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International Aerobiology Newsletter

Newsletter of the International Association for Aerobiology

Bernard Clot - IAA President

After nine months of a new Executive Committee being in charge, it is time to report on the activities conducted during this period. The transmission of the information and documents went smoothly, as several EC members were part of the former group.

The work of the Webmaster and the Newsletter Editor is clearly visible. These are key communication activities for the life of the Association. Both Annalisa Ariatti and Matt Smith need your support; I encourage all of you to send them contributions and to help them to keep the information concerning aerobiology and related fields updated. The Newsletter is also a perfect tool for aerobiologists from different parts of the world to stay in touch and to learn from the experiences and ideas of others. It was suggested that we should reinforce the contacts by opening up the Newsletter to the IAA Associated Societies. A first attempt has been made with this issue, a page has been prepared by the EAS, and we hope for contributions from the other Societies for the next issues. It would be great to read news from all the different parts of the world in each issue!

An important concern for the Association is its own administrative paperwork. A solution to finally retrieve the account, which was blocked by the bank for almost a year after Rui Brandao's death, has been found thanks to the joint efforts of Dorota Myszkowska, Giuseppe Frenguelli and Javier Rodriguez-Rajo - Vice-President, Past-President and Treasurer/Secretary General, respectively. The requested documents should soon be obtained and the IAA will be able to manage its finances again that is necessary to support the different activities. It also means that fees can be safely paid.

The organizers of the Basic and Advanced Courses in Aerobiology, which will take place this summer in Rzeszow (Poland) and Siauliai (Lithuania), respectively, are working hard to prepare high level teaching in a friendly atmosphere. They will certainly be memorable, as were previous courses. Education is definitely one of the key activities of the IAA, which prepares the next generation of aerobiologists. Basic and Advanced courses are ideal for communicating scientific approaches and good practices, but they also open the mind, transmit the aerobiological and interdisciplinary spirit, allow people to meet each other, create a community and stimulate future collaborations. Many thanks to all those involved in one or other of these educational activities. In this domain, I would also be glad to read reports from initiatives and experiences in education in aerobiology in future Newsletters.

The next International Congress on Aerobiology, which will take place in 2018 in Parma, Italy, is also on track. Roberto Albertini has carried out the first necessary steps for this very promising event.

I wish you all a perfect summer, full of nice aerobiological discoveries!

Message from the editor...

Welcome to Issue No 78 of the International Aerobiology Newsletter. The hardest part of being Newsletter Editor is helping to prepare obituaries for friends and colleagues who are no longer with us, and so I send a big "thank you" to Michel Thibaudon from RNSA for supplying the text for the obituraries of Siegfried Jäger and Carlo Lanzoni. I for one will miss their company on the Course on Basic Aerobiology that is being held in Rzeszów this summer. In this issue we also say farewell to Prof. Sunirmal Chanda who played a major role in the development of Aerobiology in India and was a member of the IAA Executive Committee for 12 years and IAA President from 1986 to 1990. Special thanks go to our colleagues in India for supplying such a comprehensive text about the late Professor. Fittingly, a full history of the IAA has been prepared by the Past President, Giuseppe Frenguelli, and can be seen on pages 2 and 3.

This Issue also contains a new section for the European Aerobiology Society, and it is hoped that other Associated Societies will soon follow suit. In addition, we have news from the Indian Aerobiological Society and the Italian Association for Aerobiology about forthcoming meetings. We also hear about how the Xarxa Aerobiològica de Catalunya will be supplying information about airborne pollen and fungal spores to participants at EAACI 2015 being held in Barcelona this month. Reports on past meetings include the National Seminar held by the Indian Aerobiological Association and the Congress of the International Society for Human and Animal Mycology (ISHAM).

We continue to include articles about current research in the feld of Aerobiology. From Jeroen Buters and Jose Oteros we learn about the Electronic Pollen Information Network for Bavaria in Germany. Plus Łukasz Grewling tells us about the new project with Alternaria allergens being carried out in Poznań. There is also news about educational activities, the Basic and Advanced courses on aerobiology, and Mike Muilenberg reports on the productive fungal spore identification workshops held on the campus of the University of Massachusetts-Amherst in the United States.

Matt Smith, IAA Newsletter editor

IAA – A forty-year long activity

Our Association, founded in September 1974 is forty years old. During these 40 years it has experienced a steady development both in numbers of members and from the scientific point of view.

Giuseppe Frenguelli (Past-President)

Department of Agricultural, Food and Environmental Science, University of Perugia, Italy

The International Biological Program (IBP) can be considered the precursor of the International Association of Aerobiology (IAA). The Program was an effort between 1964 and 1974 to coordinate large-scale ecological and environmental studies with the goal of exploring "The Biological Basis of Productivity and Human Welfare".

The origin of the IAA can be traced back to 1971. At the end of this year, the IBP Aerobiology Theme International Working Group (WG) expressed increasing concern in international communications about the end of the IBP in June 1974. In the same year, the International Union of Biological Sciences (IUBS) invited the WG to submit recommendations concerning the representation of aerobiology in the IUBS Division of Environmental Biology. In 1973, the proposal for the new Association was approved by the IUBS General Assembly; contingent upon the adoption of statutes and the election of officers.

In 1974, several members of the IBP Aerobiology Theme WG, William S. Benninghoff (USA) President and Erica Stix (BRD) Secretary-General and cooperating persons, met and elected founding officers, who served until the convening of the First General Assembly, marking the final step in the procedures to establish the new IAA.

The founding meeting was scheduled to be held during the First International Congress of Ecology, September 1974, at The Hague (NL). The first General Assembly was held on Wednesday 11 September 1974.

According to Dutch legislation, the IAA was established for a period of 25 years from the date of foundation, then from 11 September 1974 with the domicile in Wageningen. Since 1999, the Association has been established for an indefinite period of time.

The first elected IAA Executive Committee (EC) was composed by: Siwert Nilsson (President); Herman D. Frinking (Secretary-General); Ruth D. Leuschner (Treasurer); A. W. Frankland (Vice-President); Y.L.A. Makinen and J. Rowley (Editors of the Newsletter).

In 1975, during the second meeting of the EC held in Stockholm, the Secretary General H.D. Frinking reported that the IAA had a membership of 152 individual members, 3 honorary members (Wodehouse, Stakman, and Gregory) and 1 supporting organization (Burkard Manufacturing Co., UK). Two regional Associations, the Nordic Aerobiology Federation (NAF) and the Indian Aerobiology Society (IAS) were accepted as associated organizations to IAA.

Since its foundation, the IAA has promoted contacts among aerobiologists taking advantage of the two main channels: the Aerobiology Newsletter and the International Congresses. The IAA's International Aerobiology Newsletter is a continuation of the former IBP Aerobiology Newsletter (1970-74) issued by Ann Arbor, Michigan. From 1974, the IAA has published the International Aerobiology Newsletter twice a year distributing among members news and information about new books, meetings and congresses, plans for research projects, and activities of committees and working groups.

In June 1976, in Aachen, Germany, during the Allergology Congress, the EC meeting promoted the 1st International Conference on Aerobiology in 1978, 13-15 August, in Munich (DE).

The Quadrennial Congresses, during which the Council recommends to the General Assembly the place and date of the next Congress and elects the members of the Executive Committee, have been hosted in: Seattle (US), Chairman R.L. Edmonds (1982); Basel (CH), Chairman R. Leuschner (1986); Stockholm (SE), Chairman S. Nilsson (1990); Bangalore (IN) Chairman S.N. Agashe (1994); Perugia (IT) Chairman G. Frenguelli (1998); Montebello (CA) Chairman P. Comtois (2002); Neuchatel (CH) Chairman B. Clot (2006); Buenos Aires (AR) Chairman M. G. Murray (2010); and Sydney (AU) Chairman C. Katelaris.

Since 1993, two other channels have contributed to improve contacts and, at the same time, to offer the opportunity to specialise in aerobiology: the international training courses on aerobiology, both Basic and Advanced.

The Basic Aerobiology Courses have been devised as a result of the growing interest in monitoring airborne particles. The increasing number of national aeroallergen networks that have been set up has enabled scientists to compare procedures and deepen fundamentals of monitoring techniques.

The first was organized in 1993 by S. Jaeger in Krems (AT), followed in 1995 by the 2nd in Leiden, NL (chair F. Spieksma), and then in Worcester, UK (J. Emberlin), in Cordoba, ES (C. Galán), Perugia, IT (G. Frenguelli), Poznań, PL (A. Stach), Lyon, FR (M. Thibaudon), Novi Sad, RS (B. Šikoparija), Evora, PT (Brandão), Holbaek, DK (J. Sommer) and in Vinnitsa, UA, chair V. Rodinkova

The Advanced Aerobiology courses have been created in 1994 for people that already have technical knowledge of aerobiology. These courses are aimed at understanding the scientific principles behind aerobiological sampling and analyses, and at giving a solid background for the interpretation of aerobiological results. The first was organized in Cordoba (ES) chair E. Dominguez, the second in Sagamore Lodge, NY (US) Chair L. Syzdek in 1996, followed by two in Italy: in 1998 at Riva del Garda and in 2000 at Mt. Cimone, both chaired by P. Mandrioli. The 5th was held in 2002 in The Laurentides, CA, Chair P. Comtois, the 6th in Sion (CH) Chair, R. Gehrig and the last, in 2011, in Worcester, UK, Chair R. Kennedy supported by M. Smith.

In these forty years the IAA has grown fast, but now we should concentrate on the future, update the directory, increase in the Web-site, increase in the membership with active, young new members, expand the aerobiology family in other parts of the world and occupy those fields of research where aerobiological principles play a key role underlining the place of aerobiology in the family of atmospheric sciences.

The IAA could play a significant role as a binding agent for different skills and experience, a point of reference for individual researchers or research teams all over the world.

The IAA is 40 years old and "life begins at forty", which could very well be applied to our Association which can start its path again, even more enthusiastically, go forward with a new stimulus, to react to changes, adapting to the new knowledge of today's world of sciences.

IAA Executive Committees from 1974 to 2014

	1974-82	1982-86	1986-90	1990-94	1994-98	1998-02	2002-06	2006-10	2010-14
President	S. Nilsson	W.H.Lewis	S.Chanda	F. Th.M. Spieksma	P. Mandrioli	P. Comtois	C. Galan	C. Rogers	G. Frenguelli
Vice-President	A. W. Frankland	H.D. Frinking	S. A. Hall	R.D. Leuschner	E. Levetin	A. McCartney	S. Jäger	G. Frenguelli	B. Clot
Past-President	W.S. Benninghoff	S. Nilsson	W. H. Lewis	S.Chanda	F. Th.M. Spieksma	P. Mandrioli	P. Comtois	C. Galan	C. Rogers
Secretary-General	H.D. Frinking	S. A. Hall	F. Th.M. Spieksma	O'Rourke M.K.	A. Rantio-Lehtimaki	C. Rogers	C. Rogers	B. Clot	D. Myszkowska
Treasurer	R.D. Leuschner	R.D. Leuschner	R.D. Leuschner	M.R.Ickovic	M.R.Ickovic	E. Dominguez	J.M. Macher	E. Levetin	R. Brandao
Council members		U. Allitt, S.Chanda	U. Allitt, A.Donaldson	G.Frenguelli, S. Jäger	A.Cadman, S. Agashe	S. Isard, D. Bass. E. Levetin	A.McCartney, M.Thibaudon	C. Katelaris, E. Severova	M.G. Murray A.B. Singh
Newsletter editor	Y.L.A.Makinen, J.Rowley	A.E. Gale	E. Levetin	E. Levetin	J. Emberlin	G.Frenguelli	V. Jato	S. Jäger	H. Garcia Mozo
Webmaster								P.DeNuntiis	A. Ariatti
Ex-officio			S. Nilsson	S. Agashe	G.Frenguelli	P. Comtois	B. Clot	M.G. Murray	C. Katelaris

Information on airborne pollen and fungal spores during the EAACI conference 6-10 June 2015 in Barcelona

Participants will be kept informed about levels of airborne pollen and fungal spores in Barcelona during the EAACI conference 2015!

Jordina Belmonte

Autonomous University of Barcelona

Thanks to an agreement between the organizers, the Interest Group Aerobiology and Air Pollution and the local group on aerobiology (Xarxa Aerobiològica de Catalunya http://lap.uab.cat/aerobiologia), participants attending the EAACI 2015 conference in Barcelona will be informed twice a day about the levels of atmospheric pollen and fungal spores in the area of the congress and will have the opportunity to see aerobiological procedures and analyses in action.

A pollen and spore trap will be added to the usual XAC network, which also includes one aerobiological monitoring station located in Barcelona city centre, during the course of the congress. The trap will be located on a terrace of the Forum building and can be visited by appointment throughout the congress.

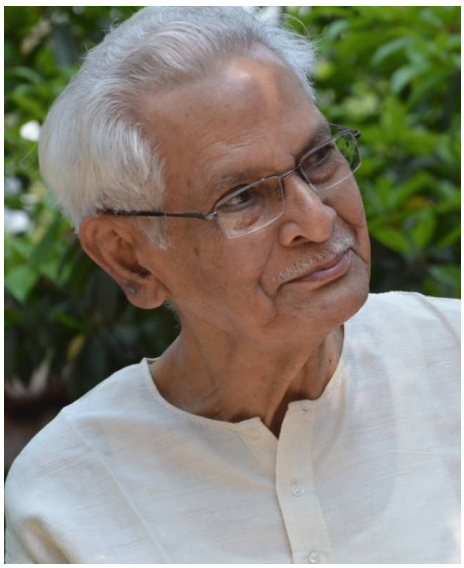
During the congress, participants can visit XAC technicians at their workstation. With the help of a camera and a computer connected to the microscope, they will show how the analysis is carried out and participants will be able to see how pollen and fungal spores can be located and the morphological differences that tell them apart. In addition to undertaking their usual tasks, they will take the samples from the trap installed on the Forum terrace twice a day (people will be given the opportunity to assist in this operation!) and they will carry out the preparation of the sample and analyses in situ.

The data obtained will be shown at the entrance of the conference building, together with the data from some of the other XAC traps in the area (Barcelona city centre and the surroundings of the city). Participants can also access the data via a pollen app.

We are: Jordina Belmonte, the person responsible for the Point of Information on Aerobiology (see TPS 6, poster nr. 748), and Jeroen Buters from the IG-Aerobiology and Air Pollution. Other members of the XAC team that you will meet in the Congress are Concepción De Linares, David Navarro and Rut Puigdemunt, plus Oriol Baeza and Silvia Renom who are collaborators from the University. Colleagues from Lafosca Studio SL (http://www.lafosca.cat/), who developed the AIK Pollen app that keeps people informed about airborne pollen and fungal spores, are also working to adapt the app so that it includes the daily results obtained during the congress.

Obituraries

Sunirmal Chanda



Prof. Sunirmal Chanda, a renowned Palynologist and an Aerobiologist of international repute, died on 18 January 2015 aged 83. He was active till his last days and even had organised a seminar at Calcutta 15 days before his last breadth.

Prof. Chanda was born on 11 January 1932 in Mytkiana of Myanmar where his father, Satyendranath Chanda was a Government employee. Prof. Chanda had his early education at his ancestral home - Dhaka (now Bangladesh). As his family migrated from Dhaka to Calcutta he did his BSc. (Hons) and MSc. in Botany from Calcutta University and initially started his research work under Prof. J. Sen of Calcutta University. He could not continue his research work due to the sudden demise of Dr. Sen. In 1960, Prof. Chanda joined the University of Gottingen, Germany, on a DAAD Fellowship under the guidance of Prof. F. Firbas and obtained his Dr.rer.nat. degree in the field of Quaternary Palynology. In 1965, Prof. Chanda joined the Palynological Laboratory at the Swedish Museum of Natural History in Stockholm under the guidance of Prof. Gunner Erdtman on a U.S. Atomic Energy Commission Fellowship. He also worked with Prof. Knut Faegri of the University of Bergen, Norway, for more than one and a half years in the field of Quaternary Palynology. After his successful exposure to the realm of Palynology Prof. Chanda started his career as a Lecturer in the Department of Botany, Bose Institute, Calcutta and became Chairman of the same Department in 1980. Within a decade he was able to publish a series of high quality publications in highly reputed journals namely, Grana (erstwhile Grana Palynologica), Pollen et Spores, Review of Palaeobotany and Palynology, Kew Bulletin, Allergy, etc.

A dedicated researcher, Chanda established one of the finest palynology laboratories in the Bose Institute and disseminated the fundamental and applied aspects of palynology to students and scholars, many of whom now hold responsible academic positions in India and abroad. Prof. Chanda trained several researchers, supervised the Ph.D work of 42 students and published over 300 research and review papers and also edited 8 books. Prof. Chanda took initiative in establishing the aerobiological society in India. In 1980, aerobiologists from different parts of India assembled to attend the workshop on "Modern Trends in Aerobiology with particular reference to Plant Pathology and Medicine" held at the Bose Institute, Calcutta, under the leadership of Prof. Chanda where the Indian Aerobiological Society (IAS) was formed and started functioning from 31st January, 1980. Prof. Chanda was elected as the first President of Indian Aerobiological Society.

Prof. Sunirmal Chanda was a widely travelled person, having personal contacts with many eminent scientists of his genre. He had many collaborative research works with leading palynologists and aerobiologists such as Prof. J.M. Hirst, Dr. John Lacey and Dr. H.A. McCartney of Rothamsted Experimental Station, Herpenden, U.K; Prof. Siwert Nilson, Palyological Laboratory, Swedish Museum of Natural History, Stockholm, Sweden; Prof. W.H. Lewis, Washington University, USA; Dr. H. Rembold, Max Planck Institute of Biochemistry, Munich, Germany; Dr. John Rowley, University of Stockholm, Sweden; Dr. S. Blackmore and Dr. K. Ferguson, Royal Botanic Garden, Kew, UK; Dr. Gerhard O.W. Kremp, University of Arizona, USA, Dr. Ruth M. Leuschner, Lab. Dermatologie, Basel, Switzerland; Dr. W.E. Boyd, Southern Cross University, Australia; Prof. Jacek Dutkiewicz, Poland and many others. The scientific contributions of Prof. Chanda were recognised by several learned and professional societies. He was elected President of the International Association for Aerobiology (1986-1990), as well as the Founder President of the Indian Aerobiological Society (1980-1983), Chairman of the International Commission on Aerobiology, I.U.B.S (1986-1990), President of the Indian College of Allergy and Applied Immunology (1995-1996), President of the National Botanical Society, Calcutta (1993-1996), etc. He received the Gunner Erdtman International Award in 1983 and was also conferred Fellowship of Palynologicl Society of India, Indian College of Allergy and Applied Immunology, Indian Aerobiological Society, West Bengal Academy of Science and Technology, etc.

Prof. Sunirmal Chanda followed strong scientific traditions and ethics in professional life. He leaves behind his daughter (Sayanti) and son (Sayantan), friends and a large circle of students who would cherish the memory of Prof. Chanda. In Sunirmal Chanda's death, India has lost a celebrated scientist.

Prof. Kashinath Bhattacharya*

President, Indian Aerobiological Society &

Former Head, Department of Botany

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*Ph.D Student of late Prof. Sunirmal Chanda

The following articles were prepared by Michel Thibaudon & Bernard Clot

Siegfried Jäger

Siegfried Jäger died on 24 September 2014 in Vienna (Austria), after a long debilitating disease. He was 66 years old. After studying biology, he obtained his PhD in 1975 with a thesis on the differentiation of pine microsporangia. The following year, he was appointed assistant to the university clinic ENT in the Austrian capital before receiving an assistant professor position (lecturer) in 1994 at the Medical University of Vienna.

One of the founding fathers of Aerobiological support for allergies in Europe, he has long been at the head of Austrian Pollen Information Network. In close relationship with allergists and immunologists, he helped show evidence of several pollen types being important allergens. Among his main research topics and interests, we note pioneering work and important contributions in various domains such as pollen forecasting, analyses of aerobiological trends, influence of climate change on pollination, determination of clinical thresholds and circadian rhythms. He greatly contributed to the recognition of ragweed as an increasing threat in Austria and Europe by showing the relationship between pollen exposure and sensitization, and the quick spread of the plant. He also actively participated in numerous international research programs, particularly in Europe, as MONALISA, EuroPrevall and HIALINE.

Siegfried Jäger was not an isolated researcher. He was a person of relationship, an excellent communicator and organizer, and a very good friend for many of us. With a renowned group of friends from different countries, he took a particular place in developing aerobiology in Europe. Together they recognized the need for education in aerobiology and organised a series of international Aerobiology Courses held under the auspices of the IAA. One of his main achievements is the set up and coordination of the European Aeroallergen Network (EAN), which collects and disseminates data from over 600 sites across the continent and provides an incomparable visibility to the aerobiological data. Siegfried Jäger was also worked within every major field of scholarly associations: European Academy of Allergology and Clinical Immunology (EAACI), American Academy of Allergy, Asthma & Immunology (AAAAI), Austrian Society for Allergology and Clinical Immunology (OGAI). Honorary member of the International Association for Aerobiology (IAA), he has been very active in the executive Committee of this institution: member 1990-94, Vice-President 2002-06 and Newsletter Editor 2006-10. He was also co-founder and the first President of the European Aerobiology Society (EAS). His favourite way for calling his colleagues “the aerobiological family” will remain in our mind as the demonstration of his dedication to the development of our discipline, his profound consideration for human beings and love for friendly relationships.

Carlo Lanzoni

Carlo Lanzoni passed away in Bologna (Italy) on 8 November 2014 at the age of 76. At the head of the company founded by his father in 1932, he gave a decisive impetus to the development of volumetric particle sensors that bear his name, including the VPPS 2000 and VPPS 2010 that equip many networks in Europe. He was a faithful partner of different aerobiology networks since 1988. However, Carlo Lanzoni was not only interested in the technical and commercial aspects. He closely followed the evolution of science and attached great importance to the dissemination of knowledge, as evidence by its very regular participation in international congresses and the European Aerobiology Courses on Basic Aerobiology, the last in Vinnitsa in Ukraine in July 2013. He was a full and friendly member of the “Aerobiological family”. His daughter Elena, who took over the reins of the family company, has promised to continue the work of her father. The name of Lanzoni will continue to remain etched in our memories and in our work. A brief history is available on the Lanzoni website: http://www.lanzoni.it/la-storia-history.html

The European Aerobiology Society

New website of EAS

The European Aerobiology Society have started modernising the website. In addition to the usual components (Mission, Legislation, Working Groups, Membership) the newly created website will provide information on the European Aeroallergen Network, Educational Activities and will include Internal Pages. Access to the latter will be limited to EAS members and colleagues. In addition a newsletter-system is included.

We invite everyone to join the uploading of the information! We encourage you to submit texts, photos and other relevant material. Please send the information to our Webmaster Sevcan Celenk (sevcancelenk@hotmail.com).

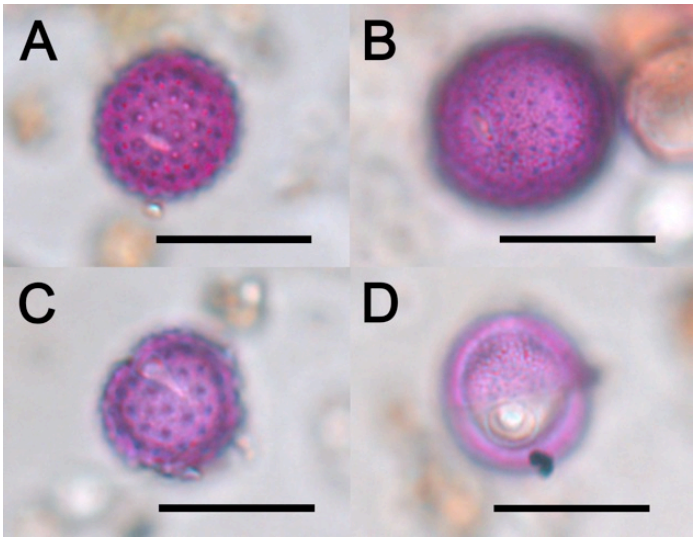
The EAS Working Group on Quality Control reports slow progress of the EAS *Ambrosia* QC Survey

The EAS Quality Control (QC) survey focused on *Ambrosia* commenced in May 2014, and a total of 36 counters from 8 countries have participated so far. There has been considerable interest in this QC survey from aerobiologists in Europe, but the slow progress has meant that we have not been able to include as many sites and counters as first hoped. There were some technical problems, i.e. reference slides were broken and had to be replaced, but the biggest problem has been with labs keeping the slides for too long without examining them.

We still have 17 addresses (11 countries) where the material should be sent and it seems unlikely that the QC exercise will be completed in the near future, especially as the summer holidays are approaching. This QC exercise was initiated in the frame of COST Action FA1203 "Sustainable management of *Ambrosia artemisiifolia* in Europe (SMARTER http://ragweed.eu)". The QC exercise should therefore be completed, and the results published during the life of the Action. As a result, we have decided to set a deadline of **1st September 2015**. After this date, any data that have been collected will be analysed and the results published in the IAA Newsletter and *Aerobiologia*.

Since this QC exercise also has an educational aspect to it (see Figure), it is suggested that the material will continue to circulate even after 1st September 2015. This will allow all of the teams to receive the material and check their performance by comparing their results to the published data.

The EAS *Ambrosia* QC Survey aims to help pollen counters across Europe confidently identify *Ambrosia* and to other anemophilous Asteraceae pollen grains. Figure: (A) *Ambrosia artemisiiaefolia*; (B) *Xanthium strumarium*; (C) *Iva xanthifolia*; (D) *Artemisia vulgaris* (x400, scale bar 20µm). Images Branko Šikoparija.



6th European Aerobiology Symposium

The 6th ESA, the second under the aegis of the European Aerobiology Society, will offer a warm welcome to participants arriving in Lyon, France, 18-22 July 2016 .

This Symposium will be organized by RNSA and AFEDA with the support of different associations dedicated to Air quality. The main themes will be: general aerobiology, phenology, health impacts (including an allergy day), outdoor and indoor moulds as well as the participation of different partners: a ragweed satellite symposium in partnership with the IRS (International Ragweed Society) and a satellite symposium organized by the COST SMARTER. A specific website is now open where you can find all the information you need http://www.alphavisa.com/esa/2016/index.php. RNSA (rnsa@rnsa.fr) is ready to answer your specific questions.

EAS Membership

In accordance with IAA, it was decided to offer EAS membership together with IAA membership and free online access to the journal Aerobiologia.

The full EAS membership fee is 90€ for a period of two years, where the two annual fees for IAA (40 US$ each) are included and will be transferred to IAA. If you have already paid the membership fee for IAA (40 US$), then you can become member of EAS for 30€.

If you want to become a member of the European Aerobiology Society please contact Uwe E. Berger at (uwe.berger@meduniwien.ac.at).

Indian Aerobiological Society National Seminar

The Indian Aerobiological Society jointly organised with the Department of Botany, University college of Science, Osmania University, Saifabad, Hyderabad a one day National Seminar on "Aerobiology and Public Health" on 12th December 2014.

Prof. G.Bahyanarayana, Vice Chancellor of Palamuru University, Telangana state delivered the inaugural address. Prof. S.T. Tilak, Dr. B.E.Rangaswamy, Prof. Kashinath Bhattacharya, Dr. V.Sathavahana Chowdary and Dr. N. Jayalatha were the invited speakers of the Programme.

Inaugural ceremony with the guest of honor, Prof. Bahyanarayana, seated in the centre

Indian Aerobiological Society 18th National Conference on Aerobiology

The Idian Aerobiological Society is organizing the 18th National Conference on Aerobiology 28-30 September 2015 at Tumkur University, Karnataka State, India.

The Italian Association on Aerobiology (A.I.A) is glad to announce the National Congress "Trent'anni di Aerobiologia in Italia"

AIA
Associazione Italiana di Aerobiologia

The Congress will be held in Vertemate c/Minoprio, near Lake Como, 24-26 of September 2015. The Conference Chair is Roberto Albertini (President of the Italian Association of Aerobiology - University of Parma). The organizing committee is composed by: Tiziano Bianchi, Maira Bonini, Stefania Cantaluppi, Giovanni D'Angelo, Lucia Papponi, Alberto Pinio, Manuela Ugolotti, Claudia Testoni.

Topics include: Aerobiology & agriculture; *Ambrosia*; General & Indoor Aerobiology; Allergens; Cultural Heritage; Bioclimatology; Phenology; Aerobiology & Health; Forensic & Melissopalynology; New technologies; Pollen & Pollution; Quality Control; Fungal spores.

The proceedings will be published in the "European Journal of Aerobiology and Environmental Medicine, GEA". For more information, please visit the AIA home page: http://www.ilpolline.it

Page of the Congress: http://www.ilpolline.it/congresso-aia-trentanni-di-aerobiologia-in-italia-i-avviso-2/

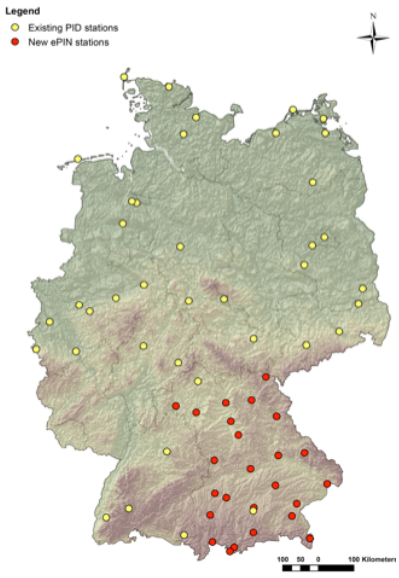
Electronic Pollen Information Network for Bavaria, Germany (ePIN)

Jeroen Buters & Jose Oteros

ZAUM – Center of Allergy & Environment, TUM/Helmholtzzentrum München, Germany

About 350 pollen traps are currently used over Europe to perform routine pollen monitoring, all operated manually. Automated pollen monitoring has not been feasible to date, except in areas with limited diversity in the airborne pollen spectrum. There is a need for rapid reporting of atmospheric pollen concentrations and alleviation of the workload of manual operation. The BAA500 is an automated pollen monitor based on image recognition. The instrument consists of a 3-stage virtual impactor. The fraction of air containing pollen is deposited on a sticky surface that is moved towards a microscope equipped with a CCD camera. Images of the pollen are constructed and compared with a library of known samples. Results are reported online. We are investigating the different steps needed for building an automatic pollen-monitoring network in Bavaria.

Figure 1. Hirst traps routinely monitoring pollen in Germany (yellow dots) and the additional traps in ePIN in Bavaria (red dots).



Step 1. Testing the performance of the automatic pollen monitor, by comparing its data with data from a Hirst-type volumetric pollen traps situated at the same location (Oteros et al., 2015).

Step 2. Designing the monitoring network (number of traps and locations). How many stations do we need to reliably determine pollen flight over Bavaria? With this aim, we built a new manual Bavarian pollen monitoring network with 28 Hirst pollen traps, including all existing traps from the German Pollen Information Network (PID). Station locations were selected with the help of Prof. Mikhail Sofiev, Finland, using SILAM to cover the surface of Bavaria with a resolution of 1 trap/2500 km2.

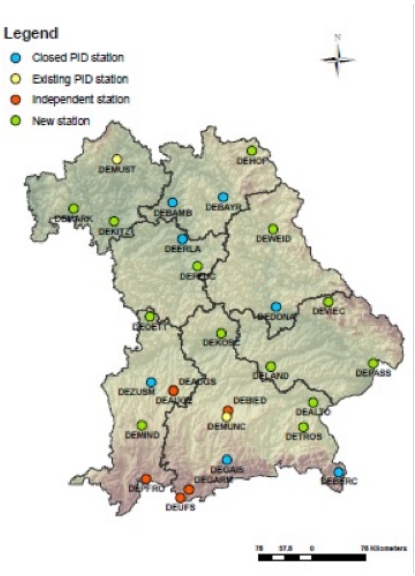
Step 3. Can we replace the manual stations with automatic pollen monitors? Determine a way to incorporate the new automatic monitors into existing networks from PID and the German Weather Service

The focus is currently on step 2: Setting up the manual network, solving all logistic and scientific problems coming from building one of the densest Hirst networks in the world (i.e. getting traps, getting materials, exhaustive quality control, quality and homogeneity of monitoring…). We had help from many colleagues who supplied us with spare Hirst-type traps. The manual network is needed to determine the minimum number of automatic pollen traps required for a representative network and for selecting their optimum locations.

Figure 1 shows the distribution of pollen traps in Germany from the PID and the locations of the new traps installed in the ePIN project. We have considerably increased the number of pollen monitoring stations in order to test the influence on changes in the number/location of monitoring places on the quality of the information generated.

Figure 2 shows the distribution of pollen monitoring stations in Bavaria. As can be seen, there are historical pre-existing stations from PID. Five locations are independently managed. Seven locations are old PID stations that we re-opened with the aim to link to historical time series. The other new locations (13 places), were proposed by Prof. Mikhail Sofiev of the Finnish Meteorological Service with the aim to: (1) cover most of the Bavarian surface and the most populated areas; (2) be representative of the different environmental and climatic areas; (3) select the best positions to increase the predictability of pollen amounts based on forecast models.

Figure 2. Hirst traps routinely monitoring pollen in Bavaria.



In order to determine optimal local conditions for the stations, we surveyed European experts on aerobiology and obtained a consensus on conditions to set-up pollen monitoring stations. This was additional to the specifications proposed by Galán et al. (2014). Some of them were: traps should be at the top of flat and horizontal surfaces, at 12 m (±3m) height, higher than surrounding roofs and other obstructions, not placed at the edge of the building (>than 2 m) and the traps should be elevated at least 1.5m from the roof to evade turbulences, easy access, safe locations, absence of strong emission sources in the surrounding area (i.e. 100m for Betula, 50m for uncut grasses) and the temporary sustainability of these optimal conditions.

The 28 manual traps are currently running. Next steps will consist of the selection of the best locations and the gradual substitution of some of them by automatic systems.

ePIN continued...

Acknowledgements

Funding was obtained from the Bavarian Ministry of Health and the Ministry of Environment. Much help was, and still is, obtained from colleagues across Europe. With the chance of omitting important supporters we especially want to thank Christian Bergmann and Reinhard Wachter (PID), Bernard Clot and Regula Gehrig (Meteo Swiss), Uwe Berger (EAN) and Carmen Galan (REA), Matt Smith, Carsten Skjøth and Michel Thibaudon (EAS). Their help is sincerely appreciated.

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Delving into fungal spore allergens

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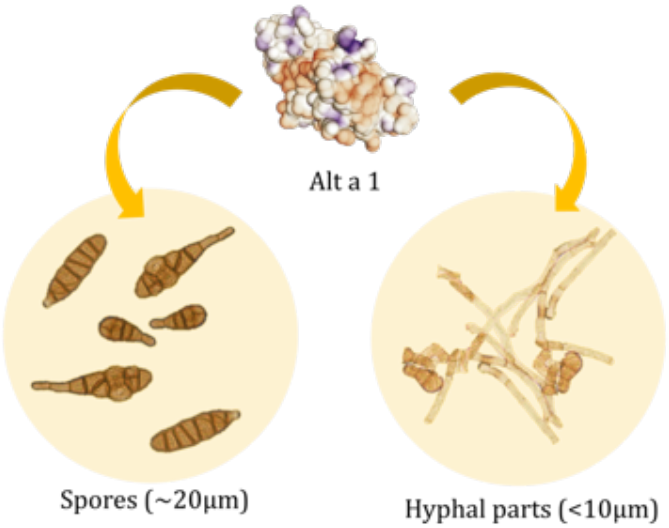
Thanks to the HIALINE project (http://www.hialine.com) our knowledge about the distribution and variation of pollen allergens has increased markedly during last few years. But what about fungal allergenic proteins? Do these small particles behave similarly to pollen allergens? How high is the allergic potency of fungal spores? How much allergen occurs in dissected hyphal parts? The new project conducted by the Laboratory of Aeropalynology, Faculty of Biology, Adam Mickiewicz University in Poznań (Poland) tries to answer these questions. The collection of the main allergen of *Alternaria alternata* (Alt a 1) commenced during the summer of 2014 in Poznań using a three-stage, high volume, Chemvol cascade impactor (1st stage: >10µm; 2nd stage: 2.5-10µm and 3rd stage: 0.12-2.5µm). Sampling will continue through the next two seasons (2015 and 2016). The first results should be available soon. The study is funded by the Polish National Science Centre, grant nr 2013/09/D/NZ7/00358.



Volumetric spore trap

3-stages cascade impactor

ISHAM Congress, Melbourne, Australia

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It has been more than six months since the highly successful International Aerobiology Congress was held in the beautiful city of Sydney, Australia. Last month saw an opportunity to return to Australia, this time for the Congress of the International Society for Human and Animal Mycology (ISHAM) that took place in Melbourne between 3-7 May 2015. This conference might also be of interest to members of our aerobiological society. ISHAM is an old organization (founded in 1954) that gathers clinical scientists and researchers with an interest in fungal diseases and infections (http://www.isham.org). The number of delegates exceeded 600 from almost 50 countries around the world. The conference was divided into four main themes: clinical, translational, one health and basic science aspects of medical mycology. It started with a series of specialist workshops, e.g. MALDI-TOF analysis (mass spectrometry) and its application in mycological studies. The second day was fully dedicated to young scientists (Young ISHAM) who presented their results during two sessions. In addition, two highly interesting educational lectures about writing, submitting and reviewing papers were presented by experts.

Another four days were filled with lectures focused on different aspects of clinical mycology, epidemiology, fungal infections (fusariosis, candidosis), allergic bronchopulmonary aspergillosis, basic biology of fungal body (e.g. structure of cell wall) and fungal growth, DNA barcoding or even medical phycology (related to the scientific study of algae). Many poster presentations were about the optimization methods for identifying fungi to species level, such as MALDI-TOF or microarray DNA. Such detailed identification is crucial in clinical studies due to differences in the ability to infect the human body between species even within the same order, like *Aspergillus* (*A. fumigatus* and *A. niger*). During the congress a series of specific lectures with experts were also conducted, as well as an interesting open discussion panel lecture between the audience and several invited speakers (future of medical mycology). However, it is worth noting that, in general, there was not much information related to aerobiology, air quality, or indoor air monitoring and its linkages with fungal infections. The next ISHAM Congress will be held in Amsterdam (Netherlands) in 2018. I believe this three year period is a great time to strengthen the collaboration between aerobiology and medical mycology, so the impact of our aerobiological society will be much more visible than during the Melbourne Congress.

Melbourne city centre and Yarra River

Fungal Spore Identification Workshop

Mike Muilenberg & Christine Rogers - Aerobiology Instruction and Research, LLC

This past May, we held another successful workshop on fungal spore identification. We offer one or two workshops each year on both pollen and fungal spore identification and have had attendees from around the world, although most are from the U.S. and Canada. A combined pollen and spore workshop was offered until about six years ago after which the two topic areas were separated. The amount of material to be covered became overwhelming for a single session. The fungal spore workshops are now 4 days long and the pollen workshops span 3 days. Since moving from the Boston area to western Massachusetts in 2006, the workshops have been given on the campus of the University of Massachusetts-Amherst.

Basic taxonomy and fungal/pollen biology are always covered, as is aerobiology and correct operation of different sampler types. Morphology by light microscopy is the main emphasis. Students make use of syllabus materials and PowerPoint handouts in addition to a box of reference microscope slides with 25 pollen or fungal spore examples which is theirs to keep.

We try to tailor our workshops to the interests of the attendees. This past May the attendees at our fungal spore workshop were more interested in indoor air quality issues than outdoor aeromycology. We therefore emphasized fungal genera commonly contaminating interiors and spent less time on identification of different basidiospore types, other than a few most common types. Outdoor (or indoor) collecting excursions on campus are undertaken to demonstrate some of the sources of these bioaerosols. The students always enjoy looking at this material and preparing microscope mounts for analysis.

While we consider 5 to 8 attendees per class to be ideal, allowing maximum individual attention, this past May we had three registrants; two from the Chicago area and one from North Carolina. Needless to say, with this small class size they got a lot of individual help. Group activities in the classroom, in addition to a Happy Hour after the first day and a dinner on the third day, foster interaction between attendees. The instruction can be intense, but the social side is encouraged as well. And even though we consider ourselves better instructors than matchmakers, three years ago, two students met at our workshop and were married a year later. We recently got word that they had a baby; a little aerobiologist I hope!

Information about our workshops can be found on our consulting company website (Aerobiology Instruction and Research, LLC; www.aerobiologylab.com).

Grants awarded for the 12th ECBA

The 12th European Course on Basic Aerobiology will be held at the Faculty of Biology and Agriculture of the University of Rzeszów in southeastern Poland, 20-26 July 2015

http://www.ur.edu.pl/wydzialy/biologiczno-rolniczy/wydarzenia/12th-ecba

The 12th European Course on Basic Aerobiology is being organised by the University of Rzeszow, Faculty of Biology and Agriculture, the International Association for Aerobiology, the European Aerobiology Society, the Polish Botanical Society, and Jagiellonian University, Medical College, Department of Clinical and Environmental Allergology.

The course is aimed at students and scientists who are at the beginning of their research in aerobiology. Practical sessions will focus on operation of volumetric traps, 30 types of pollen grains, 12 types of fungal spores, scanning microscopic slides, innovation in microscopy, image analysis software. All participants who pass the course successfully will receive a certificate. The number of participants is limited to 25.

We are pleased to announce that IAA grants have been awarded to the following candidates: Ilanit Helfman-Hertzog (Israel), Eoin McGillicuddy (Ireland), Nataliia Nikolaieva (Ukraine), Yulia Olsen (Russia - Danish resident) and Bekil Semih (Turkey). Congratulations to these participants starting out on their aerobiological careers.

Last call for the 8th AAC

The 8th Advanced Aerobiology Course (8th AAC) entitled "From phenology to sophisticated forecasting" will be held at Šiauliai University (Lithuania), 16-22 August 2015

http://ekomokslas.lt/aac2015/

The International Association for Aerobiology and European Aerobiology Society's 8th AAC will combine a variety of lectures and practical sessions (including field work in nature) with the aim of exploring and analysing aerobiological data from different points of view. One day (in the middle of the course) will be set aside for participants to explore Lithuania.

For contemporary aerobiologists, it is not only important to collect the data but also to know the best possible way to interpret it and understand causal relationships resulting from anthropogenic air pollution as well as global climate and land use changes. The course will focus on applying up-to-date mycological, phenological, and botanical data in aerobiology, and on developing advanced modelling skills using climate/meteo or land use databases. Course participants will work on the real data provided by the course teachers or will be given a chance to use their own data (relevant to themselves).

The course will be in English, and will include days dedicated to the following topics: Mycology (indoor and outdoor moulds); Botany; Vegetation; Climate; Data handling.

The participation fee is 600 EUR and will include all course materials (handouts, certificates and consumables), accommodation, meals (breakfasts, lunches, dinners, coffee/tea breaks) and excursion/ social event but does NOT cover travel expenses. Participants will be accommodated in a 3 star hotel situated in the city centre. The venue of the course is located less than 15 min walking distance.

There are still places available on the course and particpants from outside Europe are particularly welcome.

For registration and for more information about the 8th AAC please look at the website: (url above)

The team are looking forward to welcoming you in Lithuania!

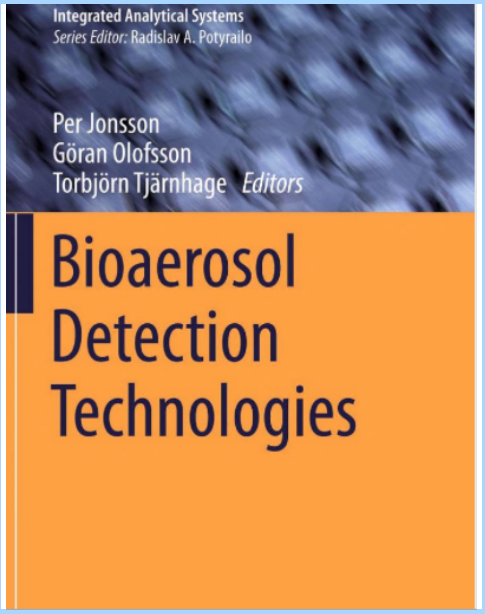
Book - current hot topic

Bioaerosol Detection Technologies

Jonsson, Per, Olofsson, Göran, Tjärnhage, Torbjörn (Eds.)

blurb from the website...

This book is intended to give technological background and practical examples, but also to give general insight into the on-going technology development in the area of biodetection. The content is therefore suitable for an array of stakeholders (decision makers, purchasing officers, etc.) and end-users of biodetection equipment within the areas of health, environment, safety and security, and military preparation. The book is divided into three sections. The first section discusses the fundamental physical and biological properties of bioaerosol's. The second section goes into more detail and discusses in-depth the most commonly used detection principles. The third section of the book is devoted to technologies that have been used in standoff applications. The last section of the book gives an overview of trends in bioaerosol detection. The reader of this book will gain knowledge about the different biodetection technologies and thus better judge their capabilities in relation to desired applications.



Jonsson, P., Olofsson, G., Tjärnhage, T. (Eds.) (2014) Bioaerosol Detection Technologies (Integrated Analytical Systems). Springer

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