

# The history of the European Course on Basic Aerobiology (ECBA)

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## Introduction

It was during an Italian educational course in Theoretical and Practical Allergology, in June 1992, at Positano (Italy), that three experienced academic aerobiologists agreed that there was a need for a European training course in aerobiology. In those years, in several European countries, like France, Spain, Austria, Switzerland, and other countries, numerous new pollen-monitoring stations were installed, and operated by mostly young and inexperienced laboratory personnel. The three colleagues were seriously concerned about the skill of these new comers, and about the quality of their monitoring work, initiated without proper introductory aerobiological training. Poor quality aerobiological monitoring work would affect the image and prestige of aerobiological science in Europe.

In February 1993 the three aerobiologists, Siegfried Jäger (Vienna, Austria), Giuseppe Frenguelli (Perugia, Italy), and Frits Spieksma (Leiden, The Netherlands) met again, this time in Leiden (The Netherlands), to prepare in great detail the first training course in aerobiology, to be given in Austria. At this preparative meeting it was decided that, apart from introductory theoretical lectures on fundamental aspects of aerobiology, most of the time should be spent to demonstration and training in the internationally accepted sampling and counting techniques, and to the reliable recognition of the commonest pollen taxa in Europe. The courses were to be recommended by the International Association for Aerobiology (IAA) and by the Sub-committee „Aerobiology” of the European Academy of Allergology and Clinical Immunology (EAACI).

## The First Course; Krems, Austria; 1993

The Course was named „First European Course: Assessment of Airborne Pollen Concentrations”, and was given 18-24 April 1993, at the Wissenschaftliche Landesakademie für Niederösterreich, at Krems, west of Vienna (Austria), and hosted by Siegfried Jäger. The team of teachers consisted of Siegfried Jäger, Giuseppe Frenguelli, Frits Spieksma, and Manfred Bobek (Vienna,

Austria). Course assistants were Helen Nikkels (Leiden, The Netherlands) and Marco Fornaciari (Perugia, Italy). The Course fee was 500 US Dollars, including Course materials, meals, and accommodation. A number of Austrian and international institutions and companies sponsored the Course. The topics of the 8 lectures were: „Pollen grain structure and morphology”, „Pollen growth, function, and biology”, „Plant identification and taxonomy”, „Aerobiology and aerodynamics”, „Scanning of slides and counting pollen grains”, „Meteorology”, „Allergy and pollinosis”, „Presentation of data”. Sixteen pollen taxa were presented: *Corylus*, *Alnus*, Cupressaceae/*Taxus*, *Fraxinus*, *Betula*, *Quercus*, *Pinus*, *Rumex*, Poaceae, *Castanea*, *Olea*, *Plantago*, Chenopodiaceae, Urticaceae, *Artemisia*, and *Ambrosia*. Using individual microscopes, the participants learnt to know the pollen types by making accurate drawings. In the middle of the Course week there was an excursion with both biological and cultural elements, along the Danube River to Melk. The course was closed by a general and individual examination, and certificates were handed to the participants. In this First Course there were 14 participants from 9 countries (see Table).

## The Second Course; Leiden, The Netherlands; 1995

Enthusiasm about the quality and efficiency of the instruction was great, both with participants and teachers, and it was decided to have a next basic training course in aerobiology two years later, this time at Leiden (The Netherlands), hosted by Frits Spieksma. This „2<sup>nd</sup> European Course: Assessment of Airborne Pollen Concentrations (elementary level)” was held 10–16 September 1995, at the Institute for Molecular Botany, Clusius Laboratory, University of Leiden. Two teachers were added to the original team: Jean Emberlin and Eugenio Dominguez, and guest-teacher was Pieter Hiemstra. Assistants were Carmen Galan, Carla Zuiderduin and Marise Spieksma. The program of lectures and of pollen taxa was the same as in the First Course. Course fee was again 500 US Dollars, and

**Table.** Number and 32 nationalities of participants of six ECBA's

	year	1993	1995	1997	1999	2001	2003
Spain	22	2	4	4	12		
Italy	21					21	
Poland	14		2	3	3		6
UK	10		2	4	2	1	1
Austria	6		1	1	2	1	1
Croatia	6					1	5
France	6	2	2				2
Slovakia	4	2		2			
Netherlands	4		3				1
Portugal	4				2	2	
Denmark	3			2		1	
Slovenia	3			1	1	1	
Switzerland	3	1			1		1
Turkey	3		2			1	
Albania	2					2	
Czechia	2	2					
Estonia	2		1				1
Finland	2	2					
Greece	2			2			
Latvia	2						2
Australia	1		1				
Bulgaria	1	1					
Germany	1	1					
Hungary	1	1					
Lithuania	1						1
Macedonia	1		1				
Pakistan	1						1
Serbia	1						1
South Africa	1					1	
Sweden	1		1				
Ukraine	1			1			
Yugoslavia	1						1
<b>Total</b>	<b>133</b>	<b>14</b>	<b>20</b>	<b>20</b>	<b>23</b>	<b>32</b>	<b>24</b>

financial support was acquired from various institutions and companies. An excursion to the „Delta-works” was made in the middle of the working week. Twenty participants from 11 countries attended this Second Course (see Table), and completed it successfully.

### The Third Course; Worcester, UK; 1997

Based on the continuing success of this Second Course it was only logical that a Third Course should be organized, now in Worcester (UK), at the Pollen Research Unit, Worcester College of Higher Education, and hosted by Jean Emberlin, who changed the name into an easier version: „European Course in Basic Aerobiology” (ECBA). The date was 12–19 July 1997. Guest-teacher was John Mullins, and assistants were Paloma Cariñanos, Beverly Adams-Groom, and Julie Tidmarsh. The number of lectures increased to 10, with the addition of „Other techniques of monitoring pollen, including Rotorod and Cour sampler” and „The European Pollen Information System”. The number of pollen taxa presented was extended to 19 also including *Salix*, *Populus*, and *Platanus*. As usual, there was a mid-week excursion, to Cotswolds and Stratford-on-Avon. Course fee amounted £ 360. Twenty participants from 9 countries (see Table) attended this Third ECBA successfully.

### The Fourth Course; Córdoba, Spain; 1999

Two years later the 4<sup>th</sup> ECBA was organized and hosted by Carmen Galan (Eugenio Dominguez having been elected to be Rector of the University), with Frits Spieksma as co-organizer. The place of the Course was Córdoba (Spain), at the Plant Biology Department, Faculty of Science, University of Córdoba. The date was 21–26 September 1999, and again mid-week there was an excursion to the „Sierras Subbéticas”. In the programme this time also a selection of fungal spores was included: *Alternaria*, *Cladosporium*, *Stemphylium*, *Epicoccum*, *Torula*, basidiospores, and ascospores, with an extra optional selection: *Ustilago*, *Botrytis*, *Drechslera*, *Polythrincium*, *Didymella*, and „Aspergillaceae”. The difficulty of including fungal spores in this kind of limited-time courses is, that one cannot prepare laboratory slides with spores from purely one type having the same morphology as airborne spores, but is dependent on air-sampler slides. Added lectures were „Fungal Spores” and „Basic statistics applied to aerobiology”. To the selection of pollen taxa Casuarina was added, bringing the number to 20 taxa. Guest-teachers were Maria del Mar Trigo, Carmen Moreno, and Félix Infante. The fee for the Course was again 500 US Dollars. There were 23 participants from 7 countries (see Table), who successfully completed this 4<sup>th</sup> ECBA.

### The Fifth Course; Perugia, Italy; 2001

The 5<sup>th</sup> ECBA in 2001 was proposed by the permanent teacher's team to be given in Italy. Giuseppe



**Photograph.** Prof. Frits Th.M. Spieksma is opening The Sixth Course on Basic Aerobiology in Poznań. From the left are seated: Dr. A. Stach, Ass. Prof. M. Czarnecka-Operacz, Prof. W. Silny

Frenguelli organized and hosted this edition of the Course, which was given at the Dipartimento Biologia Vegetale of the University of Perugia. This 5<sup>th</sup> ECBA was slightly different from the former Courses, because: a) It was combined with the (regular) Italian Course; b) It presented a selection of pollen taxa at two levels. Giuseppe Frenguelli acted as main organizer, while Frits Spieksma was co-organizer. Guest-teachers were Beatriz Escamilla, Paolo Mandrioli, Andrea Siracusa, Emma Tedeschini, and Gianfranco Mincigrucchi, with Emma Bricchi as assistant. Three new lectures were given: „Main sources of aerobiological plant particles: Fungi and Spermatophytes”, „Taxonomy for spore counters”, and „Spore characteristics”, replacing three other lectures. The number of pollen taxa presented for the „first level” participants was extended to 22, by the addition of *Carpinus*, *Mercurialis* (replacing *Casuarina*), and Asteraceae. The selection for the „second level” participants consisted of 14 less common pollen taxa. The fungal spore selection was also extended, now also including spore types like *Leptosphaeria*, *Pithomyces*, and *Chaetomium*. The Course took place 29 May-3 June 2001, and the Course fee, this time not including accommodation, was 350 Euros. The mid-week excursion went to the „Lago Trasimeno”. There were 32

participants, 21 of whom were from Italy, and 11 from 9 other countries (see Table), all of whom received the certificate as proof of successful attending the Course and having passed the examination.

### **The Sixth Course; Poznan, Poland; 2003**

Already in 1999, during the 4<sup>th</sup> ECBA at Córdoba, Alicja Stach was inquiring about the possibility to have a future ECBA in Poland. After the consent of the team of teachers, she asked Frits Spieksma to act again as co-organizer for the 6<sup>th</sup> ECBA to be given in 2003, at Poznan. Detailed preparations were made during a visit of Frits Spieksma to Poznan, in April 2002, when the definitive decision was made to indeed have the 6<sup>th</sup> ECBA in Poznan, Poland. So, 7–13 August 2003 the 6<sup>th</sup> ECBA took place at the „Collegium Anatomicum” of the University of Medical Sciences, hosted and organized by Alicja Stach, and co-organized by Frits Spieksma. The permanent team of teachers (Jean Emberlin, Carmen Galan, Giuseppe Frenguelli, Siegfried Jäger, and Frits Spieksma) was completed with the guest-teachers Magdalena Czarnecka-Operacz and Elzbieta Weryszko Chmielewska, and assisted by Julian Chmiel, Małgorzata Góra, Idalia Kasprzyk, Dorota Myszkowska, Magdalena Ratajczak, Andreja Seliger, and Danuta Stepalska. Strong and essential support

was given by Wojciech Silny of the Allergic Diseases Diagnostic Centre of the Karol Marcinkowski University of Medical Sciences. The Course fee amounted 500 Euros, including Course materials, meals, and accommodation. The number of lectures was 11. Twenty-two airborne pollen taxa were presented, and 7 of the most common fungal spore types were also included in the standard program of the Course. In a special optional session some 10 more fungal spores were presented. The mid-week excursion visited some archeological sites at Ostrów Lednicki and Biskupin. This 6<sup>th</sup> ECBA was attended by 24 participants from 13 countries (see Table), all of who successfully completed this Course.

## **Conclusion**

The success of educational or training courses is always difficult to measure or evaluate. With regard to the European Courses in Basic Aerobiology (ECBA's) there are two signs of success. First, at evaluation sessions at the end of every ECBA participants were quite unanimously content with the program and the method of teaching and instruction. Second, a very high number of participants of ECBA's are nowadays successfully active in the science of aerobiology as appears from many scientific papers presented at aerobiological congresses and symposia, and published in national and international scientific journals like *Grana* or *Aerobiologia*. Moreover, many participants of ECBA's have been attending one or two „Advanced Courses in Aerobiology” which are dealing with more specialized aspects of scientific aerobiology. All these activities of former participants of ECBA's are convincing signs of the success of these Courses.

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