

# MedPalyn 2017

## Mediterranean Palynology Symposium 2017

Barcelona, 4-6 September 2017

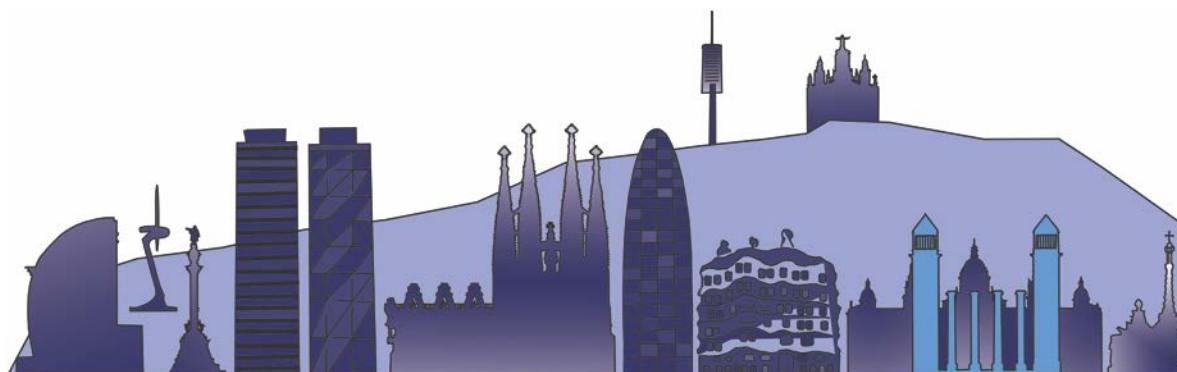
Asociación de Palinólogos de Lengua Española (APLE)

Gruppo di Palinologia e Paleobotanica della Società Botanica Italiana (GPPSBI)

Association des Palynologues de Langue Française (APLF)

## Abstracts book

Edited by Concepción De Linares and Jordina Belmonte



Title: Mediterranean Palynology Symposium 2017. Abstracts Book

Editors: Concepción De Linares and Jordina Belmonte

© Author's texts

Print: © La Imprenta Comunicación Gráfica S.L. [www.laimprentacg.com](http://www.laimprentacg.com)

ISBN: 978-84-945378-7-5 (Book)

ISBN: 978-84-945378-8-2 (e-Book)

Available in

<http://lap.uab.cat/aerobiologia/es/bibliography#organizedcongresses>

Suggestion for citation:

Entire volume:

De Linares C. & Belmonte J. (Eds.). 2017. Mediterranean Palynology Symposium 2017. Abstracts Book. Barcelona, Spain. ISBN 978-84-945378-8-2.

A contribution:

Pacini E. 2017. Pollen developmental arrest and ecophysiological consequences. In: De Linares C. & Belmonte J. (Eds.). 2017. Mediterranean Palynology Symposium 2017. Abstracts Book. Barcelona, Spain. pp. 30. ISBN 978-84-945378-8-2.

# Summary

<b>Program Timetable</b> .....	11
<b>Scientific Program</b> .....	13
Monday, 4th September .....	15
Tuesday, 5th September .....	18
Wednesday, 6th September.....	24
<b>Abstracts Plenary Lectures</b> .....	29
<b>Abstracts, Monday, 4th September</b> .....	33
Oral Session 1: Aerobiology .....	35
Oral Session 2: Pollen Morphology, Biology, Biochemistry.....	44
Poster Session A: Aerobiology .....	53
<b>Abstracts, Tuesday, 5th September</b> .....	65
Oral Session 3: Aerobiology .....	67
Oral Session 4: Paleopalynology.....	76
Oral Session 5: Aerobiology .....	85
Session 6: Pollen Morphology, Biology, Biochemistry.....	92
Oral presentations .....	92
Poster presentations .....	96
Oral Session 7: Aerobiology .....	104
Oral Session 8: Paleopalynology.....	111
Poster Session B: Aerobiology .....	118
<b>Abstracts, Wednesday, 6th September</b> .....	139
Oral Session 9: Paleopalynology.....	141
Session 10: Melissopalynology .....	148
Lecture.....	148
Oral presentations .....	149
Poster presentations .....	152
Oral Session 11: Paleopalynology.....	157
Poster Session C: Paleopalynology .....	163
<b>Authors Index</b> .....	185

## Monday, 4th September

11.00- 11.30	<b>Opening Ceremony</b>	Auditori UPF School of Management
--------------	-------------------------	--------------------------------------

11.30- 12.15	<b>Plenary Lecture</b>	Auditori UPF School of Management
--------------	------------------------	--------------------------------------

*Pollen developmental arrest and ecophysiological consequences.*  
Pacini E., Dept. of Life Sciences, Siena University, Italy.

12.15- 13.00	<b>Plenary Lecture</b>	Auditori UPF School of Management
--------------	------------------------	--------------------------------------

*Natural biogenic particles in the atmosphere: current research frontiers and future needs.*  
Sofiev M., Finnish Meteorological Institute, Finland.

14.30- 16.30	<b>Oral Session 1: Aerobiology</b> Chairs: Frenguelli G. & Thibaudon M.	Auditori UPF School of Management
--------------	--	--------------------------------------

01- *Allergy potency for the main urban plants.*  
Thibaudon M., Sindt C., Oliver G., Monnier S.

02- *Relations between urban vegetation and airborne pollen at a local scale.*  
Charalampopoulos A., Lazarina M., Tsiripidis I., Vokou D.

03- *Case Study France: Analysis of plants in public green spaces.*  
Thibaudon M., Monnier S.

04- *Automatic system for simultaneous and real-time monitoring of pollen and air pollutants.*  
Kiseleva S., Capela F., Crouzy B., Battaglia F., Lazzarotto B., Clot B., Kiselev D.

05- *A first assessment of aerobiological air quality in rooftop greenhouses.*  
Ercilla-Montserrat M., Izquierdo R., Belmonte J., De Linares C., Montero J.I., Muñoz P., Rieradevall J.

06- *Aerobiological studies in Qatar and Sharjah: toward establishment of a network for pollen analysis and allergenicity.*  
Trigo M.M., El-Keblawy A., Ali Al-Nesf M., Gharbi D., Mobayed H., Mohammed Ali R., A Sattar H., Tuffaha A., Adeli M., Blessing R., Iftikhar Hussain M., Sinoj J., Navarro T.

07- *Comparative study of airborne pollen content from northern to southern Tunisia.*  
Hadj Hamda S., Ben Dhiab A., Msallem M.

08- *Preliminary study of the airborne pollen in the atmosphere of Puerto Ayora (Galapagos Islands, Ecuador).*  
Picornell A., Trigo M.M., Recio M., Tapia A., Jaramillo P.

09- *Effects of air pollution exposure on allergenic power of Cypress pollen.*  
Costanzi E., Ghitarrini S., Frenguelli G., Tedeschini E.

14.30- 16.30	<b>Oral Session 2: Pollen Morphology, Biology and Biochemistry</b> Chairs: Alché J.D. & Romero García A.T.	Amfiteatre UPF School of anagement
--------------	---	---------------------------------------

- 01- *Ultrastructural changes in the pollen grain wall of the Berberidaceae family.*  
Requena Ramírez M.D., Berbel M., Ben-Menni Schuler S., Suárez Santiago V.N., Pérez Gutiérrez M.A., Fernández Fernández M.C., Salinas Bonillo M.J., Romero García A.T.
- 02- *Comparative study of the pollen wall in Ranunculales families.*  
Ben-Menni Schuler S., Pérez Gutiérrez M.A., Suárez Santiago V.N., Salinas Bonillo M.J., Romero García A.T., Fernández Fernández M.C.
- 03- *Beekeeping and agro-environmental benefits of some cultivated species of family Brassicaceae.*  
López-Pérez J.A., González-Porto A.V., Molina-Abril J.A., García-Villarubia C., Pardo-Martín C., Higes M., Martín-Hernández R.
- 04- *Auxin progressively decreases during pollen development while its biosynthesis and transport are induced and required for microspore reprogramming to embryogenesis in Brassica napus and Hordeum vulgare.*  
Pérez-Pérez Y., Solís M.T., El-Tantawy A.A., Rodríguez-Sanz H., Pitarch M., Gómez-Cadenas A., Risueño M.C., Testillano P.S.
- 05- *Programmed cell death of tapetum involves the activation of autophagy, and metacaspase and cathepsin proteases.*  
Bárány I., Berenguer E., Solís M.T., Minina E., Santamaría E., Crespo J.L., Díaz I., Risueño M.C., Bozhkov P., Testillano P.S.
- 06- *AGPs as markers for Quercus suber phragmoplast assembly during pollen meiosis.*  
Costa M., Amorim M.I., Coimbra S.
- 07- *Caleosins are essential for pollen performance during the progamic phase.*  
Jiménez-Quesada M.I., Zienkiewicz K., Feijó J., Alché J.D., Castro A.J.
- 08- *Antioxidant activity and allergen expression of Corylus avellana L. pollen from Slovakia and Ukraine.*  
Nikolaieva N., Nôžková J., Brindza J., Grigorieva O., Žirovská J.
- 09- *Comparison of Ole e 1 amount from two different Olea europaea cultivars.*  
Celenk S., Vatanserver B., Malyer H.

16.30- 17.00	<b>Poster Session A: Aerobiology</b> Chairs: Antunes C.M. & Galán C.	Exhibition Hall UPF School of Management
--------------	---	---

- 01p- *Aerobiological comparison between Plasencia and Cáceres (SW Spain).*  
Monroy-Colín A., Tormo-Molina R., Fernández-Rodríguez S., Silva-Palacios I., Maya-Manzano J.M., Gonzalo-Garijo A.
- 02p- *Pollen diversity in the atmosphere of a semiarid region of Mexico during the dry season.*  
Galván-Escobedo I.G., Ríos-Ramos B.E., Martínez-Romero L., Rosas-Pérez I.
- 03p- *24 years of aerobiology monitoring in Jaén; trends in airborne pollen.*  
Aguilera E., García-Castaño G.R., Ruiz-Valenzuela L.
- 04p- *Heat and Chill requirements for the flowering period of the Albariño variety in the Ribeiro D.O. area.*  
Piña-Rey A., González-Fernández E., Fernández-González M., Aira M.J., Rodríguez-Rajo F.J.

- 05p- *Prediction of grey mould periods of high infection risk for Treixadura variety.*  
González-Fernández E., Piña-Rey A., Fernández-González M., Aira M.J., Rodríguez-Rajo F.J.
- 08p- *Evolution of IUGZA index in a historic park in Salamanca (1985-2016).*  
Sánchez Reyes E., Rodríguez de la Cruz D., Sánchez Durán S., Vega Elices E., Sánchez Sánchez J.
- 09p- *Allergenic potential of green spaces in the city of Porto (Portugal).*  
Rodríguez de la Cruz D., Lufinha M.I., Azurara C., Pereira T., Abreu I.
- 10p- *Citizen Science: Phenological observations in Rome.*  
Travaglini A., Brighetti M.A., Miraglia A.R. Ricciardi L., Sigismondi C.
- 11p- *Wind dynamics' influence on airborne olive-pollen during African intrusions.*  
García-Mozo H., Hernández-Ceballos M.A., Trigo M.M., Galán C.
- 12p- *Influence of the thermal requirement on the phenological development and Alternaria concentrations in a potato crop.*  
Seijo-Rodríguez A., Escuredo O., Meno-Fariñas L., Rodríguez-Flores M.S., Seijo M.C.
- 13p- *Atmospheric concentrations and intradiurnal pattern of Alternaria and Cladosporium conidia in Tétouan (NW of Morocco).*  
Bardei F., Bouziane H., Trigo M.M., Ajouray N., El Haskouri F., Kadiri M.

17.00- 18.30	<b>New palynological sampling and analyzing methods Workshop</b> Chair: Belmonte J.	Auditori UPF School of Management
--------------	--	--------------------------------------

## Tuesday, 5th September

09.00- 11.00	<b>Oral Session 3: Aerobiology</b> Chairs: Galán C. & Vokou D.	Auditori UPF School of Management
--------------	---	--------------------------------------

- 01- *Ambient air- Sampling and analysis of airborne pollen grains and fungal spores for networks related to allergy- Volumetric Hirst method (CEN/TS 16868:2015).*  
Thibaudon M., Galán C., Bonini M., Röseler S., Fernández-González D.
- 02- *Pollens, allergy and real time information.*  
Thibaudon M., Oliver G.
- 03- *Digitalization of Samples for Evaluation and Automated Image Analysis.*  
Meinardus-Hager G., Hildebrand L.
- 04- *New biomolecular tools for aerobiological monitoring: identification of major allergenic Poaceae species through fast real-time PCR.*  
Ghitarrini S., Pierboni E., Albertini E., Rondini C., Tedeschini E., Tovo G.R., Frenguelli G.
- 05- *Numerical approach to compare the pollen emission from grass species.*  
Romero-Morte J., Rojo J., Lara B., Rivero R., Fernández-González F., Pérez-Badía R.
- 06- *Is total protein a feasible marker of bioaerosol load in ambient air?*  
Arriegas R., Alves P., Otilio M., Galveias A., Costa A.R., Antunes C.M.
- 07- *Suitability of Chemvol sampler in monitoring *Alternaria* aeroallergens.*  
Grewling Ł., Bogawski P., KostECKI Ł., Szymańska A., Nowak M.
- 08- *What is the appropriate temporary extension for a representative pollen calendar?*  
Elvira-Rendueles B., Moreno J.M., Negral L., García-Sánchez A., Moreno-Grau S.
- 09- *Palynological investigation of biological tissues from human volunteers.*  
Pereira J.S.R., Ribeiro H., Santos A., Abreu I.

09.00- 11.00	<b>Oral Session 4: Paleopalynology</b> Chairs: Mercuri A.M. & Pérez R.	Amfiteatre UPF School of anagement
--------------	---	---------------------------------------

- 01- *The Shackleton site, a pivotal Iberian margin climatic archive for understanding the ocean-ice-land interactions of the last 800,000 years.*  
Sánchez-Goñi M.F., Desprat S., Morales-Molino C., Naughton F., Oliveira D., Rodrigues T., Polanco-Martínez J.M., Eynaud F., Daniau A.L., Hodell D.A., Sierro F.J., Martín-García G.M.
- 02- *Impact of the Mediterranean Outflow Water on the North Atlantic Ocean during past climate warming events.*  
Wary M., Oliveira D., Morales Del Molino C., Naughton F., Eynaud F., Londeix L., Ducassou E., Sánchez-Goñi M.F.
- 03- *New pollen data from shallow marine sediments in Ría de Ferrol (NW Iberia).*  
Muñoz Sobrino C., Cartelle V., Martínez-Carreño N., García-Moreiras I., García Gil S.
- 04- *Last Glacial-Holocene productivity reconstructions of Congo River from the revised tropical dinocyst-based modern database.*  
Hardy W., Marret F., Penaud A., le Mézo P., Kageyama M., Droz L., Marsset T.
- 05- *Lago di Vico, central Italy: a detailed late Holocene pollen record.*  
Sadori L., Giardini M., Masi A., Nicoletta R.

- 06- *Contributions of archaeopalynology in lakeside settlements research. The case study at La Draga (Banyoles, NE Iberia).*  
Revelles J.
- 07- *Plant landscape evolution in a human-induced environment: El Sertal peatbog (Cantabria-Spain).*  
Pérez Obiol R., Garcia Codron J.C., Carracedo V., Cunill R., Soriano J.M., Pèlachs A.
- 08- *Human impact in lake shore environment: a study case at Lake Chalain.*  
Angeli A., Gauthier E., Richard H.
- 09- *Modern vegetation, pollen and non-pollen palynomorphs relationships in Majorca and Minorca (Balearic Islands, Spain). A tool for a better understanding of human occupation dynamics and vegetation history in Holocene Mediterranean records.*  
Servera-Vives G., Mus Amezquita M., Torri P., Mercuri A.M.

11.00- 11.45	<b>Poster Session B: Aerobiology</b> Chairs: Moreno-Grau S. & Pérez-Badia R.	Exhibition Hall UPF School of Management
--------------	---	---

- 01p- *Botanical families with allergenic antecedent present in the atmosphere of the city of Ibagué Tolima-Colombia.*  
Ramírez-Cotes D., Bonilla-Sánchez A., Mosquera-Mosquera H.
- 02p- *Fungal spores present in the atmosphere of the city of Ibagué Tolima-Colombia.*  
Ramírez-Cotes D., Mosquera-Mosquera H., Bonilla-Sánchez A.
- 03p- *Ascospores and conidia of Pleosporales in the aerospore in Barcelona during a year study.*  
Rúa-Giraldo A.L., Belmonte J.
- 04p- *Mycobiota in the air and surfaces of indoor and outdoor environments in Barcelona.*  
Rúa-Giraldo A.L., Belmonte J.
- 05p- *Alternaria spores behaviour in the atmosphere of Salamanca (Spain).*  
Estrada Muñoz D., Sánchez Reyes E., Rodríguez de la Cruz D., Vega Elices E., Sánchez Durán S., Sánchez Sánchez J.
- 06p- *Preliminary study of the atmospheric pollen in Ronda (south Spain).*  
Picornell A., Recio M., Trigo M.M., Cabezudo B.
- 07p- *Aerobiology in Alcázar de San Juan (central Spain): pollen spectrum and allergenic pollen.*  
Burgos-Montero A.M., Candón-Morillo R., González-Sánchez L.A., Feo Brito F., Pérez-Badia R.
- 08p- *The aeropalynology of Oran's region Es-Senia, northwest Algeria.*  
Kiared (Ould-Amara) Gh., Belmonte J., Bessedik M., Riding J.
- 09p- *Airborne Platanus pollen wall elemental analysis and adhered particulate matter.*  
Ribeiro H., Guimarães F., Duque L., Lamas R., Abreu I.
- 10p- *Adjustment of the Negative Prognosis model for the incidence of late blight on a potato crop in A Limia.*  
Seijo-Rodríguez A., Escuredo O., Rodríguez-Flores M.S., Seijo M.C.
- 11p- *Predictive model to determine pollen and allergen concentrations of Ligustrum lucidum in Ourense.*  
Vara A., Astray G., Valencia J.A., Fernández-González M., Rodríguez-Rajo F.I.
- 12p- *Aerobiological and phenological behavior of the Godello variety in the Ribeiro DO during the 2015 and 2016 harvests.*  
Cortiñas J.A., Rodríguez-Rajo F.I., Fernández-González M., Aira M.J., Ribeiro H., Abreu I.



- 13p- *Betula* allergenic load in the atmosphere of Santiago of Compostela.  
Castiñeiras P., Rodríguez-Rajo F.J., Vara A., Fernández-González M., Aira M.J.
- 14p- Pollen proteins in the atmosphere: a comparative study of three methods.  
Sandrini S., Aloisi I., De Nuntiis P., Facchini C., Del Duca S., Fernández-González D.
- 15p- Detection of airborne allergen in relation to pollen counts (*Olea europaea*).  
Varea M., Flores E., Soriano V., Fernández J., Gil-Moltó J., Galindo N., Yubero E., Nicolás J.F., Caballero S., Castañer R., Pastor C., Crespo J.
- 16p- Case of study in the region of Paris regarding allergy symptoms, atmospheric pollution and pollen grain concentration.  
Sarda Estève R., Baisnee D., Thibaudon M., Auvigne V., Guinot B.
- 17p- Long distance transport of *Olea europaea* pollen over Central Europe.  
Tedeschini E., Udvardy O., Sofiev M., Palamarchuk J., Makra L., Magyar D.
- 18p- Effect of temperature and precipitation on the airborne pollen parameters in Catalonia (NE Iberian Peninsula).  
Periago C., Majeed H.T., Alarcón M., Belmonte J.
- 19p- Analysis of the behavior of airborne *Artemisia* pollen in relation to precipitation and temperature in the locality of Lleida, Spain.  
López D.J., Belmonte J., De Linares C.
- 20p- Forecasting the interannual variability of olive seasonal pollen load.  
Ritenberga O., Sofiev M., EAN data providers

11.45- 13.15	<b>Oral Session 5: Aerobiology</b> Chairs: Thibaudon M. & Trigo M.M.	Auditori UPF School of Management
--------------	---	--------------------------------------

- 01- Announcing the beginning of the pollen season, does the alder also announce summer?  
Thibaudon M., Sindt C., Richard P.
- 02- Airborne *Ambrosia* pollen counts help to appreciate the effectiveness of the fight against ragweed? The cases of the Lyon areas: 1982-2016, 1996-2016.  
Dechamp Ch., Belmonte J., Meon H.
- 03- Reproductive and aerobiological survey on natural and cultivated chestnut (*Castanea sativa* Mill.) populations in South Spain.  
Hidalgo-Galvez M.D., García-Mozo H., Moreno C., Galán C.
- 04- Pollen production and geolocation of *Casuarina cunninghamiana*.  
Monroy-Colín A., Silva-Palacios I., Tormo-Molina R., Maya-Manzano J.M., Fernández-Rodríguez S., Gonzalo-Garijo A.
- 05- Influence of climate on chronology and intensity of *Olea europaea* L. pollen season in Tunisia.  
Ben Dhiab A., Hadj Hamda S., Ben Mimoun M., Abichou M., Msallem M.
- 06- Pollen trends in different towns of Italy.  
Brighetti M.A., Gottardini E., Lucchini D., Picone R.M., Russo M., Vargiu A., Siniscalco C., Pace L., Travaglini A.
- 07- Plane tree pollination phenology and airborne pollen records.  
Monroy-Colín A., Silva-Palacios I., Fernández-Rodríguez S., Tormo-Molina R., Maya-Manzano J.M., Gonzalo-Garijo A.

11.45- 13.15	<b>Oral and Poster session 6: Pollen Morphology, Biology and Biochemistry</b> Chairs: Alché J.D. & Testillano P.S.	Amfiteatre UPF School of anagement
--------------	---	---------------------------------------

### Oral Presentations

- 01- *A new allergen family involved in food pollen associated syndrome: snakin/gibberellin regulated proteins.*  
 Sénéchal H., Santrucek J., Melcova M., Svoboda P., Zidkova J., Shahali Y., Guilloux L., Aizawa T., Selva M.A., Couderc R., Charpin D., Poncet P.
- 02- *Recovery and molecular analysis of olive Pollen from Sedimentary Samples.*  
 González-Toral C., Alché J.D.
- 03- *Identification and functional annotation of genes differentially expressed in the reproductive tissues of the olive tree (*Olea europaea* L.) through the generation of subtractive libraries.*  
Zafra A., Alché J.D.
- 04- *From inside to outside: cyto-morphological rearrangements underlying spermine involvement in the apical growth of the pollen tube.*  
 Aloisi I., Cai G., Faleri C., Navazio L., Del Duca S.

### Poster Presentations

- 01p- *Pollen morphology and reproductive biology of Omphalodes brassicifolia (Lag.) Sweet. an endangered Iberian endemism.*  
 Vega Elices E., Rodríguez de la Cruz D., Sánchez Reyes E., Sánchez Durán S., Sánchez Sánchez J.
- 02p- *Augmented pollen superoxide dismutase activity induced by NO<sub>2</sub> and O<sub>3</sub>.*  
Costa A.R., Mendes S., Galveias A., Arriegas R., Ribeiro H., Antunes C.M., Abreu I.
- 03p- *Stable carbon isotope measurements on Cedrus atlantica pollen: first steps towards an independent drought stress proxy.*  
 Bell B., Fletcher W., Ryan P., Grant H., Ilmen R.
- 04p- *Germination of pollen grains in the esophagus of individuals with eosinophilic esophagitis (EoE).*  
 Armentia A., Martín-Armentia S., Martín-Armentia B., Santos-Fernández J., Álvarez R., Gayoso M., Fernández-González D.
- 05p- *Do cats (Felis catus domestica) suffer from environmental allergies?*  
De Castro-Alfageme S., Leal-Fierro L., Rodríguez-Ramos M.A., Valencia-Barrera R., Vega-Maray A.M., Fernández-González D.
- 06p- *Pollen allergies in the dog (Canis familiaris).*  
De Castro-Alfageme S., Leal-Fierro L., Rodríguez-Ramos M.A., Valencia-Barrera R., Vega-Maray A.M., Fernández-González D.
- 07p- *Allergens more frequently involved in allergy of horses (Equus caballus domesticus).*  
De Castro-Alfageme S., Leal-Fierro L., Rodríguez-Ramos M.A., Valencia-Barrera R., Vega-Maray A.M., Fernández-González D.
- 08p- *Morphology and polynical viability of some genera of the Araceae family.*  
 González-Gutiérrez K., Mosquera-Mosquera H., Ramírez-Cotes D.

14.30- 16.00	<b>Oral Session 7: Aerobiology</b> Chairs: Fernández-González D. & Trigo M.M.	Auditori UPF School of Management
--------------	--	--------------------------------------

- 01- *Regression tree model to predict daily levels of airborne Urticaceae pollen.*  
Vélez-Pereira A.M., De Linares C., Canela M.A., Belmonte J.
- 02- *Source-receptor exchange patterns of pollen deposition over Southern Europe.*  
Sofiev M., Palamarchuk J., EAN data providers.
- 03- *Influence of wind on daily airborne pollen concentrations in Catalonia (NE Iberian Peninsula).*  
Periago C., Majeed H.T., Alarcón M., Belmonte J.
- 04- *Airborne fungal spores of Abomey-Calavi (south-Benin), clinical data and meteorological parameters.*  
Tossou G.M., Tchabi F.L., Akoegninou A.
- 05- *Quantitative and qualitative assessment of airborne microorganisms in the historical and modern museum depositories.*  
Grabek-Lejko D., Tekiela A., Kasprzyk I.
- 06- *Fungal spores affecting vineyards across Europe, a preliminary study.*  
Martínez-Bracero M., Alcázar P., Grinn-Gofroń A., Galán C.
- 07- *Analysis of airborne fungal content in the Cathedral of Jaen (South Spain): preliminary results.*  
Aguilera F., Ruiz-Valenzuela L.

14.30- 16.00	<b>Oral Session 8: Paleopalynology</b> Chairs: Kouli K. & Sadori L.	Amfiteatre UPF School of anagement
--------------	--	---------------------------------------

- 01- *A 500 000 yrs paleoenvironmental and paleoclimatic record from the Balkans inferred from Lake Ohrid pollen data.*  
Peyron O., Goring S., Combourieu-Nebout N., Sadori L., Bertini A., Donders T.H., Joannin S., Kouli K., Kousis A., Koutsodendris A., Masi A., Mercuri A.M., Panagiotopoulos K., Sinopoli G., Torri P., Wagner B.
- 02- *Centennial-scale vegetation and fire dynamics in the Middle Atlas, Morocco during the last 12,000 years.*  
Fletcher W., Campbell J.F.E., Joannin S.
- 03- *Interpreting 2700 years of abrupt environmental change in central Italy by comparing pollen and climate reconstructions with historical texts.*  
Mensing S., Schoolman E., Tunno I., Piovesan G.
- 04- *Warm climate could reduce trees diversity in mixed-wood boreal forest.*  
Remy C.C., Senici D., Chen H.Y.H., Bergeron Y., Ali A.A., Lavoie M.
- 05- *From palaeoecology to conservation of mountain forests: Utilities and contributions in the Mediterranean Region.*  
Abel-Schaad D., Alba-Sánchez F., López-Sáez J.A., Pérez-Díaz S.
- 06- *Estimating ecosystem functional changes from pollen records in Western Mediterranean.*  
Alba-Sánchez F., Alcaraz-Segura D., López-Sáez J.A., Abel-Schaad D., Sabariego-Ruiz S., Pérez-Díaz S., Blanco J., Vargas G., Cabello J., Peñas J., González-Hernández A., Cheddadi R.
- 07- *Vitis representation in modern pollen spectra from Southern Europe vineyards.*  
Mariotti Lippi M.M., Ciani F., Florenzano A., Torri P., Montecchi M.C., Landi Degl'Innocenti V., Ricciardo D., Rattighieri E., Mercuri A.M.

16.15- 17.00	<b>Plenary Lecture</b>	Auditori UPF School of Management
--------------	------------------------	--------------------------------------

*Jacques Louis de Beaulieu, from the pollen grain to the European Pollen Database, a career devoted to the community of palaeoecologists.*

Guiot J., Technopole de l'Environnement Arbois Mediterranee, Aix-en-Provence, France.

17.00- 18.30	<b>APLF Assembly</b>	Auditori UPF School of Management
--------------	----------------------	--------------------------------------

17.00- 18.15	<b>APLE Assembly</b>	Amfiteatre UPF School of anagement
--------------	----------------------	---------------------------------------

18.15- 19.15	<b>AEA Assembly</b>	Amfiteatre UPF School of anagement
--------------	---------------------	---------------------------------------

## Wednesday, 6th September

09.00- 10.45	<b>Oral Session 9: Paleopalynology</b> Chairs: Mercuri A.M. & Sánchez-Goñi M.F.	Auditori UPF School of Management
--------------	--	--------------------------------------

- 01- *Climate change since the last glacial period in Lebanon and the persistence of Mediterranean species.*  
Cheddadi R., Khater R.
- 02- *Paleoproductivity changes over the last 30 ky in the NW Moroccan margin as reconstructed from palynological (dinocyst) and stable isotopic tracers.*  
Penaud A., Bonin J., Eynaud F., Waelbroeck C., Blamart D.
- 03- *History of Holocene vegetation in arid and semi-arid regions of central and southern Tunisia.*  
Lebreton V., Jaouadi S.
- 04- *Lateglacial to early Holocene transition in Northern Iberia. Palaeoenvironment and fuel use.*  
Pérez-Díaz S., Ruiz-Alonso M., López-Sáez J.A., Alday A.
- 05- *Late Glacial and Holocene vegetation patterns of Attiki, southern Greece.*  
Kyrikou S., Kouli K., Triantaphyllou M.V., Dimiza M.D., Gogou A., Karageorgis A.P.
- 06- *Environmental changes in the Middle to Late Holocene transition in Eivissa (Balearic Islands, Western Mediterranean).*  
Revelles J., Burjachs F., Ghilardi M., Expósito I., Yll E., Marlasca R.
- 07- *Modern pollen-vegetation relationship and Holocene vegetation changes under arid climate (Southern Tunisia).*  
Jaouadi S., Lebreton V.

09.00- 11.00	<b>Oral and Poster Session 10 : Melissopalynology</b> Chairs: Battesti M.J. & De Linares C.	Amfiteatre UPF School of anagement
--------------	--	---------------------------------------

*La méliissopalynologie et la valorisation de la qualité liée à l'origine: l'exemple de l'Appellation d'Origine Protégée «Miel de Corse – Mele di Corsica».*  
Battesti M.J. Laboratoire Chimie des Produits Naturels, Université de Corse, Corte, France.

### Oral Presentations

- 01- *Feeding and farming practices in honey bee colonies.*  
González-Porto A.V., Higes M., López-Pérez J.A., Martín-Hernández R., Molina-Abril J.A., García-Villarubia C., Pardo-Martín C.
- 02- *Characterization of Ibiza and Formentera honeys (Balearic Islands).*  
Guillaumet S., Boi M., Galán C., Aguilar M.P.
- 03- *A comparison of urban and rural honey and propolis from Barcelona metropolitan area.*  
Cardellach P., De Linares C., Belmonte J.

### Poster Presentations

- 01p- *Pollen content of larvae of Vespa velutina collected in NW Spain.*  
Seijo M.C., Rodríguez-Flores M.S., Escuredo O., Seijo-Rodríguez A.
- 02p- *Melissopalynological analysis of honey from the region of Mostaganem (Algeria).*  
Homrari M., Rodríguez-Flores M.S., Dalache F., Escuredo O., Bouzouina M., Seijo M.C.

- 03p- *Characterization of Corsican blossom honey: pollen diversity and volatile variability.*  
Yang Y., Costa J., Paolini L., Battesti M.J.
- 04p- *Melissopalynological origin determination and volatile analysis of honey from corsican Anthyllis hermanniae L. habitat.*  
Yang Y., Costa J., Paolini J., Battesti M.J.
- 05p- *Pollen analysis of several unifloral commercial honeys.*  
Navas Nieto C., Sánchez Reyes E., Sánchez Sánchez J., Rodríguez de la Cruz D.

10.45- 11.45	<b>Poster Session C: Paleopalynology</b> Chairs: Masi A. & Pérez R.	Exhibition Hall UPF School of Management
--------------	--	---

- 01p- *BRAIN – cooperative network and website.*  
Mercuri A.M., BRAIN members.
- 02p- *MIS 31, a globally super interglacial? Insights from a new high-resolution pollen record from the southwestern European margin.*  
Oliveira D., Sánchez-Goñi M.F., Naughton F., Polanco-Martínez J.M., Jimenez-Espejo F., Grimalt J.O., Martrat B., Voelker A.H.L., Trigo R., Hodell D., Abrantes F., Desprat S.
- 03p- *Palynology of the last interglacial complex in the western Balkans.*  
Sinopoli G., Masi A., Sadori L.
- 04p- *Eemian palaeoenvironmental evolution in the northern plains of France from the alluvial sequence of Waziers.*  
Gauthier A., Antoine P., Auguste P., Deschodt L., Hérisson D., Limondin-Lozouet N., Lochet J.L., Virmoux C.
- 05p- *Pollen data on the Lateglacial/early Holocene transition in coastal areas from NW Iberia: the Atlantic coast vs. Mediterranean nearby areas.*  
García-Moreiras I., García-Gil S., Muñoz Sobrino C.
- 06p- *Distal palaeoecological impacts of the great Bronze Age eruption of Mount Vesuvius at Femmina Morta.*  
Doorenbosch M., Field M.H.
- 07p- *Paleofire dynamics in central Spain during the late Holocene: The role of climatic and anthropogenic forcing.*  
López-Sáez J.A., Vargas G., Ruiz-Fernández J., Blarquez O., Alba-Sánchez F., Oliva M., Pérez-Díaz S., Robles-López S., Abel-Schaad D.
- 08p- *Fire history in Komi and Karelia Republic during the Holocene.*  
Barhoumi C., Peyron O., Joannin S., Ali A.A., Subetto D., Kryshen A.
- 09p- *Asynchronous changes in the Holocene forest evolution on both sides of the Gibraltar Strait (Iberian Peninsula-Morocco).*  
Alba-Sánchez F., Abel-Schaad D., López-Sáez J.A., Sabariego-Ruiz S., Pérez-Díaz S., Vargas G.
- 10p- *Last 7,000 years BP coastal archives in southern Brittany, NW France.*  
Fernane A., Vidal M., Penaud A., Allan E., Combourieu-Nebout N., Goubert E., Gandouin E., VanVliet-Lanoë B.
- 11p- *Resilience, vulnerability and conservation strategies of high-mountain pine forests from the Gredos Range (central Spain).*  
López-Sáez J.A., Abel-Schaad D., Luelmo-Lautenschlaeger R., Robles-López S., Pérez-Díaz S., Alba-Sánchez F., Sánchez-Mata D., Gavilán R.G.
- 12p- *The story of a survivor. The evolution of Fagus sylvatica in the Western Pyrenean Region (Northern Iberia) through palaeoenvironmental data.*  
Ruiz-Alonso M., Pérez-Díaz S., López-Sáez J.A.

- 13p- *Study of Guano from New Caledonia.*  
Sémah A.M., Rollin J., Wirrmann D.
- 14p- *Olea pollen from modern olive groves and archaeological sites as index of cultural landscape development in central Mediterranean.*  
Florenzano A., Rattighieri E., Rinaldi R., Mercuri A.M.
- 15p- *Pollen analysis of ovicaprine coprolites and palaeoenvironmental inferences on Holocene Sahara.*  
Fornaciari R., Boscaini M., Rotunno R., Mercuri A.M., di Lernia S.
- 16p- *Environmental changes during the Final Neolithic and Early Bronze Age at Palaikastro (Eastern Crete).*  
Cañellas-Boltà N., Riera-Mora S., Orengo H.A., Livarda A., Knappett C.
- 17p- *Vegetation and climate dynamics in SW Iberia during MIS 14 as inferred from the multi-proxy analysis of the IODP Site 1385 (Shackleton site).*  
Morales-Molino C., Rodrigues T., Desprat S., Martín-García G.M., Sierro F.J., Hodell D.A., Sánchez-Goñi M.F.
- 18p- *Anthropogenic eutrophication overlapping natural climate variability over the last 150 years: palynological evidences (Bay of Brest, NW France).*  
Lambert C., Penaud A., Vidal M., Klouch K., Grégoire G., Ehrhold A., Eynaud F., Schmidt S., Ragueneau O., Siano R.
- 19p- *New data on landscape of middle Oise valley during Subboreal: study of the organic sequence of Thourotte (Oise, France).*  
Leroyer Ch., Coussot C., Barracand G., Hulin G., Jude F., Leduc C., Werthe E., Allenet de Ribemont G.
- 20p- *Anthropogenic impact and environmental changes from middle Mesolithic to late Neolithic in Normandy at Cairon (Western France).*  
Lemer L., Gauthier A., Lespez L., Beauchamp A., Giligny F.
- 21p- *Last Millennium vegetation patterns in Rhodopi Mt (N. Greece).*  
Kouli K., Kyrikou S., Athanassa I.

11.45- 13.15	<b>Oral Session 11: Paleopalynology</b> Chairs: Cheddadi R. & Riera S.	Auditori UPF School of Management
--------------	---	--------------------------------------

- 01- *Regional expression of the MIS9e interglacial in southwestern Europe – The Iberian margin pollen record and model-data comparison.*  
Desprat S., Yin Q., Sánchez-Goñi M.F.
- 02- *Evidence of Neolithic human settlements in the High Doubs Valley (France) revealed from multi-disciplinary palaeoenvironmental studies.*  
Dietre B., Bichet V., Gauthier É., Richard H.
- 03- *Environmental evolution between Late Neolithic and Late Bronze Age in the NE Iberian Peninsula. Les Madrigueres a case study.*  
Val-Peón C., Morales-Hidalgo J.I., Cebrià A., Expósito I., Albalat D., Gómez M., Burjachs F.
- 04- *The Archaeobiology, Palaeoenvironment and water regime of the Rec Comtal, the “artificial” watercourse of Barcelona.*  
Riera S., Miró C., Orengo H., Fàbregas M., Santos M.A., Livarda A., Bros V., Veropoulidou R., Reed J., Picornell Ll., Banks P., Julià R.

05- *Unraveling the forcings controlling the magnitude and climate variability of the best orbital analogues for the present interglacial in SW Europe.*

Oliveira D., Desprat S., Yin Q., Naughton F., Trigo R., Rodrigues T., Abrantes F., Sánchez-Goñi M.F.

06- *Palynology of the Terramare, the Middle Bronze age of the Po Plain (SUCCESSO-TERRA project).*

Mercuri A.M., Florenzano A., Torri P., Mazzanti M., Clò E., Furia E., Zerboni A., Cremaschi M.

11.45- 13.15	<b>Spanish Melissopalynology Workshop</b> Chair: González-Porto A.V.	Anfiteatre UPF School of anagement
--------------	---	---------------------------------------

13.15- 14.00	<b>Closing Ceremony</b>	Auditori UPF School of Management
--------------	-------------------------	--------------------------------------



## Lago di Vico, central Italy: a detailed late Holocene pollen record

Sadori L., Giardini M., Masi A., Nicoletta R.

Dipartimento di Biologia Ambientale, Sapienza Università di Roma, Italy

[laura.sadori@uniroma1.it](mailto:laura.sadori@uniroma1.it)

Lago di Vico is a volcanic lake located 50 km northwest of Rome, 40 km from the Tyrrhenian Sea, in central Italy. It has a max. depth of 50 m, an elevation of 510 m a.s.l., a diameter of ca. 5 km, a surface of ca. 12 km<sup>2</sup>, and a catchment area of ca. 40 km<sup>2</sup>. It is located in the central collapse caldera of the Vico volcanic district. The catchment, exclusively formed by volcanic rocks, is delimited by the edge of the caldera, peaking 965 m a.s.l. at Monte Fogliano where an estimate of the rainfall provided a value of about 2000 mm. Outside the caldera, at the closest meteorological station of Ronciglione (441 m a.s.l.), the mean annual precipitation (over 40 years) is about 1400 mm and the mean annual temperature is 13.6°C.

The forest vegetation of the caldera is organized in belts: on the top of Monte Fogliano beech woods are found, while mixed forest of beech and deciduous oaks mainly lie on the southern and western slopes and on Monte Venere; on the northern slopes of the caldera mixed oak woods dominated by *Quercus cerris* is found; chestnut and hazel coppices are found respectively on the eastern slopes and on the flat areas surrounding the lake; extrazonal populations of *Q. ilex* and other Mediterranean elements are found on rocky and sunny slopes.

Human activity in the caldera is archaeologically documented by a votive cave on Monte Venere where a series of ten radiocarbon dates from 8000±160 B.P. to 4390±50 B.P. indicates a long-lasting frequentation of the cave. Evidence of Bronze Age occupations is found on the northern slope of Monte Venere and on Monte Fogliano. Remnants of Etruscan and Roman cultures are widespread in the area. Three pollen records from Lago di Vico have been published, the longest one spanning the last 90,000 years (1), two others covering shorter periods (2, 3; None of them has a complete pollen record for the Holocene).

With the aim of reconstructing the vegetation, the climate and the fire history of the last millennia, we present integrated pollen, microcharcoal and NPP (non pollen palynomorphs) analyses of the top 5.60 m of a new 12 m long sediment record. The core was drilled in the north-western sector of the lake, at a water depth of ca. 19 m. The diagram spans the last ca. 4500 years, the chronology was established using four radiocarbon dates and the characterization of one tephra level. Deciduous oaks, beech, hornbeams characterized the environment around the lake. Even if clear signs of human presence are detected before, a strong human impact on vegetation is recorded around 2800 years ago, at the beginning of the Iron Age, with forest clearance and cultivation of olive, chestnut and walnut. Intensive cultivation of hazel, which today characterizes the landscape around the lake, is quite recent, dating back to the Modern Age.

### References

- Magri and Sadori 1999. *Vegetation History and Archaeobotany* 8  
 Frank 1969. *Palaeogeography, Palaeoclimatology, Palaeoecology* 6  
 Leroy et al. 1996. *Quaternary Science Reviews* 15

