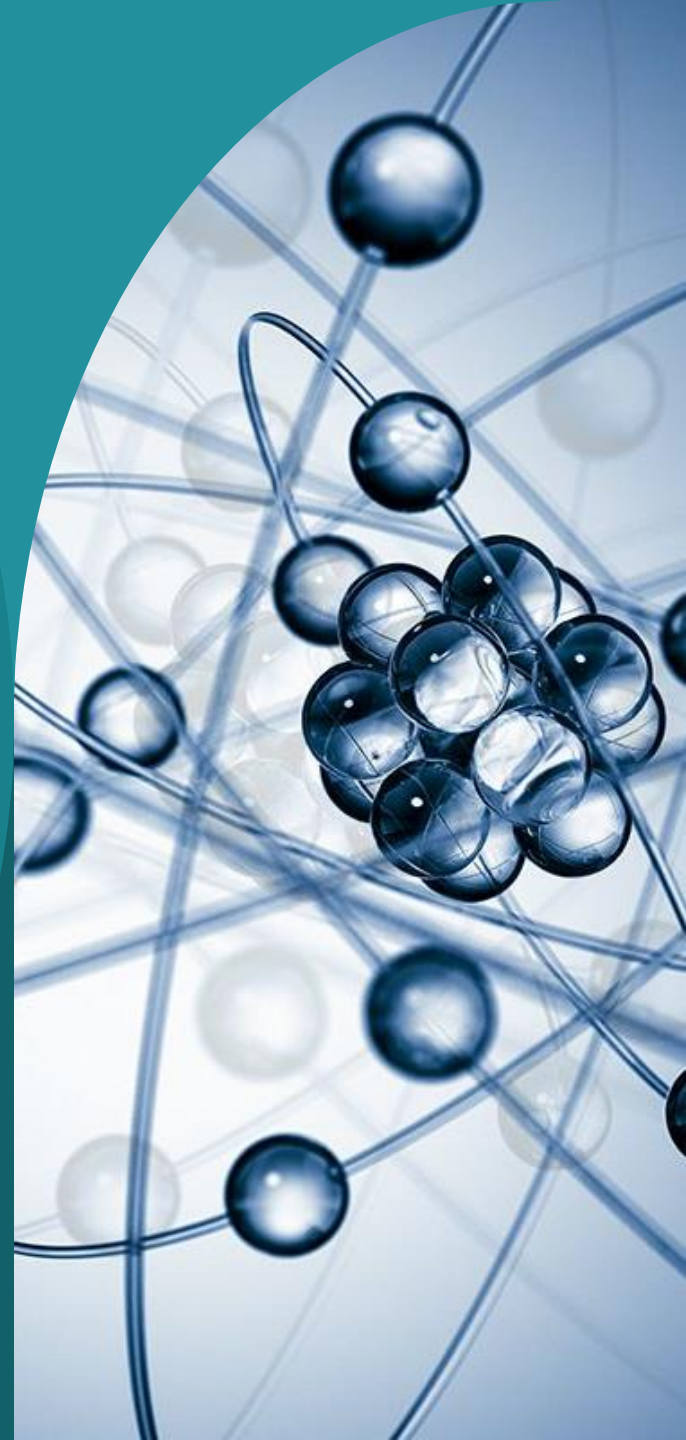


ISOTOPE ANALYSIS IN BIOARCHAEOLOGY

INTRODUCTION TO THE COURSE

**DR. KEVIN SALESSE
ASS. PROF.
DEPT. OF ANTHROPOLOGY**





LET'S BREAK THE ICE

WITH A TOUCH OF MUSIC...



INSPIRING MUSIC...

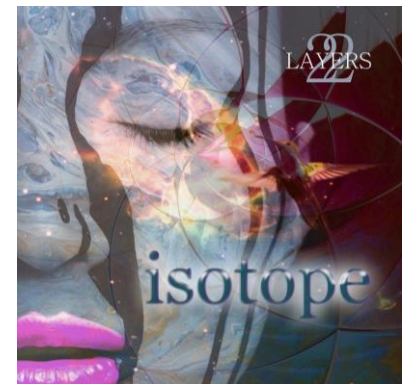
'Isotope' from the album *Isotope* by 22 Layers - Peter Coyle & Tony Lowe

"**Gorgeous** musical vistas filled with absorbing melodies and beautiful instrumental textures." - Rob Fisher

"A **fabulous** album ... another musical canvas lyrically painted by Peter Coyle over rich textures by Tony Lowe." - Chris Currie - Mersey Radio

"Utterly **gorgeous**" - Janice Long - BBC Radio Wales

"... this new release 'Isotope' is just **wonderful** from the opening bars to the closing notes. It's an album to grace any collection!!!" - Garry Foster WCR FM



INSPIRING MUSIC...



@mrorgo 1 year ago

🔥🔥🔥 great album



2



Reply



@ea211mob 4 years ago

So fuckin good 🤘



2

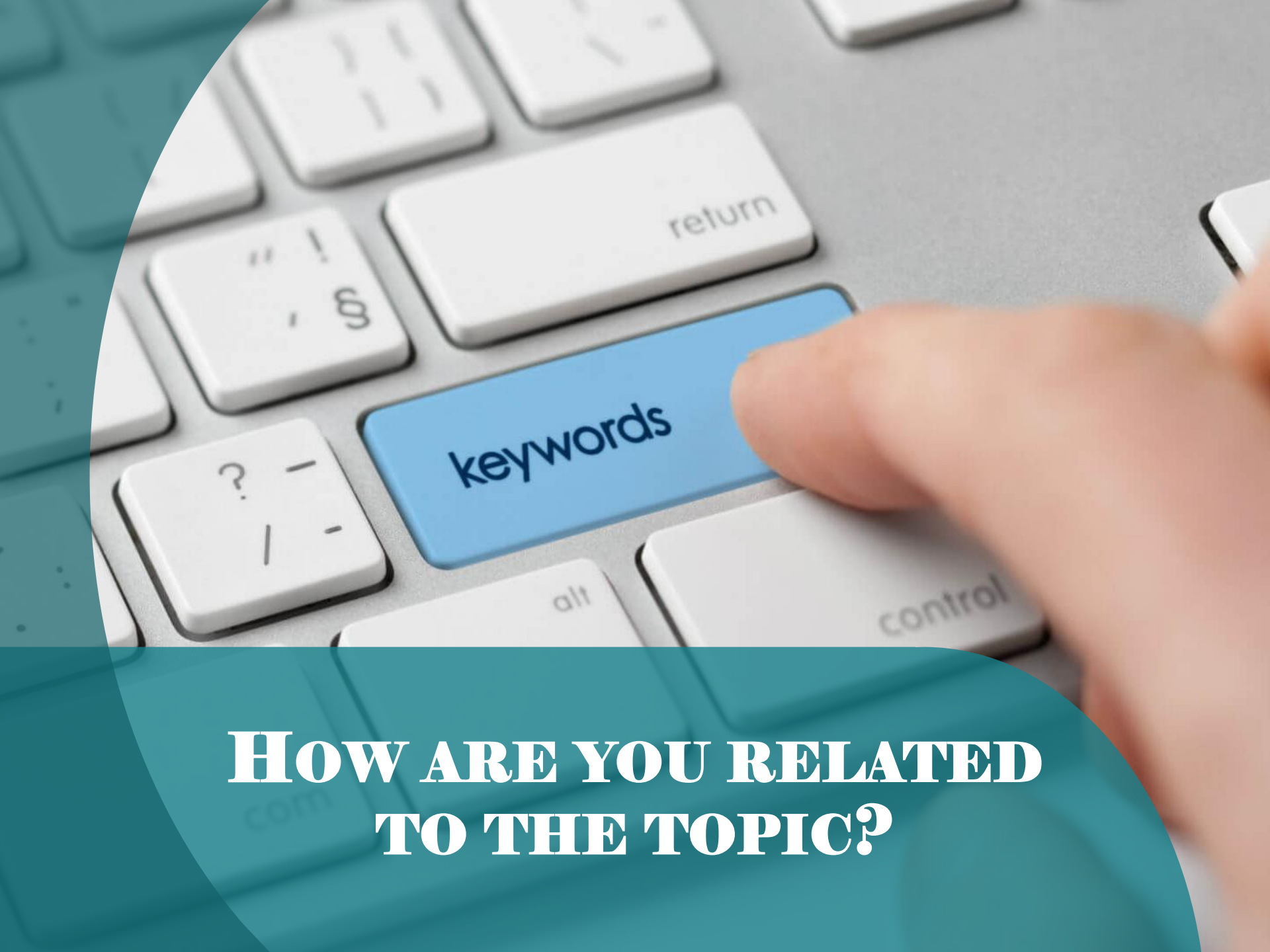


Reply



WHO ARE
YOU ???





keywords

**HOW ARE YOU RELATED
TO THE TOPIC?**

**WHAT
DO
YOU
EXPECT**





WHO AM I?

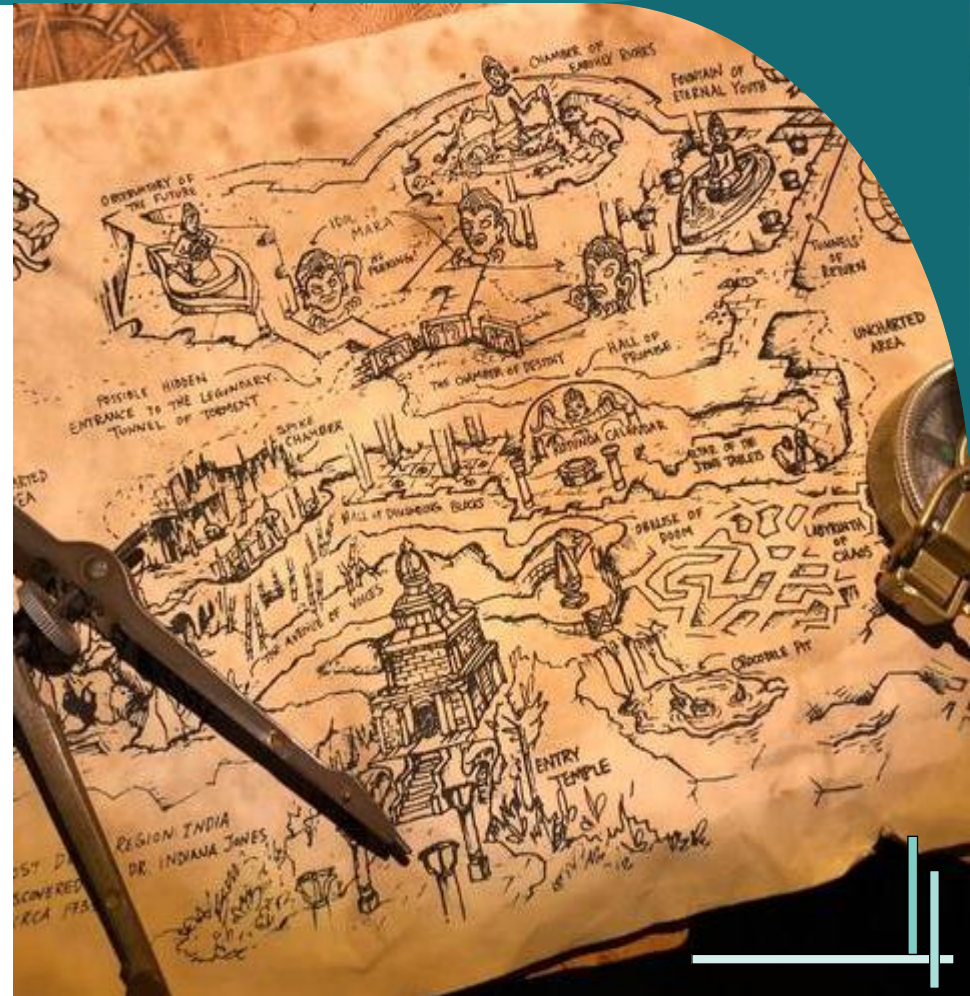
“I am a science-based archaeologist with a strong background in bioanthropology, specializing in using stable isotope methods to address a range of interrelated anthropological and archaeological questions”

ACADEMIC BACKGROUND

2 x B.A.s History & Archaeology, 2008,
Univ. Panthéon-Sorbonne, **France**

M.Sc. Biological Anthropology, 2010,
Univ. of Bordeaux, **France**

Ph.D. Biological Anthropology, 2015,
Univ. of Bordeaux, **France**



EMPLOYMENT HISTORY



Post-doc fellow, 2016, Univ. of South Florida, **USA**

Scientific officer, 2017-2018, European Commission (ERCEA), **Belgium**

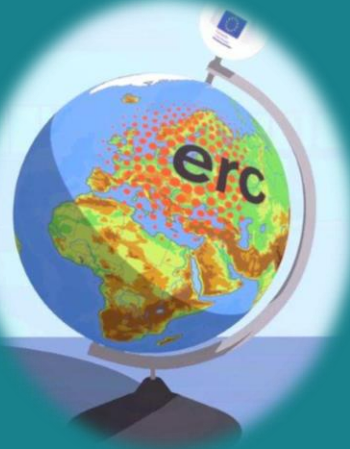
Post-doc researcher, 2018-2021, Univ. Libre de Bruxelles & Vrije
Universiteit Brussel, **Belgium**

Scientific officer, 2017-2018

BEHIND THE SCENES OF THE ACADEMIC WORLD

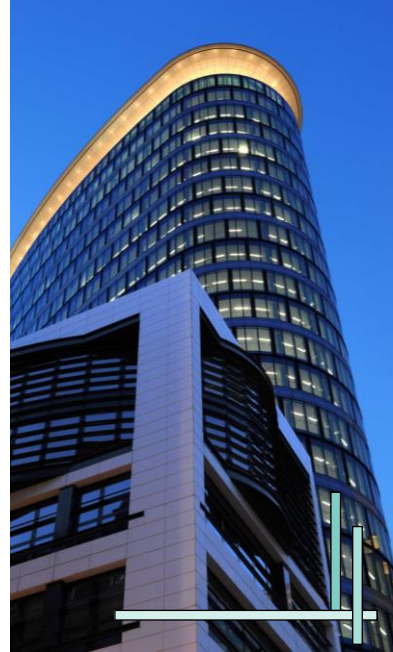
This experience was an awakening for:

Managing project
Supporting research
Open Science
Sustainability
Outreach
Altruism



European Research
Council Executive Agency

Supporting top researchers
anywhere in the world



Since 2022

**I AM A PROUD
ASSISTANT PROFESSOR
IN BIOANTHROPOLOGY**

Where I am presently establishing
my **stable isotope lab** (funds secured)



AN EXPERT IN DIETARY AND MOBILITY STUDY



Contents lists available at ScienceDirect

Journal of Archaeological Science: Reports

journal homepage: www.elsevier.com/locate/jasrep

JASR, 2021

Far from home: A multi-analytical approach revealing the journey of an African-born individual to imperial Rome

AAS, 2021

Kevin Salesses^{a, b, 1, *}, Élise Dufour^c, Vincent Balter^d, Robert H. Tychot^e, Maïté Rivollat^{b, g}, Arwa Kharobi^{b, f}, Marie-France Deguilloux^b, Marie-Jaroslav Brůžek^{b, h}, Dominique Castex^b

Original Paper | Published: 16 May 2021

Divergence, diet, and disease: the identification of group identity, landscape use, health, and mobility in the fifth- to sixth-century AD burial community of Echt, the Netherlands

JAS, 2021

Barbara Veselka^a, Giacomo Capuzzo^a, Rica Annaert^a, Nadine Mattioli^a, Mathieu Boudin^a, Sarah Dalle^a, Marta aux^a, Kevin Salesses^a, Amanda Sengelev^a, Elisavet Stamataki^a, Dries Tys^a, Martine Warmenbol^a, Guy De Mulder^a & Christophe Snoeck^a

Anthropological Sciences 13, Article number: 97 (2021) | [Cite this article](#)

Citations | 26 Altmetric | [Metrics](#)



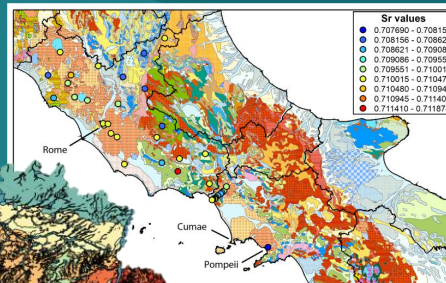
Journal of Archaeological Science

Volume 132, August 2021, 105437



Multi-proxy analyses reveal regional cremation practices and social status at the Late Bronze Age site of Herstal, Belgium

Charlotte Sabaux^{a, b, *}, Barbara Veselka^{c, d}, Giacomo Capuzzo^b, Christophe Snoeck^{c, d, e}, Amanda Sengelev^{a, b}, Marta Hlad^{b, c}, Eugène Warmenbol^f, Elisavet Stamataki^{b, c}, Mathieu Boudin^g, Rica Annaert^{c, h}, Sarah Dalle^{a, c, d}, Kevin Salesses^{c, d, i}, Vinciane Debaille^e, Dries Tys^c, Martine Vercauteren^b, Guy De Mulder^a



Building maps: **Italy**, Belgium



AN EXPERT IN CLASSICAL STUDIES



Article | [Open Access](#) | [Published: 03 June 2022](#)

Strontium isotopes and concentrations in cremated bones suggest an increased salt consumption in Gallo-Roman diet

[Sarah Dalle](#) [✉](#), [Christophe Snoeck](#), [Amanda Sengeløv](#), [Kevin Salesse](#), [Marta Hlad](#), [Rica Annaert](#), [Tom Boonants](#), [Mathieu Boudin](#), [Giacomo Capuzzo](#), [Carina T. Gerritzen](#), [Steven Goderis](#), [Charlotte Sabaux](#), [Elisavet Stamatakis](#), [Martine Vercauteren](#), [Barbara Veselka](#), [Eugène Warmenbol](#) & [Guy De Mulder](#)

[Scientific Reports](#) **12**, Article number: 9280 (2022) | [Cite this article](#)

1862 Accesses | **5** Citations | **31** Altmetric | [Metrics](#)

Scientific report, 2022

THE SSPM CATACOMBS, ROME



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Archaeological Science: Reports

journal homepage: www.elsevier.com/locate/jasrep



Far from home: A multi-analytical approach revealing the journey of an African-born individual to imperial Rome

Kevin Salesses^{a,b,1,*}, Élise Dufour^c, Vincent Balter^d, Robert H. Tykot^e, Nina Maaranen^f, Maïté Rivollat^{b,g}, Arwa Kharobi^{b,f}, Marie-France Deguilloux^b, Marie-Hélène Pemonge^b, Jaroslav Brůžek^{b,h}, Dominique Castex^b

JASR, 2021



ELSEVIER

Contents lists available at [ScienceDirect](#)

Palaeogeography, Palaeoclimatology, Palaeoecology

journal homepage: www.elsevier.com/locate/palaeo



Variability of bone preservation in a confined environment: The case of the catacomb of Sts Peter and Marcellinus (Rome, Italy)

K. Salesses^{a,*}, E. Dufour^b, M. Lebon^c, C. Würster^d, D. Castex^a, J. Brůžek^{a,c}, A. Zazzo^b

Palaeo3, 2014



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Archaeological Science: Reports

journal homepage: www.elsevier.com/locate/jasrep



IsoArch.eu: An open-access and collaborative isotope database for bioarchaeological samples from the Graeco-Roman world and its margins

Kevin Salesses^{a,b,*}, Ricardo Fernandes^{c,d,*}, Xavier de Rochefort^e, Jaroslav Brůžek^{b,f}, Dominique Castex^b, Élise Dufour^g



JASR, 2018

DOCTEUR DE
L'UNIVERSITÉ DE BORDEAUX

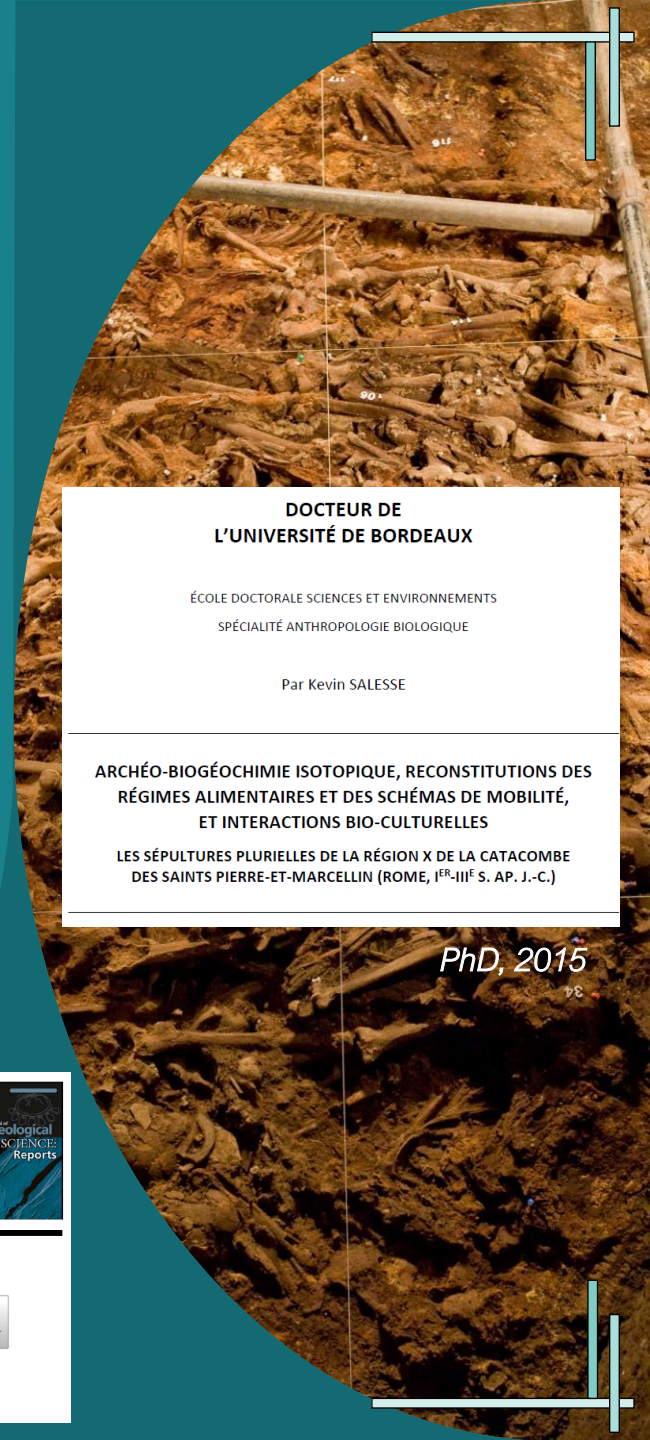
ÉCOLE DOCTORALE SCIENCES ET ENVIRONNEMENTS
SPÉCIALITÉ ANTHROPOLOGIE BIOLOGIQUE

Par Kevin SALESSE

ARCHÉO-BIOGÉOCHIMIE ISOTOPIQUE, RECONSTITUTIONS DES
RÉGIMES ALIMENTAIRES ET DES SCHÉMAS DE MOBILITÉ,
ET INTERACTIONS BIO-CULTURELLES

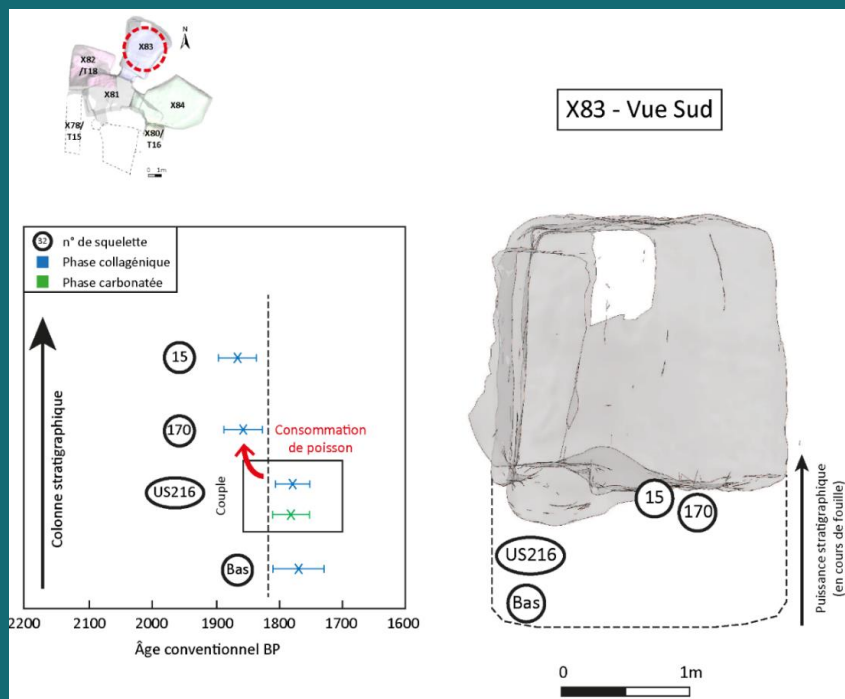
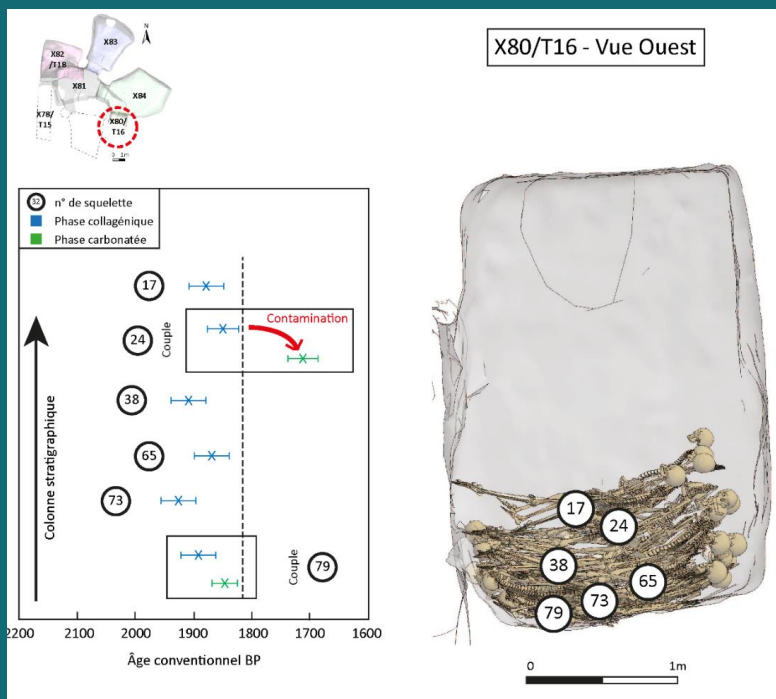
LES SÉPULTURES PLURIELLES DE LA RÉGION X DE LA CATACOMBE
DES SAINTS PIERRE-ET-MARCELLIN (ROME, I^{ER}-III^{ES} S. AP. J.-C.)

PhD, 2015



14C dating as a tool for inferring diet and diagenetic trajectory

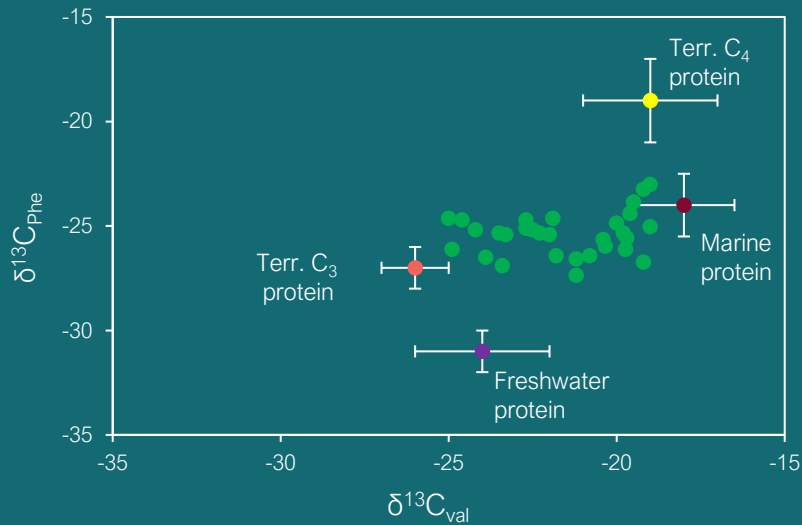
- Bone collagen–carbonate pairs
- Chronological anomalies in stratigraphic sequences
- Contamination of carbonate phase
- Reservoir effect due to fish consumption



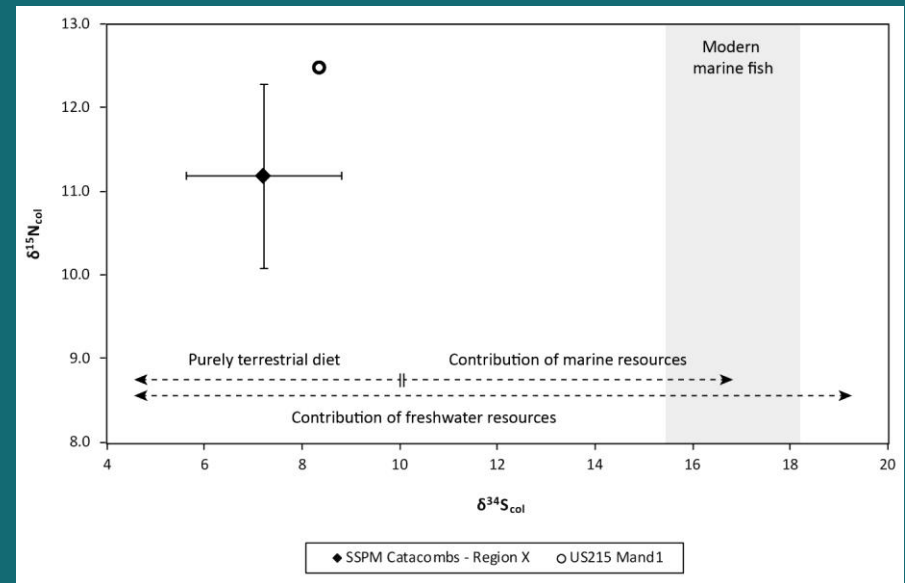
Use newer isotopic proxies to explore diet patterns



- Sulphur ($\delta^{34}\text{S}$)
- Amino acids ($\delta^{13}\text{C}$ & $\delta^{15}\text{N}$; ala, gly, van, leu, threo, pro, aspa, gly, phe, lys,)



Biplot of compound-specific bone collagen amino acid $\delta^{13}\text{C}$ values of SSPM individuals (Rome, Italy)

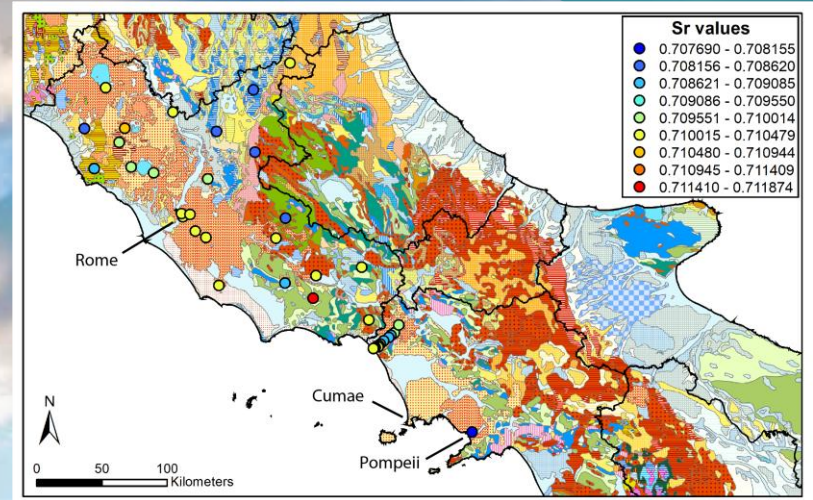


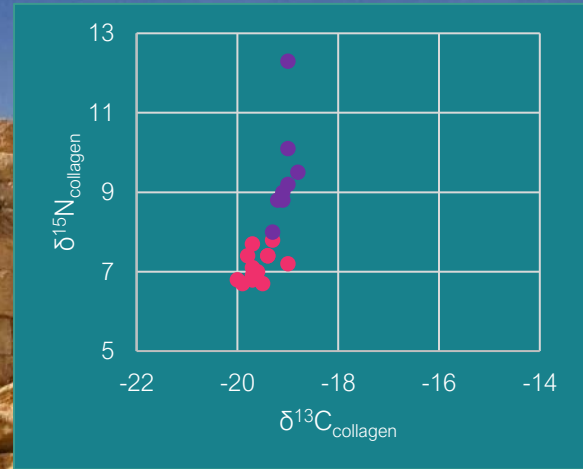
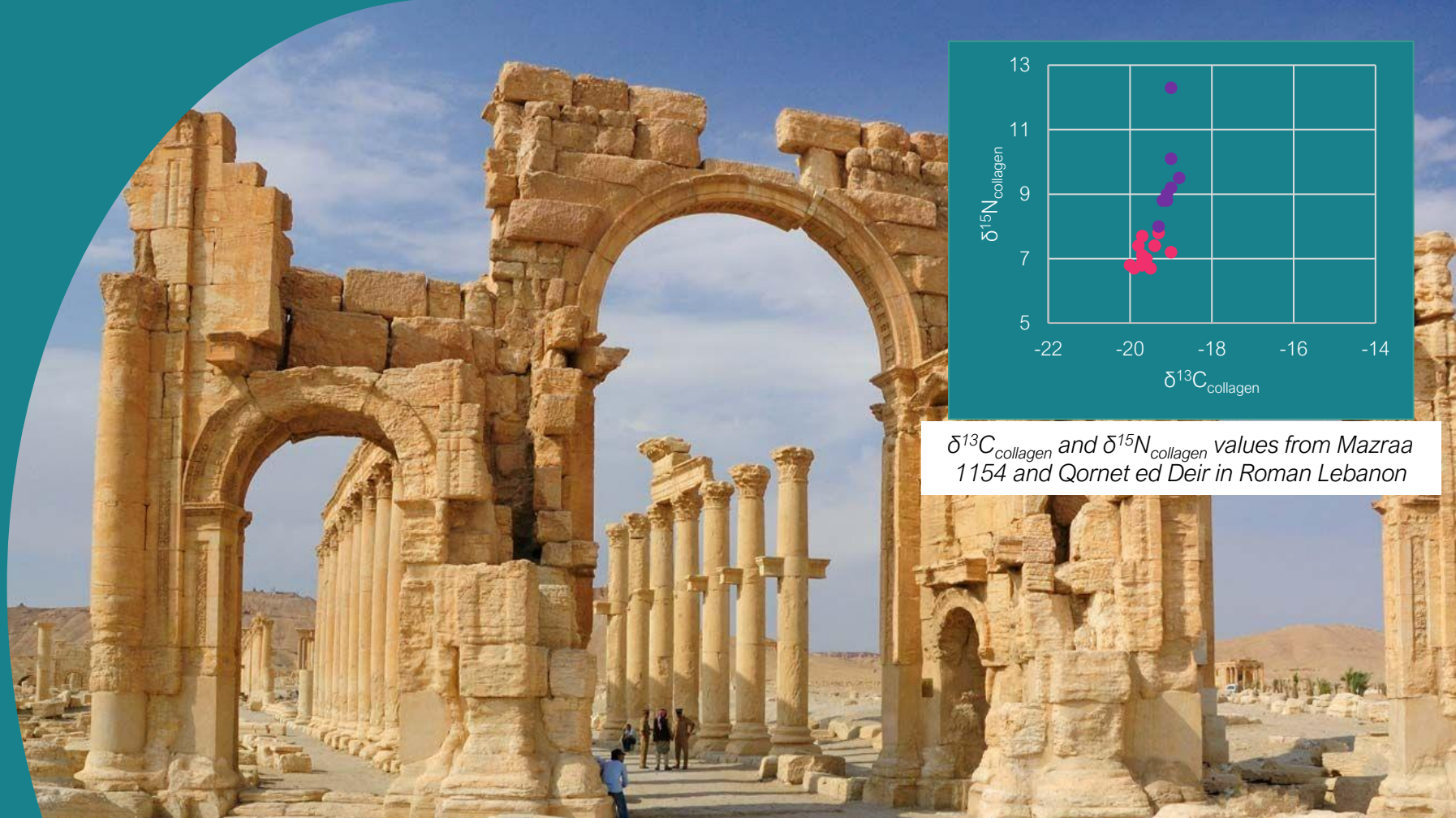
Biplot of the $\delta^{34}\text{S}_{\text{col}}$ and $\delta^{15}\text{N}_{\text{col}}$ values measured on bone samples from the SSPM individuals. Note: The shaded area corresponds to the range of $\delta^{34}\text{S}_{\text{col}}$ values for modern marine fish

Pompeii: Awakening the dead

➤ Palaeoproteomics, isotopes

Current fields: Pompeii, Lebanon, Syria





$\delta^{13}\text{C}_{\text{collagen}}$ and $\delta^{15}\text{N}_{\text{collagen}}$ values from Mazraa 1154 and Qornet ed Deir in Roman Lebanon

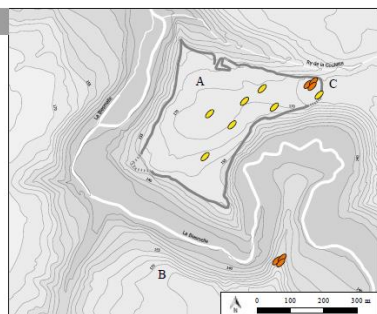
Current fields: Pompeii, **Lebanon**, Syria



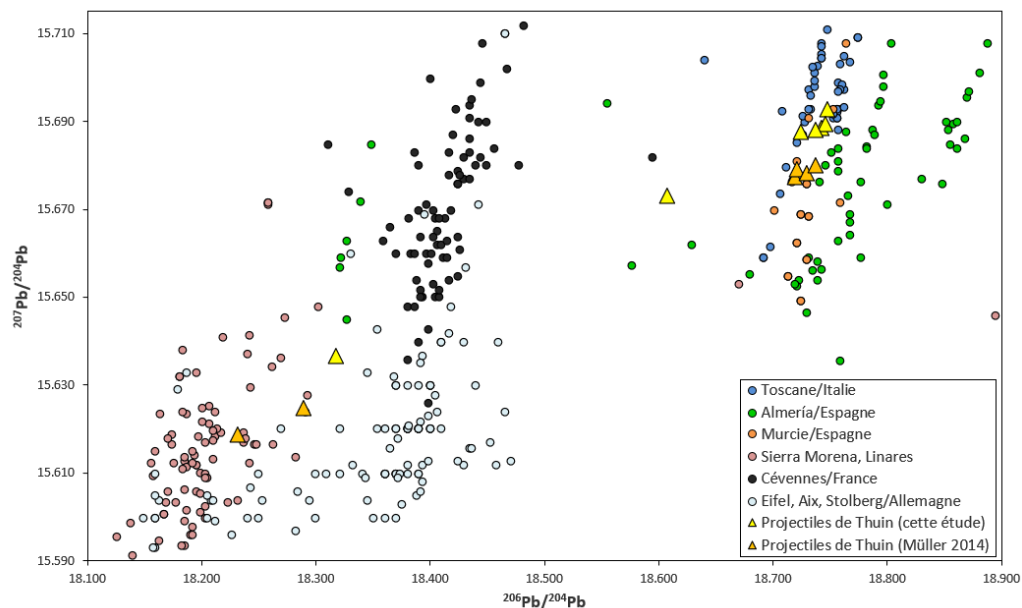
Dietary Encounters in the Levant

- Isotopes, Infrared

Lead isotopic analysis on Roman sling bullets



Num. inventaire	Long.	Larg. / Diam.	Masse	Indice Long./ Larg.
THU.18.GBD.029	21	13	22,09	1,6
THU.18.GBD.224	27	14	36,13	1,9
THU.18.GBD.250	23	12	25,19	1,9
THU.18.GBD.326	21	14	29,01	1,5
THU.18.GBD.365	23	18	39,16	1,2
THU.19.GBD.433	29	18	41,01	1,6
THU.19.GBD.434	22	15	27,93	1,4
THU.ANC.DÉC.1	40	18	43,14	2,2
THU.ANC.DÉC.2	28	16	29,78	1,7
THU.ANC.DÉC.3	28	15	27,56	1,8
THU.ANC.DÉC.4	28	15	20,01	1,8
THU.ANC.DÉC.5	24	17	31,48	1,4
THU.ANC.DÉC.6	23	16	7,92	1,4
THU.ANC.DÉC.7	23	19	30,63	1,2
THU.ANC.DÉC.8	22	17	28,55	1,2
THU.ANC.DÉC.9	24	17	35,53	1,7
THU.ANC.DÉC.10	23	15	23,49	1,5
THU.ANC.DÉC.11	21	17	28,59	1,2
THU.ANC.DÉC.12	28	17	37,41	1,6
Total = 19				
Moyenne =	25,12 mm	15,88 mm	29,16 g	1,6



Signa, 2020

SIGNA



Les balles de fronde en plomb découvertes sur l'oppidum de Thuin : caractérisation, origine et interprétation

Nicolas PARIDAENS, Kevin SALESSE, Regine MÜLLER, Sabine KLEIN, Christophe SNOECK & Nadine MATTELLI



AN EXPERT IN DATA MANAGEMENT

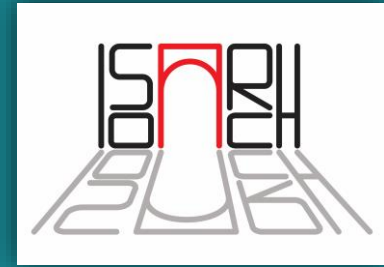


Founder & director of the IsoArch database

President of the IsoArch association



The IsoArch initiative



www.isoarch.eu

- IsoArch is an open and collaborative database of georeferenced isotopic measures of bioarcheological samples from all time periods and all around the world
- The world's largest database of its kind supported by the bioarchaeology community

As of now, we reference

15654

humans

6335

animals

501

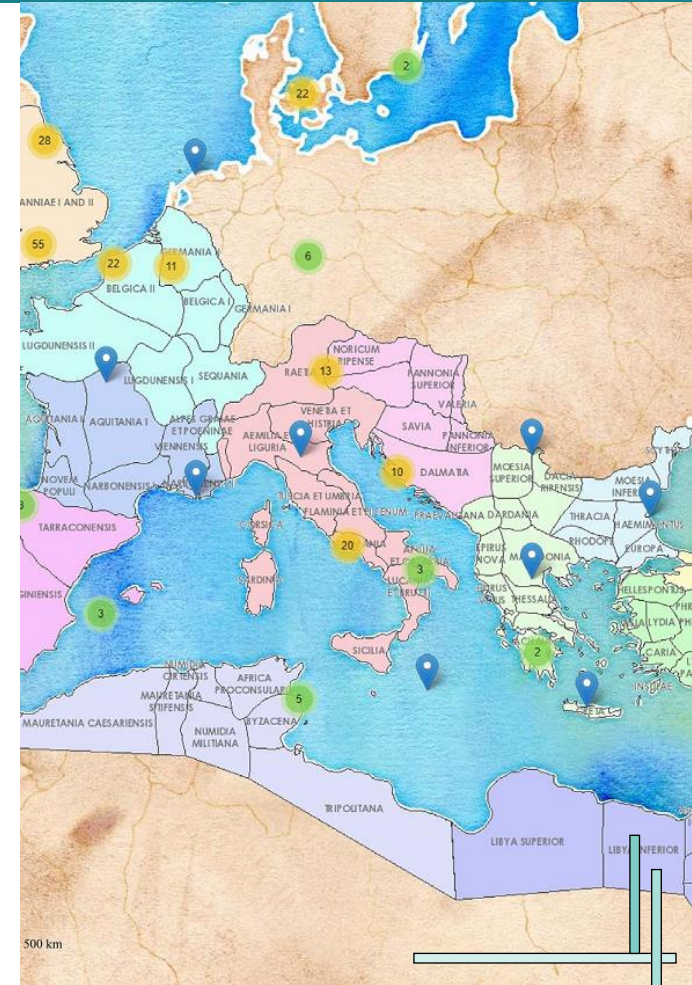
publications

995

geolocations

57251

isotopic measures



Be Part of Our Association!

Open isotope data culture in bioarchaeology



Data in Brief

Volume 45, December 2022, 108595



The IsoArch initiative: Working towards an open and collaborative isotope data culture in bioarchaeology

[Esther Plomp](#)^a , [Chris Stantis](#)^b , [Hannah F. James](#)^c , [Christina Cheung](#)^c , [Christophe Snoeck](#)^{c,d} , [Lisette Kootker](#)^{e,f} , [Arwa Kharobi](#)^{g,r} , [Caroline Borges](#)^h, [Diana K. Moreiras Reynaga](#)^{i,j} , [Łukasz Pospieszny](#)^{k,l} , [Francesca Fulminante](#)^{l,m,n}, [Rhiannon Stevens](#)^o , [Aleksa K. Alaica](#)^j , [Adrien Becker](#)^p , [Xavier de Rochefort](#)^q , [Kevin Saesle](#)^r

DiB, 2022



Data in Brief

Volume 42, June 2022, 108117



Data Article

Stable isotope data and radiocarbon dates from Brazilian bioarchaeological samples: An extensive compilation

[Caroline Borges](#)^a , [Ingrid Chanca](#)^{b,c} , [Kevin Saesle](#)^d

DiB, 2022



Data in Brief

Volume 48, June 2023, 109250



Data Article

When big data initiatives meet: Data sharing between THANADOS and IsoArch for early medieval cemeteries in Austria

[Nina Richards](#)^{a,b} , [Stefan Eichert](#)^b , [Sabine Ladstätter](#)^c, [Christina Cheung](#)^d , [Michael P. Richards](#)^e, [Kévin Saesle](#)^f

DiB, 2023



Data in Brief

Volume 42, June 2022, 108115



Data Article

Strontium isotope analyses of archaeological cremated remains – new data and perspectives

[Christophe Snoeck](#)^{a,b} , [Christina Cheung](#)^{a,b} , [Jacob I. Griffith](#)^{a,b} , [Hannah F. James](#)^{a,b} , [Kevin Saesle](#)^c

DiB, 2022

AN EXPERT IN CREMATION ARCHAEOLOGY



FINAL NEOLITHIC AND BRONZE AGE FUNERARY PRACTICES AND POPULATION DYNAMICS IN BELGIUM, THE IMPACT OF RADIOCARBON DATING CREMATED BONES

Published online by Cambridge University Press: 11 January 2023

Giacomo Capuzzo , Guy De Mulder, Charlotte Sabaux, Sarah Dalle , Mathieu Boudin, Rica Annaert, Marta Hlad, Kevin Salesse, Amanda Sengelov and Elisavet Stamataki
...Show all authors 

Show author details 















Radiocarbon, 2023

JASR, 2023

PLOS ONE

RESEARCH ARTICLE

These boots are made for burnin': Inferring the position of the corpse and the presence of leather footwears during cremation through isotope ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$) and infrared (FTIR) analyses of experimentally burnt skeletal remains

Kevin Salesse ^{1,2,3,4}*, Elisavet Stamataki^{1,2,4}, Ioannis Kontopoulos , Georges Verly , Rica Annaert ^{3,7}, Mathieu Boudin¹, Giacomo Capuzzo , Philippe Claeys , Sarah Dalle ^{3,9}, Marta Hlad ^{1,3,4}, Guy de Mulder , Charlotte Sabaux ^{1,9}, Amanda Sengelov ^{1,4}, Barbara Veselka ^{3,4}, Eugène Warmenbol ¹⁰, Martine Vercauteren¹, Christophe Snoeck ^{11,11}

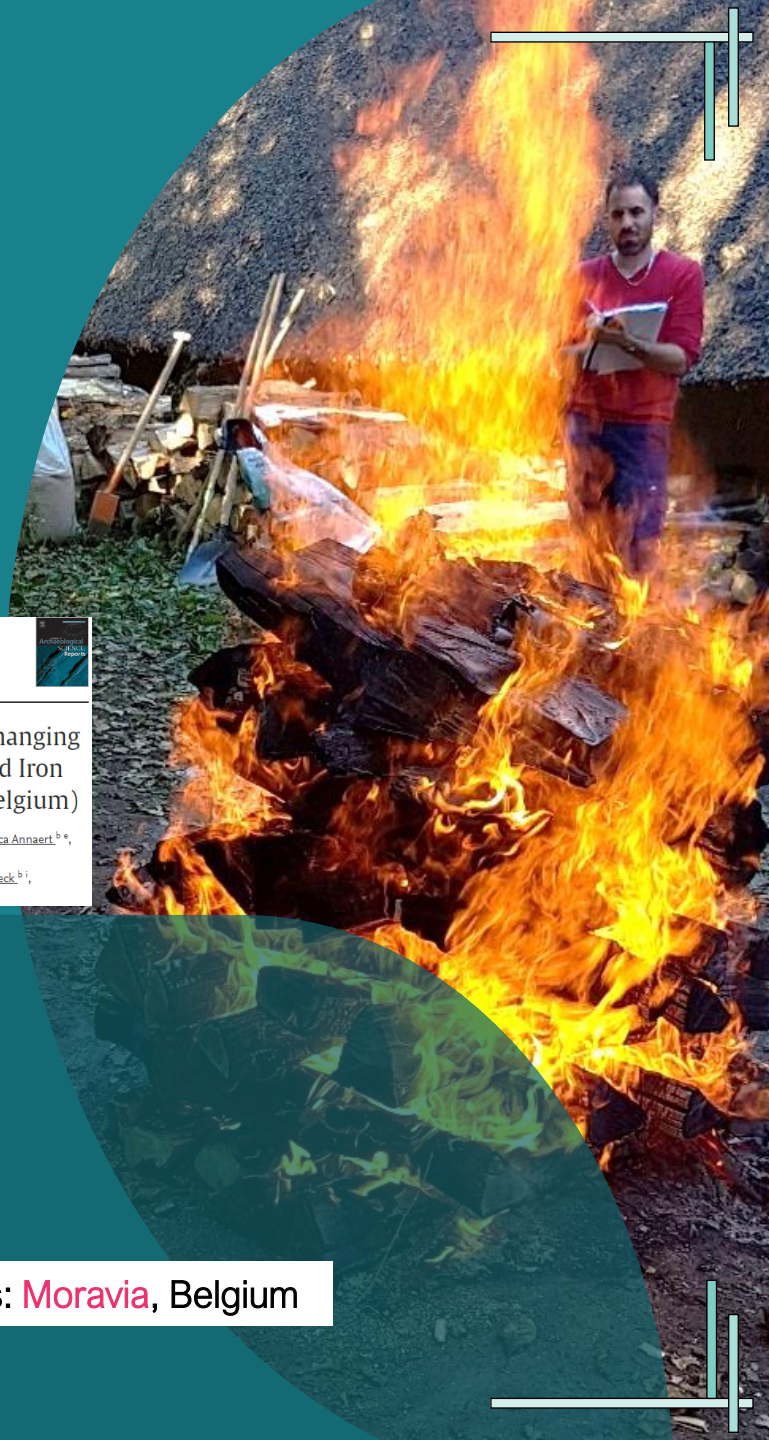


Journal of Archaeological Science: Reports

Volume 49, June 2023, 103979

Hidden transitions. New insights into changing social dynamics between the Bronze and Iron Age in the cemetery of Destelbergen (Belgium)

Sarah Dalle ^a ^b, Giacomo Capuzzo ^c ^d, Marta Hlad ^b ^e, Barbara Veselka ^b ^h, Rica Annaert ^b ^e, Mathieu Boudin ^f, Charlotte Sabaux ^a ^b ^e, Kevin Salesse ¹, Amanda Sengelov ^a ^c, Elisavet Stamataki ^b ^e, Martine Vercauteren ^f, Eugène Warmenbol ^f, Christophe Snoeck ^b ⁱ, Guy De Mulder ^a



Plos One, 2021



RESEARCH ARTICLE

Estimating age-at-death in burnt adult human remains using the Falys-Prangle method

Barbara Veselka , Marta Hlad, Dawnie Wolfe Steadman, Henrica Annaert, Mathieu Boudin, Giacomo Capuzzo, Sarah Dalle, Ioannis Kontopoulos, Guy De Mulder, Charlotte Sabaux, Kevin Salesse, Amanda Sengelov, Elisavet Stamataki, Martine Vercauteren, Dries Tys, Christophe Snoeck


AJPA, 2020



CREMATION VS. INHUMATION: MODELING CULTURAL CHANGES IN FUNERARY PRACTICES FROM THE MESOLITHIC TO THE MIDDLE AGES IN BELGIUM USING KERNEL DENSITY ANALYSIS ON ¹⁴C DATA

Published online by Cambridge University Press: 14 September 2020

Giacomo Capuzzo , Christophe Snoeck , Mathieu Boudin, Sarah Dalle , Rica Annaert, Marta Hlad, Ioannis Kontopoulos , Charlotte Sabaux, Kevin Salesse , Amanda Sengelov , Elisavet Stamataki , Barbara Veselka , Eugène Warmenbol, Guy De Mulder , Dries Tys  and Martine Vercauteren

Show author details 

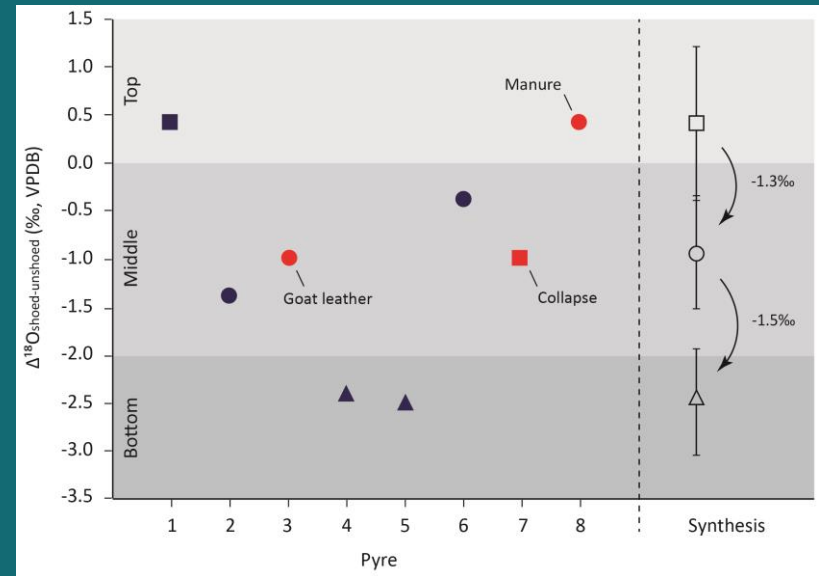
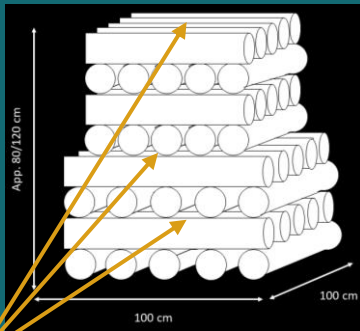
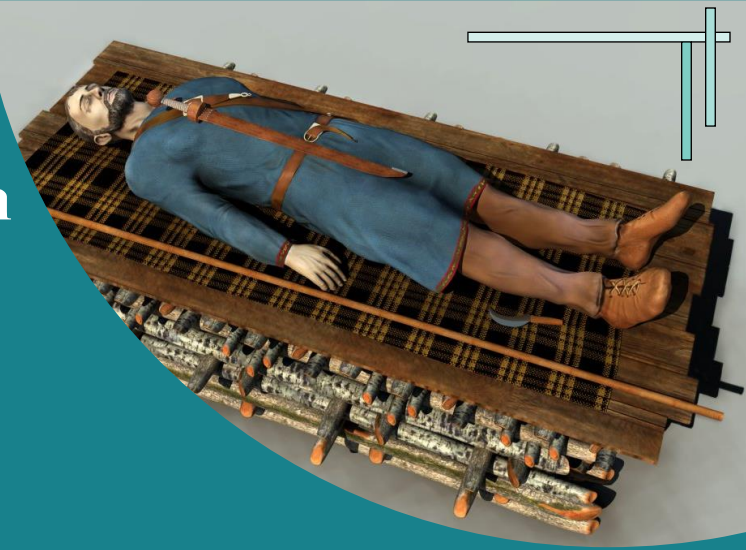
Radiocarbon, 2020

Current fields: **Moravia**, Belgium

Paved the way to explore cremation practices with isotopic analysis

Examining heating conditions, initial position of the dead on the pyre, presence of garments worn by the deceased

Experimental archaeology with animal proxies



$\Delta^{18}\text{O}_{\text{shoed-unshoed}}$ values of the pigs burnt in the experimental cremations. Note: Squares refer to top-position pyres, circles for middle-position pyres, and triangles for bottom-position pyres

Reviewer #2 stated:

“I feel that the paper is certainly a **seminal work** on cremated remains.”



PLOS ONE

RESEARCH ARTICLE

These boots are made for burnin': Inferring the position of the corpse and the presence of leather footwears during cremation through isotope ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$) and infrared (FTIR) analyses of experimentally burnt skeletal remains



Kevin Salesses^{1,2,3,4*}, Elisavet Stamataki^{1,3,4}, Ioannis Kontopoulos⁵, Georges Verly⁶, Rica Annaert^{3,7}, Mathieu Boudin⁸, Giacomo Capuzzo¹, Philippe Claeys⁴, Sarah Dalle^{3,9}, Marta Hlad^{1,3,4}, Guy de Mulder⁹, Charlotte Sabaux^{1,9}, Amanda Sengeløv^{1,9}, Barbara Veselka^{3,4}, Eugène Warmenbol¹⁰, Martine Vercauteren¹, Christophe Snoeck^{3,4,11}

A CZECH ANTHROPOLOGY ENTHUSIAST

American Journal of
PHYSICAL ANTHROPOLOGY

The Official Journal of the American Association of Biological Anthropologists



Research Article

Life history of the individuals buried in the St. Benedict Cemetery
(Prague, 15th–18th Centuries): Insights from ^{14}C dating and
stable isotope ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$, $\delta^{18}\text{O}$) analysis

Kevin Salesses ✉, Élise Dufour, Dominique Castex, Petr Velemínský, Frédéric Santos, Hedvika Kuchařová,
Libor Jun, Jaroslav Brůžek

AJPA, 2013



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

International Journal of Paleopathology

journal homepage: www.elsevier.com/locate/ijpp



An isotopic case study of individuals with syphilis from the pathological-
anatomical reference collection of the national museum in Prague (Czech
Republic, 19th century A.D.)



Kevin Salesses^{a,b,*}, Sylva Kaupová^c, Jaroslav Brůžek^{b,d}, Vítězslav Kuželka^c, Petr Velemínský^c

IJPP, 2019

And more to come...



Moving toward a TRANSformaTive bioarchaeology of cremATION in Czech republic and beyond (transMUtation)

Project Identification

MUNI/J/1670/2022

Project Period

1/2024 - 12/2026

Investor / Programme / Project type

[Masaryk University](#)

- > Grant Agency of Masaryk University
- > MASH JUNIOR - MUNI Award In Science and Humanities JUNIOR

MU Faculty or unit

Faculty of Science

- > [Kévin Alexis André Salesse, M.Sc., Ph.D.](#)

More than a research design, the transMUtation project is a plea for a transformative bioarchaeology of cremation in the Czech Republic and beyond. Resolutely groundbreaking, this project aims at pushing the boundaries of the study of burnt human remains in archaeological contexts using a new range of cutting-edge techniques (isotope, infrared, proteomic and computational analysis). The transMUtation project is built around five complementary pillars, all of which will eventually reveal cross-cultural attitudes toward death in ancient Czech bi-ritual deathscapes, that is where cremations and inhumations occurred side by side in the same cemeteries. The following outcomes are planned: i.e. an expanded toolbox for the study of past and modern burnt human remains, maps predicting isotope variations across the country for mobility studies, an open-source database made in MU for isotope bioarchaeology, and a yearly summer school dedicated to the anthropology of cremation.

Mapping the community dynamics of Anabaptist population in Moravia in the 16th and 17th centuries

Project Identification

DH23P03OVV074

Project Period

3/2023 - 12/2027

Investor / Programme / Project type

[Ministry of Culture of the CR](#)

- > NAKI III: Applied research of national and cultural identity (2023-2030)

MU Faculty or unit

Faculty of Science

- > [doc. RNDr. Miroslav Králík, Ph.D.](#)
- > [Mgr. Mikoláš Jurda, Ph.D.](#)
- > [Kévin Alexis André Salesse, M.Sc., Ph.D.](#)

Other MU Faculty/Unit

Faculty of Arts

- > [Mgr. Jana Valtrová, Ph.D.](#)
- > [Mgr. Jakub Cigán, Ph.D.](#)
- > [PhDr. Bronislav Chocholáč, Dr.](#)

The aim of this project is to map the dynamics of the Anabaptist settlement in Moravia in the 16th and 17th centuries. The Anabaptists came from German-speaking regions and formed a culturally and ethnically distinct minority that made significant contributions to the history of Moravia. Although this community is no longer present in our territory, the influence of Anabaptist activity in Moravia is re-emerging, particularly in villages with a well-developed tradition of winemaking. The aim of this project is to make detailed information about the activities of this community in Moravia available to the general public in a broad historical and social context.

The project will enable the creation of an open database and an interactive map of Anabaptist settlements in Moravia. Through this database, it will be possible to systematize the existing knowledge about particular Anabaptist settlements and to analyze the interrelationships between settlements, as well as to trace the interconnections of religious, economic and biological conditions. The database will contain information about settlement topography, chronology, size, their economic orientation and the religious confession that shaped the rules of their coexistence. The database will also make it possible to record and associate anthropological research findings with the origins of the Anabaptists. The interactive map will allow the display of entered data in a spatio-temporal model of the Anabaptist settlements and will include a number of additional elements such as visualizations of selected objects and findings.

Through the use of multivariate statistical analyses, relationships between data from written sources and those generated through scientific methods will enable complex reconstructions of the dynamics of the Anabaptist settlements in Moravia and interactions with surrounding countries.



RESEARCH TOPICS AVAILABLE FOR BACHELOR AND MASTER

OPEN DOOR POLICY

You're encouraged to come to
my office!

Don't hesitate to stop by for
questions or a discussion!





Any question?

Syllabus



1. Introduction to the course (19/09/23)

2. Basic principles of archaeo-biogeochemistry (26/09/23)

3. Reconstructing past dietary practices: established and cutting-edge approaches (03/10/23)

4. Dietary patterns: a lens to address biocultural interactions (10/10/23)

5. Investigating past mobility and migration: An isotopic overview (17/10/23)

6. Mobility, kinship, and population genetics: A synergy (24/10/23)

Break (31/10/23)

7. Big data approaches for big pictures: A change of scale in isotopic studies (07/11/23)

8. Interpreting past human diets using stable isotope mixing models (14/11/23)

Break (21/11/23)

9. Isotope mapping and its applications (28/11/23)

10. Applications of isotopic approaches to forensic anthropology (05/12/23)

11. Contribution of isotopic analysis to the archaeology of cremation (12/12/23)

12. Final examination (19/12/23)

A bit of fun!



Take it easy (but seriously)

ASSESSMENT METHODS

- 1 - Each student will have the opportunity to orally present his or her analysis of scientific articles ($n = 2$) using a Powerpoint slide show.
- 2 - An unessay related to science communication in isotope research will be presented, individually, by each student.
- The student must present their paper assessment and unessay by the end of the year 2023.

ANALYSIS OF PAPERS

Individual work

Pick 2 research papers of your choice

Focusing on a similar topic

Not on Czechia!

Use Google Scholar or Scopus

Critically review the papers (comparison)

Prepare a PowerPoint presentation

Oral examination



ANALYSIS OF PAPERS

- 1.Objectives: Compare the objectives of the two papers. Are they similar or different?
- 2.Methods: Compare the methods used in each paper. Which methods are used in each paper and why?
- 3.Results: Compare the results obtained in each paper.
- 4.Conclusions: Compare the conclusions reached by each paper.
- 5.Relevance: Compare the relevance of the two papers. Does one paper have more relevance to your research than the other?
- 6.Evidence: Compare the evidence presented in each paper. Does one paper have stronger evidence than the other?
- 7.Limitations: Compare the limitations of each paper. Are the limitations of one paper more significant than the limitations of the other paper?
- 8.Future Research: Compare the recommendations for future research made in each paper. Are they similar or different?



ANALYSIS OF PAPERS

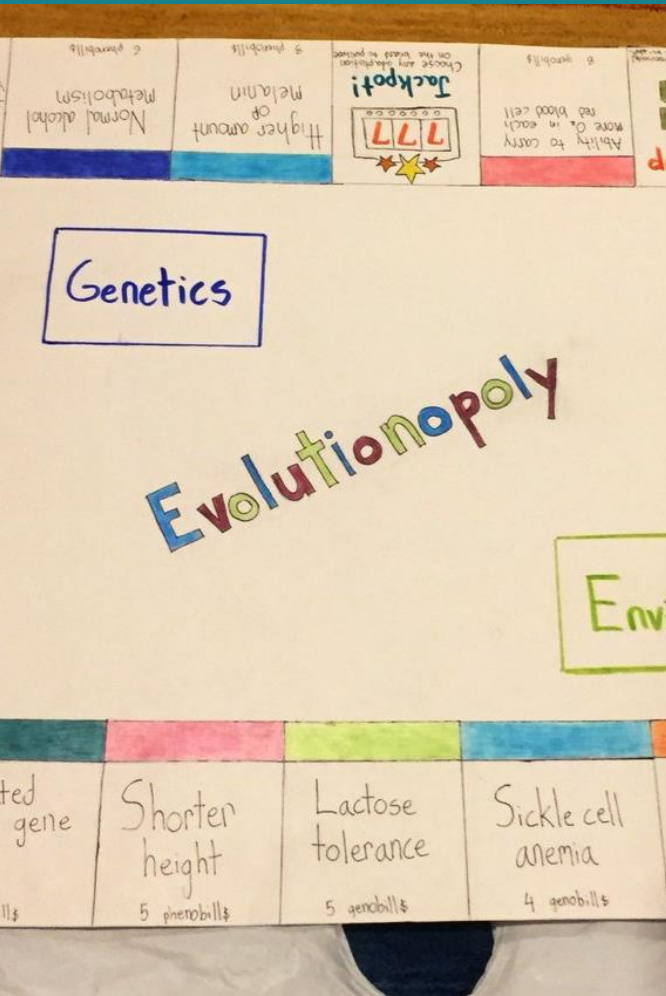
When comparing two research journal papers, there are several factors to consider.

1. Consider the research question and the objectives of each paper. Are they similar or different?
2. Are the methods used to answer the research questions appropriate and well-described?
3. Consider the sample size and the population being studied. Are they representative of the target population, and are they comparable across the two papers?
4. Consider the data analysis and the results. Are the results consistent with the research question and the data collected? Are the findings generalizable?
5. Consider the quality of writing, the clarity of presentation, and the overall impact of each paper.

By considering these factors, you can compare and evaluate the strengths and weaknesses of each paper and determine which one is more relevant and valuable for your research purposes.



THE UNESSAY



DIVERSIFYING ASSESSMENT & MAKING SPACE FOR CREATIVITY AND INNOVATION IN A DIVERSE STUDENT COHORT

- Individual work
- To reach general audience
- On topics related to the course
- Use your daily skills and what you like

SCIENCE COMMUNICATION

- Be present on social media/the web
- Main channel for SciCom: Twitter
- Create an account and follow:
@anthro_muni, @KevinSalesse,
@isoarch_eu, @BrusselsBioarch,
@NannonStevens, @benmarwick



INSPIRED BY...



Ben Marwick
@benmarwick



I just finished teaching a new undergrad class @UW called “Archaeology of Epidemics”, where students had the option to do a #scicomm unessay final project. I’m very proud of their work so here's a 📖 presenting their wonderful projects (includes 🏠 of human remains):

[Traduire le Tweet](#)

7:59 AM · 14 juin 2022 · Twitter Web App

50 Retweets 13 Tweets cités 257 J'aime

<https://twitter.com/benmarwick/status/1536589190187536386>



SOME IDEAS...

<https://twitter.com/RileyMcCabee/status/1535437610947993600>

← **Thread**

 **Riley McCabe**
@RileyMcCabee

Plagues are scary whether it's our experience or ancient experiences, human culture perseveres.

My first thread on the Athenian Plague of 430BC, looking at the most recently re-excavated area of Kerameikos and its archaeological findings.
[#PlagueofAthens](#) [#AncientEpidemics](#)

6:43 PM · Jun 10, 2022 · Typefully

26 Retweets 2 Quote Tweets 94 Likes

 Tweet your reply Reply

 **Riley McCabe** @RileyMcCabee · Jun 10
Replying to @RileyMcCabee

1/ First a little history: Kerameikos is one of the most famous necropolises in Athens and in the age of archaeological antiquity, when Kerameikos (meaning ceramic) was first excavated, it was loved for its numerous beautiful ceramic material findings [#history](#) [#Greece](#)

SOME IDEAS...



Archeologists Watching Archeology Films
@ArcheologyFilms

two undergrad aspiring archeologists watching archeology films and critiquing the archeological value of them (this was a project for a class and is not a real)

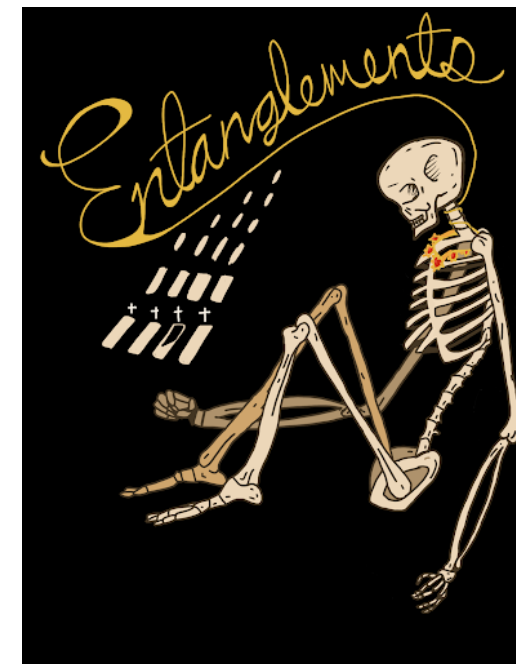
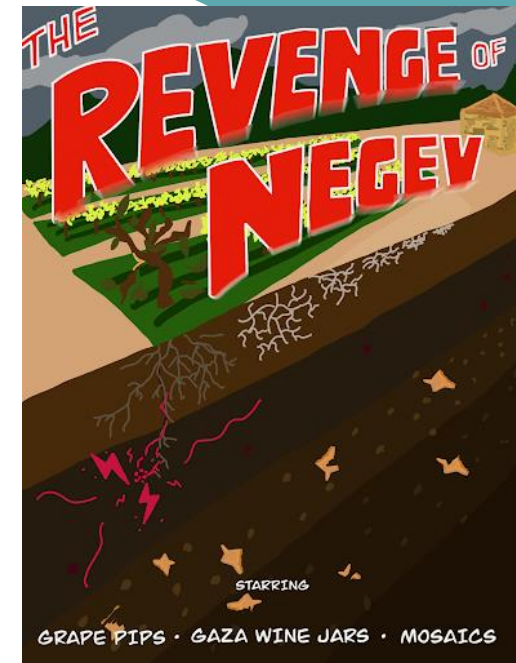
[Traduire la biographie](#)

A rejoint Twitter en mai 2022

3 abonnements 1 abonné


Suivi par aucune des personnes que vous suivez

<https://twitter.com/ArcheologyFilms>



SOME IDEAS...

Instagram ▼ [Se connecter](#) [S'inscrire](#)


 **1918fluarchy** [Suivre](#) ⋮

13 publications 9 followers 0 suivi(e)s

Archaeology of the 1918 Influenza Epidemic


📖 PUBLICATIONS 👤 IDENTIFIÉ(E)

Archaeology of the 1918 Influenza Epidemic
@1918fluarchy



Gravestones

Did you know that the 1918 Influenza Pandemic influenced stylistic changes in Southern California grave-markers?




A 2011 study published in the International Journal of Historical Archaeology found that during the 19th and 20th centuries, gravestone gradually shifted away from large, monumental styles made from marble to smaller, modest styles made from granite. Significant changes in the material and size of markers coincided with calamitous social and economic shifts.

Sequencing the Virus

In 1918, the village of Brevig Mission in Alaska had 80 inhabitants, predominately Inuit Alaskans. By fall, 72 of them had died of influenza & were buried in a mass grave.

In 1951, pathologist Johan Hultin recieved permission to exhume several bodies from this cemetery. His motivation was to discover the exact strain of influenza that caused the 1918 Pandemic.



<https://www.instagram.com/1918fluarchy/>

SOME IDEAS...

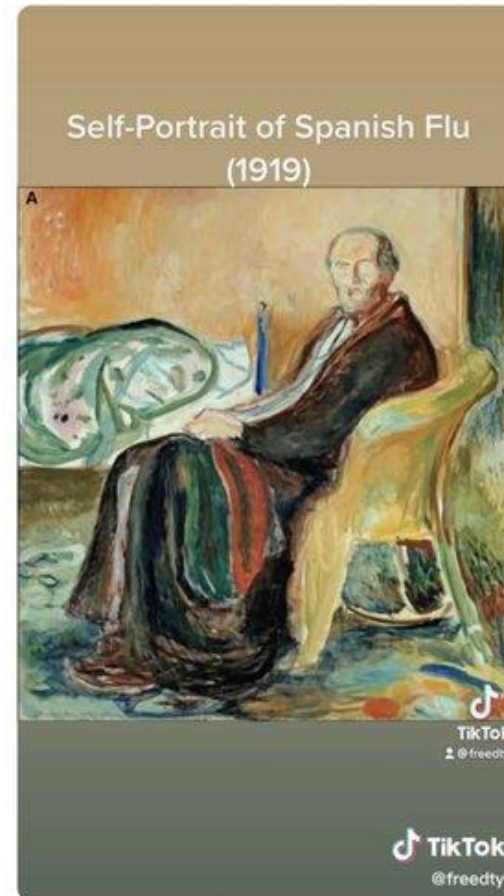
https://www.tiktok.com/@freedtyl/video/7107860046075137323?_r=1&_t=8T45pMahtBz&is_from_webapp=v1&item_id=7107860046075137323



freedtyl Tyler W Freedman · 2d ago

#archaeology #1918pandemic #edvardmunch
#pandemicculture #spanishflu #pandemic #plague
#uwar archaeology

🎵 original sound - Tyler W Freedman



SOME IDEAS...

Archaeology [edit]

Further information: Kerameikos steles

Archaeological excavations in the Kerameikos began in 1870 under the auspices of the [Greek Archaeological Society](#). They have continued from 1913 to the present day under the [German Archaeological Institute at Athens](#).

Latest findings in the Kerameikos include the excavation^[2] of a 2.1 m tall [Kouros](#), unearthed^[3] by the German Archaeological Institute at Athens under the direction of Professor Wolf-Dietrich Niemeier. This Kouros is the larger twin of [the one now kept](#)^[2] in the [Metropolitan Museum of Art in New York](#), and both were made by the same anonymous sculptor called the [Dipylon Master](#).

During the construction of [Kerameikos metro station](#) for the expanded [Athens Metro](#), a plague pit and approximately 1,000 tombs from the 4th and 5th centuries BC were discovered. In 1992, Greek archaeologist Efi Baziatopoulou-Valavani excavated these sites.^[4] The plague pit is located in the northwestern corner of the cemetery and is 6.5 meters long and 1.6 meters deep, containing 89 individuals' remains.^[4] The remains found belonged to adult males and females, as well as eight children.^[4] Many consider this pit to contain victims from the [Plague of Athens](#), which was prevalent from 430 to 428 BCE, followed by a recurrence from 427 to 426 BCE.^[4]

Pottery found within the grave was used to date the burial to between 430 and 426 BCE based on the styles common during that time.^[4] The burial is considered to be related to the Athenian plague not only because of the dating of the burial, but also because of the nature of the burial.^[4] The chaos caused by the Plague of Athens, as described by [Thucydides](#), matches with the disordered nature of the pit.^[4] The pit is further thought to be a state burial, conducted for victims whose families could not afford proper burials.^[4]

Bodies were found in five successive layers within the pit, with more care shown on the bottom levels and increasingly little care shown as the burial continued upwards.^[4] Bodies were thrown in haphazardly, their positions dictated by the shape of the pit.^[4] There was soil placed between the bodies only on the lower levels, and most of the offerings were also found on the lower levels of the burial.^[4] The eight children's bodies were found on the upper-most level, and were covered with large shards of pottery.^[4]

Offerings for the dead consisted of roughly 30 small vases.^[4] Examples of the ceramics found within the pit include choes, a [pelike](#), and numerous [lekythoi](#).^[4] All of these pieces are common in quality and use.^[4] The excavator, Baziatopoulou, further remarks that the offerings are surprisingly few considering the number of dead buried within the pit.^[4] She then notes that this is especially true when taking into account the probable loss of one or more upper levels from prior intrusions into the burial, which would have brought the total persons buried up to approximately 150.^[4] The offerings found were scattered on the lower levels of the pit, suggesting diminishing care as the burial continued upwards.^[4]

The eight children found buried within the pit are an exception to the pattern of diminishing care as the burial progressed.^[4] Found on the upper levels, these children were not thrown in the pit haphazardly but were instead placed with care and covered with shards of pottery.^[4] These are the only ceramics found in the pit that are outside of the lower levels, and this caused Baziatopoulou to comment that the children "seem to have been treated with special care."^[4] Notably, one of the children's faces was reconstructed by professor Manolis Papagrigorakis and the child is now known as [Myrtis](#).^[5]

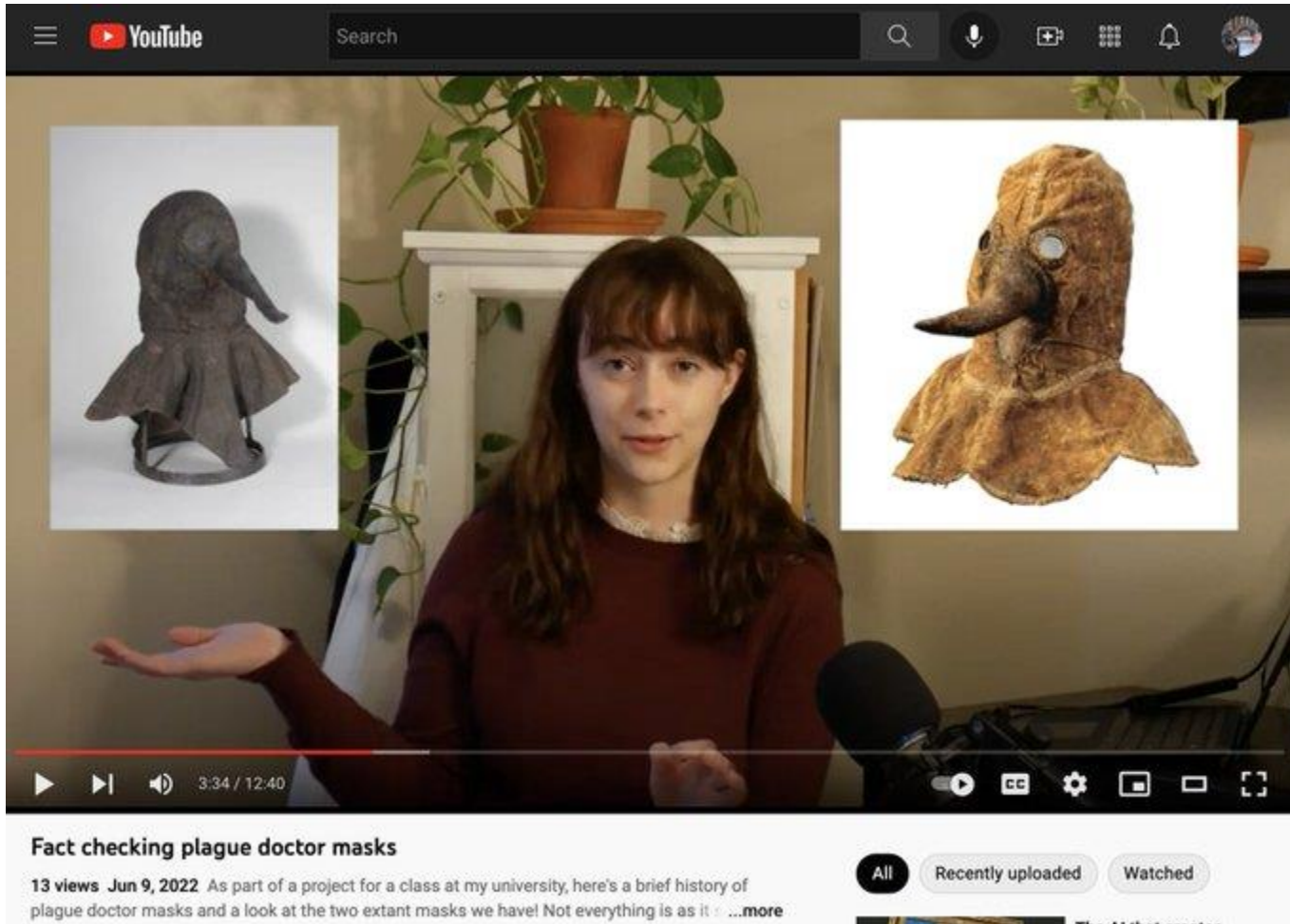
The skeletal remains found within the pit were submitted to Greek orthodontics professor Manolis Papagrigorakis for examination.^[4] Upon analyzing dental pulp from the remains, he concluded that three subjects contained the bacterium *Salmonella enterica* serovar typhi, which results in [typhoid fever](#).^[6] The pathogen responsible for the [Athenian plague](#) is much disputed, and this DNA evidence has caused scholars to view typhoid fever as a likely culprit.^[6] These are the only remains in connection with the Athenian plague to be analyzed.^[6]

Large areas adjacent to those already excavated remain in to be explored, as they lie under the fabric of modern-day Athens. Expropriation of these areas has been delayed until funding is secured.



<https://en.wikipedia.org/wiki/Kerameikos#Archaeology>

SOME IDEAS...



The image shows a YouTube video player. At the top, the YouTube logo and search bar are visible. The video content features a woman with long brown hair and bangs, wearing a dark red sweater, sitting in front of a white cabinet with a potted plant. She is gesturing with her right hand towards two images of plague doctor masks. The mask on the left is dark and appears to be made of metal or a similar material, with a long, pointed beak. The mask on the right is made of a light brown, textured material, possibly leather or parchment, also with a long, pointed beak. Below the video player, the video title is "Fact checking plague doctor masks". The video has 13 views and was uploaded on Jun 9, 2022. The description begins with "As part of a project for a class at my university, here's a brief history of plague doctor masks and a look at the two extant masks we have! Not everything is as it s...more". There are also filter buttons for "All", "Recently uploaded", and "Watched".

Fact checking plague doctor masks

13 views Jun 9, 2022 As part of a project for a class at my university, here's a brief history of plague doctor masks and a look at the two extant masks we have! Not everything is as it s...more

https://www.youtube.com/watch?v=MIG2nTQ0KaQ&ab_channel=emmainfo-dumps

OPTIONAL COLLECTIVE WORK

- 1 - A compilation of the isotopic data will be made, collectively, throughout the semester, according to the IsoArch standards.
- 2 - Drafting a data article based on the gathered data for submission to Elsevier's Data in Brief journal, co-signed by all the students involved in this work.

ISOTOPE...

What is an

isotope?



A VIRTUAL VISIT OF ISOTOPE LAB



BRUSSELS
BIOARCHAEOLOGY
LAB

LET'S GO ON TEAMS