

CURRICULUM VITAE ET STUDIORUM

NAME and SURNAME
GREGORIO OXILIA

PLACE AND DATE OF BIRTH
VERONA (VR) 14/01/1988

CITIZENSHIP
Italian

ADDRESS
Via Cosmè Tura, 7 44121, Ferrara



POSITION
Assistant Professor (Tenure-track) at LUM Giuseppe Degennaro University

NATIONAL SCIENTIFIC QUALIFICATIONS

Achievement of the national scientific qualification for the role of Associate Professor in the following academic sectors:

- 05/H1 – **Human Anatomy** - BIO16
Call D.D. 553/2021, from 12/19/2023 to 12/19/2034
- 05/B1 – **Zoology and Anthropology** – BIO08
Call D.D. 553/2021, from 02/03/2022 to 02/03/2034
- 10/A1 **Archaeology** - LANT01
Call D.D. 553/2021, from 12/27/2023 to 12/27/2034
- Registered in the list of Cultural Heritage Professionals recognized by the Ministry of Cultural Heritage and Activities: Professional profile: **Physical Anthropology**, CATEGORY 1, pursuant to Article 9-bis of the Code, Law No. 110 of July 22, 2014, and Ministerial Decree of May 20, 2019, No. 244.

EDUCATIONAL QUALIFICATIONS

- **PhD in Biology (XXX cycle, BIO/08 Anthropology and Primatology)**
Department of Biology, University of Florence
Thesis in Evolutionary biology, medicine and anthropology, title: “Human dental tissues: Advancement in virtual dental analysis.”
Supervisor: Prof. Jacopo Moggi Cecchi and co-supervisor: Prof. Stefano Benazzi
Degree awarded on March 16, 2018
- **MASTER I Level**
Biomedical Project Management
UNICUSANO University
Degree awarded on November 22nd, 2024
- **Master's Degree in Quaternary, Prehistory and Archaeology - LM-2 Archaeology (DM 270/04)**
Department of Human Sciences – University of Ferrara
Thesis in Evolutionary biology, medicine and anthropology, title: Reconstruction of Parafunctional Masticatory and Paleonutritional Activities of the Villabruna Man
Degree awarded on July 16, 2014, with a grade of 110 cum laude/110
- **Bachelor's Degree in Cultural Heritage - L1 Archaeology (DM 270/04)**
Department of Cultural Heritage - University of Verona
Thesis in Evolutionary biology and absolute dating, title: The Bronze Age Site of Dossetto di

Nogara: Pile-Dwelling and Absolute Dating

Degree awarded on November 29, 2011, with a grade of 104/110

DOCUMENTED TRAINING AND RESEARCH ACTIVITY AT QUALIFIED ITALIAN RESEARCH INSTITUTIONS

UNIVERSITÀ LUM GIUSEPPE DEGENNARO

I am a tenure-track researcher at LUM Giuseppe Degennaro University, where I engage in research focused on human anatomical studies, particularly on hard and soft tissues. My research emphasizes the morphological and morphometric analysis of osteological, dental, and pathological structures. In both my research and teaching activities at LUM, I impart multidisciplinary competencies that stem from a blend of physical anthropology, evolutionary biology, and medical methodologies. This integrative approach enables students to utilize laboratory instrumentation effectively, including microscopes, Anatomage Table, and histological equipment, fostering a comprehensive understanding of human anatomical studies.

DENDRODATA S.A.S – Dendrochronology Laboratory

February and October 2011

I undertook a research internship at Dendrodata S.A.S., located at Via A. Verità 6, 37121 Verona. During this experience, I focused on the analysis and elaboration of absolute chronology in preparation for my undergraduate thesis in Dendrochronology. Throughout the internship, I acquired valuable skills in collecting wooden samples, analyzing series, and processing and interpreting dendrochronological data, thus contributing to my academic development and the completion of my thesis. This internship opportunity represented a significant step in my professional growth and a deeper understanding of methodologies related to absolute dating.

Paleoanthropology Lab (University of Florence)

November 2015 to November 2021

During my PhD and later as a collaborator, I actively participated in laboratory activities, which included studying human and non-human skeletal remains using both traditional approaches and digital analysis of human tissues. In particular, access to the Museum of Anthropology and Ethnology allowed me to deepen my knowledge of cranial population morphologies, thanks to the valuable anthropological and primatological collections. The laboratory, managed by Prof. Jacopo Moggi Cecchi, focuses on multidisciplinary research related to the reconstruction of the biological profile and lifestyle of prehistoric and historic populations, aimed at reconstructing the settlement dynamics of Italy. Other research focuses on human evolution in South Africa during the Lower Pleistocene. In this laboratory, the study of skeletal remains is primarily conducted using traditional techniques.

BONES LAB. - Osteoarchaeology and Paleoanthropology (University of Bologna)

May 2014 to September 2023 (9 years)

Since my Master's thesis, from, I actively participated in the foundation and scientific growth of the BONES Lab, eventually serving as Deputy Director until September 2023 (upon the expiration of my fixed-term Researcher contract). I served in various roles at the BONES Lab, initially as a thesis student, then as a visiting graduate, PhD student, Post-doc collaborator, and finally as a researcher. I contributed to defining research directions, teaching activities, theses, PhD programs, and labs in the fields of bioarchaeology, osteology, virtual anthropology, dental histology, proteomics, and anthropological data analysis using statistical approaches in R. Over the years, I co-supervised numerous theses (8 undergraduate and 10 master's theses) and provided scientific support to PhD students, post-docs, and foreign researchers during internships, offering guidance on the methodologies employed by the BONES Lab for conducting both traditional and virtual osteological analyses. The research activities I have always promoted include the anthropological and paleopathological analysis of human remains from historical, archaeological, and recent periods, with the goal of reconstructing detailed biological profiles, such as sex, age, population affiliation, stature, pathologies, and traumas using traditional approaches. Additionally, through the use of new technologies and methodologies based on artificial intelligence (especially Machine Learning), I developed new approaches for studying human and non-human skeletal remains to reduce the error generated by the macroscopic approach often used in the laboratory.

QUANTITATIVE METHODS COURSE – University of Bologna

March 28 to May 10, 2023

I participated in a highly specialized course taught by Dr. Eugenio Bortolini of the University of Bologna. This course, titled "Quantitative Methods for the Study of Cultural Heritage," provided me with a solid theoretical and practical foundation on the use of statistical tools for conducting quantitative analyses using R software. The aim of the course was to apply this knowledge to data analysis in the context of cultural heritage, archaeological, anthropological, and demo-ethnographic research.

WORKSHOP - LABANOF

July 10 to 15, 2023

I had the opportunity to participate in a highly relevant workshop in Anthropology and Osteology, under the expert guidance of Prof. Cristina Cattaneo from the University of Milan and Prof. Robert Mann from the University of Hawaii. This workshop focused on Forensic Anthropology and involved skeletal and cadaveric identification activities. The program was divided into three parts, each with an evaluation test: Identification of the biological and pathological profile of four case studies: 1) recent forensic case, 2) an ancient archaeological case, 3) a cremation case. This workshop provided a valuable opportunity to deepen my skills in Forensic Anthropology and to refine my abilities in identifying skeletons and human remains in various conditions.

DOCUMENTED TRAINING AND RESEARCH ACTIVITY AT QUALIFIED FOREIGN RESEARCH INSTITUTIONS

MONASH UNIVERSITY - School of Biomedical Sciences

September and December 2016 (4 months)

I had the opportunity to undertake an internship as a visiting PhD student at Monash University, specifically at the School of Biomedical Sciences within the Faculty of Medicine Nursing and Health Sciences, located at 27 Rainforest Walk, Clayton VIC 3800, Australia. During this period, I collaborated with the Paleodiet Research Lab and the Evans EvoMorph Lab as a guest PhD student. During my stay, I participated in the analysis of human and non-human primates using innovative approaches. The activities included cadaver studies, dissections, dental wear analysis, and masticatory apparatus studies.

MAX PLANCK INSTITUTE FOR EVOLUTIONARY ANTHROPOLOGY

September 2013 and January 2014

I had the opportunity to undertake a research internship at the Max Planck Institute for Evolutionary Anthropology, located at Deutscher Platz 6, 04103 Leipzig, in the Department of Human Evolution. This internship was part of my Master's thesis research. During this experience, I worked on the study and virtual analysis of human fossils using microCT scans. Additionally, I conducted phytolith analysis, dental analysis, and C14 analysis.

SENCKENBERG RESEARCH INSTITUTE AND NATURAL HISTORY MUSEUM

September and October 2013

I completed a research internship at the Senckenberg Research Institute and Natural History Museum, located at Senckenberganlage 25, 60325 Frankfurt am Main, Germany, in the Department of Paleontology. This internship was part of my Master's thesis research. During this experience, I conducted the study of Occlusal Fingerprint Analysis, examined fossils, identified dental macrofractures, and processed data obtained through occlusal compasses.

Data Analysis and Applied Statistics in R - Udemy

In 2022, I attended an online course consisting of 26 lessons on Udemy, taught by Dr. Marco Plebani, PhD, titled "Data Analysis and Applied Statistics in R." This course was a valuable opportunity to improve my skills in data analysis and the use of R software to conduct statistical analyses. Under the guidance of expert Dr. Plebani, I deepened my understanding of applied statistical methodologies and their practical applications, which will undoubtedly be useful in my future work and research.

Completion date: November 30, 2022.

Forensic Anthropology – Skeletal Analysis - Udemey

In 2023, I attended an online course consisting of 37 lessons on Udemey, taught by Dr. Catherine Gaither, PhD, titled "Forensic Anthropology – Skeletal Analysis." This course provided an additional learning opportunity in the field of Forensic Anthropology, focusing specifically on skeletal analysis. Under the expert guidance of Dr. Gaither, I further developed my skills in the identification and analysis of skeletal remains, thus expanding my knowledge in the field of Forensic Anthropology. Completion date: July 3, 2023.

WORKSHOP - Integrating Neandertal Legacy: From Past to Present – iNEAL

June 8 to 10, 2022 (3 days)

During the conference "Integrating Neandertal Legacy: From Past to Present – iNEAL" held in Ravenna, I attended a course titled "Introduction to segmenting/visualizing image data from (micro)-CT scan" within the Working Group 1 (Fossil data) Training School. This course provided an introduction to the process of segmenting and visualizing image data obtained from micro-CT scans, with a focus on their application in the context of fossil data.

WORKSHOP in 3D Geometric Morphometrics

August 24 to 28, 2020 (5 days)

I attended an online course titled "3D Geometric Morphometrics," taught by Dr. Melissa Tallman of Grand Valley State University, USA. This course was organized by Transmitting Science and lasted a total of 35 hours. Participation in this course provided an equivalent of 2 ECTS credits (European Credit Transfer System). During the course, I had the opportunity to deepen my knowledge of three-dimensional geometric morphometrics, an essential methodology for shape analysis in various scientific contexts, including anthropology and archaeology.

WORKSHOP – Monash University

October 20-21, 2016 (2 days)

I attended a course titled "Virtual Reconstruction and Computational Biomechanics" at the Department of Anatomy and Developmental Biology of Monash University, located at Clayton Campus in Melbourne, Australia. This course focused on the use of virtual reconstruction techniques and computational biomechanics, which are essential in scientific research, especially for the analysis of biological form and function.

PROJECT ACTIVITIES

The research activity carried out within the interdisciplinary projects described below is dedicated to the study of medicine, osteological, pathological, paleodemographic, and molecular aspects, using various methodological approaches (both traditional and virtual) (BIO16 and BIO08 Scientific Sector).

Principal investigator of the following funded project activities:

- PRIN: Nationally Significant Research Projects – 2022 call
Principal Investigator of the project “HABITS - Life-histories of prehistoric human groups in South America: a tale on environmental adaptations and subsistence economies”
Duration: 24 months. Ministerial funding: €208,334.
Since September 2023, due to the expiration of my contract with the University of Bologna, I had to relinquish the direction of the project.
- Three-year ministerial scholarship (€13,638.47 gross per year) - PhD in Biology 2015-2018 for the project: “Human dental tissues: Advancement in virtual dental analysis.”

Collaborator of the following funded project activities:

- PRIN n. 2015WPHSCJ_002 (KARST project; 2017-2020) – University of Florence
- H2020 ERC n. 639286 (HIDDEN FOODS; 2015-2021) - Department of Odontostomatological and Maxillofacial Sciences at Sapienza University of Rome
- H2020 ERC no. 724046 (SUCCESS; 2017-2022) – University of Bologna

Projects submitted as PI to competitive calls but not funded:

- Global Marie Curie (Proposal ID 101154537) for the project: “IMPACT - The impact of biological variables on dental implant success.”
- Global Marie Curie (Proposal ID 101066014) for the project: “ROOTS - Unravelling how social determinants affect teeth, facial asymmetry, and basicranial morphology.”
- Global Marie Curie (Proposal ID 101031286) for the project: “ASYMMETRY - The relationship between occlusion and postural control: a holistic approach to studying skeletal asymmetries in Homo sapiens.”

PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH GROUPS

Active participation in multidisciplinary research groups, with national and international collaborations, in the context of physical anthropological and osteoarchaeological studies (BIO/16 and BIO/08 Scientific Sector):

Max Planck Institute for Evolutionary Anthropology

Between September 2013 and January 2014, I participated as a Master's student in the research activities of the Department of Human Evolution (Director: J.J. Hublin) under the supervision of Prof. Stefano Benazzi. During this experience, I worked on the study and virtual analysis of human remains (both fossil and recent).

Senckenberg Research Institute and Natural History Museum

Between September and October 2013, I participated as a Master's student in the research activities of the "Senckenberg Research Institute and Natural History Museum" Palaeoanthropology Section (Head of Division: Prof. Dr. Ottmar Kullmer), located at Senckenberganlage 25, 60325 Frankfurt am Main, Germany, in the Department of Paleontology. During this experience, I conducted Occlusal Fingerprint Analysis, examined fossils, identified dental macrofractures, and processed data obtained through occlusal compasses, as well as studied human and non-human skeletal remains.

Paleoanthropology Lab (University of Florence)

Between 2017 and 2020, I participated as a PhD student in the PRIN project n. 2015WPHSCJ_002 (KARST project) at the Department of Biology, University of Florence. The project, titled "Rediscovering Altamura: advanced multidisciplinary investigations on the skeleton from the Lamalunga cave, Italy," was coordinated by Prof. Giorgio Manzi. As part of this project, I served as a physical and evolutionary anthropologist, contributing my expertise in both traditional and virtual analysis. These analyses were crucial to the project's success and significantly contributed to understanding the skeletal remains from the Lamalunga cave, located in Altamura, Italy. My contribution provided an in-depth, multidisciplinary view of the remains and their evolutionary significance.

Paleodiet Research Lab and Evans EvoMorph Lab (Monash University – Australia)

From September 2016 to December 2016, I participated as a guest PhD student in the research activities of these labs. During my stay, I contributed to the analysis of human and non-human primates using innovative approaches. Activities included cadaver studies, dissections, dental wear analysis, and research on the masticatory apparatus and dental biomechanics.

DANTE Lab – Sapienza University of Rome

From November 2017 to August 2018, I served as a Postdoctoral Fellow within the ERC project n. 639286 (HIDDEN FOODS) at the Department of Oral and Maxillofacial Sciences, Sapienza University of Rome. The project, titled "Masticatory and paramasticatory activities of Paleolithic and Mesolithic individuals from Italy and the Balkans," was coordinated by Prof. Emanuela Cristiani. As an evolutionary biologist and physical anthropologist, I applied both traditional and digital methods to analyze the morphology and morphometry of anatomical structures in recent and fossil individuals, supporting the project's goal of reconstructing dietary and functional behaviors of ancient populations.

BONES Lab – University of Bologna

From September 2018 to September 2023 (5 years), I conducted research as a fixed-term researcher (RTDa) at the BONES Lab (Director: Prof. Stefano Benazzi) in the Department of Cultural Heritage, University of Bologna. During this period, I conducted research within the ERC project n. 724046 (SUCCESS), titled "Study of cranial and post-cranial asymmetries using digital methods." (Principal Investigator: Prof. Stefano Benazzi). During this phase, I played an active role in the research and study of morphological asymmetries in the skull and body using advanced digital techniques. The project involved the analysis of human remains from different periods, including individuals from the Plio-Pleistocene. My main responsibility was developing innovative virtual methods that effectively integrated traditional laboratory methodologies. The main goal was to improve accuracy in identifying morphological anomalies in human tissues, with a specific focus on teeth and bones. Additionally, I contributed to the creation of new R scripts to quantify asymmetrical anomalies in the human skeletal structure. This multidisciplinary approach represented a significant advancement in understanding anatomical asymmetries and morphological variations in human tissues, thanks to the application of advanced and innovative methodologies.

UNIVERSITY TEACHING ACTIVITIES

Teaching activities related to university education for subjects and topics within the BIO/16 and BIO/08 sector at the LUM University and University of Bologna:

2024-2025

- **Human Anatomy in the Integrated Course of Morphofunctional Basics of the Human Body (3 cfu – 36 hours)**
Master's Degree Program in Medicine and Surgery, Single-Cycle, A.Y. 2024/2025.
Department of Medicine and Surgery, LUM University
- **Microscopic Structure of Organs and Developmental Biology in the Integrated Course of Cytology, histology, and developmental biology (1 cfu – 12 hours)**
Master's Degree Program in Dentistry and Dental Prosthetics, Single-Cycle, A.Y. 2024/2025. Department of Medicine and Surgery, LUM University

2022-2023 (98 total hours):

- **Archaeological Research Methodology (Module 2 - 26 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.
- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 1 - 48 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.
- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 2 - 24 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.

2021-2022 (72 total hours):

- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 1 - 48 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.
- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 2 - 24 hours)**

Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.

2020-2021 (72 total hours):

- **Physical Anthropology (48 hours)**
Bachelor's Degree in Cultural Heritage, Department of Cultural Heritage – University of Bologna.
- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 2 - 24 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.

2019-2020 (24 total hours):

- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 2 - 24 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.

2018-2019 (24 total hours):

- **Lectures on Anthropology and Biology Applied to Cultural Heritage (Module 2 - 24 hours)**
Master's Degree in Conservation and Restoration of Cultural Heritage (qualification pursuant to Legislative Decree no. 42/2004) Department of Cultural Heritage – University of Bologna.

TEACHING ACTIVITIES WITHIN UNIVERSITY SPECIALIST TRAINING:

- **June 8-10, 2022 (Training School - Ravenna) (20 total hours)**
Lecturer at the workshop titled: "Introduction to segmenting/visualizing image data from (micro)-CT scan" organized by Working Group 1 (Fossil data) of *Integrating Neandertal Legacy: From Past to Present – iNEAL* (CA19141).
- **June 17-19, 2019 (Summer School - Ravenna) (8 total hours)**
Summer School: "Acquiring and post-processing 3D data in anthropology and archaeology" - Class 2 (Advanced). Lecture on geometric morphometrics, specifically "Application of the template to the target."
- **February 26, 2016 (8 hours):**
Lectures on Dental Anthropology and Virtual Anthropology at the School of Paleoanthropology (sixth edition). Department of Physics and Geology, University of Perugia.

OTHER TEACHING ACTIVITIES:

- **Subject Expert** in the BIO/08 scientific disciplinary sector – Physical Anthropology and Paleoanthropology. Competitive sector 05/B1. Appointed by the Department of Cultural Heritage of the University of Bologna from 2015 to 2018.
- **2018-2023:** Member of the Scientific Committee and Deputy Director of BONES Lab. As Deputy Director at BONES Lab, I provided essential support for teaching and scientific activities, proposed new research directions, and assisted bachelor's, master's, and PhD students with theses and internships. I trained students and visiting researchers in both traditional and digital methodologies for bone and dental analysis, as well as statistical data analysis using R.

- **2018-2023:** Member of academic committees
- **Member** of the selection committee for the PhD in Cultural and Environmental Heritage - University of Bologna.
- **Member** of the TOLC committee (2021-2023), University of Bologna.
- **Member** of the selection committee for a public competition for the position of Category D, Technical-Scientific Area - BONES Lab, University of Bologna.
- **Member** of the research grant committee, University of Bologna.

THESIS CO-SUPERVISOR (BIO/16 AND BIO/08):

I supervised and co-supervised multiple theses at the bachelor's and master's levels, focusing on topics ranging from dental anthropology to virtual restoration and bioarchaeological analyses, contributing to the academic growth of numerous students.

- **Thesis Co-supervisor (BIO/16 and BIO/08) (2016-2017)**
 - Student: Matteo Rossini. Bachelor's Thesis Title: "The Uluzzian within the framework of the transition complexes from the Middle to Upper Paleolithic in Europe. Anthropological and cultural aspects." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2017-2018)**
 - Student: Giulia Zampirolo. Master's Thesis Title: "A preliminary virtual study of maxilla and palatine bone morphology: sexual dimorphism and ontogeny." Department of Cultural Heritage, University of Bologna.
 - Student: J.C. Menghi Sartorio. Bachelor's Thesis Title: "From traditional to virtual: craniofacial reconstruction in bio-archaeological and forensic contexts." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2018-2019)**
 - Student: Mattia Zaniboni. Master's Thesis Title: "Dental Macrowear and 3D Enamel Thickness: a Comparative Study Between Ancient Italians and Croatians." Master's in Skeletal Anthropology, Forensic and Paleopathology, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2019-2020)**
 - Student: Cristina Favaccio. Master's Thesis Title: "The use of radiological techniques as support for the analysis of paleoanthropological remains." Department of Morphology, Surgery, and Experimental Medicine, University of Ferrara.
 - Student: J.C. Menghi Sartorio. Master's Thesis Title: "Taxonomic discrimination of anterior dental roots using machine learning algorithms." Department of Humanities, University of Ferrara.
 - Student: Xiaoming Zhang. Bachelor's Thesis Title: "Virtual restoration and morphometric analysis of a Mesolithic skullcap from the site of S'Ormu e S'Orku." School of Humanities, University of Bologna.
 - Student: Alessia Tomasi. Bachelor's Thesis Title: "Middle Pleistocene human fossils in Asia." Department of Cultural Heritage, University of Bologna.
 - Student: Silvia Caffarone. Master's Thesis Title: "Virtual approach to the study of a human remain from a late Mousterian level at the Prince's Cave (Ventimiglia, Italy)." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2020-2021)**
 - Student: Gloria Valtancoli. Bachelor's Thesis Title: "Italian sites that have yielded Neanderthal remains between 130,000–35,000 years ago." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2020-2021)**
 - Student: Elisa Cacciari. Bachelor's Thesis Title: "Leonardo and the study of the human body. Anatomical sheets and character faces." Department of Cultural Heritage, University of Bologna.
 - Student: Melissa Rizzo. Master's Thesis Title: "Works of Art and Artificial Intelligence: the case of Nicolò Zen." Department of Cultural Heritage, University of Bologna.
 - Student: Leonardo Marino. Bachelor's Thesis Title: "Facial reconstruction in

paleoanthropology and forensics." Department of Cultural Heritage, University of Bologna.

- Student: Angela Graziano. Master's Thesis Title: "Micro-stratigraphic excavation of the funerary urn and anthropological analysis of cremated remains: traditional and virtual approach." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2021-2022)**
 - Student: Gabriella Reina. Master's Thesis Title: "Disability and accessibility to culture: 3D modeling as a valid tool for integration." Department of Cultural Heritage, University of Bologna.
- **Thesis Co-supervisor (BIO/16 and BIO/08) (2022-2023)**
 - Student: Bryn Philiotis. Master's Thesis Title: "Histological Analysis of Enamel Dental Defects in Two Individual Plague Victims From Lazzaretto Vecchio (Venice, Italy)." Department of Cultural Heritage, University of Bologna.
 - Student: Novin Alaei. Master's Thesis Title: "Virtual Restoration and Digital Analyses of Human Teeth from Riparo Dalmeri Site (Trento, Italy)." Department of Cultural Heritage, University of Bologna.
 - Student: Gian Marco Querzola. Bachelor's Thesis Title: "Review of studies on Homo naledi: from discovery to the latest research." Department of Cultural Heritage, University of Bologna.

THIRD MISSION ACTIVITIES:

Third Mission Committee - Department of Cultural Heritage, University of Bologna

Between September 2021 and September 2023, I was part of the Third Mission Committee at the Department of Cultural Heritage, University of Bologna. In this role, I actively contributed to the implementation of activities and initiatives related to the university's third mission, which focuses on interaction with society and the dissemination of scientific and cultural knowledge beyond traditional academic settings. My responsibilities included supporting and promoting projects and initiatives that engage the community and transfer knowledge and skills from academic research outside the university. My work within the Third Mission Committee included proposing scientific dissemination initiatives, such as participation in the Researchers' Night. Additionally, I contributed to organizing seminars and activities aimed at spreading scientific knowledge in a publicly accessible context. I had the honor of proposing and coordinating the first "Darwin Day" at the Department of Cultural Heritage, designed to promote awareness and understanding of the scientific aspects of anthropology, including disciplines such as physical and genetic anthropology. The goal was to share discoveries and research in these fields with the public, thus raising awareness about the importance of anthropological science in the context of cultural heritage.

UniJunior, Darwin Day, and Pint of Science

I have been invited as a speaker on several occasions to share my expertise in evolutionary anthropology. In 2020, I served as an invited speaker at UniJunior at the University of Bologna, Ravenna Campus, contributing to the education of young students. Additionally, I participated as a speaker at various scientific dissemination events, including Darwin Day in the 2014 edition in Frosinone, 2018 in Florence, 2019 in Ferrara, 2020 in Rimini, and 2022 in Ravenna, where I had the opportunity to communicate key concepts of evolution to the general public. In 2016, I also took part as a speaker at Pint of Science in Pisa, helping to make science accessible and engaging to a wider audience.

PRESENTATIONS AT NATIONAL AND INTERNATIONAL CONGRESSES AND CONFERENCES:

- **Invited Oral Presentation** (September 5, 2023 - Ancona) SIBE (Italian Society of Evolutionary Biology): "Exploring directional and fluctuating asymmetry in the human palate during growth."
- **Invited Oral Presentation** (October 29, 2021 - France) PACEA (From Prehistory to the Present: Culture, Environment, and Anthropology, University of Bordeaux): Workshop "Dental pathways

through times: the mechanisms behind human dental reduction." Presentation: "Physiological and adaptive phenomenon of enamel reduction: a holistic view."

- **Invited Oral Presentation** (February 15, 2022 - Ravenna) DBC (Department of Cultural Heritage, University of Bologna): Darwin Day 2022 "SAPIENS - How the culture of the past shaped us."
- **Speaker** (August 15-19, 2022 - Frankfurt) ISDM (18th International Symposium on Dental Morphology): "New approach to assess the relationship between macrowear and enamel thickness in lower first molars."
- **Speaker** (September 22-24, 2021 - online) ESHE (European Society for Human Evolution): "Earliest western expansion of the Uluzzian groups and the late Neanderthal occupation in southern Italy."
- **Speaker** (September 25, 2019 - Turin) AISF (Italian Academy of Forensic Sciences): "Osteoarchaeology: Multidisciplinary Approaches to Investigating Human Tissues."
- **Poster** (September 19-21, 2019 (Liège) ESHE (European Society for Human Evolution): First author of the poster: "The most recent Neanderthal remains in Italy." Co-author of posters: "The ontogeny of bipedalism: insights from trabecular changes during growth" and "Elemental imaging of human teeth by laser ablation ICP-TOF-MS: fast acquisition and high-resolution."
- **Speaker** (September 4-6, 2019 - Padua) AAI (Italian Anthropologists Association): "Earliest evidence of Focal Cemento-Osseous Dysplasia in the Late Upper Paleolithic." Co-author of the mini-talk: "Assessing biological and cultural admixture in the Etruscan-Celtic population of Monterenzio Vecchio and Monte Bibeale (Bologna, Italy)" and the poster: "Dental enamel proteins reveal the sex of the 'Lovers of Modena.'"
- **Poster** (November 28 – December 1, 2018 (Ravenna) AIAZ (Italian Archaeozoology Association): Co-author of the poster: "Humans, mammals, birds, and environment: an archaeozoological and quantitative perspective on the Middle to Upper Paleolithic transition in Northern Italy."
- **Speaker** (September 13-15, 2018 - Faro) ESHE (European Society for Human Evolution): Poster presentation: "A multidisciplinary approach to reconstruct Upper Paleolithic and Mesolithic dietary habits: human adaptation to Pleistocene-Holocene environmental change in northeastern Italy."
- **Poster** (April 11-14, 2018 (Texas) AAPA (American Association of Physical Anthropology): First author of the poster: "The physiological linkage between dental arch asymmetry, alveolar inclination, and dental macrowear pattern." Co-author of the poster: "Neonatal and postnatal mortality in Roccapelago through the study of human skeletal remains and parish records."
- **Speaker** (September 21-23, 2017 - Leiden) ESHE (European Society for Human Evolution): "The dawn of dentistry in the Late Upper Paleolithic: A deeper antiquity of biomedical care and surgical intervention." Co-author of posters: "Human deciduous teeth from the Middle Stone Age layers of Sibudu Cave (South Africa)" and "3D enamel thickness in Neanderthal and Homo sapiens permanent lower molars and premolars."
- **Speaker** (September 6-8, 2017 - Rome) AAI (Italian Anthropologists Association): "The origin of dentistry in the Late Upper Paleolithic: the antiquity of biomedical care." Co-author of talks: "Neonatal and postnatal mortality in Roccapelago through the study of human skeletal remains and parish records" and "New deciduous teeth remains from the Middle Stone Age layers of Sibudu Cave (South Africa)."
- **Poster** (April 22, 2017 (New Orleans) AAPA (American Association of Physical Anthropology): First author of the poster: "The dawn of dentistry in the Late Upper Paleolithic."
- **Pecha Kucha** (September 9-14, 2016 (Madrid) ESHE (European Society for Human Evolution): Co-author of the Pecha Kucha: "Dental morphology and morphometrics of Upper Paleolithic human remains from Dzudzuana and Satsurblia caves, western Georgia."
- **Poster** (September 10-12, 2015 (London) ESHE (European Society for Human Evolution): First author of the poster: "Earliest evidence of proto-dental treatment in the Late Upper Paleolithic."
- **Speaker** (September 3-5, 2015 (Bologna/Ravenna – Emilia Romagna) AAI (Italian Anthropologists Association): "Earliest evidence of proto-dental treatment in the Late Upper Paleolithic."

ORGANIZATION OF CONFERENCES / EVENTS:

Member of the Scientific Committee for the following national and international conferences and workshops:

- Darwin Day 2022 - February 15, 2022 - Sponsored by the University of Bologna
- Summer school "Acquiring and post-processing 3D data in Anthropology and Archaeology." - June 27 - July 1, 2016 (Ravenna) In Ravenna (Italy), University of Bologna.

Member of the Organizing Committee for the following national and international conferences and workshops:

- Darwin Day 2022 - February 15, 2022 Sponsored by the University of Bologna.
- International workshop *Integrating Neandertal Legacy: From Past to Present – iNEAL* June 6-10, 2022 - held at the University of Bologna.
- XXIII Italian Anthropologists Congress (AAI) - September 4-6, 2019 - titled "Anthropology: what are the next questions?" held at the university of Padua.
- Summer school "Acquiring and post-processing 3D data in Anthropology and Archaeology." - June 27 - July 1, 2016 (Ravenna), University of Bologna.

AWARDS AND RECOGNITIONS FOR RESEARCH ACTIVITY:

- SIBE (Italian Society of Evolutionary Biology) - September 5, 2022 (Ancona) "Doctor Darwin" Award for the best article (Oxilia et al. 2021, titled "Exploring directional and fluctuating asymmetry in the human palate during growth") presented by young members of SIBE in evolutionary medicine (1,000€).
- ESHE (European Society for the study of Human Evolution) - September 12, 2015 (London) "Award for best research", European Society for the Study of Human Evolution. Title: *Earliest evidence of dental caries manipulation in the Late Upper Palaeolithic* (1,500€).

PARTICIPATION IN ARCHAEOLOGICAL EXCAVATIONS:

I have had the privilege of participating in various archaeological excavations across Italy, contributing to the research and discovery of our past. My experiences include:

- June 1 to July 19, 2019: prehistoric archaeological excavation in Grotta di Uluzzo C, Puglia.
- July 11 to 22, 2016, and July 15 to August 8, 2015: prehistoric archaeological excavation in Grotta dell'Alma Veirana, Liguria.
- August 1 to 27, 2014; August 12 to September 2, 2013; and July 23 to August 11, 2012: prehistoric archaeological excavation in Grotta di Fumane, Veneto.
- July 22 to August 12, 2013: prehistoric archaeological excavation in Grotta del Rio Secco, Friuli.
- July 10 to 14, 2013, and March 23 to June 25, 2012: medieval emergency archaeological excavation in Mantua.
- August 1 to 19, 2011: Bronze Age archaeological excavation in Lucone di Polpenazze, Lombardy.

FORENSIC ANTHROPOLOGY REGISTRATIONS:

I am an expert in forensic anthropology and am registered in both the Italian Forensic Anthropology Register, with specific skills in skeletal identification, and the ACISF (Italian Cultural Association of Forensic Sciences) in the forensic anthropology sector. My experience also includes virtual anthropology, a field that uses advanced technology to analyze and reconstruct skeletal data accurately and in detail.

VIRTUAL ANTHROPOLOGY SKILLS AND SOFTWARE:

Thanks to my knowledge in the biological, anthropological, and medical fields, my research

projects benefit from a holistic approach that allows me to enrich the interpretation of the results obtained. Additionally, my digital skills enable me to independently analyze human remains:

- From acquisition (Surface scanning, CT, MicroCT, synchrotron)
- To data segmentation (Avizo software)
- To post-processing (Geomagic Design X)

The application of digital and non-invasive approaches and methodologies (such as Geometric Morphometrics) also allows me to capture morphological and morphometric coordinates (using Geomagic Design X, Rhinoceros, Viewbox, OFA software), suitable for statistical analysis (R, Python), as well as apply Artificial Intelligence methodologies (specifically Machine Learning).

HEALTHCARE-RELATED VOLUNTEER ACTIVITIES:

Italian Red Cross Responder: Since November 2020, I have been an active volunteer with the Italian Red Cross (Ferrara operational branch), involved in various rescue and assistance activities. I have obtained several qualifications, including Basic Life Support Defibrillation (BLS-D) for adults and pediatrics, Health Transport Operator, Water Safety Certification, Ambulance Rescue Operator, and CRI Cross-Functional Trainer certification. In December 2022, I successfully completed the Emergency Medical Services training in collaboration with 118, earning certification for emergency response in 118 situations. Additionally, I obtained License 5, which qualifies me to drive rescue ambulances, medical cars, neonatal ambulances, mobile intensive care units, and other vehicles used for medical emergencies. This additional qualification allows me to take a more active role in rescue missions and significantly contribute to emergency response situations.

SPORTS ACTIVITIES:

Taekwondo WT: I am a Master of Taekwondo WT, holding a V Dan black belt. My dedication to this discipline is demonstrated by both my competitive experience and my commitment as an instructor. From 2012 to 2013, I served as the Regional President of CSEN in the Taekwondo WTF sector at the National Sports and Educational Center. In 2009, I founded the Taekwondo WT gym called "Accademia Oxilia" in Verona, creating a space for martial arts enthusiasts to train and develop their skills. Currently, Accademia Oxilia is active in Ferrara, where I continue to share my passion and knowledge with others, teaching and promoting this discipline. Taekwondo is an integral part of my life, and I am proud to inspire and train the next generation of martial artists.

LANGUAGES SPOKEN: ENGLISH B2

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PUBLICATION

Book Chapter Author:

- Gregorio Oxilia and Stefano Benazzi, "Similar, but different from us: Neanderthal men (and women)," XLVII seminar on biological evolution and the major problems of biology, human evolution and the origin of Homo sapiens, n. 141, 2021, contributions of the interdisciplinary Lincean center "Beniamino Segre."
- Gregorio Oxilia, Martina Lari, David Caramelli, Stefano Benazzi (in press), "The Homo genus in the Upper Pleistocene," in Luca Sineo, Jacopo Moggi Cecchi (eds.), *Manual of Anthropology: Human Evolution and Biodiversity* (pp. 347-357). UTET.
- Collina C., Benazzi S., Marciani G., Oxilia G., Piperno M., Repola M. 2020a, "The Paleolithic Cave of Roccia San Sebastiano (Mondragone, CE). New data and enhancement of heritage," in A. Carcaiso, M. Musella (eds.), *Patrimony of Knowledge. The Lands of Massico* (Mondragone 2018), Mondragone, Biagio Greco Civic Archaeological Museum, pp. 11-24.
- Ready to be submitted: Gregorio Oxilia, et al. "Introduction to Dental Morphology: An Evolutionary Approach."

UNDER REVIEW

Gregorio Oxilia, Margherita Mussi, Daniele Chiriu, Francesca Assunta Pisu, Elisabetta Marini, Rita T. Melis. Virtual analysis of a concreted skullcap from S'Ormu e S'Orku, an early Holocene Mesolithic site of Sardinia. AJPA-2024-00221 (American Journal of Biological Anthropology)

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20. PRIMO AUTORE: Matteo Romandini*, Gregorio Oxilia*, Eugenio Bortolini*, Stéphane Peyrégne, Davide Delpiano, Alessia Nava, Daniele Panetta, Giovanni Di Domenico, Petra Martini, Simona Arrighi, Federica Badino, Carla Figus, Federico Lugli, Giulia Marciani, Sara Silvestrini, Jessica C. Menghi Sartorio, Gabriele Terlato, Jean-Jacques Hublin, Matthias Meyer, Luca Bondioli, Thomas Higham, Viviane Slon, Peresani Marco, Stefano Benazzi. A late Neanderthal tooth from northeastern Italy. *Journal of Human Evolution*. 147, 102867 (2020). *these authors contributed equally. <https://doi.org/10.1016/j.jhevol.2020.102867>.
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Casamassima, November 2024

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