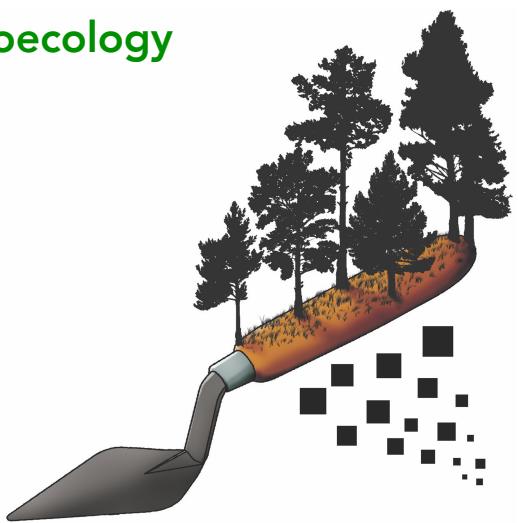


anthraco2019 – 7th International Anthracology Meeting

Charcoal Science in Archaeology and Palaeoecology

University of Liverpool, 2-6 September 2019

Central Teaching Hub (CTH), Liverpool, L69 7BX
Campus zone: Central Campus
Campus map reference: F6, buildings 221 and 802



Archaeology, Classics
and Egyptology

<https://www.liverpool.ac.uk/archaeology-classics-and-egyptology/research/anthraco/>
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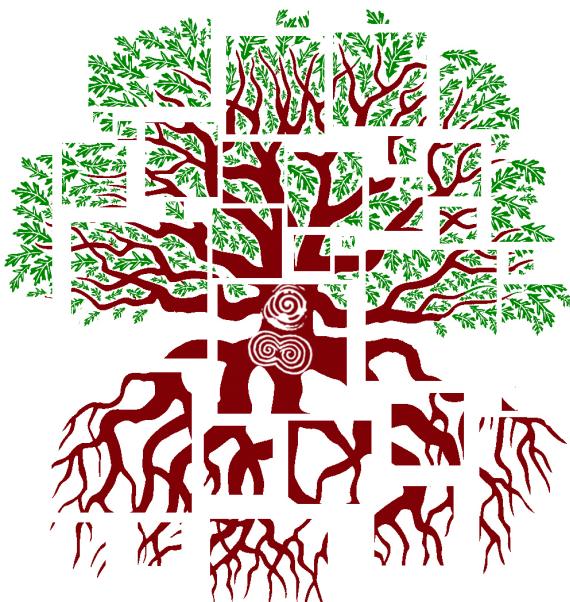


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Conference Programme

1. Oral presentations (Lecture Theatre B, CTH)

Monday 2 September 2019

08:30 – 10:30 Conference registration

(Coffee will be available in the reception area from 9:30; delegates with posters will be directed to the poster presentation space in the GFlex Teaching Space)

10:30 – 11:00 Welcome addresses

Session 1: New Developments in Charcoal Science

11:00 – 11:35 Keynote talk: Data analysis in anthracology – Challenges and prospects

Ceren Kabukcu, Lucie Chabal

11:40 – 11:55 Effective sampling of charcoal-rich layers: a case study from the Later Stone Age of Bushman Rock Shelter, Limpopo Province, South Africa

Elysandre Puech, Christine Sievers, May Murungi, Marion Bamford, Isabelle Théry-Parisot

12:00 – 12:15 New climatic approaches to Middle Palaeolithic sequences: combined methodology of taxonomic and isotopic charcoal analyses on two Neanderthals settlements: “Les Canalettes” (Aveyron, France) and “La Combette” (Vaucluse, France)

Benjamin Audiard, Liliane Meignen, Pierre-Jean Texier, Thierry Blasco, Giovanna Battipaglia, Isabelle Théry-Parisot

12:20 – 12:35 Foraging behaviours and fuel wood selection: insights from pre-agricultural habitations in the Eastern Mediterranean

Eleni Asouti

12:40 – 12:55 Firewood gathering strategies in Parc Nacional d'Aigüestortes i Estany de Sant Maurici (Central Pyrenees). Some proposals

Laura Obea Gómez, Ermengol Gassiot Ballbé, Ignacio Clemente Conte, Sara Díaz Bonilla, David García Casas, David Rodríguez Antón, Guillem Salvador Baiges

13:00 – 13:55 Lunch & coffee break (lunch provided at the conference venue)

14:00 – 14:15 Investigating growth habit and stem height: applications of vessel diameter measurements in anthracology

Ceren Kabukcu

14:20 – 14:35 Atlas and identification key of xylophagous traces

Magali Toriti, Aline Durand, Fabien Fohrer

14:40 – 14:55 A new approach to digitizing and imaging the Harvard University herbaria wood slides

Madelynn von Baeyer

15:00 – 15:15 Comparative wood anatomy as an aid to identification of *Prunus brigantina* Villars

Nicolas Dieudonné, Brigitte Talon

15:20 – 17:00 Open posters session (GFlex Teaching Space)

Tuesday 3 September 2019

08:30 – 08:55 (Conference reception desk open)

Session 2: Charcoal Science and Human Palaeoecology I

- 09:00 – 09:15** *A step forward into tropical regions anthracology. Vegetation and wood uses in ancient Sri Lanka based on the charcoal record from Mantai, Kirinda and Kantharodai*
Ethel Allué, Charlene Murphy, Eleanor Kingwell-Banham, Wijerathne Bohingamuwad, Gamini Adikari, Nimal Perera, Nicole Boivin, Dorian Q Fuller
- 09:20 – 09:35** *An analysis charcoal from Sibudu cave (South Africa) for a ‘volcanic winter’ associated with the Toba super-eruption*
Bongekile Zwane, Marion Bamford
- 09:40 – 09:55** *People-plant interactions during the Late Stone Age at Wonderwerk Cave: Charcoal from the Holocene Stratum 3b, Wonderwerk Cave, South Africa*
Joseph Chikumbirike, Marion Bamford
- 10:00 – 10:15** *Woody taxa in Middle Stone Age charcoal from Rose Cottage Cave (Free State)*
Sandra J. Lennox
- 10:20 – 10:35** *Cultivated Landscapes – The case study of Mege, Nigeria*
Alexa Höhn
- 10:40 – 11:10** **Coffee break**
- 11:15 – 11:30** *Land management and wood use at Joya de Cerén, a Late Classic Maya Village*
Venicia Slotten
- 11:35 – 11:50** *Exploitation of wood resources and tropical fruit trees in the Islamic South-East Arabia: insights into plant economy of the ancient harbour city of Qalhât (XIVth-XVIth c. AD)*
Vladimir Dabrowski, Margareta Tengberg
- 11:55 – 12:10** *Vegetation, land and wood use at the sites of Bat and Al-Khashbah in Oman (4th-3rd millennium BC)*
Katleen Deckers, Conrad Schmidt, Stephanie Döpper
- 12:15 – 12:30** *Wood use at Chalcolithic Çamlıbel Tarlası, Turkey*
John M. Marston, Peter Kováčik
- 12:35 – 12:50** *Fuelling urbanisation: the analysis of charcoal from Late Neolithic sites along the Central Yellow River region in China*
Marvin Demicoli
- 12:55 – 14:00** **Lunch & coffee break** (lunch provided at the conference venue)
- 14:05 – 14:20** *Not just charcoal: Analysis of wood remains from aboriginal communal granaries of Gran Canaria (Canary Islands, Spain)*
P. Vidal-Matutano, J. Morales, P. Henríquez-Valido, Á. Marchante, M.A. Moreno-Benítez, A. Rodríguez-Rodríguez
- 14:25 – 14:40** *Fuel management and landscape in the context of the first occupations of the Balearic Islands: charcoal analysis at Cova des Moro (Manacor, Mallorca, Spain)*
Yolanda Carrión Marco, Jaume Conesa Coll, Damià Ramis
- 14:40 – 14:55** *Woodland species diversity and impact on the firewood exploitation strategies. An exploratory approach applied to Neolithic lacustrine sites of the French northern alpine arc*
Alexa Dufraisse, Sylvie Coubray



- 15:00 – 15:15** *Choice or chance? Use of wood resources by Neolithic lake-dwelling societies in pre-alpine SW-Germany*
Oliver Nelle, Doris Jansen, Hannes Knapp
- 15:20 – 15:35** *Contrasting the charcoal assemblages of Late Iron Age and Roman roadside settlements in north-eastern England*
Jonathan Baines
- 15:40 – 16:45** **Open posters session (GFlex Teaching Space)**
- 17:00 – 19:00** **Anthraco2019 Wine Reception at the Victoria Gallery & Museum**
[Campus map](#) reference: D 7 (building no 421)

Wednesday 4 September 2019

- 08:30 – 08:55** **(Conference reception desk open)**
- Session 2: Charcoal Science and Human Palaeoecology II**
- 09:00 – 09:15** *Fuel procurement during the Upper and Late Palaeolithic in Central Europe: analysis of wood charcoal sequences from archaeological sites from Poland, Slovakia and Hungary*
Magdalena Moskal-del Hoyo, Jarosław Wilczyński, Lengyel György, Małgorzata Kot, Damian Stefański, Magdalena Sudoł-Procyk, Tadeusz Wiśniewski
- 09:20 – 09:35** *Vegetation change in southeastern Greece from the Middle Palaeolithic to Late Neolithic. The wood charcoal record from cave sites in the Peloponnese*
Maria Ntinou
- 09:40 – 09:55** *Environmental change and prehistoric landscape practices in the south-west Italian peninsula during the Pleistocene-Holocene transition*
Federico Poggiali, Domenico Lo Vetro, Fabio Martini, Eleni Asouti
- 10:00 – 10:15** *Climate versus human-driven disappearance of *Fagus sylvatica* (European beech) extra-zonal stands at low altitude in central and southern Italy: insights from archaeo-anthracological data*
Mauro Paolo Buonincontri, Gaetano Di Pasquale
- 10:20 – 10:50** **Coffee break**
- Session 3: Dendro-Anthracology**
- 10:55 – 11:10** *Dendro-anthracology and anthraco-typology: how does it work? A user's guide*
Sylvie Coubray, Alexa Dufraisse
- 11:15 – 11:30** *Dendro-anthracological tools applied to pinewood (*Pinus tp. sylvestris*) exploitation as fuel during the Mesolithic-Neolithic transition in NE Iberian Peninsula*
Marta Alcolea, Alexa Dufraisse
- 11:35 – 11:50** *Firewood and timber collection and management strategies from Medieval sites in Eastern England. Initial results from the anthraco-typological analysis of oak charcoal remains*
Robert Francis, Alexa Dufraisse
- 11:55 – 12:05** *Dendro-anthracology of *Pinus halepensis* Miller in prehistoric and protohistoric Mallorca (Balearic Islands, Western Mediterranean)*
Llorenç Picornell Gelabert, Alexa Dufraisse, Martín de Luís Arrillaga, Maurici Mus Amézquita

Session 4: Interdisciplinary Studies I

- 12:10 – 12:25** *Harvesting the Mediterranean forest: wood, wild fruits and crop management during the Neolithic and the Bronze Age in Corsica. New archaeobotanical data*
Claire Delhon, Isabel Figueiral, Laurent Bouby, Thomas Perrin, Pascal Tramoni
- 12:30 – 12:45** *Charcoal macro-remains analysis in an integrated landscape research: land-use in a long-term and multidisciplinary perspective (Ter High Mountain Valleys, Eastern Pyrenees, Spain)*
Josep Maria Palet, Valentina Pescini, Massimiliano Fossati, Lídia Colominas, Arnau Garcia, Hèctor A. Orengo, Tania Polonio
- New insights on paleoclimate reconstruction during the early Neolithic occupation of La Draga site (Northeast Iberia)*
Eva Ros, Mònica Aguilera, Raquel Piqué
- 13:10 – 14:00** **Lunch & coffee break** (lunch provided at the conference venue)
- 14:05 – 14:20** *Food for the dead, fuel for the pyre: symbolism and function of plant remains in the Roman cremation necropolis of Bracara Augusta (Portugal)*
Filipe Costa Vaz, Cristina Braga, Cláudia Oliveira, João Pedro Tereso, Luís Fontes, Manuela Martins
- 14:25 – 14:40** *The history of pines and pinewoods in western Iberia: a revision of archaeobotanical data*
João Pedro Tereso, Cláudia Oliveira
- 14:45 – 15:00** *Long-term history of woodland under human impact: archaeo-anthracological synthesis for lowlands in the Czech Republic*
Jan Novák, Petr Kočár, Romana Kočárová, Vojtěch Abraham
- 15:05 – 15:20** *Blooming of the Byzantine sustainable agricultural society in the Negev desert (Israel) and its abrupt decline*
Dafna Langgut, Yotam Tepper, Mordechay Benzaquen, Guy Bar-Oz
- 15:25 – 15:40** *Ritual and routine: distinguishing activities from fuelwood*
Dana Challinor
- 15:45 – 17:30** **Charcoal open lab demo session (CTH Environmental Sciences lab; 1st floor)**
Open posters session (GFlex Teaching Space)
- 18:00 – 20:00** **Anthraco2019 Scientific Committee meeting**

Thursday 5 September 2019

- 08:30 – 08:50** **(Conference reception desk open)**
- 09:00 – 09:30** **Keynote talk: Beyond wood anatomy**
Alan Crivellaro
- Session 5: The Anthracology of Kilns and Charcoal Burning**
- 09:35 – 09:50** *Forest dynamics of the Euganean Hills (Padua, Italy): when the anthracology of charcoal kilns and historical cartography explain the origin of forest landscapes*
Sandrine Paradis-Grenouillet, Giuseppe Bazan



- 09:55 – 10:10** *A review of 2000 years of charcoal production in the Low Countries*
Koen Deforce, Bert Groenewoudt
- 10:15 – 10:30** *Searching for the charcoal burners heritage - Interconnecting forest history, anthracological research and local people*
Thomas Ludemann
- 10:35 – 11:05** **Coffee break**
- 11:10 – 11:25** *The analysis of archaeological charcoal assemblages from Chigaramboni archaeo-metallurgical sites, south eastern Zimbabwe*
Joseph Chikumbirike, Marion Bamford, Amanda B. Esterhuysen
- 11:30 – 11:45** *Anthracological analyses of charcoal kilns at a high spatial resolution: a way to better understand the charcoal production and the related forest history?*
David Gocel-Chalté, François Guerold, Hannes Knapp, Vincent Robin
- 11:50 – 12:05** *The need for dendrochronology to improve the temporal resolution of charcoal manufacturing activity in the French Eastern Pyrenees: the case of the ancient charcoal-production forest of Bernadouze (Suc-et-Sentenac, Haut-Vicdessos)*
Léonel Fouédjeu, Mélanie Saulnier, Vincent Labbas, Mathieu Lejay, Sandrine Buscaino, Vanessa Py-Saragaglia
- Session 4: Interdisciplinary Studies II**
- 12:10 – 12:25** *The xylophagi of the wooden floor of Camelot block (Fréjus, France): interdisciplinary approaches through archaeology and anthraco-entomology*
Magali Toriti, Pierre Excoffon, Aline Durand, Fabien Fohrer
- 12:30 – 12:45** *Charcoal hearth soils as environmental archives. A case study from Central Italy (Poggio di Montieri)*
V. Pescini, G. Certini, G. Mastrolonardo
- 12:50 – 13:55** **Lunch & coffee break** (lunch provided at the conference venue)
- 14:00 – 14:15** *Reconstructing past multiple land use systems: the 5T.ERA (5 Terre Environmental Resource Archaeology) multi-proxy project*
R. Cevasco, N. Gabellieri, B. I. Menozzi, C. Montanari, A. Panetta, V. Pescini
- 14:20 – 14:35** *Fire use and agroforestry in tropical forests (Guatemala)*
L. Dussol, L. Purdue, B. Vannière, M. Testé, S. Morell-Hart, I. Théry-Parisot, A. Garnier, E. Lemonnier, C. Castanet
- 14:40 – 14:55** *Preliminary charcoal and phytolith analysis from an early Swahili daub house at Unguja Ukuu, Zanzibar (c. 7th-14th century AD)*
Welmoed Out, Stephanie Wynne-Jones, Peter Mikkelsen, Federica Sulas
- 15:00 – 15:15** *Herod the Great royal Roman gardens come alive: charcoal remains and pollen analysis*
Dafna Langgut
- 15:20 – 17:30** **Charcoal open lab demo session (CTH Environmental Sciences lab; 1st floor)**
Open posters session (GFlex Teaching Space)
- 19:00 – 22:00** **Conference Dinner (The Pen Factory, 13 Hope Street, Liverpool, L1 9BQ)**
<https://www.pen-factory.co.uk>



Friday 6 September 2019

08:30 – 09:30 (Conference reception desk open)

Session 6: Palaeobotany & Pedaanthracology

- 09:35 – 09:15** *A case of Medieval deforestation in southern Tuscany (850-1050 AD): an isolated local event or the onset of wide-ranging socioeconomic growth?*
Mauro Buonincontri, Marta Rossi, Gaetano Di Pasquale
- 09:20 – 09:35** *The origin of the Zappini cypress forest of Fontegreca (southern Italy): first data from soil charcoal analysis*
Alessia D'Auria, Maria Merola, Simona Vingiani, Fabio Marzaioli, Gaetano Di Pasquale
- 09:40 – 09:55** *Pedoanthracological data to understand the past and current fir (*Abies alba*) distribution in NE Iberian Peninsula*
Raquel Cunill Artigas, Albert Pèlachs Mañosa, López Soriano, Manuel Joan; Jordi Nadal Tersa, Marc Sánchez-Morales, Ramon Pérez-Obiol
- 10:00 – 10:30** **Coffee break**
- 10:35 – 10:50** *Typology of soil charcoal assemblages in the forest-steppe zone*
Elena Ponomarenko, Ekaterina Ershova, Pille Tomson
- 10:55 – 11:10** *Ecological niches of oaks versus beech forest trees documented by pedoanthracology in forests of the Lorraine Plateau (France)*
Thomas Feiss, Vincent Robin, Delphine Aran, Thierry Paul, Jean-Luc Dupouey
- 11:15 – 11:30** *Assessment of past fire regime in northern central Europe based on a multiscale and multi-archive paleo-signal*
Vincent Robin, Oliver Nelle
- 11:35 – 12:05** **Plenary Session - Anthraco2023**
- 13:30 – 15:00** **Tour of the Archaeology labs & the Garstang Museum of Archaeology** (meeting point: Abercromby Square Garden - [Campus map](#) reference: E 3)

2. Poster presentations

(all posters will be on display for the duration of anthraco2019 in the GFlex Teaching Space, adjacent to the conference lecture theatre)

Looking for the invisible: anthracological analysis to reveal ritual action in the Eneolithic cremation of Apulia (SE Italy)

Giorgia Aprile, Girolamo Fiorentino

*Dendrological studies application on two charcoal kilns in Madonie Park (Palermo, Italy). Preliminary results about the exploitation of *Fagus sylvatica* in 14th century A.D.*

Sabrina Bianco, Sandrine Paradis-Grenouillet, Ethel Allué, Forgia Vincenza, Josep M. Vergès

Wood technology of Pataagonian hunter-gatherers: selection and use of woody resources as raw material
Laura Caruso Fermé

Woodworking technology during the Early Neolithic: first results of the site of La Marmotta (Italy)
L. Caruso-Fermé, M. Mineo, M. Ntinou

Spatial analysis of firewood charcoal fragments in archaeological levels: issues for palaeoecological interpretation in anthracology

Lucie Chabal

Climatic signals in the wood anatomy of Quercus pyrenaica Willd. and Pinus pinaster Aiton from northeast Portugal: Baseline for continuing studies

Leonardo Da Fonte

Wood exploitation between Kura and Araxes valley (Southern Caucasus) from the Neolithic to Early Bronze Age

Alexa Decaix, Reinder Neef

Vegetation reconstruction in the Class (Climate, Landscape, Settlement and Society: Exploring Human-Environment Interaction in the Ancient Near East) Project

Katleen Deckers, Simone Riehl, Michelle De Cruchy, Valentina Tumolo, Dan Lawrence

Reconstructing the history of the silva carbonaria, an enigmatic charcoal-burners-forest in Central Belgium
Koen Deforce, Jan Bastiaens, Johan De Grave, Philippe De Smedt, Elke Ghyselbrecht, Nasrin Karimi Moayed, Erwin Meylemans, Sara Schalbroeck, Kris Vandekerckhove, Dimitri Vandenbergh

Morphometric and dendrometric observations on waterlogged wood: the case study of a 4th century BC well at Taranto “Torre Montello”, Salento, Italy

Lou Godefroy

The anthracological results from la Cova del Sardo (Parc Nacional d’Agüestortes i Estany de Sant Maurici, Central Pyrenees)

Laura Obea Gómez, Mireia Celma Martínez, Ermengol Gassiot Ballbé, Ignacio Clemente Conte, Sara Díaz Bonilla, David Rodriguez Antón, Guillem Salvador Baiges

Burning wood over 2300 m.a.s.l. in the Central Pyrenees. Anthracological results from Abric de l’Estany de la Coveta I and Abric de les Obagues de Ratera (Parc Nacional d’Agüestortes i Estany de Sant Maurici)

Laura Obea Gómez, Mireia Celma Martínez, Ermengol Gassiot Ballbé, Ignacio Clemente Conte, Sara Díaz Bonilla, David Rodriguez Antón, Guillem Salvador Baiges

Charcoal identification of the semi-deciduous and deciduous oak species of the Salento Peninsula (SE Italy) and their relevance to archaeological contexts: a metric approach

A.M. Grasso, E. Vaccab, G. Fiorentino

Charcoal analysis of kiln terraces to reconstruct practices and wood uses’ temporalities for charcoal manufacturing activity: the case of the Bernadouze forest (Suc-et-Sentenac, Haut-Vicdessos)

Léonel F. Fouédjeu, Mélanie Saulnier, Raquel Cunill Artigas, Sandrine Buscaino, Vanessa Py-Saragaglia

Sustainable management of wood for charcoal manufacturing activity in the Northern Pyrenees: dendro-anthracological study of charcoal kilns in the Bernadouze forest (Suc-et-Sentenac, Haut-Vicdessos)

Léonel F. Fouédjeu, Sandrine Paradis-Grenouillet, Mélanie Saulnier, Raquel Cunill Artigas, Sandrine Buscaino, Vanessa Py-Saragaglia

Fire and forest management: an anthracological approach to relative dating of suspected pit kilns containing coppice

E. van Hees, M. van Zon, J. Pijnacker-Vroeijenstein

Assessing the function of Palaeolithic hearths: experiments on intensity of luminosity and radiative heat outputs from different fuel sources

Sally Hoare

A charcoal study to better understand lynchet construction and lynchet landscape history

Benjamin Keller, Vincent Robin, Pierre-Alexis Herrault, Damien Ertlen, Dominique Schwartz

Neolithic wood use and forest exploitation. Comparison of anthracological and xylotomical data from three Neolithic wells from the Czech Republic

Romana Kočárová, Petr Kočár, Jan Novák, Michal Rybníček

Wood management in the ceremonial building of the Na Galera islet (Balearic Islands, Western Mediterranean): fuel, timber and coastal vegetation at the end of the first millennium BC

Yolanda Carrión Marco, Llorenç Picornell Gelabert, Alexa Dufraisse, Ramón Martín Gordon, Jorge Argüello

Clearings in the forest: impact of human activity in the landscape during Early and Middle Bronze Age in Northwest Iberia

María Martín-Seijo

Bronze Age and Middle Ages in the Southeast of the Iberian Peninsula (Spain): New Approaches to Sampling in Number of Wood and Charcoal Analysis and Fraction Size

Mireia Celma Martínez

Wood as structural element at the houses of Akrotiri, Thera. The anthracological evidence

Antigoni Mavromati

Wood charcoal assemblages from the loess upland zone of western Lesser Poland

Magdalena Moskal-del Hoyo

Vegetation changes around Sarakenos Cave (Boeotia, Greece) from the late Pleistocene to the mid-Holocene: the study of charred wood and non-wood plant macro-remains

Magdalena Moskal-del Hoyo, Lina Karathanou, Maria Ntinou, Małgorzata Kaczanowska, Janusz K. Kozłowski, Antonia Tsourouni, Adamantios Sampson

Combining charcoal and magnetic susceptibility analyses: evaluation of post-depositional processes in unit IV from Abric del Pastor (Middle Palaeolithic, Iberia)

P. Vidal-Matutano, Á. Carranco, C.M. Hernández, C. Mallol, B. Galván

Ship ahoy! Evaluation of waterlogged wood remains from El Burrero shipwreck (Gran Canaria, Canary Islands, Spain)

P. Vidal-Matutano, J. Mata-Mora, J. Guillén-Medina

Pedoanthracological records as tools for revelation of the forest history in the Khan Khentii Mts. (northern Mongolia)

Jan Novák, Antonín Kusbach, Tadeáš Štěrba

The Late Holocene forest transformation in sandstone landscapes of the Czech Republic

Jan Novák, Petr Šídá, Jiří Svoboda, Petr Pokorný

Woodlands and farmlands in Bronze Age central Greece. Insights from archaeobotanical assemblages from the sites of Agia Paraskevi, Kynos and Mitrou (Phthiotida)

Maria Ntinou, Aggeliki Karathanou, Clemence Pagnoux, Sultana-Maria Valamoti

Automatic detection of ancient charcoal production platforms through LiDAR observations: is it an effective method?

Cláudia Oliveira, Pierre-Alexis Herrault, Vincent Robin, Simon Devin

Charcoal and coal: charcoal: energy resources with a strong impact on the past environment and ongoing stakes for energy transition

Cláudia Oliveira, Vincent Robin, Simon Devin



Firewood selection strategies for combustion events during Late Holocene hunter-gatherer occupations in South America (Córdoba, Argentina)

Andrés Robledo

Crossing molecular study of ashy sediment and taphonomy to date and to reconstruct fuel management strategies and paleoenvironments at Le Rocher de l'Impératrice (Plougastel, France) during the Lateglacial Azilian occupation

Isabelle Théry-Parisot, Samuel Abiven, Erwan Messager, Nicolas Naudinot

Mid-Holocene archaeobotanical record from the Atlantic band of Cádiz (SW Spain) based on pollen and charcoal data

Paloma Uzquiano, Blanca Ruiz-Zapata, José Gil-García, Eduardo Vijande, José Ramos