

# International Aerobiology NEWSLETTER

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## Editorial note

## Letter from IAA-s President

Summer 2006 heralds the major meeting of the aerobiology calendar: the 8th International Congress on Aerobiology (8ICA), which will be held from 21-25 August at the University of Neuchâtel (Switzerland). On behalf of Bernard Clot (President of the Organizing Committee) we are taking this opportunity to make a last call for attendance at this event. Please take attention to the proposal to modify the Rules of Procedure (page 2). Information on a special meeting to present and to discuss the program of data handling of the EAN is in the page 6. Neuchâtel will also host the Advanced Aerobiology Course (AA2006) from 14-19 August.

A new report in the Aerobiology in the World series, written by Rui Brandao, focuses on the major aims of aerobiologists in Portugal.

This issue contains summaries of two Doctoral Theses. The first, dealing with airborne pollen counts in La Plata, was read at La Plata University (Argentina) by Daniela Silvana Nitiu; the second addressing the phenology and aerobiology of Quercus and Betula species was presented at Vigo University (Spain) by Nuria Dacosta.

A detailed report on the 11th National Conference of the Italian Association of Aerobiology, held in Parma, is provided on page 3.

Next August, during the 8th Congress on Aerobiology, will see the appointment of the new Executive Committee of the IAA. This issue is therefore the last IAA Newsletter edited by the EC appointed during the 7th International Congress on Aerobiology, held in Montebello in 2002, and my last as Editor. I would like to express my sincere thanks to all my colleagues who have helped to keep the newsletter running as a forum for news and aerobiology information; without their help, this could not have been achieved. Special thanks are due to the contributors to the "Aerobiology in the world" series, whose reports gave us a chance to focus on aspects of aerobiology in the most diverse areas. I also wish to thank Carmen Galán for her hard work over the last four years, as well as Christine Rogers, a tireless contributor of interesting material, who also kept the membership directory updated, and Paola De Nuntis, who always included the Newsletter promptly on the IAA website. Finally, my thanks to my close colleague Javier Rodríguez-Rajo for his useful editorial support. To all, thank you for your help.

I would also like to encourage the next Newsletter Editor to promote this official publication of the Association as a key channel for sharing news and information among IAA members worldwide. Finally and once again I urge all IAA members to contribute to future issues of the Newsletter. Your cooperation is essential.

Looking forward to see you in Neuchâtel  
Victoria Jato  
Newsletter Editor  
e-mail [vjato@uvigo.es](mailto:vjato@uvigo.es) fax +34988 387001

Dear colleagues,  
Next August, in the context of the 8th International Congress on Aerobiology (Neuchâtel, Switzerland) we will hold the International Association for Aerobiology General Assembly where the election of the next IAA Executive Committee and Council will take place.

During the last four years the current Executive Committee developed some objectives. First, efforts have been made to alleviate the Associated Societies role as dues collectors from their members who want to submit individual IAA dues. Moreover, a credit card acceptance and registration service has facilitated the registration fees procedures for individual memberships. This procedure has improved the record-keeping and update-to-date status of IAA members.

An IAA Young Aerobiologist Award has been set up for young aerobiologists who could choose to attend any aerobiology event recommended by the IAA. An Evaluation Committee has attended to this subject. The guidelines, application and advisor forms have been published on the IAA website and in the Newsletter.

We have set up an Educational Program working group that is working with the idea to analyse the state of the art of different courses on Aerobiology at international level and also the use of Aerobiology as a discipline in several Universities. The main goal is to offer the possibility of a programme of courses at different levels taking into account the new electronic technologies that enable us to keep in touch beyond geographical borders. Please let us know if you have a course you would be willing to offer in this way.

Some effort has also been placed on amending the Rules of Procedure to define a mechanism for nominating and electing Officers. This is a task to be discussed in the next IAA General Assembly. As a new slate of officers will be elected at the upcoming General Assembly meeting in Neuchâtel, please let us know if you are willing to serve in this capacity or if you wish to nominate someone else for a post.

Recently the annual information regarding the report of the IAA activities in the year Book of International Organizations and the quadrennial report to the International Union of Biological Sciences (IUBS) has been updated. We have participated in the last 28th General Assembly of the IUBS to strengthen Aerobiology in the study of biological sciences and participated in the officer's election as an IUBS Scientific Member.

In general, we try to promote Aerobiology as a multidisciplinary science that offers interests to specialists on allergy, agriculture, forestry, forensic palynology or bioterrorism, among others disciplines.

Nowadays, historical databases about pollen content in the air allow knowing possible changes in the pollen spectrum due to changes in the biodiversity, presence of new exotic or invasive species, loss or decrease of others. On the other hand, these databases offer information about anemophilous plant floral phenology, manifesting the possible effect of global warming on vegetation. One of the more important roles of aerobiologists is to improve interdisciplinary collaboration trying to realize the real value of the aerobiological data by themselves. We should also consider linking these databases to other aerobiological databases that may include fungi, bacteria, and viruses.

The International Association for Aerobiology from the beginning has promoted a challenge manifesting the importance of the coordination between different international organizations. Nowadays, there is more and more interest from some of them to establish an interdisciplinary cooperation. We should not miss this opportunity and we encourage all of you to try to develop dissemination projects supporting this collaboration at local, regional and national governments.

Some lines of research are increasing interest on establishing parameters of Biological Air Quality to be offered to different Environmental governmental institutions or agencies. However, sometimes the coordination between political groups from the environmental point of view and the research groups is not sufficiently clear. In this case, we are responsible to improve and spread knowledge of Aerobiology among the society and politicians.

Carmen Galán

# Aerobiology in the World Portugal

Portugal is one of the oldest countries of the world, born in 1143 and whose continental borders had been established in 1297. Mainland Portugal is roughly the shape of a rectangle about 560 km long and 220 km wide on the west of the Iberian Peninsula, at southwest Europe. A 830-km Atlantic coastline borders the country on the west and south. In the north and east Portugal borders to Spain. It is composed of 2 more archipelagos with administrative autonomy: the archipelago of Azores with 9 islands, is almost 1500 km west of Lisbon, nearly halfway between Portugal and New York; the archipelago of Madeira is 964 Kms southwest of Lisbon, with a subtropical climate and a mild humidity.

The first pilot studies on aerobiology in Portugal were carried out by the botanist Quitéria Pinto da Silva in Sacavém (1949-1950) when she analysed airborne pollen for agronomical purposes using a gravimetric sampler. Along the 50's and 60's the same researcher conducted sporadic studies at the main cities, Lisbon and Oporto, with a Durham sampler. A systematic research of the aeropalynological composition of the atmosphere of Coimbra was accomplished in 1978 and next years by a team of botanists from the Botanical Institute of the University of Coimbra, under the coordination of Jorge Paiva, an enthusiastic and still active palynologist of that university, with the strong support of Tereza Leitão, a biologist from the same Institute. In the beginning they trap pollen with a Durham sampler but soon they adopted a Hirst-type sampler. The same team had extended their studies on airborne pollen to Lisbon, Oporto and Aveiro, all on the border of the Atlantic ocean, along the 80's, through gravimetric samplers. In 1988 R. Brandao, a biologist from the University of Evora and M.L. Lopes, an allergologist working at the Hospital of Espírito Santo, carry out a research program on the relationships between airborne pollen and symptomatology of patients with pollinosis in the south part of the country. This study goes on nowadays and it had established for next years a strong linkage between the Portuguese Aerobiology Network, settled some years later, and allergology. Other sporadic studies were realized for allergological purposes in the 90's through volumetric methods, mainly in Lisbon. The first attempt to establish a network for pollen monitoring was established in South Portugal (Alentejo e Algarve) along the 90's by the same team and Carlos Nunes, the director of Centro de Imunoalergologia do Algarve. In 2000-2001 the first national network was established under the coordination of the Portuguese Society of Allergology and Clinical Immunology (SPAIC) which was based on Cour samplers. Since 2002, with the financial support of the same Society, a national network based on 7-day volumetric Burkard samplers is running which covers the main bio-climatical regions of mainland and since the beginning of this year, the archipelagos of Azores and Madeira. In this last archipelago, since 2001 that Irene Camara, a young and promising biologist of the local university, is monitoring the airborne pollens and moulds spores of the main city, Funchal. Irene Camara is now heading a multidisciplinary team in order to detect moulds in indoor environments and control them, thanks to a financial support of Portuguese Agency for Innovation. Nowadays, the Portuguese Aerobiology Network RPA is centralized at the Laboratory of Palynology and Aerobiology of the University of Évora, where all drums coming from 6 sampling sites of the country are processed (in the island of Madeira, drums are processed at the local university). Sampling runs all the year and all equipments are stand on rooftops of university buildings or hospitals, with the exception of Evora where the sampler is placed at the Meteorological Station in the historical town center. Pollen analysis is carried out since 2002 by Elsa Caeiro, a very skilled and dedicated biologist, with some help of Salomé do Carmo who is realizing her studies for a master degree on "Aerobiological Analysis" with a thesis on spores moulds present in air samples of outdoor environments from main Portuguese towns. About 36 palynomorphs are being monitored regularly but, as many of them occur in small quantities (for instance

Gingko or Fraxinus), only 16 palynomorphs are statistically analysed. Quercus (oak trees) Poaceae, Olea europaea, Pinus and Urticaceae (Urtica and Parietaria) are the most abundant pollen types, depending on the bio-climatic region. Spores of Pteridophyta are also monitored in the archipelagos of Azores and Madeira. A weekly "Pollen Bulletin", coordinated by SPAIC, is broadcasted by national media like television (RTP1), one national newspaper (Diário de Notícias) and radio (TSF). This bulletin reports the progress of the pollen season for the most important pollen types, a forecast for next days and includes comments made by an allergologist to questions of the public sent by e-mail to bomdiaportugal@rtp.pt. Data and forecasts for next days of pollen concentrations, graphs of main pollen types and other information can be consulted at the web site <http://www.spaic.pt> or <http://www.rpa.uevora.pt>. Information on airborne pollen of RPA is also available at the European Pollen Information Database, in Vienna (Austria). The Lab of Palynology and Aerobiology is also engaged in other aerobiological research projects and activities namely the recent approved European Life/Environment Monalisa project for validation of a new approach of pollen and mould monitoring in the air by on-line antigenicity measurement, through an association of a cyclone sampler and Enzyme Linked Immunosorbent Assay (ELISA) techniques. Although aerobiology at RPA has a deep engagement with medical applications of pollen analysis, other research lines are running without such connections and/or where bioaerosols analysis or aerobiological technologies are applied. Such studies can be addressed to the following topics: a) agronomical and forestry applications of pollen and moulds monitoring b) control of air quality namely in indoor environments and c) microbiological analysis of bioaerosols other than pollen and moulds spores. In the first one, it must be pointed out a research line on pollen monitoring on vineyards of Douro region (where Oporto wine is produced) which has been conducted by a team of the Botanical Institute of the University of Oporto, under the direction of Ilda Noronha. Cour samplers are being used to estimate airborne pollen concentrations and to apply such knowledge to forecast potential grape-harvest. Ilda and team are now extending such promising technique, developed in France by Pierre Cour and colab., to other important areas of wine production of Portugal. She has also carried out aeropalynological studies in north Portugal with Cour and Hirst-type samplers, which are published in the journal Aerobiologia. Control of air quality with (out) microbiological analysis of bioaerosols is accomplished by several environmental technicians, biologists, agronomists and other professionals in independent studies, without any structured or organized relationship. This is an area of intervention for Portuguese aerobiology in the years to come!

Teaching activities on aerobiology as a discipline is possible very recently at the University of Evora, in the pos-graduate program on "Biology and Health" ([http://www.ensino.uevora.pt/bio\\_saude/](http://www.ensino.uevora.pt/bio_saude/)). Aerobiological concepts and methodologies are also mentioned in several academic curricula of some universities, as components of a program in disciplines like Palynology, Micology or Plant Pathology.

Priorities for the future in Portuguese aerobiology includes:

An increase in the number of studies of indoor environments for characterization of indoor moulds or mites, etc;

Development of more research lines in new methodologies or technologies for bioaerosols analysis namely in data processing

Increment of international cooperation, either through the participation in European research programs or by collaborative activities with research teams of South America and Brasil in particular.

*By Rui Brandao, Ph D Head of Laboratory of Palynology and Aerobiology  
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## Proposal to modify the Rules of Procedure of the IAA Statutes

The Executive Committee suggests a proposal amending the Rules of Procedure to define a mechanism for nominating and electing Officers. This proposal includes a Webmaster position as a new Executive Committee member post and to establish a Nominating Committee. The proposal is as follow: "The candidates for the Offices of President, Vice-President, Secretary-General, Newsletter Editor, Webmaster and Treasurer plus two at large members should be nominated by individual members of the IAA. Candidates should be nominated, in writing, by one member of the IAA and seconded by at least two other members of the IAA. Requests for nominations should be sent out to the membership some time before the next Congress (via the newsletter and website). The nominations should be sent to the Nominating Committee some time before the next Congress (say 4 months) and they should decide on a person for each position and forward the slate of nominees to the President to present before the General Assembly. The Officers would then be elected by the individual members, in person or by mailed proxy during the General Assembly at the Congress. Nominations should consist of brief curriculum vitae for the nominee; and written consent by the nominee. Individual members would only be able to nominate or second one candidate for each Office. In the event of no candidate being nominated for a given Office, the Nominating Committee should nominate a suitable candidate."

**IAA EXECUTIVE COMMITTEE**

**This is a task to be discussed in the next IAA General Assembly.**



# XI National Conference of the Italian Association of Aerobiology (A.I.A.)

The XI National Conference of the Italian Association of Aerobiology (A.I.A.) was held in Parma from 5th to 8th April 2006 at the Starhotel du Parc under the Presidency of the Prof. Pierpaolo Dall'Aglio, President of the Association from June 2003. The President, the Council of the Society, which has also acted as Scientific Committee of the Conference, and the Local Organizing Committee, chaired by Dr. Roberto Albertini, wish to express their gratitude to the persons who contributed, with their participation, to the success of the event both from a scientific and an organisational point of view. For this reason I wish to also thank JGC-Congressi, in particular Dr. Luigi Finizio and Mr. Marco Sommesse.

The Conference has been an important meeting for more than 200 active Italian researchers. The 75 speeches and more than 50 poster communications resulted in a fruitful multidisciplinary exchange of information between investigators who study airborne pollutants, both indoor and outdoor, and the inevitable consequences on health and in particular on allergic respiratory diseases. The abstracts of the congress have been published in a supplement of the Association's journal, the *Giomale Europeo di Aerobiologia, Medicina Ambientale e Infezioni Aerotrasmesse (GEA)*.

One session was devoted to meteorological aspects that affect the distribution of airborne pollens in relation to environmental pollution. Another session concerned the selection of plants for parks and private gardens in relation to the allergenicity of their pollens, and involved experts, local administrators, nursery-gardening representatives and representatives from power industries. Also air quality in contamination-controlled hospitals and indoor pollution were discussed. Another session was devoted to cross-reactions between pollens and food, contaminants in food, also trace amounts, related to the new European food safety guidelines. The session ended with a discussion about the diagnosis of food allergies and intolerances in the light of validated techniques and of techniques not scientifically validated, but, unfortunately, widely used. For the first time in the Congress, we discussed the contribution of aerobiology to criminal palinology and more in general to forensic palinology, thanks to the participation of Forensic Police Department and the Scientific Investigative Departments (RIS) of the Carabinieri.

In addition, the treatment of respiratory allergic diseases was evaluated, namely vaccines, especially those administered by the sublingual route. The new drugs, which are now widely used, result in complete control of respiratory diseases, and have lesser side effects. These new drugs are: antihistamines, new-generation glycocorticoids and anti-leukotrienes, which given better control either in the upper and lower airways. The following session was devoted to educational aspects, namely correct information giving and better training to be started in school age. In another session we discussed the issues concerning a better preservation of the Italian cultural heritage, which is very important for future generations.

The Conference represented an occasion to announce, jointly by A.I.A. and A.P.A.T. (Agenzia Protezione Ambiente e per i Servizi Tecnici [Environmental Preservation Agencies and Technical Services]), the start of the activity, in 2006, of the Rete Italiana di Monitoraggio Aerobiologico R.I.M.A. [Italian Aerobiological Monitoring Network], coordinated by A.P.A.T., with AIA which has operated in the national territory since 20 years and the Sistema delle Agenzie Ambientali Regionali (ARPA) [System of Regional Environmental Agencies] which already operates in many regions. This unified network constituted by almost 95 monitoring centres throughout Italy refers to: ARPA, Health Services, CNR (Italian National Research Council), Universities and other Public and Private bodies. It will distribute at local level reports about the concentration of pollen and fungi spores in the air, prepared by each centre based on standardized methodology. The aim of such reports is to provide information to family doctors, specialists, in particular allergists, and to patients that is useful for the prevention, diagnosis, treatment and the clinical management of pollen-related allergies. The reports may also be useful, considering the pollen distribution in the seven Italian geoclimatic areas, for patients who practice sport and who travel for business or recreation in Italy.



Dr. Zanca organized an exhibition of rare and valuable books, antique prints and instruments that have been used in the field of aerobiology and allergology throughout the ages.

Congress attendees had the possibility of appreciating the renowned typical products of Parma, which is universally recognized as the Italian food valley. During the Conference, the Presidents who have led the Association since 1985 received a parchment and an artistic ceramics. The new Executive Committee was elected, for the next three years, with Dr. Mariangela Manfredi as President, Dr. Guido Marcer as Vice-president, Prof. Pierpaolo Dall'Aglio as Past-President, Dr. Roberto Albertini as Secretary, Dr. Lorenzo Cecchi as Treasurer and Gennaro D' Amato, Paola De Nuntius, Sebastiano Gangemi, Paola Minale, Gianna Moscato, Marzia Onorari, Emma Tedeschini, Alessandro Travaglini, Mario Zanca, Emanuela Zieger as Councilmen.

I would like to thank you all once again, in particular Dr. Manfredi and to the new Executive Committee of A.I.A. wishing you fruitful activity as regards aerobiology, which is an interdisciplinary science that impacts on many different fields, as we have seen during the XI National Congress.

**Parma, 10 April 2006**  
**Prof. Pierpaolo Dall'Aglio**

# FORTHCOMING EVENTS



8 ICA 2006

8th International Congress on Aerobiology  
21-25 August 2006, Neuchâtel, Switzerland

*"Aerobiology: towards a comprehensive vision"*

Dear colleagues,

More than 200 abstracts have been accepted and participants from 44 countries have already registered to the upcoming quadrennial congress of our Association, co-organized by the Swiss Society for Aerobiology, the Federal Office for Meteorology and Climatology MeteoSwiss and the University of Neuchâtel.

Information can be found on the web-page of the congress [www.aerobiology.ch/e/congress.php](http://www.aerobiology.ch/e/congress.php). This page is regularly updated, please check the latest news.

*Contact*

8th ICA, c/o MeteoSwiss, Station aérologique, CH 1530 Payerne, Switzerland

Email [8ica@meteoswiss.ch](mailto:8ica@meteoswiss.ch), Tel +41 26 662 62 33, Fax +41 26 662 62 12

See you soon in Neuchâtel!

Bernard Clot, chairman

Here some important news:

Credit card payment is available on the web-page.  
Poster size is 1 meter width and 1.2 meter height. It will be possible to hang longer, but not wider posters.

The post-congress Tour is very promising; the number of places is limited.  
Register early enough!

Scientific program, Social program details and Young Aerobiologist Forum announcement will be published soon.

Organization

[www.aerobiology.ch](http://www.aerobiology.ch)

[www.meteoswiss.ch](http://www.meteoswiss.ch)

[www.unine.ch](http://www.unine.ch)



Advanced Aerobiology Course 2006 (Aa2006)  
Pollen dispersal in an alpine environment  
14 to 19 August 2006 / near Sion (Switzerland)

2006 European Palaeobotanical-Palynological Conference  
Prague, Czech Republic / 7-12 September 2006

More information at <http://www.natur.cuni.cz/eppc2006>

e-mail: [eppc2006@natur.cuni.cz](mailto:eppc2006@natur.cuni.cz)



15th IUAPPA regional conference  
Air pollution and environmental health,  
from science to action :

The challenge of particulate matter

5-8 september 2006 / LILLE - FRANCE

More information at: [www.iuappa-lille2006.org](http://www.iuappa-lille2006.org)  
[contact@iuappa-lille2006.org](mailto:contact@iuappa-lille2006.org)



# XV International A.P.L.E. Symposium of Palynology

## Benalmádena (Malaga, Spain), 18th 21st September 2006

(<http://www.15aple.uma.es>)

### Organisers

Dept. of Plant Biology, University of Malaga, Spain  
Asociación de Palinólogos de Lengua Española (A.P.L.E.)

### Symposium Site

The Symposium will be held in Benalmadena (Malaga, Southern Spain), 18th - 21st, September 2006, at the Hotel Alay (\*\*\*\*), that is one of the more prestigious and known in the locality. Hotel Alay is situated in Alay Avenue, in a wonderful site between the beach and "Puerto Marina", which is considered as the more beautiful sporting yacht in the Mediterranean.

Benalmadena is a very important tourist resort situated by the sea in the very centre of the Costa del Sol, just 16 km from Malaga, the capital of the province, and 12 km from the international airport Pablo Ruiz Picasso (AGP). We are making an effort in order the participant can enjoy a true holidays at the same time they attend the scientific activities.

### How to Get to Benalmádena

Benalmadena is a very easily accessible tourist resort that it is only ten kilometres from Málaga's Picasso International Airport (AGP). The town can also be reached by a six-lane highway.

If you arrive at Malaga by air, the best option to get to Benalmadena is to take a taxi. There is a taxi rank at the arrival area, and it takes about 15 minutes reaching Benalmádena. The approximate fare is 18 Euros.

If you are going to get to Benalmadena by car take the motorway A-7, exit 222.

### Languages

The symposium official languages will be English and Spanish. Nevertheless would be convenient to include a brief summary written into English in posters and oral presentations in case your contribution is exposed in Spanish. Simultaneous translation is no planned.

### Accommodation

Benalmadena offers a very wide hotel selection. However will be convenient to book in advance. Take into account that the period in which the Symposium will be held is still high season. The Hotel Alay management has offered special price for the delegates of the XV International APLE Symposium of Palynology.

### Scientific Committee / Comité Científico

B. Cabezudo Artero, University of Malaga, Spain.  
I. Fernández González, University of Sevilla, Spain.  
G. Frenguelli, University of Perugia, Italy.  
C. Galán Soldevilla, University of Cordoba, Spain.  
M. Hesse, University of Vienna, Austria.  
I. La Serna Ramos, University of La Laguna (Tenerife), Spain.  
A. Majewska-Sawka, Plant Breeding and Acclimatization Institute of Bydgoszcz, Poland.  
M. Recio Criado, University of Malaga, Spain.  
M. I. Rodríguez García, Zaidin Experimental Research Station, CSIC, Granada, Spain.  
B. Ruiz Zapata, University of Alcalá de Henares (Madrid), Spain.  
L. Sadori, University La Sapienza (Roma), Italy.  
M. M. Trigo Pérez, University of Málaga, Spain.  
J. L. Ubera Jiménez, University of Córdoba, Spain.  
R. Villanueva Gutiérrez, The Frontera Sur College (Chetumal, Quintana Roo), Mexico.

### Sections

The contributions will be distributed in five sections:

Pollen and spore morphology  
Aerobiology and pollinosis  
Palaeopalynology  
Melissopalynology and Floral Phenology  
Pollen Biology

### Organising Committee

M<sup>a</sup> del Mar Trigo Pérez (Chairwoman)  
Marta Recio Criado  
Silvia Docampo Fernández  
Marta Melgar Caballero  
José García Sánchez  
Rocío Torreblanca Gallardo  
Baltasar Cabezudo Artero

### Symposium Secretariat

Postal address: XV APLE Symposium.  
Dept. of Plant Biology, University of Malaga.  
P.O. Box 59. E-29080 Malaga. SPAIN  
Phone: +34 952 131 912  
Fax: +34 952 131 944  
E-mail: [15aple@uma.es](mailto:15aple@uma.es)



### GENERAL PROGRAMME

#### Sunday, 17 September

18:00-20:00. Registration and poster placement.

#### Monday, 18 September

8:00-9:30. Registration and poster placement.

9:30-10:00. Opening ceremony.

10:00- 11:00. Plenary lecture by Dr. Michael Hesse: Pollen of Araceae - form, function, and fossil history.

11:00-11:30. Coffee break.

11:30-13:00. Oral session: Palaeopalynology I.

13:00-13:30. Poster session: Melissopalynology and Floral Phenology.

13:30-15:30. Time for lunch and wine tasting offered by Bodegas Pedro Romero.

15:30-17:15. Simultaneous sessions:

Oral session: Melissopalynology and Floral Phenology.

Poster session: Palaeopalynology.

17:15. General Assembly of the Spanish Association of Aerobiology (AEA).

20:30. Welcome Cocktail at the Bil-Bil Castle.

#### Tuesday, 19 September

8:30-10:00. Oral session: Pollen and Spore Morphology.

10:00-11:00. Plenary lecture by Dr. Carmen Galán: Métodos fenológicos recientes aplicados a la Aerobiología.

11:00-11:30. Coffee break.

11:30-13:15. Oral session: Aerobiology and Pollinosis I.

13:15-13:45. Poster session: Pollen Biology and Pollen and Spore Morphology.

13:45-15:30. Time for lunch.

15:30-17:00. Simultaneous sessions:

Oral session: Palaeopalynology II.

Poster session: Aerobiology and Pollinosis.

17:00-18:30. Oral session: Aerobiology and Pollinosis II.

18:30. Annual Meeting of the Spanish Aerobiology Network (REA).

#### Wednesday, 20 September

8:30-10:00. Oral session: Aerobiology and Pollinosis III.

10:00-11:00. Plenary lecture by Dr. María Herrero: El viaje del polen: de polinización a fecundación.

11:00-11:30. Coffee break.

11:30-13:45. Oral session: Pollen Biology I.

13:45-15:30. Time for lunch and wine tasting offered by Bodegas Pedro Romero.

15:30-16:45. Oral session: Pollen Biology II.

16:45. General Assembly of the Spanish-speakers Association of Palynologists (APLE).

21:30. Departure for Closing Dinner.

#### Thursday, 21 September

8:30. Excursion departure, visiting the city of Malaga, The Picasso Museum, the Natural Park "Montes de Malaga" and the Historical and Botanical Garden "La Concepción".

20:00. Reception cocktail offered by the Malaga City Council.

**M. Mar Trigo**



International Union of Biological Sciences  
"Biological Sciences for the 21st Century: Meeting the  
Challenges of Sustainable Development in an Era of Global  
Change"  
9-13 May 2007 / Washington DC USA

The IAA is invited to participate in the 29th General Assembly of the IUBS of which the IAA is a Scientific Member and therefore has one vote. However all IAA members are invited by the National Academy of Sciences to attend this three-day symposium. The symposium aims at exploring how some of the most exciting new developments in biological sciences could be harnessed to address world-wide challenges of promoting sustainable development. In addition we are asked to send nominations of candidates for the election of Officers and Executive Committee members.

If you have any suggestions please send these to Christine Rogers IAA Secretary General - [crogers@hsph.harvard.edu](mailto:crogers@hsph.harvard.edu)

Second World Congress on Work-Related and Environmental Allergy WOREAL  
/ 6th International Symposium on Irritant Contact Dermatitis  
Weimar / Germany - June 13 16, 2007  
Chairman: Prof. Peter Elsner, Friedrich-Schiller-University Jena, Department of Dermatology and Allergology

Subjects	Venue & Date	Scientific Organization	Congress Organization, Information & Registration
Dermatology Allergology Environmental Medicine Occupational Medicine Otorhinolaryngology Pneumology	congress centrum neue weimarahalle UNESCO-Platz 1 D- 99423 Weimar / Germany	Prof. Dr. med. Peter Elsner - Director Dr. med. Sibylle Schliemann-Willers - Assistant medical director Friedrich-Schiller-Universität Jena Department of Dermatology and Allergology Erfurter Str. 35 D - 07740 Jena / Germany Tel.: +49 (0)3641-937350 Fax: +49 (0)3641-937343 <a href="http://www.derma.uni-jena.de">www.derma.uni-jena.de</a>	Conventus Congressmanagement & Marketing GmbH Markt 8 D - 07743 Jena / Germany Tel.: +49 (0)3641 35 33 0 Fax: +49 (0)3641 35 33 21 <a href="mailto:woreal@conventus.de">woreal@conventus.de</a> <a href="http://www.conventus.de/woreal">www.conventus.de/woreal</a>

9th International Pollination Symposium on Plant-  
Pollinator Relationships - Diversity in Action  
June 24-28, 2007 / Ames, Iowa

University Conference Services  
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## A new shape for the EAN pollen database

The current EAN database contains pollen count data from 1974 to 2006, from more than 600 stations all over Europe, with a total of almost 140,000 records (one record consisting of pollen count data for one year / one station / one pollen type), currently growing by around 10,000 to 12,000 records each year. It was created 1988 and was made accessible via web-interface since 1999. All aerobiologists/institutions who contribute with their data have full access to the data.

The database is used for scientific purposes but under clear restrictions also for commercial goals like multicentre studies with the pharmaceutical industry. The latter is handled by epi Ltd., and opened the possibility for additional income for a number of data suppliers.

In order to make the access easier for scientific users, epi will take care of a reconstruction. The main goals of the new version are to increase data quality, add new functionality, but also to tense the security of the database. These changes will make the database easier and more comfortable to use, and broaden the potential audience, and there is an option for extra user interfaces for colleagues with a richer user experience.

To improve data quality, data import programs will be implemented for sending pollen count data as soon as it is available. A part of these programs is already working, resulting in quicker and more accurate data import from France, Spain, and Italy. A second improvement will be an extension to store two-hourly values, as they are available from most stations, in addition to daily average values.

New functionality will include user defined statistics, charts, graphics and maps directly from the database, enhancements in the handling of pollen groups and station groups (dynamic station groups, enhanced station attributes), data import / export in various formats (Excel, CSV, ...) and triggers to define actions for updates for specific stations / pollen types.

Security updates will include secure web access (https), secure data transfer (sftp, encryption, electronic signature), optional one time passwords (like TANs used in electronic banking), and an extended permission system.

All attendants of the ICA in Neuchâtel who have interest in this matter, are cordially invited to share their thoughts, wishes and ideas concerning the new version in a special meeting which will be held probably on Friday afternoon (exact time and location will be announced during the congress).

Siegfried Jäger

# DOCTORAL THESIS

## “Phenology and Aerobiology of *Quercus* and *Betula* in Ourense province”

On 13th December 2006, at the University of Vigo, Spain, postgraduate student Nuria Dacosta successfully presented her PhD thesis, entitled “Phenology and Aerobiology of *Quercus* and *Betula* in Ourense province”. The research was supervised by Dr. Victoria Jato (University of Vigo), Dr. M<sup>o</sup> Jesús Aira (University of Santiago) and Dr. F. Javier Rodríguez-Rajo (University of Vigo).

Although aerobiological data are frequently used as a sign of flowering in phenological research, airborne pollen counts are influenced by a number of factors which could affect pollen curves. Dr. Nuria Dacosta's research focused on phenology and various aspects of reproductive biology in birch and oak, together with other environmental factors influencing pollen release and transport, with a view to achieving a reliable interpretation of *Betula* and *Quercus* pollen curves in Ourense (NW Spain).

Aerobiological sampling was performed using volumetric Hirst-type collectors (Lanzoni VPPS 2000) from 2002 to 2004 at two sites in the province of Ourense. From the beginning of February to the end of the flowering periods, phenological observations were carried out on 20 trees from *Betula alba* L. and *B. pendula* Roth. populations and from *Quercus robur*, L., *Q. pyrenaica* Willd., *Q. ilex* subsp. *ballota* (Desf.) Samp., *Quercus suber* L., *Quercus faginea* Lam. and *Q. rubra* L. populations. Pollen production was also calculated for these species, as were the chilling and heat requirements for triggering development.

In *Quercus* species, the highest pollen production by anthers was recorded for *Q. ilex* subsp. *ballota*. *Q. rubra* recorded the highest catkin pollen production and *Q. suber* the lowest. Major year-on-year differences in pollen production were detected in both *Quercus* and *Betula*, largely due to the differing number of catkins produced each year.

For both *Quercus* and *Betula* species, flowering phenophases were delimited and compared with the period when airborne pollen was detected and maximum daily mean pollen counts were recorded. Major differences observed in birch and oak pollen curves were attributed to the considerable influence both of weather conditions during pollination and pollen transport from areas where flowering occurs at a different time. Moreover, pollen resuspension also influenced pollen curves, especially when flowering periods had finished. Due to the abundance of *Q. robur* and *Q. pyrenaica* in the province, and to higher pollen production per square meter, these two species were the main contributors to *Quercus* pollen curves. Heat requirements calculated using phenological and aerobiological data were similar when the peak pollen-count date was used.

The thesis fully deserved the unanimous award of the degree of Doctor of Philosophy by the board chaired by Dr. Giuseppe Frenguelli (University of Perugia) and made up of Dr. Maruxa Suarez-Cervera (University of Barcelona), Dr. Carmen Galán (University of Córdoba), Dr. Isabel Iglésias (University of Vigo) and Dr. Rosa Valencia (University of León).

Nuria Dacosta

## "Study aeropalynologic of La Plata city"

The first study of the pollen content in the atmosphere of the city of La Plata (34° 55' S and 57° 17' W) was carried out with a Hirst Type (Lanzoni VPPS 2000) volumetric captor for a period of three years (June 1998-June 2001).

The data of previous records of the arboreal vegetation of the city and the data of the area near the sampling site showed the presence of a great diversity of taxa, most of them naturalized or used with ornamental purposes in streets and squares. Special attention was given to the arboreal vegetation and mainly to the anemophilous, and the floral periods of the most abundant were determined.

The analysis of the content of pollen in the atmosphere allowed finding 74, 78 and 60 pollen types for each of these years. Based on their morphologic characterization the sources that produced them were determined at different taxonomic levels: family, genre or species. The anemophilous vegetation of arboreal habit was found to be the main source of the pollen present in the atmosphere with a high representativeness in the pollen record that corresponds to the equirepresented and overrepresented categories. It was verified that the relative abundance, proximity and location of these sources in the area were important factors to determine the number of pollen types present in the atmosphere. A reduced or null representativeness of the entomophilous pollination taxa in the pollen spectrum was recorded and they corresponded to the overrepresented category. Even if it was not very frequent, the presence of extraregional pollen of *Nothofagus* was recorded in all the periods. The wind direction and speed played a fundamental role due to the dispersion distance of this pollen.

Based on the total pollen records for each year, the pollen types found were classified in three groups: abundant, moderate and rare.

The number of “abundant” pollen types in the atmosphere constituted between 93% and 94% of the total of pollen for each year. Those which were present in the atmosphere in the three sampling periods in decreasing order of concentration were: *Platanus*, *Fraxinus*, *Poaceae*, *Cupressaceae*, *Urticaceae*, *Cyperaceae*, *Myrtaceae*, *Ambrosia*, *Celtis*, *Acer*, *Casuarina* y *Morus*. The number of “moderate” pollen types represented between 4% and 5.5% of the total pollen for each year. The number of “rare” pollen types represented between 0.2% and 1% of the total of pollen for each year. This category also included a group of pollen types which were not identified.

The annual comparative analysis of pollen contribution to the atmosphere showed that the greatest record was found in the first period, between July 1998/June 1999. This was given by a higher productivity of arboreal-shrub-like and herbaceous pollen compared to the other two periods. The compared analysis of each annual pollen calendar showed two stages of pollen predominance in the atmosphere: a first stage between July and October with pollen predominance produced by arboreal taxa and a second stage between November and March with pollen predominance produced by herbaceous taxa. Whereas between April and June rare pollen was recorded in the atmosphere without predominance of any particular pollen type.

The rhythm of hourly presence of each pollen type in the atmosphere for each period was seen as pollen types with greater presence in the atmosphere at a certain time of the day, pollen types that represented a record of maximum presence during an hourly period and pollen types whose pollen record was diverse in different hours of the day. Those pollen types with remarkable time differences of concentration showed in general the minimum record of pollen at 2:00, the following were the pollen records at 8:00 and 20:00 and the greatest records of pollen were at 10:00 and 14:00 or during this period of time.

The aeropalynologic study of the city of La Plata showed that the daily and hourly patterns of pollen in the atmosphere for each pollen type showed a close relationship between vegetation-floration-pollen-meteorology-climatology which is typical of each sampling period and unique for its geographic location.

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