

# CURRICULUM VITAE

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## Federico Lugli

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### FORMAZIONE

27/02/2018

**Dottorato di Ricerca *cum laude***, in Models and Methods for Material and Environmental Sciences (SSD: GEO/08), Dipartimento di Scienze Chimiche e Geologiche, Università di Modena e Reggio Emilia.

Titolo tesi: *Strontium isotopes as tracers of animal and human mobility in the past* (tutor: Anna Cipriani).

14/07/2014

**Laurea Magistrale *cum laude*** (110/110 e Lode), in Quaternario, Preistoria e Archeologia (LM02), Università di Ferrara.

24/07/2012

**Laurea Triennale *cum laude*** (110/110 e Lode), in Scienze per i Beni Ambientali, Naturali e Culturali (specializzazione in Conservazione dei Beni Culturali - L43), Università di Modena e Reggio Emilia.

2009

**Diploma di maturità scientifica**, Liceo Rinaldo Corso, Correggio (RE).

### POSIZIONI

01/11/2024 (ad oggi)

**Associate Professor** presso il Dipartimento di Scienze Chimiche e Geologiche, Università degli Studi di Modena e Reggio Emilia, Modena, Italia. Settore scientifico disciplinare: GEOS-01/C Geochimica e vulcanologia.

01/08/2023 – 31/10/2024

**Marie Skłodowska-Curie Research Fellow** presso Institut für Geowissenschaften, Goethe University Frankfurt, Germania. Progetto di ricerca: *AROUSE - Assessing the impact of climate fluctuations on hibernation phenology using novel dental biomarkers*, n. 101104566.

01/07/2020 – 01/07/ 2023

**Senior postdoc** presso il Dipartimento di Beni Culturali, Università di Bologna, Campus di Ravenna. Progetto di ricerca: *“Proteomic and isotopic analyses of human and faunal remains from Italian Middle-Upper Palaeolithic contexts”* – parte del progetto MIUR-FARE: SAPIENS – *“Using paleoproteomics to identify human remains in Italian archaeological sites with Middle-to-Upper Paleolithic deposits”* (P.I. Stefano Benazzi).

02/09/2020 – 1/11/2020

**Guest scientist** (su invito) presso Institute of Geosciences (Johannes Gutenberg-Universität Mainz, Germania) nel framework del progetto ERC Consolidator *“Vertebrate Herbivory”* n. 681450 (P.I. Thomas Tütken).

01/04/2018 – 01/07/2020

**Senior ERC postdoc** presso il Dipartimento di Beni Culturali, Università di Bologna, Campus di Ravenna. Progetto di ricerca: *“Provenance and human adaptation in Archaeological Sciences: isotope geochemistry of animal and human remains from Italian Middle-Upper Palaeolithic transition contexts”* – parte del progetto ERC Consolidator SUCCESS n.724046 (P.I. Stefano Benazzi).

15/11/2017 – 22/12/2017

**Borsista di Ricerca** presso il Dipartimento di Scienze Chimiche e Geologiche, Università degli Studi di Modena e Reggio Emilia. Progetto di ricerca: *“Geochemical and Isotopic budget of highly metasomatized sub-continental mantle in the Africa and Europe geodynamic systems: modern and fossil analogues”* – PRIN MIUR 2015.

08/06/2017 – 08/07/2017

**Visiting scientist** presso Inorganic Gas Isotope Geochemistry Group, Max Planck Institute for Chemistry, Hahn-Meitner-Weg 1, 55128 Mainz, Germania.

1/09/2016 – 01/11/2016

**Visiting scientist** presso Paleoclimate Research Group, Max Planck Institute for Chemistry, Hahn-Meitner-Weg 1, 55128 Mainz, Germania.

#### ABILITAZIONI SCIENTIFICHE NAZIONALI

31/10/2025

**Abilitazione Scientifica Nazionale** (art.16 della legge del 30 Dicembre 2010, n.240) di Prima Fascia - **04/A1** (Geochimica, mineralogia, petrologia, vulcanologia, georisorse e applicazioni).

27/09/2022

**Abilitazione Scientifica Nazionale** (art.16 della legge del 30 Dicembre 2010, n.240) di Seconda Fascia - **04/A2** (Geologia strutturale, geologia stratigrafica, sedimentologia e paleontologia).

03/02/2022

**Abilitazione Scientifica Nazionale** (art.16 della legge del 30 Dicembre 2010, n.240) di Seconda Fascia - **05/B1** (Zoologia e antropologia).

31/05/2021

**Abilitazione Scientifica Nazionale** (art.16 della legge del 30 Dicembre 2010, n.240) di Seconda Fascia - **04/A1** (Geochemica, mineralogia, petrologia, vulcanologia, georisorse e applicazioni).

## PREMI E RICONOSCIMENTI

2019

**Premio poster** – Congresso dell’Associazione Antropologica Italiana – Padova (300.00 €)

2019

**Premio nazionale giovane ricercatore** – Società Chimica Italiana, Divisione di Spettrometria di Massa (1,000.00 €) per l’articolo: “*Strontium and stable isotope evidence of human mobility strategies across the Last Glacial Maximum in southern Italy*” pubblicato su *Nature Ecology and Evolution*.

2017

**Travel grant** della European Association of Geochemistry per il corso internazionale “*Application of Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) to Earth Sciences*” – Università di Perugia (200.00 €).

2015

**Premio studio** per merito, Fondazione Cassa di Risparmio Carpi, Laurea magistrale (1,000.00 €)

2013

**Premio studio** per merito, Fondazione Cassa di Risparmio Carpi, Laurea triennale (1,000.00 €)

## PROGETTI FINANZIATI

2023 – 2024

**Marie Skłodowska-Curie Individual Fellowship, Horizon Europe.** Progetto: “*Assessing the impact of climate fluctuations on hibernation phenology using novel dental biomarkers*” | AROUSE - 101104566. Fondi: 189,687.36 €. Ruolo: PI. Panel: ENV (Environmental and Geosciences). Host institution: Goethe University Frankfurt, Germania. 2023-2025. Il progetto si propone di indagare l’impatto delle fluttuazioni (plaeo)climatiche sulla fenologia e fisiologia dell’ibernazione dei piccoli mammiferi, usando tecniche geochemiche ed istologiche. Nello specifico, analisi elementali ed isotopiche in alta risoluzione spaziale sono utilizzate in combinazione all’istomorfometria dello smalto di incisivi di marmotte per identificare nuovi biomarcatori per l’ibernazione. Il confronto fra campioni da diversi contesti climatici (dal MIS3 ad oggi) permetterà di comprendere come il clima può influire sulla sopravvivenza delle popolazioni di mammiferi ibernatori.

2021 – 2022

**Leakey Foundation.** Progetto di ricerca – “*Continuation of New Investigations at the Hominin site of Tighennif (formerly Ternifine), Algeria: Study of Homo erectus Behavior and Adaptation*”. Fondi: 19,441.00 €. Ruolo: co-

proponente, partner responsabile delle analisi isotopiche.

2016

**UNIMORE progetto di mobilità e ricerca internazionale** – istituzione ospitante: Max Planck Institute for Chemistry. Titolo del progetto: “*Celtic mobility: genetic and isotopic approach to the study of human migration*”. Fondi: 2,000.00 €. Ruolo: PI.

2014 – 2017

**Assegno ministeriale di dottorato** presso UNIMORE (~36,000.00 €). Titolo del progetto: “*Strontium isotopes as tracers of animal and human mobility in the past*”.

## PARTECIPAZIONE A PROGETTI DI RICERCA FINANZIATI

2024 – in corso

**Horizon Europe ERC SYNERGY** “*LAST NEANDERTHALS – The physical, cultural and bio-genetic landscape of the last Neanderthals*” (P.I. Stefano Benazzi, UNIBO; coP.I. Francesco Berna & Omry Barzilai). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2023 – in corso

**PRIN PNRR** “*CAST – Copper Accumulation, Supply and Technology among the Italian Prehistoric Societies*” (P.I. Maurizio Cattani, UNIBO; coP.I. Anna Cipriani, UNIMORE). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2023 – in corso

**PRIN PNRR** “*OCEANS – impacts Of aCidification on past biodivErsity: insights from mAriNe vertebrateS*” (P.I. Manuel Rigo, UNIPD; coP.I. Annalisa Ferretti, UNIMORE). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2023 – in corso

**MIUR PRIN** “*HABITS – Life-histories of prehistoric human groups in South America: a tale on environmental adaptations and subsistence economies*” (P.I. Tommaso Giovanardi, UNIMORE; coP.I. Eugenio Bortolini, UNIBO). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2023 – in corso

**Progetto finanziato da European Union NextGeneration EU, nel framework del PNRR** “*GIRLS – Evolution of puberty and reproductive life history of women: age-at-menarche and age-at-first childbirth from farming subsistence to urban societies in Italy*”, P.I. Melania Gigante (UNIPD). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2023 – in corso

**Progetto Marie Skłodowska-Curie IF** “*TULAR – TranscULTurality and social innovation in Villanovan AREas of pre-Roman Italy*”, P.I. Carmen Esposito (UNIBO). Partecipazione attiva alle attività di ricerca.

2020 – in corso

**MIUR PRIN** “*HERDS – Animal Husbandry and its Economic Role in the Development of Central*”.

*Mediterranean Protobistoric*" (P.I. Andrea Cardarelli, Sapienza). Partecipazione attiva alle attività di ricerca.

2023 – in corso

**Progetto Horizon Europe ERC Starting** "*MOTHERS – MOdelling THE Evolution of the mother-infant RelationshipS*"; P.I. Alessia Nava (Sapienza). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2020-2022

**Progetto Marie Skłodowska-Curie IF** "*WEAN-IT – Weaning Practices in Ancient Italy*", P.I. Alessia Nava. Partecipazione attiva alle attività di ricerca.

2019-2022

**Progetto MIUR-FARE** "*SAPIENS – Using paleoproteomics to identify human remains in Italian archaeological sites with Middle-to-Upper Paleolithic deposits*". P.I. Stefano Benazzi (UNIBO). Partecipazione attiva alla scrittura del proposal e alle attività di ricerca.

2017-2022

**Progetto H2020 ERC Consolidator** "*VERTEBRATE HERBIVORY – Evolution of herbivory in vertebrates: developing combined isotope (Ca, Sr) and dental surface texture analysis as deep time diet proxies*"; PI. Thomas Tütken. Partecipazione attiva alle attività di ricerca.

2017-2022

**Progetto H2020 ERC Consolidator** "*SUCCESS – The earliest migration of Homo sapiens in Southern Europe*"; P.I. Stefano Benazzi. Partecipazione attiva alle attività di ricerca.

2017-2020

**MIUR PRIN 2017-2020** "*Micro to Macro – How to unravel the nature of the Large Magmatic Events*" (P.I. Massimo Coltorti, UNIFE; coP.I. Unità di UNIMORE: Anna Cipriani). Partecipazione attiva alle attività di ricerca.

04/05/2016 – 09/05/2016

**European Synchrotron Radiation Facility**, team member dell'esperimento ES-421: "*Tracking biotic and abiotic processes at play within the serpentinizing ocean crust by characterizing the distribution of metals and metalloids associated to organic remnants*", beamline 16B-NA, Grenoble, Francia. Parte del team proponente e partecipazione attiva alle attività di ricerca.

2015-2018

**MIUR PRIN** "*Geochemical and Isotopic budget of highly metasomatized sub-continental mantle in the Africa and Europe geodynamic systems: modern and fossil analogues*" (P.I. Sandro Conticelli, UNIFI; coP.I. Unità di UNIMORE: Maurizio Mazzucchelli). Partecipazione attiva alle attività di ricerca.

## CAPACITÀ PROFESSIONALI E INTERESSI DI RICERCA

- Analisi e data reduction di sistematiche isotopiche stabili e radiogeniche (e.g. Rb-Sr, Sr stabile, U-Pb, Pb-Pb, U-Th, O, C, N, Lu-Hf, Sm-Nd, Ca, B) su svariate matrici geobiologiche come suoli, acque, rocce,

- biominerali, tessuti biologici tramite (LA-)MC-ICPMS.
- Analisi di elementi in traccia in soluzione e su campioni solidi, tramite (LA-)ICPMS Q(QQ) e sector field, software correlati (e.g. PlasmaLab, Iolite, Glitter, in-house R script).
- Analisi isotopi stabili di acque, tessuti biologici e carbonati tramite IRMS accoppiato ad equilibratore e/o analizzatore elementale.
- Utilizzo di sistemi di ablazione laser (Nd:YAG 213 nm, 193 nm a eccimeri, e femtosecond) accoppiati a (MC-)ICPMS.
- *Imaging* di tessuti biologici e campioni geologici tramite LA-ICPMS con analizzatore tradizionale e/o Time of Flight; software toolbox: R, MATLAB, MapIT!.
- Gestione di laboratorio *clean* geochimico e biologico.
- Cromatografia a scambio ionico.
- Micro-drilling su tessuti geobiologici incrementali.
- Analisi di proteomica su smalto dentale e tessuto osseo tramite LC-MS/MS e MALDI-ToF; software toolbox: Mascot, mMass, Xcalibur package (Thermo Scientific), MaxQuant, R.
- Utilizzo avanzato di statistica univariata e multivariata, modelling, geostatistica e machine learning; software toolbox: R, OriginPro, QGIS, SAGA.

Mi occupo di applicazioni (bio)geochimiche in geologia, ecologia, sedimentologia, archeologia, paleoantropologia e paleontologia dall'inizio del mio dottorato di ricerca nel 2014. Nel corso della mia carriera, ho sviluppato tecniche analitiche per la determinazione di rapporti isotopici bulk e *in-situ* tramite (LA-)MC-ICPMS, su svariate matrici biologiche e geologiche, come acque, suoli, rocce, minerali, e ossa/denti fossili. Presso il Laboratorio di Geochimica di UNIMORE (ora MeGic Lab, <https://www.geochem.unimore.it/>), ho avviato e impostato nuove linee di ricerca riguardanti l'archeometria e le indagini su resti scheletrici, analizzando campioni che vanno dal Pleistocene (es. Lugli et al., 2019 *Nature Eco. Evo.*) all'epoca moderna (es. Lugli et al., 2018 *Am. J. Biol. Anthropol.*), con il fine di ricostruire catene trofiche e mobilità umana e animale. Inoltre, ho applicato diverse sistematiche isotopiche *in-situ* (e.g. Sr-Sr, B, U-Pb, Lu-Hf) ad archivi geologici di alta (e.g. zirconi: Giovanardi & Lugli, 2017 *Earth Sci. Inf.*; carbonati di mantello: Consuma et al., 2020; *Lithos*; Libyan Desert Glass: Sighinolfi et al., 2020 *Meteorit. Planet. Sci.*) e bassa temperatura (e.g. speleotemi: Weber et al., 2018 *Quat. Sci. Rev.*, Columbu et al., 2024 *Quat. Sci. Rev.*; *seep carbonates*: Argentino et al., 2019 *Chem. Geol.*; brachiopodi: Garbelli et al., 2022 *Chem. Geol.*; vene di calcite: Berio et al., 2022 *J. Geol. Soc.*; conodonti: Świś et al., 2026 *Paleo3*; Letulle et al., 2025 *Chem. Geol.*). In laboratorio, sono in grado di eseguire autonomamente analisi biogeochimiche, dal campione al dato, utilizzando la spettrometria di massa organica (MALDI-ToF e LC-MS/MS) e inorganica (LA-ICPMS e (LA-)MC-ICPMS). Ciò è dimostrato, ad esempio, dal coinvolgimento in diversi progetti dedicati alla caratterizzazione di materiali di riferimento internazionali (e.g. Weber et al., 2018 e 2019; Jochum et al., 2019; Boer et al., 2022; Kazlagic et al., 2023 *Geostand. Geoanalytical Res.*), anche in collaborazione con aziende internazionali (i.e. myStandards GmbH). Sono interessato a espandere continuamente il mio campo di competenze, come recentemente dimostrato dall'applicazione della (paleo)proteomica alla bio-, paleo-antropologia (Lugli et al., 2019 *Sci. Rep.*), sfruttando anche tecniche spettroscopiche e immunochimiche all'avanguardia (Lugli et al., 2021 *Talanta* e Gatti, Lugli, Sciotto et al., 2022 *Sci. Rep.*; Gatti, Lugli et al., 2026 *Comm. Biol.*). In questo senso, ho avviato il Laboratorio di Paleoproteomica presso il Dipartimento di Beni Culturali di UNIBO, dedicato all'analisi del proteoma di ossa e denti fossili, archeologici e moderni, nel framework del progetto ERC CoG SUCCESS. In una rete multidisciplinare di ricercatori che ha coinvolto istologia, geochimica e archeologia, ho messo a punto un metodo per l'identificazione del periodo di svezzamento dallo smalto dentale tramite proxy elementali (Sr/Ca), con profonde implicazioni per lo studio dell'evoluzione umana (Nava & Lugli et al., 2020 *PNAS*). Tra settembre e ottobre 2020, sono stato invitato come *guest scientist* presso la Johannes Gutenberg-Universität (Mainz, Germania), nell'ambito del progetto ERC CoG VERTEBRATE HERBIVORY (P.I. Tütken), dove ho effettuato analisi di isotopi non tradizionali (Ca e Sr stabile) su denti di dinosauri (Michailow, Lugli et al., 2025 *GCA*) e ominini/animali fossili

(Lugli et al., *in prep.*; Armaroli et al., 2025 *Chem. Geol.*). Da Agosto 2023 a Ottobre 2024 sono stato Marie Skłodowska-Curie Research Fellow presso la Goethe University (Frankfurt, Germania) dove ho analizzato denti fossili e moderni di marmotte tramite tecniche geochimiche nel contesto del progetto Individual Fellowship AROUSE. I miei attuali interessi di ricerca includono: (paleo)ecologia isotopica; distribuzione di isotopi ed elementi in archivi biogeologici incrementali; sviluppo e caratterizzazione di nuovi materiali di riferimento per analisi geochimiche; preservazione della materia organica in *deep-time*; paleoproteomica; isoscapes; tecniche statistiche applicate a dati (geochimici).

#### ATTIVITÀ DI EDITING E REVISIONE

- Grant referee per l'European Research Council (H2020 ERC StG 2018 Evaluations) – Earth System Science Panel.
- Grant referee per la French National Research Agency (AAPG 2021, Generic Call) – Panel “CE27 - Culture, création, patrimoine”.
- Grant referee per Fund for Scientific Research (Belgio) – SHS-4 Sciences Humaines et sociales.
- Editor di *PlosONE* (da Agosto 2023 ad oggi).
- Editorial board member di *BMC Ecology and Evolution* (da Maggio 2025 ad oggi).
- Reviewer per: *Nature Ecology & Evolution*, *American Journal of Biological Anthropology*, *Forensic Science*, *Journal of the Geological Society*, *Movement Ecology*, *Ecology and Evolution*, *Archaeological and Anthropological Sciences*, *Quaternary Science Reviews*, *Rapid Communications in Mass Spectrometry*, *Journal of Chromatography A*, *Bioarchaeology International*, *Geostandards and Geoanalytical Research*, *Earth System Science Data*, *Scientific Reports*, *PLoS ONE*, *Journal of Archaeological Science: Reports*, *Quaternary International*, *Heritage Science*, *Forensic Sciences Research*, *Environmental Archaeology*, *Microchemical Journal*.

#### ATTIVITÀ DIDATTICHE E TUTORAGGIO

Ad oggi ho (co-)supervisionato quattordici tesi triennali, cinque tesi magistrali e tre dottorati di ricerca. Ho effettuato supporto alla didattica tramite seminari ed attività di laboratorio presso l'Università di Modena e Reggio Emilia, l'Università di Bologna e l'Università di Padova.

Nell'anno accademico 2024/2025 sono stato titolare del corso 'Advanced Isotope Geochemistry' della laurea magistrale 'Geoscienze, georischi e georisorse' – UNIMORE.

Dall'anno accademico 2025/2026 sono titolare di due corsi 'Tecniche di monitoraggio petro-geochimiche per l'ambiente' e 'Geochimica per l'evoluzione umana', rispettivamente della laurea triennale in 'Scienze Naturali' e della laurea magistrale 'Didattica e comunicazione delle Scienze' – UNIMORE.

Dall'anno accademico 2025/2026 tengo un corso di dottorato di 16 ore 'Introduction to R for Data Science'.

#### COMUNICAZIONI E SEMINARI SCIENTIFICI SU INVITO

18/09/2025

***New approaches in metal (stable) isotope geochemistry of biopapatite across time and taxa.*** Invited speaker at SIMP-SGI 2025, Padova.

29/05/2025

***Trace elements across Human Evolution.*** Invited speaker at the international 9<sup>th</sup> FESTEM 2025 (*International Symposium of the Federation of European Societies on Trace Elements and Minerals*), Timisoara.

02/04/2025

***Mastering the art of isoscaping: drawing reasonable inferences from isotope maps.*** Invited speaker at the international workshop *So close and yet so far: A critical approach to mobility in the past*, British School at Rome, Roma.

18/05/2023

***Biogeochemistry of (fossil) bones and teeth.*** Seminario su invito presso il Dipartimento di Scienze dell'Ambiente e della Terra, Università Milano-Bicocca – Milano.

4/10/2022

***Elemental and isotopic analyses of tooth enamel disclose individuals' life histories.*** Seminario su invito presso il workshop: 'Recovering ancient remains and reconstructing the past', parte del simposio internazionale: 'Insights into Human History in the Eurasian Stone Age: Recent Developments in Archaeology, Palaeoanthropology and Genetics'. Università di Tohoku (Sendai, Giappone).

27/05/2022

***Isotope Tales: hominin mobility, diet and ecology.*** Seminario su invito presso il Dipartimento di Biologia, Università di Firenze.

13/10/2020

***Detecting the introduction of non-breastmilk food in infants' diet through histologically-defined LA-(MC)-ICPMS analyses of deciduous dental enamel.*** Comunicazione su invito presso il simposio: *New Geochemical and Dental Wear Approaches to Reconstruct the Diet, Ecology, and Physiology of Fossil Vertebrates*. Congresso annuale della Society of Vertebrate Palaeontology – Cincinnati, 2020.

08/11/2019

***Le proteine dello smalto dentale svelano il sesso degli 'Amanti di Modena'.*** Seminario su invito presso l'Accademia delle Scienze e delle Arti di Modena – Modena.

21/06/2019

***Isotope evidence of Gravettian and Epigravettian mobility strategies across the Last Glacial Maximum in Southern Italy.*** Comunicazione su invito presso il congresso internazionale MASSA 2019 – Aboca, Sansepolcro.

20/10/2018

***In situ Sr isotope analysis of biopapatites by LA-MC-ICP-MS.*** Comunicazione su invito presso il workshop: *7th Asia-Pacific Workshop on Laser-Ablation and Micro-Analysis 2018*. State Key Laboratory of Lithospheric Evolution, Institute of Geology and Geophysics, Chinese Academy of Sciences – Pechino, Cina.

<b>PUBBLICAZIONI</b>
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Scopus ID: 57193222687; ORCID: 0000-0002-5642-2216.

H-index: 29 (Google Scholar); 26 (Scopus).

Citazioni totali: 2317 (Google Scholar); 1757 (Scopus).

### Articoli *peer-review* pubblicati (o accettati) su riviste internazionali

(\* articoli dove sono *corresponding author*)

1. Armaroli E, Fontani F, Iacovera R, Cilli E, Latorre A, Luiselli D, ... **Lugli F**, Romandini M (2026). Ecology and demographic structure of an extinct ibex population in late Upper Palaeolithic Italian Alps. *Scientific Reports* 16, 9601.
2. Świś PL, Ferretti A, Rigo M, Letulle T., Cipriani A., Medici L., Malferrari D, **Lugli F** (2026) Stable strontium isotopes of Late Devonian conodonts from Kowala (Poland) reveal genus-level signatures. *Palaeogeography, Palaeoclimatology, Palaeoecology* 692, 113755.
3. Armaroli E, **Lugli F\***, Tacail T, Kindler L, Gaudzinski-Windheuser S, Scherjon F, Roebroeks W, Parker G, Vonhof H, Cipriani A, Tütken T, Müller W (2026) Life histories of straight-tusked elephants from the Last Interglacial Neanderthal site of Neumark-Nord (~125 ka). *Science Advances*, doi: 10.1126/sciadv.adz0114.
4. Gatti L, **Lugli F\***, Rubach F, Leichter J, Sciutto G, Prati S, Tütken T, Martínez-García A (2026) Deep-time preservation of amino acids in mammalian fossil tooth enamel. *Communication Biology*, doi: 10.1038/s42003-026-09716-6.
5. Capasso G, Sperduti A, Idriss Ahmed H, Cipriani A, Bondioli L, Nava A, **Lugli F**, Manzo A (2026) Oscillating diachronic mobility patterns in prehistoric Eastern Sudan revealed by <sup>87</sup>Sr/<sup>86</sup>Sr isotope analysis. *Scientific Reports*, doi: 10.1038/s41598-026-37691-9.
6. André CAP, Fonseca R, Figueiredo AQ, Lodeiro C, Benazzi S, Belcastro MG, **Lugli F**, Di Rocco G, Santos HM, Capelo JL (2026). Fast ultrasonic-based extraction of peptides from teeth for forensics and archaeological purposes. *Microchemical Journal* 221, 116915.
7. Medici L, Ferretti A, Collareta A, Bosio G, Bianucci G, Carnevale G, Casati S, Clò S, Lanteri L, **Lugli F**, Marrama G, Mollen FH, Savioli M, Malferrari D (2026) Bioapatite crystallinity and rare earth element signatures in fossil and recent sharks: A window into past and present seas. *Chemical Geology* 702, 123200.
8. Esposito C, Lamb AL, Andersen MB, Millet MA, Inglis E, **Lugli F**, Nederbragt AJ, Madgwick R. Diverse feasting networks at the end of the Bronze Age in Britain (c. 900-500 BCE) evidenced by multi-isotope analysis. *iScience* 28, 113271.
9. Berio LR, Balsamo F, Lucca A, Pizzati M, Storti F, Aldega L, Cipriani A, Dallai L, **Lugli F**, Mantovani L, Moretto V, Trua T, Zanchetta S, Viola G (2025) Hydrothermal silicification and active extensional faulting: Insights from the Kornos-Aghios Ioannis fault, Lemnos Island, Greece. *Geological Society of America Bulletin*

137, 4015-4041.

10. Armaroli E, Chelli Cheheb R, Cipriani A, Bernardini S, Van Der Made J, Cáceres I, Sahnouni M, **Lugli F\*** (2025) Stable Sr isotopes of fossil dental enamel reflect diet and digestive system differences among sympatric herbivores. *Palaeogeography, Palaeoclimatology, Palaeoecology* 678, 113226.
11. Holt E, **Lugli F**, Schirru D, Gigante M, Faillace K, Millet MA, Andersen M, Madgwick R (2025) Comparing machine learning isoscapes of  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios of plants on the island of Sardinia: Implications for the use of isoscapes for assessing the provenance of biological specimens. *Science of The Total Environment* 989, 179880.
12. Higgins OA, Fontani F, **Lugli F**, Silvestrini S, Vazzana A, Latorre A, Sericola M, Cipriani A, Quarta G, Calcagnile L, Bondioli L, Nava A, Cilli E, Luiselli D, Benazzi S (2025) Reconstructing life history and ancestry from poorly preserved skeletal remains: A bioanthropological study of a Copper Age infant from Faenza (RA, Italy). *Journal of Archaeological Science* 180, 106291.
13. Letulle T, Lech Świś P, **Lugli F**, Ferretti A, Rigo M (2025) Conodont apatite record of marine Sr isotopic composition in the advent of the Hangenberg Event (Late Devonian). *Chemical Geology* 692, 122981.
14. Scaggion C, Giovanardi T, Loponte D, Carbonera M, Armaroli E, Bernardini S, Benazzi S, Gascue A, Acosta A, Marciani G, Bortolini E, Cipriani A, **Lugli F** (2025) Random forest-based bioavailable strontium isotope for environmental and archaeological applications in central eastern Argentina and western Uruguay. *PlosONE* 20, e0326047.
15. Andreozzi GB, Di Giuseppe D, Gualtieri AF, Scognamiglio V, Fornasini L, Bersani D, Giovanardi T, **Lugli F**, Pezzotta F. Fibrous tourmaline from San Piero in Campo (Elba, Italy). *European Journal of Mineralogy* 37, 437-453.
16. Michailow MM, **Lugli F\***, Cipriani A, Della Giustina F, Ferretti A, Malferrari D, Fowler D, Freedman Fowler E, Weber M, Tütken T (2025) Combined Ca, Sr isotope and trace element analyses of Late Cretaceous dinosaur teeth: assessing diet versus diagenesis. *Geochimica et Cosmochimica Acta* 400, 172-189.
17. Imposimato N, Mazur M, Sperduti A, De Santis P, **Lugli F** (2025) Dental Anomalies in the Past: Fusion, Gemination, and Talon Cusp in Two Archeological Samples. *International Journal of Paediatric Dentistry* 35, 756-762.
18. De Falco M, Aurino P, Cavazzuti C, Lucarelli C, Canovaro C, **Lugli F**, Sperduti A, Cecconi V, Angelini I, Artioli G, Cipriani A (2025) A multi-analytical approach to unveil Early Bronze Age population dynamics and metal exchange networks at the foot of Mount Vesuvius. *Scientific Reports* 15, 19492.
19. Cecconi V, Nava A, **Lugli F**, Mittnik A, Sawyer S, Gadeyne J, Brouillard C, Pinhasi R, Reich D, Sperduti A (2025) A short and sickly life. Multi-indicator analysis of an infant from a late antique Italian burial site (Piano della Civita, Artena, 3rd-5th cent CE). *International Journal of Paleopathology* 49, 93-103.
20. Brunelli D, Verhoest L, Ligi M, Hemond C, Maia M, Soltanmohammadi A, **Lugli F**, Nonnotte P, Cipriani A (2025) Large melt diversity at a mid-ocean ridge thermal low. *Science Advances* 11, eadv4654.
21. Gigante M, Esposito C, **Lugli F**, Sperduti A, Cinquantaquattro TE, d'Agostino B, Nava A, Müller W,

- Bondioli L (2025) Where Typhoeus lived: 87Sr/86Sr analysis of human remains in the first Greek site in the Western Mediterranean, Pithekoussai, Italy. *iScience* 28, 111927.
22. Cipriani A, **Lugli F**, Maselli V (2025) Green building materials undercut EU plastic goals. *Science* 387, 6730.
  23. Piccirilli E, Sorrentino R, **Lugli F**, Bortolini E, Silvestrini S, Cavazzuti C, Conti S, Czifra S, Gyenesei K, Kohler K, Tanko K, Vazzana A, Jerem E, Cipriani A, Gottarelli A, Belcastro MG, Hajdu T, Benazzi S (2024) New insights on Celtic migration in Hungary and Italy through the analysis of non-metric dental traits. *PlosONE* 18, e0293090.
  24. Magri S, Higgins OA, **Lugli F**, Silvestrini S, Vazzana A, Bondioli L, Nava A, Benazzi S (2024) Enamel histomorphometry, growth patterns and developmental trajectories of the first deciduous molar in an Italian early medieval skeletal series. *PlosONE* 19, e0304051.
  25. Esposito C, Higgins OA, Galbusera A, Gigante M, **Lugli F**, Müller W, Madgwick R, Coppa A, Benazzi S, Bondioli L, Nava A (2024) NOthing goes to WAstE (NOWA): A protocol to optimise sampling of ancient teeth. *Journal of Archaeological Science* 171, 106087.
  26. Nava A, **Lugli F**, Lemmers S, Cerrito P, Mahoney P, Bondioli L, Müller W (2024) Reading children's teeth to reconstruct life history: the wealth of information hidden inside dental enamel microstructure and chemical composition. *Neuroscience and Biobehavioral Reviews*, 163, 105745.
  27. Higgins OA, Modi A, Cannariato C, Diroma MA, **Lugli F**, Ricci S, Zaro V, Vai S, Vazzana A, Romandini R, Yu H, Boschini F, Magnone L, Rossini M, Di Domenico G, Baruffaldi F, Oxilia G, Bortolini E, Dellù E, Moroni A, Ronchitelli A, Talamo S, Müller W, Calattini M, Nava A, Posth C, Lari M, Bondioli L, Benazzi S, Caramelli D (2024) Life history and ancestry of the Late Upper Palaeolithic infant from Grotta delle Mura (Southern Italy, 17 ka). *Nature Communications*, 15, 8248.
  28. Seghi F, **Lugli F**, James H, Löffelmann T, Armaroli E, Vazzana A, Cipriani A, Snoeck C, Benazzi S (2024) Investigating mobility patterns in north-eastern Italy during the Roman Empire: isotope and osteological analyses at *Mutina*. *Journal of Archaeological Science: Reports*, 58, 104728.
  29. Silvestrini S, Real C, **Lugli F**, Delpiano D, Harvati K, Collina C, Peresani M, Spinapolice EE, Romandini M, Benazzi S (*accepted*) Hunting game: new data on the subsistence strategies during the Uluzzian in Italy. *Journal of Archaeological Science: Reports*.
  30. Müller W, **Lugli F**, McCormack J, Evans D, Anczkiewicz R, Bondioli L, Nava A (2025) Human Life Histories. *Treatise on Geochemistry*, Elsevier 3<sup>rd</sup> edition [*invited review article*], <https://doi.org/10.1016/B978-0-323-99762-1.00105-4>.
  31. Armaroli E, **Lugli F\***, Cipriani A, Tütken T (2024) Spatial-ecology of moose in Sweden: combined Sr-O-C isotope analyses of bone and antler. *Plos ONE*, doi: 10.1371/journal.pone.0300867.
  32. Columbu A, Pérez-Mejías C, Regattieri E, **Lugli F**, Dong X, Depalmas A, Melis R, Cipriani A, Cheng H, Zanchetta G, De Waele J (2024) Speleothems uncover environmental changes during late Holocene intra- and post-Nuragic period in Sardinia (Italy): A possible human influence on land use during bronze to Iron Age cultural shifts. *Quaternary Science Reviews*, doi: 10.1016/j.quascirev.2024.108534.

33. Bigi D, Lugli S, Manzi V, Roveri M, Pashko P, Milushi I, Muttoni G, Turco E, Cipriani A, **Lugli F** (2024) The Messinian salinity crisis onset in Albania: an integrated approach by bio-magnetostratigraphy and rock magnetic analyses. *Palaeogeography, Palaeoclimatology, Palaeoecology* 638: 112036.
34. Vola G, Ardit M, Frijia G, Di Benedetto F, Fornasier F, **Lugli F**, Natali C, Sarandrea L, Schmitt K, Cipriani A (2023) Characterization of carbonate rocks for quicklime and dolomite production: the case of twin shaft regenerative kilns from the Arabian Peninsula and neighboring countries. *Minerals*, doi: 10.3390/min2656771
35. Granja R, Araújo AC, **Lugli F**, Silvestrini S, Silva AM, Gonçalves D (2023) Unbalanced sex-ratio in the Neolithic individuals from the Escoural Cave (Montemor-o-Novo, Portugal) revealed by peptide analysis. *Scientific Reports* 13, 19902.
36. Piccirilli E, Sorrentino R, **Lugli F**, Bortolini E, Silvestrini S, Cavazzuti C, Conti S, Czifra S, Figus C, Gyenesi K, Köhler K, Oxilia G, Tankó K, Vazzana A, Vitali D, Jerem E, Cipriani A, Gottarelli A, Belcastro MG, Hajdu T, Benazzi S (2023) New insights on Celtic migration in Hungary and Italy through the analysis of non-metric dental traits. *PlosONE* 18, e0293090.
37. Porcaro M, Barbaro B, Canovaro C, Artioli G, Lucarelli C, **Lugli F**, Depalmas A, Brunetti A, (2023) A multi analytical characterization of a small bronze figurine from Gran Carro site (Bolsena lake, Italy). *Journal of Archaeological Science: Reports*, doi: <https://doi.org/10.1016/j.jasrep.2023.104230>.
38. Romandini M, Silvestrini S, Real C, **Lugli F**, Tassoni L, Carrera L, Badino F, Bortolini E, Marciani G, Delpiano D, Piperno M, Collina C, Peresani M, Benazzi S (2023) Late Neanderthal “Menù” in Italy: Freshwater and terrestrial animal resources from North to South. *Quaternary Science Reviews*, doi: 10.1016/j.quascirev.2023.108233.
39. Gigante M, Mazzariol A, Bonetto J, Armaroli E, Cipriani A, **Lugli F\*** (2023) Machine learning-based Sr isoscape of southern Sardinia: a tool for bio-geographic studies at the Phoenician-Punic site of Nora. *Plos ONE* 18, e0287787.
40. Kazlagic A, Rosner M, Cipriani A, Frick DA, Glodny J, Hoffmann EJ, Hora JM, Irrgeher J, **Lugli F**, Magna T, Meisel TC, Meixner A, Possolo A, Pramann A, Pribil MJ, Prohaska T, Retzmann A, Rienitz O, Rutherford D, Paula-Santos GM, Tatzel M, Widhalm S, Willbold M, Zuliani T, Vogl J (2023) Characterisation of Conventional <sup>87</sup>Sr/<sup>86</sup>Sr Isotope Ratios in Cement, Limestone and Slate Reference Materials Based on an Interlaboratory Comparison Study. *Geostandards and Geoanalytical Research*, doi: 10.1111/ggr.12517.
41. Cipriani A, Giovanardi T, Mazzucchelli M, **Lugli F**, Sforza MC, Gualtieri A, Di Giuseppe D, Brunelli D (2023) Geochemical and mineralogical characterization of a megacryst of hydroxylapatite from the Tertiary volcanism of the Veneto Volcanic Province, Italy. *Mineralogy and Petrology*, doi: 10.1007/s00710-023-00831-4.
42. Peripoli B, Gigante M, Mahoney P, McFarlane G, Coppa A, **Lugli F**, Lauria G, Bondioli L, Sconzo P, Sineo L, Nava A (2023) Exploring prenatal and neonatal life history through dental histology in infants from the Phoenician necropolis of Motya (7th- 6th century BCE). *Journal of Archaeological Science: Reports* 49: 104024.

43. Esposito C, Gigante M, **Lugli F**, Miranda P, Cavazzuti C, Sperduti A, Pacciarelli M, Stoddart S, Reimer P, Malone C, Bondioli L, Müller W (2023) Intense community dynamics in the pre-Roman frontier site of Fermo (ninth–fifth century BCE, Marche, central Italy) inferred from isotopic data. *Scientific Reports* 13: 3632.
44. Silvestrini S, **Lugli F**, Romandini M, Real C, Sommella E, Salviati E, Arrighi S, Bortolini E, Figus C, Higgins OA, Marciani G, Oxilia G, Delpiano D, Vazzana A, Piperno M, Crescenzi C, Campiglia P, Collina C, Peresani M, Spinapolice E, Benazzi S (2022) Integrating ZooMS and zooarchaeology: new data from the Uluzzian levels of Riparo del Broion, Rocca San Sebastiano and Uluzzo C. *PLoS ONE* 17(10): e0275614.
45. Vola G, Ardit M, Frija G, Cavallo A, Natali C, Balma Mion C, **Lugli F**, Primavori P (2022) Archaeometric characterization of historical-contemporaneous marbles from Waldensian valleys of Piedmont (Dora-Maira Massif, Cottian Alps, Italy). *Journal of Archaeological Science: Reports*, doi: 10.1016/j.jasrep.2022.103562.
46. Oxilia G, Bortolini E, Marciani G, Menghi Sartorio JC, Vazzana A, Bettuzzi M, Panetta D, Arrighi S, Badino F, Figus C, **Lugli F**, Romandini M, Silvestrini S, Sorrentino R, Moroni A, Donadio C, Morighi MP, Slon V, Piperno M, Talamo S, Collina C, Benazzi S (2022) Direct evidence that late Neanderthal occupation precedes a technological shift in southwestern Italy. *American Journal of Biological Anthropology*, doi: 10.1002/ajpa.24593.
47. Figus C, Stephens N, Sorrentino R, Bortolini E, Arrighi S, **Lugli F**, Marciani G, Oxilia G, Romandini M, Silvestrini S, Baruffaldi F, Belcastro MG, Bernardini F, Erjavec I, Festa A, Hajdu T, Mateovics-László O, Novak M, Pap I, Szeniczey T, Tuniz C, Ryan TM, Benazzi S (2022) Human talar ontogeny: insights from morphological and trabecular changes during postnatal growth. *American Journal of Biological Anthropology*, doi: 10.1002/ajpa.24596.
48. Vazzana A, Higgins OA, Oxilia G, **Lugli F**, Silvestrini S, Nava A, Bondioli L, Bortolini E, Di Domenico G, Bernardini F, Tuniz C, Mancini L, Bettuzzi M, Morigi MP, Piperno M, Collina C, Romandini M, Benazzi S (2022) High-accuracy methodology for the integrative restoration of archaeological teeth by using reverse engineering techniques and rapid prototyping. *Journal of Archaeological Science: Reports* 44, 103511.
49. Monti AM, Ricci G, Martini M, Galli A, **Lugli F**, Dalconi MC, Artioli G (2022) Unusual Luminescence of Quartz from La Sassa, Tuscany: Insights on the Crystal and Defect Nanostructure of Quartz Further Developments. *Minerals* 12, 828.
50. Garbelli C, Cipriani A, Brand U, **Lugli F**, Posenato R (2022) Strontium Isotope stratigraphic insights on the end-Permian mass extinction and the Permian-Triassic boundary in the Dolomites (Italy). *Chemical Geology*, doi: 10.1016/j.chemgeo.2022.120946.
51. Figus C, Stephens NB, Sorrentino R, Bortolini E, Arrighi S, Higgins OA, **Lugli F**, Marciani G, Oxilia G, Romandini M, Silvestrini S, Baruffaldi F, Belcastro MG, Bernardini F, Festa A, Hajdu T, Mateovics-László O, Pap I, Szeniczey T, Tuniz C, Ryan TM, Benazzi S (2022) Morphologies in-between: the impact of the first steps on the human talus. *The Anatomical Record*, doi: 10.1002/ar.25010.
52. **Lugli F\***, Nava A, Sorrentino R, Vazzana A, Bortolini E, Oxilia G, Silvestrini S, Nannini N, Bondioli L, Fewlass H, Talamo S, Bard E, Mancini L, Müller W, Romandini M, Benazzi S (2022) Tracing the mobility of a Late Epigravettian (~13 ka) male infant from Grotte di Pradis (Northeastern Italian Prealps) at high-temporal

resolution. *Scientific Reports*, doi: 10.1038/s41598-022-12193-6.

53. Vescogni A, Guido A, Cipriani A, Gennari R, **Lugli F**, Lugli S, Manzi V, Reghizzi M, Roveri M (2022) Palaeoenvironmental setting and depositional model of upper Messinian microbialites of the Salento Peninsula (Southern Italy): A central Mediterranean Terminal Carbonate Complex. *Palaeogeography, Palaeoclimatology, Palaeoecology*, doi: 10.1016/j.palaeo.2022.110970.
54. Gatti L, **Lugli F\***, Sciutto G, Zangheri M, Prati S, Mirasoli M, Silvestrini S, Benazzi S, Tütken T, Douka K, Collina C, Boschin F, Romandini M, Iacumin P, Guardigli M, Roda A, Mazzeo R (2022) Combining elemental and immunochemical analyses to characterize diagenetic pathways in ancient odontoskeletal remains. *Scientific Reports*, doi: 10.1038/s41598-022-08979-3.
55. Boer W, Nordstad S, Weber M, Mertz-Kraus R, Hönisch B, Bijma J, Raitzsch M, Wilhelms-Dick D, Foster GL, Goring-Harford H, Nürnberg D, Hauff F, Kuhnert H, **Lugli F**, Spero H, Rosner M, van Gaever P, de Nooijer LJ, Reichart GJ (2022) A new calcium carbonate nano-particulate pressed powder pellet NFHS-2-NP for LA-ICP-OES, LA-(MC)-ICP-MS and  $\mu$ XRF. *Geostandard and Geoanalytical Research*, doi: 10.1111/GGR.12425.
56. Berio LR, Mitterpergher S, Storti F, Bernasconi S, Cipriani A, **Lugli F**, Balsamo F (2022) Open-closed-open paleofluid system conditions recorded in the tectonic vein networks of the Parmelan anticline (Bornes Massif, France). *Journal of the Geological Society*, doi: 10.1144/jgs2021-117.
57. Gasparini A, **Lugli F**, Silvestrini S, Pietrobelli A, Marchetta I, Benazzi S, Belcastro MG (2022) Biological sex VS. Archaeological Gender: Enamel peptide analysis of the horsemen of the Early Middle age necropolises of Campochiaro (Molise, Italy). *Journal of Archaeological Science: Reports* 41, 103337.
58. **Lugli F\***, Cipriani A, Bruno L, Ronchetti F, Cavazzuti C, Benazzi S (2022) A strontium isoscape of Italy for provenance studies. *Chemical Geology*, doi: 10.1016/j.chemgeo.2021.120624 [[invited research article](#)].
59. Hodgkins J, Orr CM, Gravel-Miguel C, Riel-Salvatore J, Miller CE, Bondioli L, Nava A, **Lugli F**, Talamo S, Hajdinjak M, Cristiani E, Romandini M, Meyer D, Drohobytsky D, Kuester F, Pothier-Bouchard G, Buckley M, Mancini L, Baruffaldi F, Silvestrini S, Arrighi S, Keller HM, Griggs RB, Peresani M, Strait DS, Benazzi S, Negrino F (2021) An infant burial from Arma Veirana in northwestern Italy provides insights into funerary practices and female personhood in early Mesolithic Europe. *Scientific Reports* 11, 23735.
60. Elmi C, Cipriani A, **Lugli F**, Sighinolfi G (2021) Insights on the Origin of Vitriified Rocks from Serravuda, Acri (Italy): Rock Fulgurite or Anthropogenic Activity? *Geosciences* 11, 493.
61. Cavazzuti C, Hajdu T, **Lugli F**, Sperduti A, Vicze M, Kiss V (2021) Human mobility in a Bronze Age Vатья ‘urnfield’ and the life history of a high-status woman. *PLoS ONE* 16, e0254360.
62. Silvestrini S, Romandini M, Marciani G, Arrighi S, Carrera L, Fiorini A, Lòpez-Garcia M, **Lugli F**, Rinaldo F, Slon V, Tassoni L, Higgins O, Bortolini E, Curci A, Meyer M, Meyer MC, Oxilia G, Zerboni A, Benazzi S, Spinapolice E (2021) Integrated multidisciplinary ecological analysis from the Uluzzian settlement at the Uluzzo C Rock Shelter, south-eastern Italy. *Journal of Quaternary Science*, doi: 10.1002/jqs.3341.
63. Argentino C, **Lugli F**, Cipriani A, Panieri G (2021) Testing miniaturized extraction chromatography

protocols for combined  $^{87}\text{Sr}/^{86}\text{Sr}$  and  $\delta^{88}/^{86}\text{Sr}$  analyses of pore water by MC-ICP-MS. *Limnology and Oceanography: Methods*, doi: 10.1002/lom3.10435.

64. Bortolini E, Pagani L, Oxilia G, Posth C, Fontana F, Badino F, Saupe T, Montinaro F, Margaritora D, Romandini M, **Lugli F**, Papini A, Boggioni M, Perrini N, Oxilia A, Aiese Cigliano R, Barcelona R, Visentin D, Fasser N, Arrighi S, Figus C, Marciani G, Silvestrini S, Bernardini F, Menghi Sartorio JC, Fiorenza L, Moggi Cecchi J, Tuniz C, Kivisild T, Gianfrancesco F, Peresani M, Scheib CL, Talamo S, D'Esposito M, Benazzi S (2021) Early Alpine occupation backdates westward human migration in Late Glacial Europe. *Current Biology*, doi: 10.1016/j.cub.2021.03.078.
65. **Lugli F**, Sciutto G, Olivieri P, Malegori C, Prati S, Gatti L, Silvestrini S, Romandini M, Catelli E, Casale M, Talamo S, Iacumin P, Benazzi S, Mazzeo R (2021) Near-infrared hyperspectral imaging (NIR-HSI) and normalized difference image (NDI) data processing: an advanced method to map collagen in archaeological bones. *Talanta*, doi: 10.1016/j.talanta.2021.122126.
66. Weber M, Tacail T, **Lugli F**, Clauss M, Weber K, Leichliter J, Winkler D, Mertz-Kraus R, Tütken T (2020) Strontium uptake and intra-population  $^{87}\text{Sr}/^{86}\text{Sr}$  variability of bones and teeth – controlled feeding experiments in rodents (*Rattus norvegicus*, *Cavia porcellus*). *Frontiers in Ecology and Evolution*, doi: 10.3389/fevo.2020.569940.
67. **Lugli F\***, Figus C, Silvestrini S, Costa V, Bortolini E, Conti S, Peripoli B, Nava A, Sperduti A, Lamanna L, Bondioli L, Benazzi S (2020) Sex-related morbidity and mortality in non-adult individuals from the Early Medieval site of Valdaro (Italy): the contribution of dental enamel peptide analysis. *Journal of Archaeological Science: Reports*, doi: 10.1016/j.jasrep.2020.102625.
68. Arrighi S, Marciani G, Rossini M, Pereira MC, Fiorni A, Marini I, Aureli D, Badino D, Bortolini E, Figus C, **Lugli F**, Oxilia G, Romandini M, Silvestrini S, Ronchitelli A, Moroni A, Benazzi S (2020) Between the hammerstone and the anvil. Bipolar knapping and other percussive activities in the late Mousterian and the Uluzzian of Grotta di Castelcivita (Italy). *Archaeological and Anthropological Sciences* 12, 271.
69. Badino F, Pini R, Bertuletti P, Ravazzi C, Delmonte B, Monegato G, Reimer P, Vallè F, Arrighi S, Bortolini E, Figus C, **Lugli F**, Maggi V, Marciani G, Margaritora D, Oxilia G, Romandini M, Silvestrini S, Benazzi S (2020) The fast-acting "pulse" of Heinrich Stadial 3 in a mid-latitude boreal ecosystem. *Scientific Reports* 10, 18031.
70. Nava A\*, **Lugli F\*\***, Romandini M, Badino F, Evans D, Helbling A, Oxilia G, Arrighi S, Bortolini E, Delpiano D, Duches R, Figus C, Livraghi A, Marciani G, Silvestrini S, Cipriani A, Giovanardi T, Pini R, Nannini N, Tuniz C, Bernardini F, Dori I, Coppa A, Cristiani E, Dean C, Bondioli L, Peresani M, Müller W, Benazzi S (2020) Early life of Neanderthals. *PNAS*, doi: 10.1073/pnas.2011765117.  
\*contributo equamente (*joint first-authorship*).
71. Kocsis L, Botfalvai G, Qamarina Q, Razak H, Király E, **Lugli F**, Wings O, Lambertz M, Raven H, Briguglio A, Rabig M (2020) Geochemical analyses suggest stratigraphic origin and late Miocene age of reworked vertebrate remains from Penanjong Beach in Brunei Darussalam (Borneo). *Historical Biology*, doi: 10.1080/08912963.2020.1819999.
72. Romandini R, Oxilia G, Bortolini E, Peyrégne S, Delpiano D, Nava A, Panetta D, Di Domenico G, Martini P, Arrighi S, Badino F, Figus C, **Lugli F**, Marciani G, Silvestrini S, Menghi Sartorio JC, Terlato G, Hublin JJ,

- Meyer M, Bondioli L, Higham T, Slon V, Peresani M, Benazzi S (2020) A late Neanderthal tooth from northeastern Italy. *Journal of Human Evolution* 147, 102867.
73. Oxilia G, Bortolini E, Badino F, Bernardini F, Gazzoni V, **Lugli F**, Romandini M, Radini, Terlato G, Marciani G, Silvestrini S, Menghi Sartorio J, Thun Hohensteind U, Fiorenza L, Kullmer O, Fontana F, Peresani M, Tuniz C, Moggi-Checci J, Talamo S, Benazzi S, Cristiani E (2020) Exploring Late Palaeolithic and Mesolithic diet in the Eastern Alpine Region of Italy through multi-proxies. *American Journal of Physical Anthropology*, doi: 10.1002/ajpa.24128.
74. Benazzi S, Arrighi S, Badino F, Bortolini E, Figus C, **Lugli F**, Marciani G, Oxilia G, Romandini M, Silvestrini S, Boscato P, Cipriani A, Moroni A, Negrino F, Peresani M, Pini R, Ravazzi C, Ronchitelli A, Spinapolice E (2020) A focus on the Middle to Upper Palaeolithic transition in the Mediterranean area. *Quaternary International*, doi: 10.1016/j.quaint.2020.06.029.
75. Sighinolfi GP, **Lugli F**, Piccione F, De Michele V, Cipriani A (2020) Terrestrial target and melting site of Libyan Desert Glass: new evidence from trace elements and Sr isotopes. *Meteoritics & Planetary Science*, doi: 10.1111/maps.13550.
76. Catelli G, Sciutto G, Prati S, Chavez Lozano MV, Gatti L, **Lugli F**, Silvestrini S, Benazzi S, Genorini E, Mazzeo R (2020) A new miniaturised short-wave infrared (SWIR) spectrometer for on-site cultural heritage investigations. *Talanta* 218, 121112.
77. **Lugli F\***, Weber M, Giovanardi T, Arrighi S, Bortolini E, Figus C, Marciani G, Oxilia G, Romandini M, Silvestrini S, Jochum KP, Benazzi S, Cipriani A (2020) Fast offline data reduction of laser ablation MC-ICP-MS Sr isotope measurements via the interactive Excel-based spreadsheet 'SrDR'. *Journal of Analytical Atomic Spectrometry* 35, 852 – 862.
78. Leonardi P, **Lugli F**, Iotti M, Puliga F, Piana F, Gallo M, Baldi F, Vittori Antisari L, Zambonelli A, Chiarantini L (2020) Effects of biogenerated ferric hydroxides nanoparticles on truffle mycorrhized plants. *Mycorrhiza*, doi:10.1007/s00572-020-00947-x.
79. Collina C, Marciani G, Martini I, Donadio C, Repola L, Bortolini E, Arrighi S, Badino F, Figus C, **Lugli F**, Oxilia G, Romandini M, Silvestrini S, Piperno M, Benazzi S (2020) Refining the Uluzzian through a new lithic assemblage from Roccia San Sebastiano (Mondragone, southern Italy). *Quaternary International*, doi: 10.1016/j.quaint.2020.03.056
80. Cerchiari A, Cipriani A, Mittempergher M, Festa A, **Lugli F**, Remitti F (2020) Cyclical variations of fluid sources and stress state in a shallow megathrust zone mélangé. *Journal of the Geological Society*, 177: 647-659.
81. Consuma G, Braga R, Giovanardi T, Bersani D, Konzett J, **Lugli F**, Mazzucchelli M, Tropper P (2020) In-situ Sr isotope analysis of mantle carbonates: constraints on the evolution and sources of metasomatic carbon-bearing fluids in a paleo-collisional setting. *Lithos*, doi: 10.1016/j.lithos.2019.105334.
82. Arrighi S, Bortolini E, Tassoni L, Benocci A, Manganelli G, Spagnolo V, Foresi LM, Bambini AM, **Lugli F**, Badino F, Aureli D, Boschini F, Figus C, Marciani G, Oxilia G, Silvestrini S, Cipriani A, Romandini M, Peresani M, Ronchitelli A, Moroni A, Benazzi S (2020) Backdating systematic shell ornament making in Europe to 45000 years ago. *Archaeological and Anthropological Sciences* 12, 59.

83. Arrighi S, Riel-Salvatore J, Boschin F, Figus C, Oxilia G, Badino F, Forte M, Benazzi S, Romandini M, Boscato P, Bortolini E, **Lugli F**, Tassoni L, Negrino F, Crezzini J, Marciani G, Ronchitelli A, Spinapolice E, Peresani M, Moroni A (2019) Bone tools, ornaments and other unusual objects during the Middle to Upper Palaeolithic transition in Italy. *Quaternary International*, doi: 10.1016/j.quaint.2019.11.016.
84. Romandini M, Bortolini E, Crezzini J, Tagliacozzo A, Peresani M, Figus C, Carrera L, Badino F, **Lugli F**, Ronchitelli A, Boschin F, Oxilia G, Arrighi S, Marciani G, Moroni A, Riel-Salvatore J, Spinapolice E, Terlato G, Negrino F, Boscato P, Benazzi S (2019) Macromammal and bird assemblages of Late Middle to Upper Palaeolithic transition in Italy. *Quaternary International*, doi: 10.1016/j.quaint.2019.11.008.
85. Marciani G, Ronchitelli A, Arrighi S, Badino F, Bortolini E, Boscato P, Boschin F, Crezzini J, Delpiano D, Falucci A, Figus C, **Lugli F**, Oxilia G, Romandini M, Riel-Salvatore J, Peresani M, Negrino F, Peresani M, Spinapolice EE, Moroni A, Benazzi S (2019) Lithic techno-complexes in Italy from 50 to 39 thousand years BP: an overview of cultural and technological changes across the Middle-Upper Palaeolithic boundary. *Quaternary International*, doi: 10.1016/j.quaint.2019.11.005.
86. Badino F, Pini R, Ravazzi C, Margaritora D, Arrighi S, Bortolini E, Figus C, Giaccio G, **Lugli F**, Marciani G, Monegato G, Moroni A, Negrino F, Oxilia G, Peresani M, Romandini M, Ronchitelli A, Spinapolice E, Zerboni A, Benazzi S (2019) An overview of Alpine and Mediterranean palaeogeography, terrestrial ecosystems and climate history during MIS 3 with focus on the Middle to Upper Palaeolithic transition. *Quaternary International*, doi: 10.1016/j.quaint.2019.09.024.
87. Weber M, **Lugli F**, Hattendorf B, Scholz D, Mertz-Kraus R, Schröder-Ritzrau A, Guinoiseau D, Jochum KP (2019) NanoSR - A New Carbonate Microanalytical Reference Material for *In Situ* Strontium Isotope Analysis. *Geostandards and Geoanalytical Research*, doi: 10.1111/ggr.12296.
88. **Lugli F\***, Di Rocco G, Vazzana A, Genovese F, Pinetti D, Cilli E, Carile MC, Silvestrini S, Gabanini G, Arrighi S, Buti L, Bortolini E, Cipriani A, Figus C, Marciani G, Oxilia G, Romandini M, Sorrentino R, Sola M, Benazzi S (2019) Enamel peptides reveal the sex of the Late Antique ‘Lovers of Modena’. *Scientific Reports*, doi: 10.1038/s41598-019-49562-7 [journal top 100 for 2019 with +30k accesses].
89. Jochum KP, Garbe-Schönberg D, Veter M, Stoll B, Weis U, Weber M, **Lugli F**, Jentzen A, Schiebel R, Wassenburg J, Jacob D, Haug G (2019) Nano-powdered calcium carbonate reference materials: a significant progress for microanalysis? *Geostandards and Geoanalytical Research*, doi: 10.1111/ggr.12292.
90. **Lugli F\*** (2019) Accurate Sr isotope determination of human bone and tooth samples by LA-MC-ICP-MS: a comment on ‘Meijer et al., 2019’. *International Journal of Osteoarchaeology*, doi: 10.1002/oa.2795.
91. Argentino C, **Lugli F**, Cipriani A, Conti S, Fontana D (2019) A deep fluid source of radiogenic Sr and highly dynamic seepage conditions recorded in Miocene seep carbonates of the northern Apennines (Italy). *Chemical Geology* 522, 135-147.
92. **Lugli F\***, Cipriani A, Capecchi G, Ricci S, Boschin F, Boscato P, Iacumin P, Badino F, Mannino MA, Talamo S, Richards MP, Benazzi S, Ronchitelli A (2019) Strontium and stable isotope evidence of human mobility strategies across the Last Glacial Maximum in southern Italy. *Nature Ecology & Evolution* 3, 905-911.

93. Weber M, Scholz D, Schröder-Ritzrau A, Deininger M, Spötl C, **Lugli F**, Mertz-Kraus R, Jochum KP, Fohlmeister J, Stumpf CF, Riechelmann DFC (2018) Evidence of two exceptionally warm and humid interstadials in central Europe during MIS 3 (52 – 43 ka) revealed by a multi-proxy speleothem record. *Quaternary Science Reviews* 200, 276-286.
94. **Lugli F\***, Cipriani A (2018) Comment on: “Metals in bones of the middle-aged inhabitants of Sardinia island (Italy) to assess nutrition and environmental exposure [Bocca et al. (2018), *Environ Sci Pollut Res*]”. *Environmental Science and Pollution Research*, doi: 10.1007/s11356-018-3330-2.
95. **Lugli F\***, Cipriani A, Tavaglione V, Traversari M, Benazzi S (2018) Transhumance pastoralism of Roccapelago (Modena, Italy) Early-Modern individuals: inferences from Sr isotopes of hair strands. *American Journal of Physical Anthropology*, doi: 10.1002/ajpa.23643.
96. **Lugli F\***, Cipriani A, Arnaud J, Arzarello M, Lembo G, Janssen R, Vonhof H, Peretto C, Benazzi S (2018) Middle Pleistocene human and animal mobility at Isernia La Pineta: a strontium and oxygen isotope perspective. *Alpine and Mediterranean Quaternary* 31, 79-81.
97. Giovanardi T, Mazzucchelli M, **Lugli F**, Girardi V, Correia C, Tassinari C, Cipriani A (2018) Isotopic constraints on contamination processes in the Tonian Goias Stratiform Complex. *Lithos*, doi: 10.1016/j.lithos.2018.04.008.
98. Sorrentino R, Bortolini E, **Lugli F**, Mancuso G, Buti L, Minghetti C, Oxilia G, Vazzana A, Serrangeli MC, Margherita C, Penzo A, Gruppioni G, Gottarelli A, Cipriani A, Jochum KP, Feeney R, Benazzi S (2018) Unravelling the biocultural structure of the 4th to 3rd century BC necropolis of Monterenzio Vecchio (Bologna, Italy) by strontium isotope analysis, non-metric dental evidences and funerary patterns. *PLoS ONE*, doi: 10.1371/journal.pone.0193796.
99. Weber M, **Lugli F**, Jochum KP, Cipriani A, Scholz D (2018) Calcium carbonate and phosphate reference materials for bulk and microanalytical work of Sr isotopes. *Geostandards and Geoanalytical Research* 42, 77-89.
100. **Lugli F\***, Cipriani A, Arnaud J, Arzarello M, Peretto C, Benazzi S (2017) Suspected limited mobility of a Middle Pleistocene woman from Southern Italy: strontium isotopes of a human deciduous tooth. *Scientific Reports* 7, 8615.
101. Giovanardi T and **Lugli F\*** (2017) The Hf-INATOR: a free data reduction spreadsheet for Lu/Hf isotope analysis. *Earth Science Informatics* 10, 517-523.
102. **Lugli F\*** and Cipriani A (2017) Commentary on “Analyses of human dentine and tooth enamel by laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) to study the diet of medieval Muslim individuals from Tauste (Spain)” by Guede et al. 2017, *Microchemical Journal* 130, 287–294. *Microchemical Journal* 133, 67-69.
103. Sforza MC and **Lugli F\*** (2017) MapIT!: a simple and user-friendly MATLAB script to elaborate elemental distribution images from LA-ICP-MS data. *Journal of Analytical Atomic Spectrometry* 32, 1035-1043.

104. **Lugli F\***, Cipriani A, Peretto C, Mazzucchelli M, Brunelli D (2017) In situ high spatial resolution  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio determination of two Middle Pleistocene (c.a. 580 ka) *Stephanorhinus hundsheimensis* teeth by LA-MC-ICP-MS. *International Journal of Mass Spectrometry* 412(C), 38-48 [cover article for the *IJMS* volume 412].
105. **Lugli F\***, Brunelli D, Cipriani A, Bosi G, Traversari M, Gruppioni G (2017) C4-Plant Foraging in Northern Italy: Stable Isotopes, Sr/Ca and Ba/Ca Data of Human Osteological Samples from Roccapelago (16th–18th centuries AD). *Archaeometry* 59, 1119-1134.
106. Cannavò V, Photos-Jones E, Levi ST, Brunelli D, Fragnoli P, Lomarco G, **Lugli F**, Martinelli MC, Sforza MC (2017). Having issues with coarse wares: p-XRF analysis of multi-period Impasto and Cooking Pot wares from the excavations at Stromboli-San Vincenzo, Aeolian Islands, Italy. *STAR: Science & Technology of Archaeological Research* 6, 66-73.

### Capitoli di libro e articoli su riviste nazionali

1. Capasso G, Baratella V, Beck De Lotto MA, Gallo V, **Lugli F** (2023) Il problema dell'inumazione nel mondo veneto durante l'età del Ferro tra ritualità e mobilità. Nuovi dati bioarcheologici dalla necropoli patavina del CUS-Piovego. *Preistoria Alpina* 53, 107-120.
2. Severi S, Cattani M, **Lugli F**, Cipriani A, Cavazzuti C (2023) La produzione metallurgica nel sito del Bronzo Medio e Recente di Solarolo-via Ordere (Ravenna): aspetti della tecnologia e provenienza del rame. *OCNUS*, 30, 9-43.
3. Gualdi-Russo E, **Lugli F**, Russo V (2022) Volti dal passato: Analisi antropologica di alcune sepolture. In: *Sotto la Malatestiana. Indagini archeologiche nel cuore di Cesena* (eds. Cavallari C, Mengozzi M). Stilgraf editore. pp. 201-212.
4. Cipriani A, **Lugli F**, Frank G.A. Verheijen, Brunelli D, Marchetti A, Malavasi G (2018) Le analisi di fosforo ed elementi leggeri nei suoli. In: *Una sosta lungo la via Emilia, tra selve e paludi. La mansio di Forum Gallorum a Castelfranco Emilia* (eds. S. Campagnari, F. Foroni, D. Neri), pp. 207-210.
5. Cipriani A, **Lugli F**, Martinelli G, Sciarra A (2017) Analisi isotopiche ( $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $\delta^{18}\text{O}$ ,  $\delta\text{D}$  e trizio) delle Salse di Nirano. In: *Studi interdisciplinari in Scienze della Terra per la fruizione in sicurezza della Riserva Naturale delle Salse di Nirano* (eds. Castaldini D, Coventi M, Coratza P, Tosatti G). *Atti Soc. Nat. Mat. Modena* 148 – Supplemento.

### Comunicazioni a conferenze (selezionate)

(\* presentate da **Lugli F**)

1. Barnard, P., **Lugli, F.**, Deter, C., Armaroli, E., Bernardini, S., Cipriani, A., O'Hara, M., Dean, C., Mahoney, P. (2026, March). Provenancing an unidentified forensic case from multi-isotope analyses of human tooth enamel. In *AMERICAN JOURNAL OF BIOLOGICAL ANTHROPOLOGY* (Vol. 189, pp. 11-11). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.

2. Bondioli, L., Anczkiewicz, R., Muller, W., **Lugli, F.**, Nava, A. (2026, March). Bulk versus high spatial resolution Sr isotopic composition measurements: Application to past human mobility studies. In *AMERICAN JOURNAL OF BIOLOGICAL ANTHROPOLOGY* (Vol. 189, pp. 17-17). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
3. Stefani, C., Capasso, G., Galbusera, A., Tauro, L., **Lugli, F.**, Anczkiewicz, R., Bondioli, L., Eskandri, N., Vidale, M., Nava, A. (2026, March). From teeth to tales: investigating histological, proteomic, biogeochemical signatures in dental remains from Jiroft necropolises (Iran, 3rd millennium BC). In *AMERICAN JOURNAL OF BIOLOGICAL ANTHROPOLOGY* (Vol. 189, pp. 181-181). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
4. **Lugli F\***, Armaroli A, Cipriani A, Tütken T (2025)  $\delta^{88/86}\text{Sr}$  as a proxy for diagenetic alteration of strontium in biapatite. Bone Diagenesis Meeting 2025 – Athens.
5. **Lugli F\***, Nava A, Bondioli L, Müller W (2024) The ‘exposome’ and the ‘metallome’ of (fossil) dental enamel: the contribution of spatially-resolved trace elemental signals. *Isotope Metallomics Workshop*, ISMAR, Venice, Italy [talk].
6. **Lugli F\*** (2024) Non-traditional stable isotopes in archaeology, (palaeo)ecology and biomedicine (2024) Thermo Fisher Scientific. Users meeting – Pisa.
7. **Lugli F\***, Müller W, Cipriani A (2024) Sr isotopes spatial distribution in Italy: geocomputational tools to track the geographical origin of humans and animals. *European Association of Archaeologists (EAA) 2024*, Roma, Italy [talk].
8. Vidas L, Silvestrini S, **Lugli F**, Romandini R, Real C, Radović S, Janković I, Benazzi S (2024) Filling in the blanks: the application of palaeoproteomics in faunal analysis. *Proceedings from the 10th Scientific Conference Methodology and Archaeometry*, doi: 10.17234/METARH.2023.2 [published conference proceedings].
9. Vidas L, Silvestrini S, **Lugli F**, Sommella E, Salviati E, Crescenzi C, Campiglia P, Janković I, Benazzi S (2023) Glutamine deamidation rates of bone collagen at three Late Pleistocene sites in Istria (Croatia). *29th Annual Meeting of the European Association of Archaeologists EAA – Belfast (Ireland)* [talk].
10. Esposito CM, Bondioli L, Coppa A, Sperduti A, Madgwick R, Müller W, Trucco F, **Lugli F**, Stoddart S, Benazzi S (2023) TULAR: Transculturality and social innovation in Villanovan areas of pre-Roman Italy. *29th Annual Meeting of the European Association of Archaeologists EAA – Belfast (Ireland)* [talk].
11. Oldershaw L, **Lugli F**, Boczkowska M, Kożuch M, Sperduti A, Coppa A, Guatelli-Steinberg D, Bondioli L, Anczkiewicz R, Nava A (2023) Infant feeding practices in Roman Italy: Weaning variation and its relationship to the lived experiences of women in the past. *29th Annual Meeting of the European Association of Archaeologists EAA – Belfast (Ireland)* [poster].
12. Capasso G, de Lotto MB, **Lugli F**, Sperduti A, Bondioli L, Cupitò M, Vidale M (2022) Unburnt bodies amongst cremated people. First elements to define the identity of the inhumed individuals from the necropolis CUS-Piovego, Padua. *28th Annual Meeting of the European Association of Archaeologists in Budapest, Hungary 2022* [talk].

13. **Lugli F**, Giovanardi T, Di Giuseppe D, Gualtieri AF, Cipriani A (2022) Boron isotope analysis in silicate and carbonate matrix. *SGI-SIMP Congress 2022 – Turin (Italy)* [poster]. \*
14. Iacovelli MV, Crobe V, **Lugli F**, Cilli E, Ferrari A, Ferretti F, Frijia G, Iacumin P, Leone A, Tinti F, Benazzi S, Cariani A (2022) Past species diversity and zoogeography of historical sawfishes from the Mediterranean area. *Shark International 2022 Conference – Valencia (Spain)* [talk].
15. **Lugli F**, Silvestrini S, Benazzi S (2022). Fossil enamel proteomics: the role of amelogenin peptides in sexing ancient humans and animals. *International Symposium on Dental Morphology & Congress of International Association of Paleodontology*– Frankfurt (Germany) [poster]. \*
16. Kazlagic A, Rosner M, Cipriani A, Frick DA, Glodny J, Hoffmann JE, Hora JM, Irrgeher J, **Lugli F**, Magna T, Meisel T. C, Meixner A, Possolo A, Pramann A, Pribil M, Prohaska T, Retzmann A, Rienitz O, Rutherford D., Paula-Santos G, Tatzel M, Widhalm S, Willbold M, Zuliani T, Vogl J (2022) Investigating the differences in conventional  $^{87}\text{Sr}/^{86}\text{Sr}$  isotope ratio measurements between MC-ICP-MS and MC-TIMS in cement reference materials. *28<sup>th</sup> ICP-MS User Meeting and 14<sup>th</sup> Symposium Mass Spectrometric Methods of Elemental Trace Analysis* – Leoben (Austria) [poster].
17. Kazlagic A, Rosner M, Cipriani A, Frick DA, Glodny J, Hoffmann JE, Hora JM, Irrgeher J, **Lugli F**, Magna T, Meisel T. C, Meixner A, Possolo A, Pramann A, Pribil M, Prohaska T, Retzmann A, Rienitz O, Rutherford D., Paula-Santos G, Tatzel M, Widhalm S, Willbold M, Zuliani T, Vogl J (2022) Investigating the differences between MC-ICP-MS and MC-TIMS using conventional  $^{87}\text{Sr}/^{86}\text{Sr}$  isotope ratios in limestone and slate reference materials. *Geoanalysis 2022*– Freiberg (Germany) [poster].
18. **Lugli F** (2022) Sexing fossil teeth through enamel proteins. *Arbeitskreistreffen Wirbeltierpaläontologie 2022 – Mainz (Germany)* [poster] \*
19. Nava A, **Lugli F**, Mahoney P, McFarlane G, Higgins OA, Coppa A, Dean MC, Bondioli L, Muller W, Benazzi S (2022) A new look at old teeth: Cutting-edge methodologies applied to the maternal-infant nexus in prehistory. *40 years of Casal de' Pazzi: The site within the Pleistocene archaeo-palaeontological framework between 400.000 and 40.000 years BP - Current knowledge and new research perspectives* – Rome (Italy). [talk]
20. Nava A, **Lugli F**, Mahoney P, McFarlane G, Bondioli L, Benazzi S, Dean CM, Müller W (2022) Time-resolved trace element variations in dental enamel of contemporary children with known dietary history through Laser-Based Mass Spectrometry (LA-ICPMS): Implications for ancient dietary reconstructions. *91<sup>st</sup> Annual Meeting AABA* – Denver (Colorado). [poster]
21. Capasso G, **Lugli F**, Sperduti A, Manzo A (2022) Tracing human mobility in Late Prehistoric Eastern Sudan (V-II millennium BCE). *91<sup>st</sup> Annual Meeting AABA* – Denver (Colorado). [poster]
22. **Lugli F**, Silvestrini S, Romandini M, Di Rocco G, Benazzi S (2021) Palaeoproteomics of tooth enamel: new frontiers in sex determination. *10<sup>th</sup> Italian Association of Zooarchaeology (AIAZ) conference* – Siena (Italy). [poster] \*
23. **Lugli F**, Silvestrini S, Romandini M, Weber M, Marciani G, Collina G, Piperno M, Tütken T, Benazzi S (2021) No collagen? No problem. Reconstruction of fossil food chains through non-traditional isotopes and

- trace elements of tooth enamel. *10<sup>th</sup> Italian Association of Zooarchaeology (AIAZ) conference* – Siena (Italy). [talk] \*
24. Verhoest L, Hémond C, Nonnotte P, Cipriani A, **Lugli F**, Maia M, Brunelli D (2021) Cold Spots as a Tool to Reveal Short-Scale Mantle Heterogeneities. *American Geophysical Union meeting*– New Orleans (Louisiana). [talk].
25. Michailow MM, Della Giustina F, Cipriani A, Ferretti A, Fowler D, Freedman Fowler L, **Lugli F**, Malferrari D, Weber M, Tütken T (2021) Guess who's coming to dinner: Ca isotopes and trace elements of dinosaur tooth enamel from the Late Cretaceous of Montana. *Bone Diagenesis Meeting 2021* – Évora (Portugal). [poster]
26. **Lugli F**, Nava A, Bondioli L, Dean C, Müller W, Benazzi S (2021) Life histories told by fossil teeth: achievements, limitations, and pitfalls. *Bone Diagenesis Meeting 2021* – Évora (Portugal). [talk] \*
27. Berio L, Mittempergher S, Storti F, Balsamo F, Bernasconi SM, Cipriani A, **Lugli F**, Bistacchi A (2021) Pre- to syn-folding closed paleofluid system conditions and their opening in late- to post-folding structural evolution: the case of Urgonian platform carbonates folded in the Parmelan anticline, Bornes Massif, external Western Alps. *European Geoscience Union General Assembly 2021* – Virtual conference. [talk]
28. [Invited] **Lugli F**, Nava A, Bondioli L, Dean C, Benazzi S, Müller W (2020). Detecting the introduction of non-breastmilk food in infants' diet through histologically-defined LA-(MC)-ICPMS analyses of deciduous dental enamel. *Symposium: New Geochemical and Dental Wear Approaches to Reconstruct the Diet, Ecology, and Physiology of Fossil Vertebrates. SVP 2020* – Cincinnati (Virtual). [poster] \*
29. Weber M, Leichliter J, **Lugli F**, Jochum KP, Clauss M, Tütken T (2020) Controlled Feeding Experiments of Rodents to Determine Intra-Population  $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $\delta^{88}\text{Sr}$  and  $\delta^{44}\text{Ca}$  Variability of Hard and Soft Tissues. *Goldschmidt 2020* – Virtual, doi: 10.46427/gold2020.2828. [talk]
30. Nava A, **Lugli F**, Bondioli L, Benazzi S, Coppa A, Cristiani E, Dean C, Evans D, Helbling A, Müller W (2020) Daily-resolved maternal diet and early feeding history from histologically-defined compositional profiles of human dental enamel by laser-based mass spectrometry (LA-ICPMS). *American Journal of Physical Anthropology*, 171(S69), 196-197, doi: 10.1002/ajpa.24023. [poster]
31. **Lugli F**, Di Rocco G, Vazzana A, Genovese F, Pinetti D, Carile MC, Silvestrini S, Gabanini G, Arrighi S, Buti L, Bortolini E, Cipriani A, Figus C, Marciani G, Oxilia G, Romandini M, Sorrentino R, Sola M, Benazzi S (2019) Dental enamel proteins: toward a new method for sex determination of human and animal remains. *54<sup>th</sup> Scientific Meeting of Istituto Italiano di Preistoria e Protostoria* – Rome (Italy). [poster] \*
32. **Lugli F**, Di Rocco G, Vazzana A, Genovese F, Pinetti D, Carile MC, Silvestrini S, Gabanini G, Arrighi S, Buti L, Bortolini E, Cipriani A, Figus C, Marciani G, Oxilia G, Romandini M, Sorrentino R, Sola M, Benazzi S (2019) Dental enamel proteins reveal the sex of the 'Lovers of Modena'. *Congress of the Italian Anthropological Association 2019* – Padua (Italy). [poster] \*
33. Bortolini E, Sorrentino R, **Lugli F**, Conti S, Piccirilli E, Arrighi S, Badino F, Buti L, Figus C, Marciani G, Oxilia G, Romandini M, Silvestrini S, Vazzana A, Gabanini G, Penzo A, Gottarelli A, Cipriani A, Belcastro

- MG, Benazzi S (2019) Assessing biological and cultural admixture in the Etruscan-Celtic population of Monterenzio Vecchio and Monte Bibeale (Bologna, Italy) *Congress of the Italian Anthropological Association 2019* – Padua (Italy). [talk]
34. Pizzino L, Galli G, Brusca L, Cinti D, Cipriani A, Grassa F, Italiano F, **Lugli F**, Sciarra A (2019) Chemical and isotopic investigation in aquifers of the terrigenous “Flysch della Laga” Formation during the 2016-2017 seismic sequence in central Italy. *EGU 2019* – Vienna (Austria). [poster]
35. Oxilia G, Perrini N, Oxilia A, Papini A, Boggioni M, Pagani L, Figus C, Cilli E, Bortolini E, Badino F, **Lugli F**, Marciani G, Menghi Sartorio JC, Romandini M, Silvestrini S, Arighi S, Bernardini F, Tuniz C, Fontana F, Talamo S, d’Esposito M, Benazzi S. Earliest evidence of Focal Cemento-Osseous Dysplasia in the Late Upper Palaeolithic. *Congress of the Italian Anthropological Association 2019* – Padua (Italy). [talk]
36. [Invited] **Lugli F** (2019) Isotope evidence of Gravettian and Epigravettian mobility strategies across the Last Glacial Maximum in Southern Italy. *MASSA congress 2019* – Aboca, Sansepolcro (Italy). [talk] \*
37. Weber M, Leichliter J, **Lugli F**, Jochum KP, Clauss M, Tütken T (2019) Sr isotope incorporation in soft tissues and enamel of rodents – controlled feeding experiments. *Goldschmidt 2019* – Barcelona (Spain). [poster]
38. Figus C, Stephens NB, Sorrentino R, Bortolini E, Scalise LM, Gabanini G, Romandini M, **Lugli F**, Arrighi S, Badino F, Marciani G, Oxilia G, Panetta D, Belcastro MG, Harcourt-Smith W, Ryan TM, Benazzi S (2019) Exploring age-related variations during talar growth. *AAPA 2019* – Cleveland (Ohio). [poster]
39. Figus C, Stephens NB, Bortolini E, Sorrentino R, Arrighi S, Badino F, **Lugli F**, Marciani G, Oxilia G, Romandini M, Scalise LM, Silvestrini S, Belcastro MG, Ryan TM, Benazzi S (2019) The ontogeny of bipedalism: insights from trabecular changes during growth. *ESHE 2019* – Liège (Belgium). [poster]
40. **Lugli F**, Nava A, Rittner M, Arrighi S, Badino F, Bortolini E, Figus C, Marciani G, Oxilia G, Romandini M, Silvestrini S, Cipriani A, Müller W, Bondioli L, Benazzi S (2019) Elemental imaging of human teeth by laser ablation ICP-TOF-MS: fast acquisition and high-resolution. *ESHE 2019* – Liège (Belgium). [poster] \*
41. Sabbatino M, Consorti L, Tavani S, Vitale S, Corradetti A, Arienzo L, Cipriani A, **Lugli F**, Parente M (2019) From the final demise of the Mesozoic carbonate platform to the Miocene transgression: high-resolution stratigraphy of the shallow-water carbonates of southern and central Apennines (Italy). *Strati 2019* – Milan (Italy). [talk]
42. Badino F, Pini R, Ravazzi C, Arrighi S, Bertuletti P, Bortolini E, Figus C, **Lugli F**, Marciani G, Margaritora D, Oxilia G, Romandini M, Benazzi S (2019) Sub-millennial scale variability between Heinrich events 4 and 3 in the long terrestrial paleoecological archive of Lake Fimon (north-eastern Italy). *INQUA 2019* – Dublin (Ireland). [talk]
43. Sabbatino M, Tavani S, Vitale S, Consorti L, Corradetti A, Arienzo I, Cipriani A, **Lugli F**, Parente M (2019) Constraining the age of the Miocene forebulge unconformity in central-southern Apennines: a Sr-isotopes and structural study. *European Geoscience Union General Assembly 2019* – Vienna (Austria). [talk]

44. Cerchiari A, Remitti F, Cipriani A, Festa A, Mittempergher S, **Lugli F**, Lugli S (2019) Cyclical stress drop and stress switching during brittle faulting on a shallow megathrust field-analogue (Northern Apennines, Italy). *European Geoscience Union General Assembly 2019 – Vienna (Austria)*. [poster]
45. Pizzino L, Galli G, Brusca L, Cinti D, Cipriani A, Grassa F, **Lugli F**, Sciarra A (2019) Chemical and isotopic investigation in aquifers of the terrigenous “Flysch della Laga” Formation during the 2016-2017 seismic sequence in central Italy. *European Geoscience Union General Assembly 2019 – Vienna (Austria)*. [poster]
46. Consuma G, Braga R, Giovanardi T, Bersani D, Konzett J, **Lugli F**, Mazzucchelli M, Tropper P (2019) In situ Sr isotope analysis of mantle carbonates: constraints on the evolution and sources of metasomatic carbon-bearing fluids in a collisional setting. *European Geoscience Union General Assembly 2019 – Vienna (Austria)*. [talk]
47. Bortolini E, Romandini M, Arrighi S, Badino F, Figus C, **Lugli F**, Marciani G, Oxilia G, Peresani M, Benazzi S (2018) Uomini, mammiferi, uccelli e ambiente: una prospettiva archeozoologica e quantitativa sulla transizione Paleolitico medio/Paleolitico superiore in Italia Settentrionale. *Associazione Italiana di Archeozoologia Meeting 2018 – Florence (Italy)*. [poster]
48. **Lugli F**, Cipriani A, Arnaud J, Arzarello M, Lembo G, Janssen R, Vonhof H, Peretto C, Benazzi S (2018) Middle Pleistocene human and animal mobility at Isernia La Pineta: a strontium and oxygen isotope perspective. *AIQUA 2018 – Florence (Italy)*. [talk] \*
49. Leonardi P, Baldi F, Chiarantini L, Vittori Antisari L, Iotti M, Piana F, **Lugli F**, Zambonelli A (2018) Bacteria-produced ferric exopolysaccharide nanoparticles to improve the *T. borchii* mycorrhized plants performance. *AISETOV meeting - The role of trace elements in health: from healthy environments to healthy living organisms – Bologna (Italy)*. [talk]
50. Romandini M, Arrighi S, Badino F, Bortolini E, Boschin F, Figus C, Fiorni A, **Lugli F**, Marciani G, Oxilia G, Peresani M, Benazzi S (2018) Ornamental deer teeth in Upper Palaeolithic north-eastern Italy: a comparison of Aurignacian and Gravettian processing techniques. *13<sup>th</sup> ICAZ International Conference – Ankara (Turkey)*. [poster]
51. Oxilia G, Fontana F, Fiorenza F, Kullmer O, Goude G, Gazzoni V, **Lugli F**, Peresani M, Romandini M, Cilli E, Tuniz C, Bernardini F, Bortolini E, Menghi Sartorio JC, Talamo S, Benazzi S, Cristiani E (2018) A multidisciplinary approach to reconstruct Upper Palaeolithic and Mesolithic dietary habits: Human adaptation to Pleistocene-Holocene environmental change in northeastern Italy. *8<sup>th</sup> Annual ESHE Meeting 2018 – Faro (Portugal)*. [poster]
52. **Lugli F**, Cipriani A, Capecchi G, Ricci S, Boschin F, Boscato P, Benazzi S, Ronchitelli A (2018) Mothers from the past: Gravettian vs. Epigravettian human mobility strategies at Grotta Paglicci inferred by Sr isotopes of deciduous tooth enamel. *8<sup>th</sup> Annual ESHE Meeting 2018 – Faro (Portugal)*. [talk] \*
53. Remitti F, Cerchiari A, Cipriani A, Festa A, **Lugli F**, Mittempergher S, **Lugli F**, Lugli S (2018) Cyclical Variations in Fluid Pressure and Composition During Brittle Faulting in an Exhumed Analogue of Shallow Megathrusts (N-Apennines, Italy) From Field, Microstructural and REE Investigations. *AGU 2018 – Washington DC*. [talk]

54. Tütken T, Rosner M, **Lugli F**, Tütken I, Grimm K, Böhm K, Weber M, Walliser E, Mertz R, Jochum, KP, Cipriani A, Pirkenseer C (2018) Timing of the Rupelian transgression into the Upper Rhine Graben and Mainz Basin: a strontium stratigraphic approach on micro- and macrofossils. *Molasse Meeting 2018 – Porrentruy* (Switzerland). [talk]
55. **Lugli F**, Cipriani A, Capecchi G, Ricci S, Boschin F, Boscato P, Benazzi S, Ronchitelli A (2018) Human mobility across the Last Glacial Maximum: enamel Sr isotopes from Grotta Paglicci (Southern Italy). *14<sup>th</sup> Conference of Environmental Archaeology – Modena* (Italy). [talk] \*
56. Argentino C, **Lugli F**, Cipriani A, Conti S, Fioroni C, Fontana F (2018) Constraining the fluid source of Miocene seep carbonates using radiogenic Sr isotopes (Corella outcrop, northern Apennines, Italy). *European Geoscience Union General Assembly 2018 – Vienna* (Austria). [poster]
57. Weber M, Scholz D, Schröder-Ritzrau A, Spötl C, **Lugli F**, Mertz-Kraus R, Jochum KP, Fohlmeister J (2018) A warm and humid phase revealed by the first early MIS 3 speleothem record from Germany. *European Geoscience Union General Assembly 2018 – Vienna* (Austria). [oral]
58. **Lugli F**, Giovanardi T, Sforza MC, Brunelli D, Mazzucchelli M, Cipriani A (2017) Elemental mapping of human and animal tissues by Laser Ablation ICP-MS. *AISETOV international meeting – Trace Elements In Human And Animal Health: Focus On Neurological Disease*. ISBN: 978-88-943098-0-5 – Modena (Italy). [talk] \*
59. **Lugli F**, Cipriani A, Arnaud J, Arzarello M, Peretto C, Benazzi S (2017) Limited mobility of a Middle Pleistocene pregnant woman from Southern Italy: inferences from LA-MC-ICP-MS strontium isotopes analyses of a deciduous human tooth. *7<sup>th</sup> Annual ESHE Meeting 2017 – Leiden* (Netherlands). [poster] \*
60. **Lugli F**, Cipriani A, Tavaglione V, Traversari M, Benazzi S (2017) Strontium isotope MC-ICP-MS analysis of hair strands from human mummies: transhumance pastoralism of Early-Modern individuals between Northern and Central Italy. *Goldschmidt 2017 - Paris* (France). [poster] \*
61. Giovanardi T, Cipriani A, **Lugli F**, Morishita T, Dallai L, Zanetti A, Mazzucchelli M (2017) Melt-Rock Interaction at Mantle Conditions: Evidences from Finero Gabbroic Dykes. *Goldschmidt 2017 - Paris* (France). [poster]
62. **Lugli F**, Cipriani A, Mazzucchelli M, Sforza MC, Brunelli D (2016) In situ <sup>87</sup>Sr/<sup>86</sup>Sr LA-MC-ICPMS on biogenic apatites: a matrix-matched standard correction approach. *Goldschmidt 2016 - Yokohama* (Japan) p. 1904. [poster] \*
63. Giovanardi T, **Lugli F**, Girardi VAV, Correia CT, Tassinari CCG, Cipriani A, Mazzucchelli M (2017) Contamination evidence of the Tonian Goiás Stratiform Complex (Brazil) from in situ Lu-Hf zircon analyses. *Geosciences: a tool in a changing world 2017 – Pisa* (Italy), p. 381, ISSN: 2038-1719. [poster]
64. Giovanardi T, Cipriani A, **Lugli F**, Morishita T, Dallai L, Zanetti A, Langone A, Mazzucchelli M (2017) Sapphirine-bearing gabbroic dykes from the Finero mantle massif: evidence of melt-rock interaction at mantle conditions. *Geosciences: a tool in a changing world 2017 – Pisa* (Italy), p. 324, ISSN: 2038-1719. [poster]

65. **Lugli F**, Giovanardi T, Girardi VAV, Correlà CT, Tassinari CCG, Sinigoi S, Cipriani A, Mazzucchelli M (2016) Preliminary U-Pb LA-ICP-MS Zircon Analyses from The Goiás Complexes: Shrimp Comparison and Intrusion Age. *2nd European Mineralogical Conference - Rimini (Italy)*. PLINIUS 42, 764-764, ISSN: 1972-1366. [poster] \*
66. Giovanardi T, **Lugli F**, Girardi VAV, Correlà CT, Tassinari CCG, Sinigoi S, Cipriani A, Mazzucchelli M (2016) The Large Layered Goiás Complexes: New U-Pb Ages and Preliminary Lu-Hf In Situ Zircon Analyses from Barro Alto and Cana Brava. *2nd European Mineralogical Conference - Rimini (Italy)*. PLINIUS 42, 756-756, ISSN: 1972-1366. [poster]
67. **Lugli F**, Cipriani A, Brunelli D, Gruppioni G, Mazzucchelli M (2015) In situ trace element analysis of human hard tissues by Laser Ablation ICP-MS. *Trace elements between deficiency and toxicity: update and perspectives - Modena (Italy)*. P. 39, ISBN 9788875591229. [poster] \*
68. **Lugli F**, Cipriani A, Reghizzi M, Brunelli D, Benazzi S (2015) In situ strontium isotope analysis on biogenic apatite: the use of Laser Ablation and Multi Collector Inductively Coupled Plasma Mass Spectrometer (LA-MC-ICPMS) in anthropological research. *Towards a Next-Generation Anthropology: challenges and synergies - XXI Congress of the Italian Anthropological Association - Bologna (Italy)*. [talk] \*
69. Cilli E, De Filippo C, Albanese D, **Lugli F**, Sordo M, Viola MF et al. (2015) Discovering past gut microbiomes through NGS analysis: the mummies of Roccapelago (MO). *VI Congress of the Italian Society for Evolutionary Biology - Bologna (Italy)*. [poster]

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