



MEDITERRANEAN PALYNOLOGY Symposium 2015

Rome 8-10 September 2015
GPSBI-APLE

Tuesday 8th September

9:30

Registration

11:00 *Corrado Fanelli, Director of Dipartimento di Biologia Ambientale*

Welcome to the participants

Laura Sadori, Anna Maria Mercuri, Alessandro Travaglini, Maria del Mar Trigo (organizers)

Presentation of the Symposium

Invited talks

Aula Giacomini

11:30 *Izdebski A., Holmgren K., Weiberg E., Stocker S.R., Büntgen U., Florenzano A., Gogou A., Leroy A.G.S., Luterbacher J., Martrat B., Masi A., Mercuri A.M., Montagna P., Sadori L., Schneider A., Sicre A.M., Triantaphyllou M., Xoplaki E.*

Realising Consilience: How better communication between archaeologists, historians and geoscientists can transform the study of past climate change in the Mediterranean

12:00 *Marignani M., Chiarucci A.*

Natural and human impact in plant ecology: an intriguing puzzle or only a question of time?

12:30 *Tripodi S., Pelosi S., Di Rienzo Businco A., Sfika I., Brighetti M.A., Travaglini A., Gabrielli F., Bianchi A.*

Integration of symptoms medication score and pollen curve through an e-mobile app for better allergic patients care

13:00

Lunch

14:00 **Poster exhibition 1: S1, S2, S3, S9**

Aula E and Aula F

Session 3 – Pollen biology and genetics

Aula C

Convener: Juan de Dios Alché

15:00 *Alché J.D.*

15:15 *Castro A.J., Feijó J., Zienkiewicz A., Alché, J.D., Zienkiewicz K.*

15:30 *Pérez-Gutiérrez M.A., Ben-Menni Schuler S., Suárez Santiago V.,
Fernández M.C., Salinas M.J., Romero A.T.*

15:45 *Ben-Menni S., Pérez-Gutiérrez M.A., Suarez-Santiago V.N., Salinas-
Bonillo M.J., Romero-García A.T., Fernández M.C.*

16:00 *Rojo J., Salido P., Rapp A., Pérez-Badia R.*

16:15 *Pardo-Martín C., González-Porto A.V.*

16:30

Coffee Break

17:00 *González-Porto A.V., Pardo-Martín C.*

What a pollen transcriptome can tell palynologists?

A pollen oil body-associated caleosin is essential for pollen tube growth

Pollen wall development of the tribe Chelidonioideae (Papaveraceae)

Tapetum types in the order Ranunculales

**Year on year variability in the production of flowers and pollen of
'Cornicabra' olive cultivar**

CSI Pollen: Pollen diversity and honey bee nutrition

Session 8 – Other topics

Aula C

Conveners: Anna Maria Mercuri and Alessandro Travaglini

17:15 *Rodríguez-Rajo F.J., Fernández-González M., Vara A., Aira M.J.*

17:30 *Boi M., Sanchez Hermosilla A.*

17:45 *Fiacconi M., Hunt C.O.*

18:00 *Fornaciari R., Arru L., Jungcurt T., Mercuri A.M., Di Lernia S.*

**Aerobiological model to predict downy mildew infections in the North-West
Spain**

Palynomorphs in the Christian relic of the Sudarium of Oviedo

**The Shanidar Cave Project: an initial evaluation on the taphonomy of cave
pollen assemblages**

**Multidisciplinary analysis of the plant records from the Holocene
archaeological site of Takarkori (South-Western Libya)**

Session 4 – Relation between modern pollen rain, vegetation and climate

Aula Giacomini

Conveners: Cesare Ravazzi, Roberta Pini and Lea de Nascimento

15:00 *Giesecke T.*

15:15 *Zanon M., Davis B.A.S., Kaplan J.*

**Surface samples: A prerequisite for the interpretation of pollen diagrams
and quantification of past environmental change**

**Coupling pollen spectra and remotely sensed data. An analog-based
approach to reconstruct land cover through time**

15:30	<i>Sabariego-Ruiz S., Alba-Sánchez F., Pérez-Díaz S., Abel-Schaad D., López-Sáez, J.A.</i>	Modelling pollen dispersion through modern pollen rain: <i>Abies pinsapo</i> and <i>Cedrus atlantica</i>
15:45	<i>Pini R., Badino F., Champvillair E., De Amicis M., Furlanetto G., Ravazzi C., Maggi V.</i>	Pollen-vegetation-climate-terrain relationships explored in an altitudinal training set in the Western Italian Alps
16:00	<i>Valle F., Castellano L., Pini R., Brunetti M., Ravazzi C.</i>	Testing models to reconstruct temperature and precipitation for northern Italian Holocene pollen records
16:15	<i>de Nascimento L., Valle F., Pini R., Ravazzi C., Nogué S., Fernández-Lugo S., Mendez J., Otto R., Whittaker R.J., Willis K.J., Fernández-Palacios J.M.</i>	Using modern and fossil pollen to reconstruct past vegetation and climate in the Canary Islands
16:30	Coffee Break	
17:00	<i>Azuara J., Mazier F., Lebreton V., Combourieu-Nebout N.</i>	A pollen deposition model for Mediterranean coastal lagoons
17:15	<i>García-Moreiras I., Martínez-Carreño N., Cartelle Álvarez V., García-Gil S., Muñoz Sobrino C.</i>	The last Glacial-Interglacial transition in the Ría de Vigo (NW Iberia): new palynological data about coastal environments and species distribution during the MIS-3
17:30	<i>Cheddadi R., Table J., Nourelbait M., Rhoujjati A.</i>	Late Quaternary climate change in the Middle Atlas mountains, Morocco
18:30	Welcome Cocktail	

Wednesday 9th September

Session 1 – Aerobiology and pollen allergy

Aula C

Conveners: Jordina Belmonte and M. Mar Trigo

9:30	<i>Tossou M., Chabi L., Trigo Pérez M.M., Akoegninou A., Akpagana K., Ballouche A.</i>	First aeropalynological studies in Benin with volumetric sampler
9:45	<i>Trigo M.M., Gharbi D., Ruiz S., Recio M.</i>	The use of cyclohexane as a new adhesive for airborne pollen sampling
10:00	<i>Rojo J., Rivero R., Pérez-Badía R.</i>	The Poaceae flowering and its contribution to the pollen content in the atmosphere
10:15	<i>Gharbi D., Trigo M.M., Recio M., García-Sánchez J., Ruiz S., Cabezudo B.</i>	Cupressaceae pollen in the atmosphere of Malaga (1991-2014)
10:30	<i>Travaglini A., Brighetti M.A.</i>	Pollen trend in Rome during last years
10:45	Coffee Break	
11:15	<i>Galán C., Alcázar P., Oteros J.A., García-Mozo H., Aira M.J., Belmonte J., Diaz de la Guardia C., Fernández D., Gutierrez-Bustillo M., Moreno S.,</i>	Airborne pollen trends in the Iberian Peninsula

Pérez-Badía R., Rodríguez-Rajo J., Ruiz-Valenzuela L., Tormo R., Trigo M.M., Domínguez-Vilches E.

11:30 *Gharbi D., Trigo M.M., Docampo S., Recio M.*

The influence of the sampler position on airborne *Casuarina* pollen counts in Málaga (S. Spain)

11:45 *Vélez-Pereira A., De Linares C., Delgado R., Belmonte J.*

Temporal trends of the airborne *Alternaria* and *Cladosporium* spores in Catalonia (NE Spain), period 1995-2014.

12:00 *Damialis A., Voukou D., Mohammad A.B., Gange A.C., Halley J.M.*

Fungi in a changing world: increasing growth rates but decreasing airborne spore levels?

12:15 *Rojo J., Rapp A., Lara B., Pérez-Badía R.*

The role of the urban green areas, the vegetation and the wind direction in the airborne pollen concentration

12:30 *Oteros J., García-Mozo H., Alcázar P., Belmonte J., Bermejo D., Boi M., Cariñanos P., Díaz de la Guardia C., Fernández-González D., Alfaro-Saiz E., González-Minero F., Gutiérrez-Bustillo A., Del Río S., Pérez-Badía R., Rodríguez-Rajo F.J., Ruiz-Valenzuela L., Suárez-Pérez J., Trigo M.M., Domínguez-Vilches E., Galán C.*

Applications of the new Concentric Ring Method

12:45 *Aguilera F., Ben-Dhiab A., Msallem M., Orlandi F., Bonofiglio T., Ruiz-Valenzuela L., Galan C., Diaz-De La Guardia C., Giannelli A., Trigo M.M., Garcia-Mozo H., Pérez-Badía R., Fornaciari M.*

Spatio-temporal variations in the olive pollination period along the Mediterranean region

13:00

Lunch

Session 7 – Lessons from palaeoenvironmental and palaeoclimatic reconstructions

Aula Giacomini

Conveners: Walter Finsinger and Odile Peyron

9:30 *Giesecke T., Finsinger W., Leydet M., Brewer S.*

Patterns and dynamics of European vegetation change – maps and analysis based on the European Pollen Database

9:45 *Joannin S., de Beaulieu J.L., Brugiapaglia E., Guiter F., Zanchetta G., Magny M., Peyron O., Bernardo L., Didier L., Stock A., Wulf S., Rius D.*

Late glacial to Holocene transition at Lake Trifoglietti (Calabria); evidences and question

10:00 *Aranbarri J., González-Sampériz P., Valero-Garcés B., Moreno A., García-Prieto E., Gil-Romera G., Sevilla-Callejo M., Magri D., Carrión J.S.*

Vegetation trends and climate variability in Eastern Mediterranean Iberia during the Late glacial and the Holocene

10:15 *Alba-Sánchez F., Manjón-Cabeza J., Alcaraz Segura D., Sabariego-Ruiz S., López-Sáez J.A.*

Modelling the Holocene expansion of *Fagus sylvatica* and *Abies alba* and 8.2 event using the European Pollen Database

10:30 *Joannin S., Leroyer C., Aoustin D., Ali A.A., Peyron O., Ollivier V., Tozalakyan P., Karakhanyan A., Jude F., Chataigner C.*

Mid Holocene vegetation reconstruction from Vanevan peat (south-eastern shore of Lake Sevan; Armenia)

10:45

Coffee Break

11:15 *Sinopoli G., Sadori L., Morellón M.*

Lake Butrint, Albania: Palaeoenvironmental reconstruction of the past four millennia through pollen analysis

11:30 *Abel-Schaad D., Alba-Sánchez F., López-Sáez J.A., Iriarte E., Rodríguez-Fernández P., Silva N., Martínez-Cortizas A.*

11:45 *Farrell M., Hunt C.*

12:00 *Finsinger W., Kelly R., Fevre J., Magyari E.K.*

12:15 *Peyron O., Lézine A.M., Goring S., Brewer S., Klotz S., Kühl N., Combourieu-Nebout N., Sánchez Goñi M-F., Cheddadi R.*

12:30 *Ravazzi C., Bavec M., Culiberg M., Furlanetto G., Monegato G., Perego R., Pini R., Vallé F.*

12:45 *Pérez-Díaz S., López-Sáez J.A., Galop D.*

Late Holocene history of cedar (*Cedrus atlantica*) forests in the Western Rif Mountains (Morocco)

Environmental context of the Maltese Temple Culture

A guide to screening charcoal peaks in macrocharcoal-area records for fire episode reconstructions

A multi-method approach applied to Lake Orhid pollen data to infer climate changes during the Eemian in the Balkans

Boreal forests withstood the Last Glacial Maximum on the Southern Alpine foothills. New evidence and fir numerical reconstructions

An Upper Pleistocene-Holocene pollen record from the Gorbea Mountains (Basque Country, Northern Spain)

13:00

Lunch

14:00 **Poster exhibition 2: S4, S5, S6, S7, S8**

Aula E and Aula F

Session 1 – Aerobiology and pollen allergy

Aula C

Conveners: Jordina Belmonte and M. Mar Trigo

15:00 *Travaglini A., Brighetti M.A., Bianchi G., Taschini E., Estivi S., Piovesan G.*

15:15 *Hernández-Ceballos M., García-Mozo H., Galán C.*

15:30 *Fernández-González D., Vega-Maray A.M., Valencia-Barrera R.M., González-Parrado Z., de Nuntiis P., Mandrioli P.*

15:45 *Hirhish U., De Linares C., Belmonte J.*

16:00 *Visez N., Gosselin S., Caron F., Naas O.*

16:15 *Fanelli G., Brighetti M.A., Travaglini A.*

Pollentrack: automated reading OM (Optical Microscope) of pollen and spores

Clustering and backward trajectory analyses to define intradiurnal pollen patterns

Airborne pollen and airborne allergen: *Gramineae* and Phl p 1, Phl p 5

Study of airborne Phl p 5 and Poaceae pollen concentrations in Barcelona (Spain)

Ozone chemistry on *Pinus halepensis* pollen

Correspondence between pollen and time of flowering of species of grasses (Poaceae): linking phenology and aerobiology

16:30

Coffee Break

Convener: Ana Teresa Romero

17:00 *Boi M., Florit G., Sulis E., Bacchetta G.*

17:15 *Trigo M.M., Jaramillo P., Lozano-Torelli I., Recio M.*

17:30 *Acar A., Pinar N.M., Ozbek F., Dogan B., Duran A., Martin E.*

Pollen morphology of *Helianthemum caput-felis* Boiss. (Cistaceae)

Pollen morphology of some genera endemic to Galapagos:

Darwiniothammus, Macraea, Leocarpus (Asteraceae) and *Jasminocereus* (Cactaceae)

Pollen morphology of genera *Klasea* Cass. and *Serratula* L. (Asteraceae) in Turkey

Conveners: Assunta Florenzano and Katerina Kouli

15:00 *Florenzano A.*

15:15 *Sadori L., Giardini M., Masi A., Pepe C., Sinopoli G.*

15:30 *Pepe C., Andrieu-Ponel V., Masi A., Mazzini I., Ruscito V., Sadori L.*

15:45 *Echazarreta-Gallego A., Ayerdi M., Hernández-Beloqui B., Iriarte-Chiapusso M.J.*

16:00 *Pérez-Obiol R., García-Codron J.C., Pérez-Haase A., Soriano J.M., Pèlachs A.*

16:15 *Ayerdi M., Echazarreta-Gallego A., Hernández-Beloqui B., Iriarte-Chiapusso M.J.*

Archaeopalynology and archaeobotany of Quaternary records

The last 5000 years of vegetation history in lacustrine records of Central Mediterranean

Natural versus human forcing during the last three millennia: the pollen evidence from the Tiber delta plain (Rome, Italy)

The environmental dynamic during protohistory in the central sector of the Northern Iberian Peninsula (West Pyrenees, East Cantabrian Mountains and Upper Ebro Valley)

Vegetation dynamics, environmental contamination and fires during the Holocene, a comparison between two regions: La Molina (Cantabria) and la Bassa Nera (Catalonia)

First production economy registers in the Upper Ebro valley and its contextualization in the central sector of the Northern Iberian Peninsula (West Pyrenees and East Cantabrian Mountains)

16:30

Coffee Break

17:00 *Pèlachs A., Pérez-Obiol R., Rodríguez J.M., Burjachs F., Expósito-Barea I., Yll E.I., Julià R., Bal M.C., Soriano J.M.*

17:15 *Riera S., Livarda A., Picornell L., Julià R., Ramos J., Miró C., Orengo H., Nadal J., Marlasca R.*

17:30 *Montecchi M.C., Mercuri A.M.*

17:45 *Hernández-Beloqui B.*

Landscape dynamics in the southern Pyrenees during the last 18,000 years. The case of the Estany de Burg (1821 m)

Between the town and the countryside: bioarchaeology and geomorphology of the suburban littoral landscape in Roman and Medieval Barcelona

Villa del Casale of piazza Armerina (Unesco site in Sicily): when classical archaeology meets palynology

Medieval landscapes in the Northern Iberian Peninsula: new palynological data

20:30 Social Dinner

Session 9 – Pollen embryogenesis and biotechnology

Aula C

Convener: Pilar S. Testillano

9:30 Germanà M.A., Cimò G., Gianguzzi V., Testillano P.S.

Recent advances on microspore embryogenesis in *Citrus* and other Mediterranean fruit crops

9:45 Rodríguez-Sanz H., Solís M-T., López M-F., Gómez-Cadenas A., Risueño M.C., Testillano P.S.

Microspore embryogenesis initiation and progression involve auxin biosynthesis, transport and action, and increased gene expression of TAA1, NIT2 and PIN1

10:00 Santa-Rosa S., Bárány I., Testillano P.S., Martinelli A.P.

Distribution pattern of cell wall components during male gametophytic development in *Aechmea gamosepala* and *Aechmea correia-araujo* (Bromeliaceae)

10:15 Solís M.-T., El-Tantawy A-A., Cano V., Berenguer E., Risueño M.C., Testillano P.S.

Epigenetic modifiers that inhibit DNA and histone methylation improve microspore embryogenesis initiation while impair embryo progression

10:30 Aloisi I., Faleri C., Cai G., Del Duca S.

Natural polyamines and synthetic analogues cause PCD and modify the morphology of *Pyrus communis* pollen tubes by affecting ROS levels

10:45

Coffee Break

11:15 Travaglini A., Brighetti M.A., Arsieni A., Vinciguerra F.

Presentation of *Atlante del polline delle principali specie allergiche d'Italia*

Session 5 – Palaeoenvironmental changes during the Pleistocene

Aula Giacomini

Conveners: Francesco Toti, Adele Bertini and Nathalie Combourieu-Nebout

9:30 Corrado P., Magri D., Martinetto E., Baldanza A., Bizzarri R., Colacicchi R.

A pollen record from the Early Pleistocene deposits of the Arquata Quarry (Bevagna, Central Italy)

9:45 Toti F., Dalla Fior L., Bertini A., Combourieu-Nebout N., Lebreton V.

Pollen-based vegetation dynamic during the marine isotope stage 19 from the ODP Site 976 marine record (Alboran Sea)

10:00 Giuliani C., Ciani F., Gonnelli T., Benvenuti M., Pallecchi P., Aranguren B., Revedin A., Mariotti Lippi M.

Palynology in the Palaeolithic site of Poggetti Vecchi (GR)

10:15 Bertini A., Lebreton V., Stirparo C., Orain R., Vivarelli M., Russo-Ermolli E., Arzarello M., Combourieu-Nebout N., Toti F., Peyron O., Buccianti A.

Sensitivity of the Mediterranean vegetation to fires since the Middle Pleistocene in Central-Southern Italy

10:30 Iriarte-Chiapusso M.J., Gómez-Orellana L., Muñoz Sobrino C., Ramil-Rego P., Ayerdi Aguirrebengoa M., Hernández-Beloqui B., Echazarreta-Gallego A., García-Moreiras I., Faria S.H.

Vegetation landscape in the Cantabrian Region (Northern Iberian Peninsula) during the Pleistocene: current status

10:45

Coffee Break

- 11:15** *Masi A., Sadori L., Bertini A., Combourieu-Nebout N., Donders T., Francke A., Joannin S., Kouli K., Koutsodendris A., Mercuri A.M., Panagiotopoulos K., Peyron O., Sinopoli G., Torri P., Wagner B., Zanchetta G.*
- 11:30** *Muñoz Sobrino C., García-Moreiras I., Iriarte-Chiapusso M.J., Ayerdi Aguirrebengoa M., Hernández Belouqui B., Echazarreta-Gallego A., Gómez-Orellana L., Ramil-Rego P.*

Lake Ohrid, the mirror of the Mediterranean climate changes for the last 500 kyrs

The Late Glacial and the Holocene in NW Iberia: a review based on the correlation of pollen records with other multiproxy data

Symposium closing

Aula Giacomini

12:15 *Anna Maria Mercuri*

Presentation of the BRAIN network

12:30 *Laura Sadori, Anna Maria Mercuri, Alessandro Travaglini, Maria del Mar Trigo*

MedPalyno: present achievements and future outlooks

13:00

Lunch

POSTER EXHIBITION 1 (Tuesday 8th September 14:00-15:00, AULA E and F)
posters must be installed before 13:00 of 8th and uninstalled before 11:00 of 9th

Session 1 – Aerobiology and pollen allergy

Akdoğan S., Çeter T, Pinar N.M.

Çeter T., Pinar N.M., Özler H.

*Constantini M., Di Giuseppe F., Medaglia C.M., Travaglini A., Brighetti M.A.,
Petitta M.*

*De Castro-Alfageme S., Fernández-González D., Valencia-Barrera R.M., Vega-
Maray A.M., González-Parrado Z., Calvo A.I., Castro A., Fraile R.*

*De Castro-Alfageme S., Fernández-González D., Valencia-Barrera R.M., Vega-
Maray A.M., González-Parrado Z., Calvo A.I., Castro A., Fraile R.*

García M.E., Reyes N.J.F., Espeche M.L., Romagnoli M.G., Nitiu D.S.

García M.E., Reyes N.J.F., Espeche M.L., Romagnoli M.G., Nitiu D.S.

*García de León D., García-Mozo H., Galán C., Alcazar P., Lima M., González-
Andujar J.L.*

Nikolaieva N., Žiarovská J., Garkava K., Brindza J.

*Oteros J., Candeias J., Weil C., Bartusel E., Hegedüs R., Ebner C., Kupresanin D.,
Pusch G., Schmidt-Weber C., Buters J.*

*Recio M., Picornell A., Gharbi D., Lozano-Torelli I., Ruiz S., Cabezudo B., Trigo
M.M.*

Rodríguez-Rajo F.J., Vara A., Fernández-González M., Castiñeiras P., Aira M.J.

Şafak F., Pinar N.M., Acar A., Karaman Erkul S., Ceter T.

*Visez N., Chassard G., Azarkan N., Naas O., Sénéchal H., Sutra J-P., Poncet P.
Choël M.*

**2-year aeromycological survey of allergenic airborne fungal spores in Giresun,
Turkey**

Assessment of allergenic airborne fungal spores in Sinop, Turkey

PollenMap: an app for allergic people

**Environmental variables versus *Platanus* pollen and allergens. Principal
Component Analysis**

**Lol p 5 in the bioaerosol of Valladolid (Spain) and its implications on public
health**

**Aerobiological characterization of arboreal pollen in San Miguel de Tucumán
(Argentina): 9-years study**

**Bioaerosols and other particles identified in San Miguel de Tucumán city
(Argentina)**

**Disentangling the effects of feedback structure and climate on Poaceae annual
airborne pollen fluctuations and the possible consequences of climate change**

Hazelnut (*Corylus avellana* L.) allergens: Cor a and profiling pollen expression

Setting up an automatic Bavarian Pollen Monitoring Network (Germany)

**Atmospheric pollen dynamics in Málaga (S. Spain) during 2013-2014. Seasonal
trends**

***Betula*, an important spring plant aeroallergen in the North-West Spain**

Results of an annual analysis of airborne pollen in Aksaray, Turkey

Release of fine particles from birch pollen grains following impaction

Session 2 – Pollen and spore morphology

Messori R., Mercuri A.M., Arru L.

***Olea europaea* L., a comparison between pollen morphology and genetic data of Italian cultivars**

Pinar N.M., Aşçi B., Büyükkartal H.N., Çölgeçen H., Budak Ü., Acar A.

Pollen morphology of section *Jacobeae* (Asteraceae: *Senecio*)

Yılmaz Cıtak B., Dural H., Uysal T.

Pollen morphology of *Muscari turcicum* Uysal, Ertugrul & Dural from Turkey

Session 3 – Pollen biology and genetics

Conti I., Placereani S., Zappa E., Mariotti M.

A geographical origin characterization of honey in the Hanbury Botanical Gardens (HBG)

da Luz C.F.P., dos Santos L.G., Serrão J.E., Message D., Martins M.F., Marques Alves M.L.T., Teixeira E.W.

Palynological evidence of the European origin of royal jelly with contamination of pathogenic microorganisms to honeybee

Pinar N.M., Simsek D., Buyuk İ., Buyuk B.P., Aras S., Coskuncelebi K., Ceter T., Serdar B., Duman D.C., Acar A.,

The pollen morphology and genetic analysis of Eastern Black Sea Turkish *Salix* L. based on SSR markers

Seijo-Coello M.C., Betances-Salcedo E.V., Escudero O., González-Martín M.I., Vivar A., Revilla I.

Pollen spectra of propolis from the North of Spain

Seijo-Coello M., Rodríguez-Flores M.S., Escudero O., Seijo-Rodríguez A.

Botanical origin of heather honeys from NW Spain

Session 9 – Pollen embryogenesis and biotechnology

Tuylu M., Büyükkartal H.N.

The types of division in the tapetum cells in anther walls of *Vitis vinifera* L. cv. Uslu

POSTER EXHIBITION 2 (Tuesday 9th September 14:00-15:00, AULA E and F)
posters must be installed before 13:00 of 9th and uninstalled before 11:00 of 10th

Session 4 – Relation between modern pollen rain, vegetation and climate

Farrell M., Hunt C., Shaw H., De Munnik N., Azuara J., Sadori L.

Taphonomic studies and modern pollen-vegetation relationship in Malta and Sicily

Lastrucci L., Mori Secci M., Giuliani C., Gennai M., Foggi B., Mariotti Lippi M.

Recent and past history of a small wetland of the Apennine, Central Italy

Uzquiano P., Ruiz-Zapata M.B., Gil-García M.J.

Palaeobiogeography of *Quercus ilex* woods in Northern Spain on the basis of integrated palaeobotanical and archaeobotanical studies

Session 5 – Palaeoenvironmental changes during the Pleistocene

Gil-García M.J., Ruiz-Zapata R.B., Vegas J., Pérez-González A.

Palaeovegetation changes during the last 30 kyrs BP in Iberian Mountain Range (Spain)

Session 6 – Archaeopalynology and archaeobotany of Holocene records

Abel-Schaad D., López-Sáez J.A.

Three thousand years of environmental history of a wild and rugged landscape in the western Spanish Central System

Bosi G., Florenzano A., Torri P., Bandini Mazzanti M.

Renaissance gardens in northern Italy: archaeobotanical evidence for urban environment reconstructions

Doorenbosch M., Field M.H., Alessandri L., Attema P.A.J., Bakels C.C., Van Leusen P.M., Sevink J.

The Avellino event: distal palaeoecological impacts of the great Bronze Age eruption of Mount Vesuvius

Furlanetto G., Badino F., Ravazzi C., Perego R., Baioni M., Castellano L., Comolli R., Martinelli N.

Lake Lucone (N-Italy): human activities and effects on the environment during the last 5500 years

Glais A., López-Sáez J.A.

Holocene history of *Fagus sylvatica* forests in the Rhodope mountains (SE Europe)

Montecchi M.C., Bandini Mazzanti M., Florenzano A., Rattighieri E., Torri P., Mercuri A.M.

Archaeobotany in Sicily: Taormina, Villa del Casale of Piazza Armerina, Phylosophiana, Mothya and Stromboli

Rattighieri E., Rinaldi R., Bowes K., Mercuri A.M.

Long-Term Human Impact in Tuscany (central Italy): evidence from archaeobotany of the Roman peasant farmhouses

Soriano J.M., Rodríguez J.M., Pérez-Obiol R., Cunill R., Narváez M.A., Pèlachs A.

Vignola C., Giardini M., Masi A., Sadori L.

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Multi-proxy palaeoenvironmental data from archaeological sites: the case of Arslantepe (Turkey)

Session 7 – Lessons from palaeoenvironmental and palaeoclimatic reconstructions

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Reconstructing climatic and environmental changes during the past 700 years in Central Spain

Palaeobotanical research in Holocene fluvial tufa complexes (Queiles and Val Valleys, Iberian range, NE Spain)

Climatic influence and anthropogenic impact on Mediterranean vegetation pattern during the Late Holocene

Vegetation and climate changes from a multi-proxy record collected in the Gulf of Gaeta (Tyrrhenian Sea, Central Italy)

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Unravelling the nature of chestnut forests (*Castanea sativa*) in Central Spain

Multiproxy analyses of a key pollen record from Northwestern Iberia

A quantitative reconstruction of climate during the Neolithic in the lower Rhine valley based on Schriek's pollen sequence (The Netherlands): relation to the Linear Band Ware culture (LBK)

Session 8 – Other topics

Seijo-Rodríguez A., Escude O., Seijo-Coello M.C., Rodríguez-Flores M.S., Fernández-González M.

Torri P., Torri F., Florenzano A., Montecchi M.C., Rattighieri E., Rinaldi R., Bosi G., Mazzanti M., Mercuri A.M.

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Phenology and morphology of seven potato varieties cultivated in NW Spain

The pollen reference collection of LPP – UNIMORE

Pollen atlas of the main allergenic species of Italy