undergraduate student, first year of Biological Sciences’ Bachelor’s degree course.

IUSS – University School for Advanced Studies

Undergraduate student, first year of Biomedical Sciences’ triennial course.

Collegio Ghislieri – Merit-based residential college in Pavia

Undergraduate student.

Liceo Camillo Golgi – Senior High School

Humanities senior high school program. Senior high school diploma pursued with 100/100 *cum laude*.

SCHOLARSHIPS AND AWARDS:

- ❖ Excellent junior high school students’ municipal scholarship (2017)
- ❖ Literary award “Scrivi un racconto breve: Altri possibili mondi”: first prize (2017)
- ❖ Drama award “Rassegna di teatro sociale, Liceo Camillo Golgi”: second prize (2018)
- ❖ Excellent senior high school students’ Lombardia scholarship “Dote Scuola – Merito” (2021)
- ❖ Literary award “Sirmione in Love”: first prize in the U18 poetry section (2021)
- ❖ Literary award “Certamen Dantesco”: first prize (2022)
- ❖ IUSS student scholarship for having passed the entrance exam with 96/100 grading (2022)
- ❖ Excellent senior high school (with diploma) students’ Valle Camonica scholarship (2022)
- ❖ Excellent senior high school (with diploma) students’ Lombardia scholarship “Dote Scuola – Merito” (2023)
- ❖ Excellent senior high school (with diploma) students’ municipal scholarship (2023)
- ❖ Collegio Ghislieri student scholarship following the admission at IUSS School for Advanced Studies (2023)

WORKING EXPERIENCES

IT assistant student for cloud environment at University of Pavia (February 2024 – Present)

Development of new cloud spaces for other students to exercise and develop in them; working with GitHub Codespaces, devcontainers and Docker. The project is part-time collaboration with the University and is supervised by Francesco Lescai.

Bioinformatics intern at Naturhistorisches Museum Wien (Summer 2023)

Python software developer for genetic data management and analysis in the field of phylogenesis and biodiversity protection.

“La Gazza” - cultural periodical magazine (2020-Present)

Contributor with my own column (“Attualetteratura”, which concerns the intersections between literature and current worldly events), I publish once every six months.

Publications:

- ❖ “Lezioni di sopravvivenza” – Summer 2020
- ❖ “Anche Leopardi è positivo” – Winter 2020
- ❖ “Dante: 700 di questi anni!” – Summer 2021
- ❖ “Quanto costa la libertà” – Winter 2021
- ❖ “Caro Michel Onfray...” – Summer 2022
- ❖ “ChatGPT: la fine del mondo come lo conosciamo?” – Spring 2023
- ❖ “Ai Iketides – Le supplici” – Autumn 2023

“Engramma” – classical culture periodical magazine (2021)

As intern, I worked on proofreading and editing of several editions of this review. I was also trained with the basics of online publishing.

Istituto Comprensivo “Giuseppe Bonafini” – Junior High school (2020)

As intern, I worked as a teaching assistant, and I was required to organize and hold lectures on Iliad, UN organization, climate change, cell biology and Dante’s *Divina Commedia*.

Ferramenta “Stella Alpina” – hardware store (2019-2020)

As an employee during the summer of 2019, I worked in data analysis and collection of stock products. In the second summer, I was employed as sales manager.

SCIENTIFIC ACTIVITY AND RESEARCH

2022-23

- ❖ *Primati, DNA e AI: il future del potere?* A review paper to be published on 8th May 2023 on the links between genetics, primatology, AI and the development of future political powers.
- ❖ Presenting student at Ghislieri Scienza Poster Presentation Night (16th December) with a poster on the research paper *Effects of HIV infection and Antiretroviral treatments on pregnancy rates in the Western Cape Province of South Africa* (2020) by Leigh and colleagues.
- ❖ Presentation of research work: “*Epi de(r)mou: sulla nostra pelle?*” on social, demographical and cultural impact of HIV/AIDS (IUSS – Biomedical History Exam research presentation, 16th January 2023)
- ❖ Presentation of research work: “*Plants in space: an overview of the potentialities and the risks*”, a review of Bioinformatics studies with collection data on *A. thaliana* adaptations in spaceflight and microgravity condition, assessing biological changes that can shape our future use of plants in space (University of Pavia – Botany Exam research presentation, 30th April 2023)
- ❖ Presentation of the resumé of the research paper *CRISPR-Cas9 Gene Editing for Sickle Cell Disease and β -Thalassemia* (2021) by Frangoul et al. (IUSS – Tissue Engineering Exam research presentation, 26th April 2023)
- ❖ Selected to take part into the Poster Session of AIMS Meetings to be held in Lisbon between 15th and 19th April 2024 with SacCerML

- ❖ Primary research interests: Evolutionary Bioinformatics, Comparative Genomics, Population Genetics, Python tool-building for DNA comparison and variant assessment, AI and ML applied to biological systems, biodiversity conservation, genetic data management, phylogenetics

CULTURAL EXPERIENCES AND VOLUNTEERING

2023

- ❖ Winner of Lifebilty prize with a short novel on transgender women in science and climate change (May)
- ❖ Participant in “Teddy Rocks Math Essay” Competition with an essay titled *The strange case of cocaine, bacteria and diabetes*, on the mathematical equation (the logistic one) which links the three phenomena of drug addiction, population growth and progression of type II diabetes. (February)

2022

- ❖ Participant in the High School Students’ Debate Olympics with other fellow students: finalist in the regional phase of the competition (February-April)
- ❖ Participant in the High School Students’ drama contest “Scrivere il teatro” organized by the Italian Center for the International Theater Institute, with other fellow students, with the play “Fiore di cera” on transgender people’s rights (April – May)
- ❖ Volunteer organizer and educator at Junior Summer Camp in Borno (Brescia, Lombardia, Italy; July-August)
- ❖ Participant in classes on Bioinformatics, Population Genetics and Philosophy Theories of Probability in Collegio Ghislieri (October-December)
- ❖ Participant as auditor student in 4th *Ghislieri Research Day* (12th November), *No cancer cell is an island* conference by Giulia Biffi (Cambridge University, 22nd November)
- ❖ Organizer of *Mathpetizer – Ghislieri Math contest* (17th December)

2021

- ❖ Participant in the High School Students’ drama contest “Legalità e merito” organized by LUISS – Guido Carli University of Rome, with other fellow students, with the modern adaptation of the play *Hyppolitus* by Euripides, concerning the eco-crimes of mafia.
- ❖ Volunteer organizer and educator at Junior Summer Camp in Borno (Brescia, Lombardia, Italy; July-August).
- ❖ Participant in the Senior High School Students Orientation Course organized by Scuola Normale Superiore of Pisa (11th – 17th July)

2020

- ❖ Theater laboratory experience with *Bacchae* by Euripides (November 2019-February)
- ❖ Volunteer organizer and educator at Junior Summer Camp in Borno (Brescia, Lombardia, Italy; July-August).
- ❖ Volunteer soccer trainer at G.S. Borno (October-December)

2019

- ❖ Theater laboratory experience with *Miles Gloriosus* by Plautus (November 2018-June): with other fellow students, we took part in *II Rassegna di teatro sociale – Liceo Golgi* (Breno, Brescia, Italy; April), *Settimana del teatro classico* (Lovere, Brescia, Italy; April) and *XXV Festival Internazionale del Teatro Classico dei Giovani* (Palazzolo Acreide, Siracusa, Sicily; May – June).
- ❖ Volunteer organizer and educator at Junior Summer Camp in Borno (Brescia, Lombardia, Italy; July-August).

2018

- ❖ Theater laboratory experience with *Lysistrata* by Aristophanes (November 2017-June): with other fellow students, we took part in *I Rassegna di teatro sociale – Liceo Golgi* (Breno, Brescia, Italy; April), *Settimana del teatro classico* (Lovere, Brescia, Italy; April) and *XXIV Festival Internazionale del Teatro Classico dei Giovani* (Palazzolo Acreide, Siracusa, Sicily; May – June).
- ❖ Volunteer organizer and educator at Junior Summer Camp in Borno (Brescia, Lombardia, Italy; July-August).

SERVICE AND SCHOLASTIC CITIZENSHIP

- ❖ Students' representative in the schoolyears 2018-19, 2019-20 and 2021-22

LANGUAGES AND COMPUTER CODING

Languages:

Italian (native)

English (near native)

German (beginner)

Computer coding:

Python (upper-intermediate expert)

Bash (upper-intermediate expert)

C (intermediate expert)

R (beginner)

REFERENCES

- ❖ Professor Nebojša Todorović
Department of Comparative Literature, Yale University
nebojsa.todorovic@yale.edu