EAACI
EUROPEAN ACADEMY OF ALLERGY AND CLINICAL IMMUNOLOGY

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2022

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review

issue 03

CONTENTS

issue 03

EAACI REVIEW

Editor's column

Dear EAACI members, Dear friends

This is Dario Antolin-Amerigo, former EAACI Newsletter Editor and currently EAACI Review Editor. I would like to thank you for a fruitful two-term period in which I have had the opportunity to deliver the most recent scientific news and EAACI activities. Thank you for your part in the success of the Newsletter and Review – by being a contributor, or a reader or by helping the dissemination of our news and information via social media.

I would like to thank the EAACI Headquarters team – Chiara, Matheus, Jeanette, Haris, Adrienne, and all the rest of the team – for their patience, commitment, compassion and professionalism. Thanks also to Alan for his continuous help all these years.

EAACI is a great membership association, currently the biggest allergy and clinical immunology association in the world, thanks to a large extent to all the members of the EAACI Board of Directors, ExCom, the EAACI Sections, Interest Groups and Working Groups – all of whom are the reason for the excellence of our Academy. My words of gratitude also go to the patients organisations comittee, as they share their work and use their voice to inform EAACI members about their activities.

During these two terms, I have had the opportunity to communicate and collaborate with both promising new and established renowned scientists and specialists in the field of allergy. As someone who confesses to being passionate about allergy, being part of the Scientific Communications Committee has given me a great opportunity to raise awareness about the importance of allergies and their impact on everyday lives.

My last words intend to express my appreciation to Edward Knol, Karin Hoffmann-Sommergruber, Stephanie Dramburg, Sylwia Smolinska, Florin Dan Popescu and Filippo Fassio. All of them, regardless of the term they have served, have been the reason for the success of the Scientific Communications Committee.

Thank you very much for everything. This is not a farewell, but just "Hasta la vista"!

Dario Antolin-Amerigo

EAACI Review Editor

Darío Antolín Amérigo
EAACI Review Editor

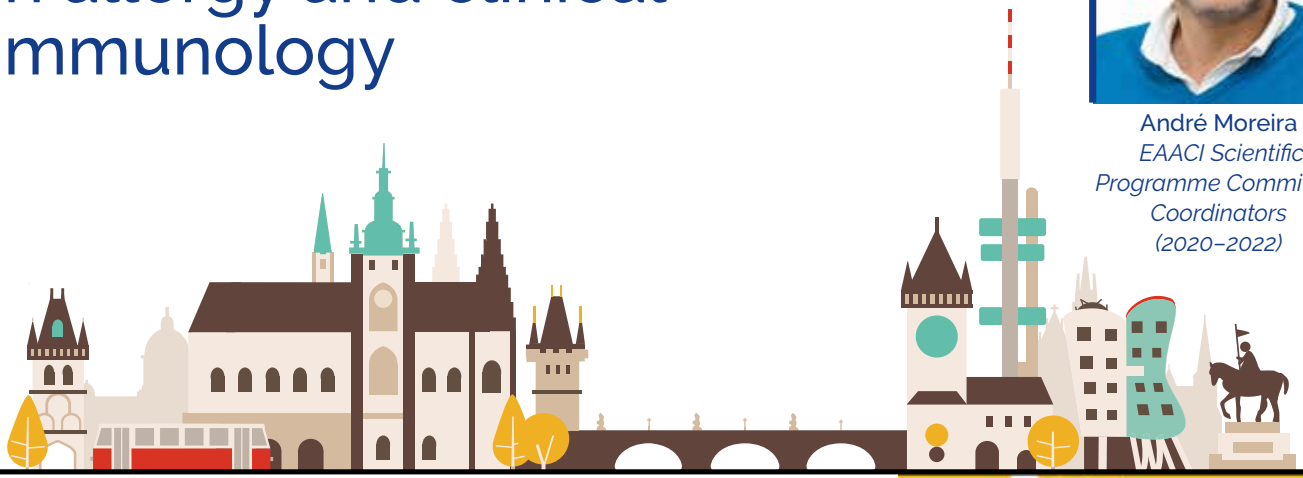
In the Spotlight

EAACI Congress 2022 Prague:

Keep on top of the latest breakthroughs and advances in allergy and clinical immunology

Domingo Barber

André Moreira
EAACI Scientific Programme Committee Coordinators (2020–2022)



		Scope	Basic and Clinical Immunology	Asthma	Pediatric	Dermatology	Allied and Pr Ca
PL1	Environmental science in allergy and asthma						
PL2	The developmental trajectory of allergy – unveiling the ontogeny						
PL3	Novel therapeutic targets in allergic diseases and asthma – from common clues to a universal solution						
PL4	Digital transformation enabling next generation medicine						
PL5	Food: friend or foe?						
PL6	Next generation vaccinology and allergen immunotherapy: from mechanisms to practice						
Symp 1	Disease-specific pathways in allergic diseases – Implications for the usage of biologicals						
Symp 2	Infection and immunity – lessons from the COVID-19 pandemic						
Symp 3	The role of IgE in AllergoOncology, from allergy inducer to cancer killer						
Symp 4	Innate immune memory in the mucosal diseases						
Symp 5	Active treatment of food allergy: time for a change?						
Symp 6	Occupational allergy and asthma to animals – recent developments						
Sym 7	Systems immunology in viral infections and parasite infestations						
Symp 8	Management of asthma exacerbations						
Sym 9	Immunonutrition redefined: Role in allergy prevention and management						
Sym 10	Environmental influences on allergy and asthma development						
hIWS1	Molecular Allergology in diagnosis and immunotherapy						
hIWS 2	Practical recommendations on Allergen Immunotherapy						
hIWS 3	Exercise-induced hypersensitivity syndromes						
hIWS 4	Drugs as risk factors for allergic diseases						
hIWS 5	Food allergen ladders: A need for standardization						
hIWS 6	Emerging treatments for angioedema						
hIWS 7	Preschool asthma spotters: from immunological roots, to phenotypes, and treatment options						
hIWS 8	Urticaria in children and adults: news from the guidelines						
hIWS 9	Update on radiocontrast media (RCM) allergy						
hIWS 10	Eosinophilic and non-EoE Eosinophilic Gastro-intestinal diseases (EGID)						
hIWS 11	Ophthalmic manifestations of COVID-19 and how it affected ocular allergy treatment						
hIWS 12	Betalactam hypersensitivity in children: a practical approach						
hIWS 13	COVID-19 and the skin						
hIWS 14	Dietary management of food allergy						
hIWS 15	Practical aspects of insect venom allergy						
hIWS 16	Alternative pathways of anaphylaxis						

In the Spotlight

EAACI is set to host the world's leading allergy and clinical immunology meeting in Prague from 1–3 July, 2022. A hybrid format will offer the best of both in-person and virtual events and take the enormous success of last year's annual meeting to the next level.

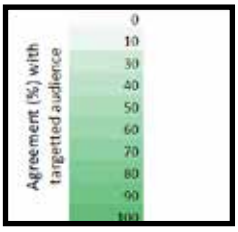
With contributions from Scientific Programme Committee (SPC) members as well as the EAACI family, we have prepared an excellent and energised program under the congress motto: **Common origins of allergy and chronic inflammatory diseases – the one health approach!** The best evidence gathered from the leading latest research will be presented. We will have a full range of topics covering novel diagnostic and therapeutic approaches to allergy and chronic diseases. Many different themes are covered, which will meet each of your unique and specific needs, as you can see on our programme heatmap.

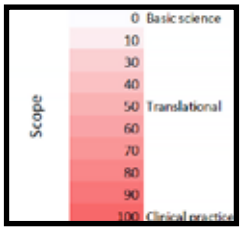
EAACI's innovative session formats – tailored to your feedback and to the needs of congress participants – will once again be evident. In addition to the classic Plenary and Symposium sessions, the successful hybrid Interactive Workshops in which speakers share and discuss evidence and experience in a more informal way – for live interaction with the audience, either in person or remotely via live webcasting – will again be an important part of the program. So too will the World Leaders Dialogue (WLD), in which high-level sessions intended to promote innovative research and the knowledge exchange network will be addressed, based on the current projects of EAACI's Research and Outreach Committee on environmental science, immunomodulation, and novel therapeutic approaches. JMA sessions, Year in Review, and controversial issues in the Pro and Con sessions will all offer food for thought in so many different scenarios.

Finally, this year we introduce 'Flash Talks'. These will be held only onsite, organised around a specific theme, presented as a brief and dynamic message, and aimed to engage the audience, which should be left asking for more. They will be a great opportunity to meet interested colleagues and present your work.

We are all working hard to prepare your best congress experience, from a scientific point of view. But, unfortunately, today that is not the most important of our concerns. The World Health Organization has stated that: "The role of physicians and other health professionals in the preservation and promotion of peace is the most significant factor for the attainment of health for all." In 1985, Bernard Lown, an American cardiologist who died in February 2021, accepted the Nobel Peace Prize on behalf of the International Physicians for the Prevention of Nuclear War, an organisation he co-founded with Soviet cardiologist Yevgeny Chazov, a graduate of the Kyiv Medical Institute who was later Minister Of Health of the USSR, and who also died in 2021. In his acceptance speech, Dr Lown recognised the many obstacles to peace but urged his listeners to "hold fast to dreams". In these challenging times for mankind, let us strengthen the value of friendship and peace.

EAACI 2022 Scientific Programme Heatmap:
session scope from basic to translational to clinical (darker) and perceived agreement with targeted audience





Scientific Update

Initiation and regulation of inflammation during respiratory viral infections

Cecilia Johansson
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Immune responses to viruses have to balance virus clearance with immunopathology. This is especially important in the respiratory tract as the airways and alveoli can easily fill up with cells and fluid such that too much inflammation can quickly block gas exchange and cause severe disease. However, an underpowered immune response allows the virus to replicate and this can also cause severe airway disease. So how is the right balance achieved? Part of the answer may be the tight regulation of the induction of type I interferons (IFNs), which are key antiviral cytokines. Viruses are recognised by receptors that signal for the induction of pro-inflammatory mediators such as cytokines and chemokines. One important family of cytokines induced by viral infections is the type I IFNs. Type I IFNs are produced very early after infection and signal via the type I IFN receptor (expressed on all nucleated cells) to induce several hundred interferon stimulated genes (ISGs). Many of these ISGs are key to inhibiting and preventing viral replication but type I IFNs also promote resistance from infection via immune effector cells. Indeed, in a mouse model of respiratory syncytial virus (RSV) infection, we have shown that type I IFNs are very important for controlling viral replication[1] in part by mediating recruitment of anti-viral monocytes[2,3]. Notably, lack of type I IFNs can decrease virus clearance and thereby result in more severe disease. This has been shown during the SARS-CoV-2 pandemic when patients with either inborn defects in type I IFN immunity[4] or with auto-antibodies to type I IFNs[5] were found to have a much higher risk of developing severe COVID-19. However, there is also a problem with too much or too prolonged production of type I IFNs. Indeed, type I IFNs have been found to be key initiators of lung inflammation[1]. This is normally highly regulated, with lung resident cells starting the response, followed by the ordered recruitment of immune cells from the blood: neutrophils, monocytes and NK cells, followed later by T cells during the adaptive phase of immunity. The magnitude and timing of leukocyte recruitment is extremely important for preventing unacceptable tissue damage. Indeed, during SARS-CoV-2 infection, it has been suggested that IFNs induced later during the infection drive excessive inflammation[6]. In summary, the timing, magnitude and type of immune response during a respiratory viral infection is extremely important for generating a controlled but efficient anti-viral response that results in viral clearance without causing immunopathology. And type I IFNs are very much at the heart of this regulatory network.

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Scientific Update

Environmental influences on immune responses

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In recent decades, epidemiological studies have shown that diseases that were supposedly exclusively genetic have experienced an exponential increase. This in turn has clearly refuted the idea that they are purely genetically determined. Today we know that both genes and the environment shape our immune responses [1, 2]. While the immune system has for a long time been suspected of being involved in the defence against and control of diseases other than those caused by infectious agents, it has only become clear over the last decade that immunity and inflammation are indeed key players in essentially all major so-called non-communicable diseases. Environment in this context must necessarily be seen holistically: the environment is everything that is not ourselves. Furthermore, we now distinguish between the micro-environment (such as the microbiome) and the macro-environment (such as anthropogenic and biogenic stressors). The macro-environment includes water, food, the air we breathe and necessarily also psychosocial factors. Non-communicable diseases in particular are environmentally triggered and of chronic nature. Chronicity as a common determinator suggests that environmental factors trigger mutual inflammatory cascades in different organs. Increased human population, pollution and rapid industrialisation have affected our environment bringing about climate change. Climate change in turn has led to greater variability in temperature and to increases in air pollution, forest fires, heat waves, droughts and floods, and to reduced biodiversity[3]. Interestingly, reduced biodiversity in the micro-environment, i.e. the skin or gut microbiome, is associated with inflammation and barrier disturbances [4]. In the same vein, epidemiological studies show that high biodiversity, particularly microbial biodiversity, is associated with health. However, studies showing environment-specific immune pathways associated with diseases are rare. One of the biggest challenges in environmental health science is the cause–effect relationship – the question of whether an observed effect is the cause or rather a result of a specific environmental condition. A further challenge it the complexity of environmental impact – in both space and time. The question of how to disentangle multiple environmental factors at different times in a life is still a matter of scientific debate. Only really extremely elaborate bioinformatic models analysing clinical studies, panel studies or registries in association with environmental data can begin to approach this problem – the exposome to Reactome research. Especially in allergy and environmental sciences, a new era of immunological research has begun in which the immune system not only serves as a paradigm for modern systems biology, but where resulting therapies targeting inflammation and innate or adaptive immune cells (or using immune cells or antibodies as drugs) are beginning to revolutionise large sectors of medicine[5]. The holy grail is and remains the prevention of environmental diseases such as allergies and atopic dermatitis[6]. Notably, because we are able to influence and shape our environment, environmental immunology is a powerful force.

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Scientific Update

Regulation of **T Cell** mediated immunity by histone deacetylases[1]

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Past-President of the Biomedical Alliance in Europe (https://www.biomedeurope.org/)

[1]This article is a summary of a presentation made at the EAACI Winter School 2022.

T helper cell subset differentiation is accompanied by changes in gene expression programs, which in part are controlled by epigenetic processes. Histone deacetylases (HDACs) and histone acetyltransferases (HATs) are key epigenetic regulators that mediate dynamic changes in histone acetylation. In addition, many non-histone proteins are targets of reversible acetylation, thus HATs and HDACs function beyond epigenetic control of gene expression. The HDAC family consists of 18 members. Pan-HDAC inhibitors (pan-HDACis) are clinically used in the treatment of certain types of cancer. Preclinical data in mouse models indicate that HDAC modulation might also be beneficial for the therapeutic treatment of autoimmune diseases (such as multiple sclerosis, rheumatoid arthritis, inflammatory bowel disease), although the use of existing pan-HDACis for these indications is limited by their adverse effects. Usage of subclass-specific and/or isoform-selective HDACis, based on a better understanding of the role of each HDAC family member, might avert limiting side effects and thereby might broaden the clinical application spectrum of HDACis far beyond cancer. In my laboratory we are particularly interested in understanding the role of HDAC1 and HDAC2 in T cell-mediated diseases, and more broadly to what extent HDACs regulate T cell function via chromatin-mediated effects (i.e. histone modifications) or via their activity on

Scientific Update

non-histone targets. Using a genetic approach, we uncovered a novel pathophysiological role for HDAC1 in experimental autoimmune encephalomyelitis (EAE), which is a widely used murine disease model for human multiple sclerosis (MS), although EAE does not fully resemble the complex disease pathology of MS. We observed that mice with a T cell-specific deletion of HDAC1 are completely resistant to EAE. Mechanistically, a defect in CD4+ T cell migration into the central nervous system (CNS) in the absence of HDAC1 is a major cause underlying EAE protection. Thus, selective inhibition of HDAC1 (or HDAC1-regulated pathways) might be a promising strategy for the treatment of MS that warrants further studies. An unexpected role for HDAC1 and HDAC2 in CD4+ T cells has been revealed by analysing mice with a combined T cell-specific deletion of HDAC1 and HDAC2. Some CD4+ T cell subsets display cytotoxic activity (CD4 cytotoxic T lymphocytes – CD4 CTLs), thus breaking the CD4+ T helper cell and the cytotoxic CD8+ T cell functional dichotomy. Initially, we observed a key role for HDAC1 and HDAC2 in maintaining the integrity of CD4+ T cells, since activated HDAC1-HDAC2 double-deficient CD4+ T cells showed plasticity towards the CD8 lineage. In a subsequent study we showed that expression levels of HDAC1 and HDAC2 are key determinants of CD4 CTL differentiation in vitro and during murine cytomegalovirus infection in vivo. Moreover, murine and human CD4+ T cells upregulated CTL genes when treated with short-chain fatty acids, which are commensal-produced metabolites acting in part as HDAC inhibitors. Since CD4 CTLs are generated during (chronic) viral infections and also during anti-tumour immune responses in humans and mice, suggesting important functions in host defence, HDAC1-HDAC2 might be targets for the therapeutic induction of CD4 CTLs.

Scientific Update

Holistic care in allergy & asthma

Holistic care focuses on the whole person, taking into consideration their physical, emotional, social and psychological well-being, as well as their personal real-life day to day experiences. These can include the environment in which they live, the choices they make in life for their health and well-being, their diet, exercise, relationships, as well as their choice of medication. Holistic care considers how all these elements affect a person's overall health and how they are inter-connected, especially when a person lives with a health condition such as allergy and/or asthma for which currently there is no cure. Holistic care also considers those around the person living with the disease, such as their carers and families.

Carla Jones
Co-Chair of the EAACI Patient Committee; President of the European Federation of Allergy and Airways Diseases Patients' Associations and CEO of Allergy UK

Management of allergy and/or asthma is the only option available for those living with these long-term conditions and therefore the holistic impact on quality of life must be a key part of the personal allergy or asthma plan discussed between the patient and healthcare professionals.

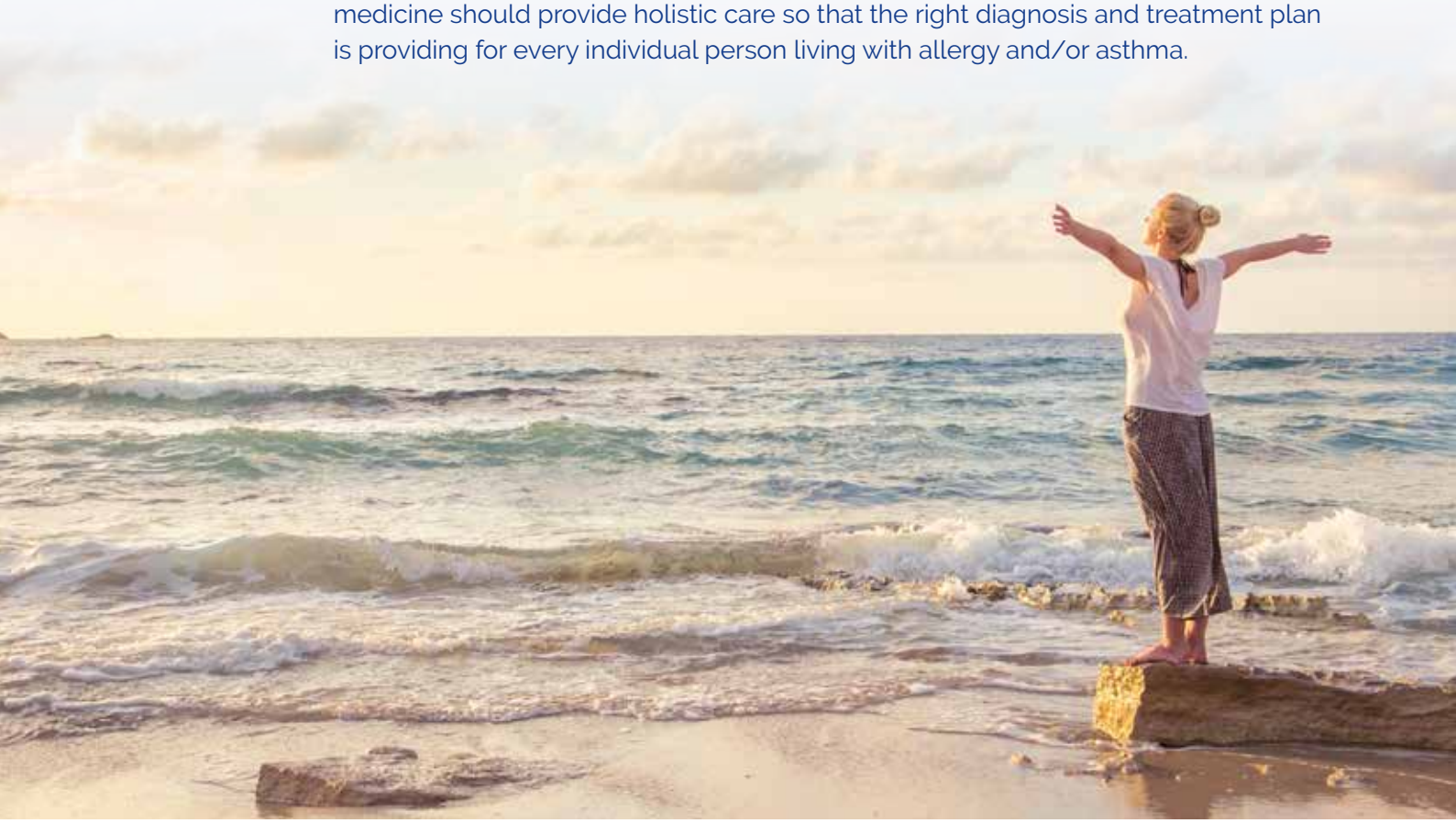
Patients and their carers have real-life knowledge of their lived experiences and therefore healthcare professionals must listen to their patients, assessing their individual situations and symptoms to be able to make an informed assessment of the right diagnosis and treatment for their allergy and/or asthma. It is essential that treatment options are discussed with patients, adapted, and tailored to suit their individual needs and preferences for how to manage their allergy and/or asthma.

Education and training are crucial to ensure patients understand the risks from their disease. This

Scientific Update

should focus on the patient's own pathway with the aim of working with them to find ways to improve their quality of life. Patient education should focus on supporting patients to develop individual treatment plans which help them know the triggers for their allergy and/or asthma, understand how to take steps to avoid these and seek to reduce symptoms and manage risks – which may include prevention of death. These plans should involve sensitive discussions about how patients can make decisions about lifestyle changes that reduce risks and improve their self-management of the disease they live with daily. These could be dietary changes and avoidance, exercise, stopping smoking, learning how to use medical devices properly, managing medication and finding ways to ensure they adhere to agreed treatment.

These action plans should include supportive approaches to identify and manage any psychological impacts that affect the lives of those who live with allergy and/or asthma and/or their carers and families. Patients' expectations need to be managed alongside their attitude to the disease, so that they become confident in managing their allergy and/or asthma. Patient pathways should involve monitoring patient physical well-being, such as reduced symptoms and exacerbations, as well as psychosocial well-being through quality-of-life surveys and regular feedback from patients on treatments and the impact on their holistic well-being. Ultimately, precision medicine should provide holistic care so that the right diagnosis and treatment plan is providing for every individual person living with allergy and/or asthma.



Scientific Update

Ophthalmic manifestations of COVID-19

Andrea Leonardi
Department of Neuroscience, Ophthalmology Unit, University of Padova, Padova, Italy
EAACI Working Group on Ocular Allergy

At the end of December 2019, Dr Li Wenliang, a 34-year-old ophthalmologist in Wuhan, China, warned fellow doctors to wear protective clothing to avoid an unknown flu outbreak. On 7 February 2020 he died of COVID-19. Since then, several ophthalmologists around the world have been contaminated despite taking appropriate protective measures during ophthalmological visits and surgery. Additionally, the possibility of SARS-CoV-2 having ocular implications cannot be ignored[1], even though ocular involvement has not been reported amongst the most common or severe manifestations of COVID-19[2].

The presence of SARS-CoV-2 in the tear film and the conjunctiva has been detected using RT-PCR assays in infected individuals[3]. Conjunctivitis has been reported in up to 30% of patients and could be a sign of SARS-CoV-2 infection prior to the onset of respiratory symptoms, suggesting that exposure of unprotected eyes could cause the onset of the systemic disease. In fact, in animal models, it has been shown that the infection can be initiated by ocular exposure, showing elevated levels of ISG15 and chemokines in the lungs after conjunctival inoculation, and a systemic inflammation despite little replication in distal tissues. Several studies have described the expression of ACE2, TMPRSS2 and BSG on the ocular surface and the over-expression of genes related to the cytokine storm associated with SARS-CoV-2 infection[4].

Conjunctivitis, episcleritis and keratitis have been described as the most frequent ocular manifestations of COVID-19. Retinal vessel occlusions, microvascular retinal abnormalities such as haemorrhages, ischemic areas or cotton wool exudates, neuroretinitis and intraocular inflammations have also been reported in affected patients. Dry eye and corneal nerve damage have been reported as the most common disorders in long-COVID. In addition, a considerable number of reports and retrospective case studies have reported on possible ocular adverse effects of vaccination against COVID-19, such as uveitis, ocular motility disorders, optic neuritis and maculopathies.

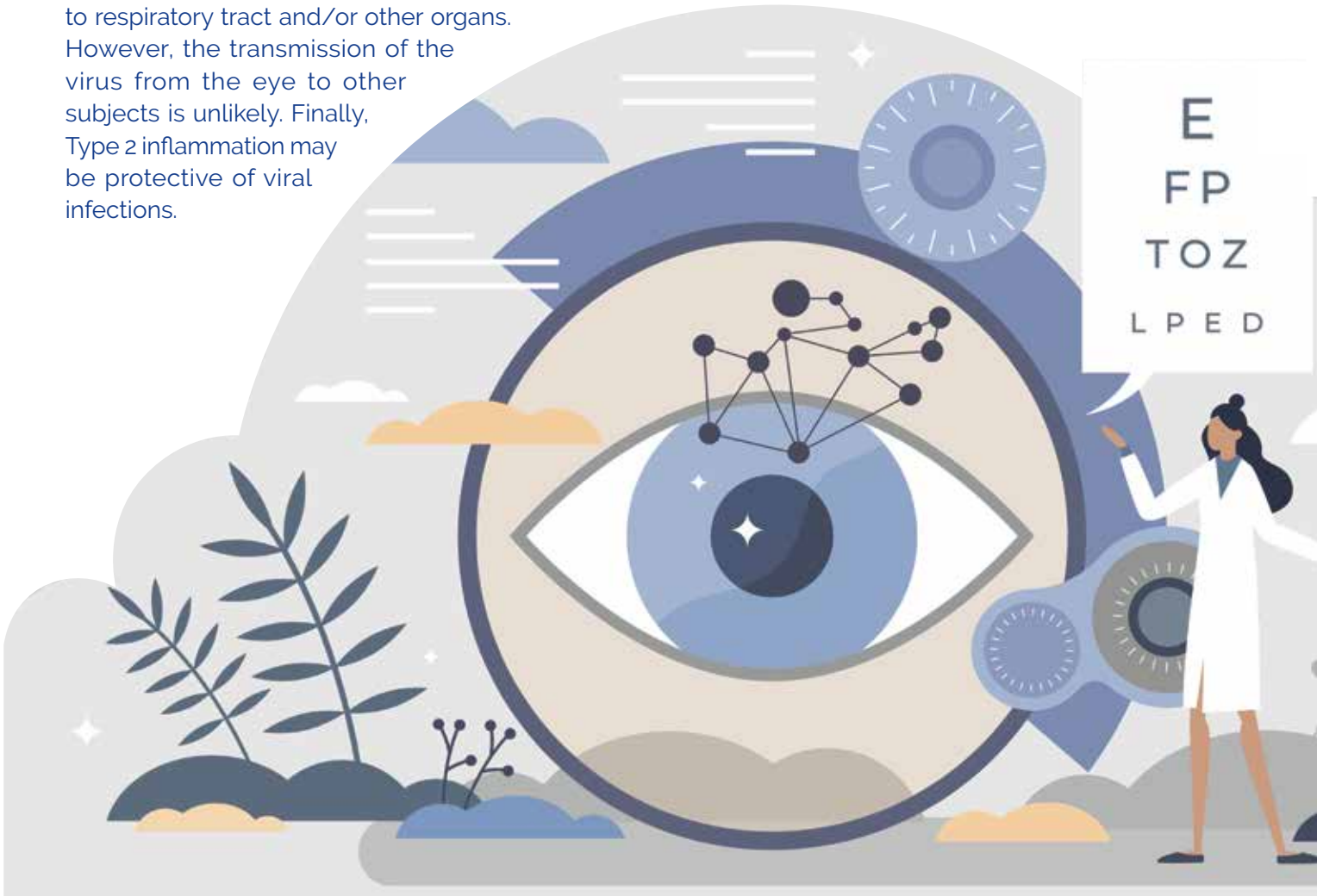
Regarding ocular allergy (OA) and COVID-19, we noted very few changes in the management of OA during the pandemic[5]. We also observed a very few vernal keratoconjunctivitis (VKC) patients who had been affected by

Scientific Update

COVID-19 and found, in VKC conjunctival samples, a higher expression of several antiviral factors such as IRFs, ISGs and IFN-Rs compared with normal subjects, suggesting that local persistent allergic inflammation may be protective of viral infections[6].

As for other specialties, COVID-19 has affected multiple aspects of ophthalmology practice, including surgery and in particular corneal transplantation. SARS-CoV-2 PCR-positive corneas in potential donors have been reported. However, in these tissues, the modulation of early responsive genes, together with several ISGs suggests a potential protective responsiveness of the ocular tissues to SARS-CoV-2 and a very low possibility to transmit the infection thorough corneal transplants[7].

In conclusion, SARS-CoV-2 can infect the ocular surface, replicate in the conjunctiva and diffuse to respiratory tract and/or other organs. However, the transmission of the virus from the eye to other subjects is unlikely. Finally, Type 2 inflammation may be protective of viral infections.



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From the EAACI Family

Pathophysiology of exacerbations under anti-T2 biologicals

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Recent developments in therapeutic strategies have provided alternatives to corticosteroids as the cornerstone treatment for managing airway inflammation in asthma. The past two decades have witnessed a tremendous boost in the development of anti-cytokine monoclonal antibody (mAb) therapies for the management of severe asthma. Novel biologics that target eosinophilic inflammation (or type 2, T2 inflammation) have been the most successful at treating asthma symptoms. Currently there are six anti-T2 biologicals approved by the US Food and Drug Administration (FDA) for managing asthma:

- **omalizumab** – which neutralises IgE, the key molecule for driving allergy and atopy;
- **mepolizumab and reslizumab** – which both neutralise IL5, the key cytokine orchestrating eosinophil biology;
- **benralizumab** – which blocks IL-5R signalling and depleted IL-5R+ cells,
- **dupulimab** – which, by blocking IL-4R, inhibits IL-4/IL-13 signalling (affecting several critical downstream targets that lead to asthma pathophysiology including eosinophils, smooth muscles and epithelia); and
- **Tezepelumab** – the newest – which blocks the epithelial derived alarmin TSLP, orchestrating downstream T2 inflammation independent of classic Th2 cells.

There has been significant improvement in treatment outcomes for asthmatics treated with these biologics. That said, a significant disease burden remains, as evident from modest reduction of exacerbation rates, i.e., approximately 40-60% with anti-T2 biologics1. These exacerbations are not all similar, and not essentially eosinophilic in nature. A prototype asthmatic treatment may have initial good response but subsequently show inadequate response. The nature and frequency of exacerbations documented in patients are key to understanding the underlying reason for poor response, thereby guiding a switch in therapy for optimal clinical management.

There are numerous studies that highlight predictors of good responses to these biologics, but few have focused on those who fail to respond adequately despite targeted treatment. Finding the appropriate biomarker for assessing the right patient population that would benefit from a drug, and for monitoring optimal therapeutic response, is key. Phenotyping asthmatics based on blood eosinophils is proving to be inadequate. It is therefore pertinent to understand the underlying immunology and, perhaps, to carry out immune endotyping of patients before prescribing appropriate drugs.

In my forthcoming talk ("Pathophysiology of exacerbations under anti-T2 biologicals") at this year's EAACI Annual Congress, I look forward to discussing the nature of exacerbations in anti-T2 biologic treatment, the underlying immunopathology and the possible mechanisms of sub-optimal responses. More importantly, I will highlight why it is important to assess the individual airway inflammatory micro-environment prior to prescribing mAb therapy, in the current age of precision medicine for asthma.

Reference Salter B, Lacy P & Mukherjee M. Biologics in Asthma: A Molecular Perspective to Precision Medicine. Frontiers in Pharmacology 2022 Jan 19;12:793409.

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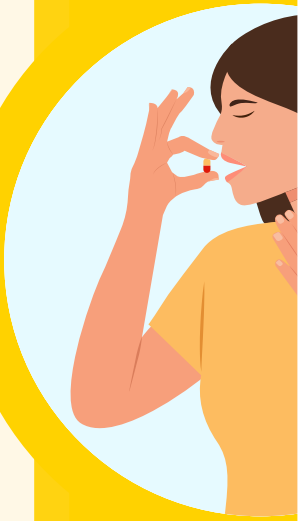
This platform serves the central EAACI goals of promoting research, disseminating scientific information to encourage continuous education, and functioning as a scientific reference body for professionals and organisations involved in allergy, asthma and clinical immunology.

➜ Learn more about the Media Library here with Karin Hoffmann - Sommergruber

From the EAACI Family

DHM Digital 2022

Drug Hypersensitivity Meeting on 21 April



Although we had hoped for a live, in-person meeting in beautiful Verona this year, we unfortunately instead had to opt for a virtual version. Nevertheless, we hope you were able to attend this digital meeting which was dedicated to both old and new foes.

One of these old and yet once again fresh problems is the question of the reaction to vaccines. In the media, many adverse reactions to the various corona vaccines were initially reported. During our meeting, we discussed ways to test for adverse reactions, both in vivo and in vitro.

We also revisited the role of viruses in drug allergic reactions, their role in breaking tolerance as well as their part in the appearance of DRESS. Furthermore, we had a session dedicated to diagnosis, in which we were able to discuss biomarkers, standardisation of provocation tests, the way to evaluate drug allergy in children, and the importance of de-labelling.

Young scientists were given ample opportunity to present their work during the meeting: sessions in both the morning and afternoon were dedicated to the work of 10 promising young researchers. We thank all of you very much for sending in your work, or for encouraging others to do so!

The last part of the meeting contained a series of presentations regarding current challenges in drug allergy: clonal mast cell disease, the MRGPRX2 receptor, the possibilities of artificial intelligence in drug allergy diagnosis, and yet another role for checkpoint inhibitors.

We were very happy to welcome all attendees to the digital meeting in April – and hope that we can also meet again in person in the autumn of 2023!

Ingrid Terreehorst

DHM 2022 Co-Chair

From the EAACI Family

A European survey of management approaches **in chronic urticaria in children** by the EAACI Paediatric Urticaria Taskforce

Urticaria is a cutaneous mast cell-driven disease, characterised by the spontaneous development of wheals (hives) and/or angioedema. When these symptoms persist for over six weeks, the condition is classified as chronic urticaria (CU), of which there are two forms: chronic spontaneous urticaria (CSU), and chronic inducible urticaria (CIndU). CSU accounts for approximately two thirds of all cases of CU, and although not life-threatening, it has a profound impact on the physical and psychological state of patients, affecting performance at work and school, and even affecting the parents of child patients. To investigate CU in children in more detail, an EAACI Taskforce was created to consider current clinical practice in the diagnosis and management of childhood CU, mapping activity, understanding country differences and challenges, mainly among European paediatricians and paediatric allergists working in public hospitals or universities. The majority of clinicians reported that less than 30% of their patients suffered from angioedema. While diagnosis is based primarily on clinical presentation, there is often a need for investigations to exclude a possible underlying cause. Regarding the work-up of CU patients, most clinicians use baseline investigations (full blood count, thyroid profile and thyroid antibodies, IgE, antithyroid nuclear antibodies) and only one third of clinicians examined their CU patients for parasitic infections and celiac disease. Sixty percent of clinicians, almost the same percentage who follow EAACI/WAO/GA2LEN/EDF guidelines[1], use a second-generation antihistamine (age/weight-adjusted) which is a basic recommendation of the guidelines. Only 5% of participants still use a first-generation antihistamine as their preferred first-line treatment, even though their 24-hour half-life and their causing drowsiness in the morning has been documented in the literature[2]. Interestingly, oral steroids are chosen by only 1% as the second-line treatment although, in a US study involving adults and children, oral corticosteroids were the most commonly prescribed medication. As omalizumab is the only approved add-on therapy for H1-antihistamine-refractory CSU for children between 12-18 years of age, in this survey, three quarters of clinicians prefer omalizumab as a third line treatment for CSU compared to less than 10% for CIndU. These discrepancies are attributed to the current licensing indication and age cut-offs according to national regulations in many European countries, and to the fact that omalizumab is not licensed for CIndU in many European countries. The results of this survey strengthen the need to re-evaluate, update and standardise protocols for the diagnosis and management of CU in children.

Sophia Tsabouri
EAACI Paediatric Urticaria Taskforce, Chair.

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EAACI Paediatric Urticaria Taskforce
Sophia Tsabouri, Stefania Arasi, Burcin Beken, Martin K. Church, Montserrat Alvaro Lozano, Carlo Caffarelli, Carsten Flohr, Sherief R. Janmohamed, George Konstantinou, Susanne Lau, Sebastian Lefevre, Charlotte Gotthard Mortz, Giovanni Pajno, Helena Pite, Chris Rutkowski, Petra Staubach, Lauri-Ann Van der Poel, Torsten Zuberbier, Tabi Leslie

From the EAACI Family

Allergy's continuing success leads to an Impact Factor of 13.15

Dear Colleagues and Friends,

As the EAACI Annual Congress 2022 approaches, we are excited to share with you our achievements and progress this year, and to express our gratitude for your continued support. This year we had the great pleasure of gathering the fruits of our efforts from the previous two years when we received an Impact Factor of 13.15, placing us as the most cited journal in allergy and ninth (out of 162) in immunology. This outstanding achievement was made possible with the vision, dedication and hard work of our editorial team. The constructive comments by the reviewers have elevated this journal to its current level.

Below is an outline of the journal's main achievements and initiatives this year:

- More than doubled the Impact Factor since 2018 to reach: 13.15
- Tripled full-text downloads since 2018. Record downloads in 2020 due to COVID-19 papers. For example, "Clinical characteristics of 140 patients infected with SARSCoV2 in Wuhan, China", published online on 19th February 2020, has reached over 1,900 citations.
- 90% increase in manuscript submissions in the last 3 years since the introduction of the new editors.
- 80% increase in citations of papers published in 2021 compared with 2019.
- The journal is now fully in colour free of charge to the authors.
- In-house design of most ALLERGY covers. Featured covers from guest scientific artists.
- Introduced new article categories: Comprehensive Reviews, Letters, Legends of Allergy and Immunology, Medical Algorithms, Recent Patents, Groundbreaking Discoveries, and Controversies in Allergy, Asthma, and Immunology.
- First decision time decreased from 30 to 20 days (median).
- Social media: 5 million Facebook impressions (41,000 followers), 3 million Twitter impressions (2,600 followers), WeChat (800 subscribers), 300,000 LinkedIn impressions (1,800 followers). Introduced Allergy-TV, a new YouTube channel with over 150 2-minute video abstracts, 250 subscribers and 280 hours of viewing time.
- Embrace and engage' educational programs for young scientists are in place and continuously developing under Author Guidelines: Manuscript Submission Checklist, Figure Guidelines, How to Make Good Figures, How to Review Manuscripts, How to Write a Point-by-Point Reply, How to Write a Cover Letter, How to Write an Abstract, How to Present Data Efficiently, How to Correct your Galley Proofs, How to Change your Author List at Revision, and How to Prepare Graphical Abstracts.

Looking forward to meeting you, both virtually and in person, in another exciting EAACI Annual Congress 2022.

Best wishes,
Cezmi Akdis
Editor-in-Chief ALLERGY

From the EAACI Family

Invitation to the EAACI Hybrid Congress 2022

Dear Friends, dear Colleagues,

It is our great pleasure to invite you to the second EAACI Hybrid Congress, which will be held in Prague, in the Czech Republic, from 1–3 July 2022. This year's theme is: "Common origins of allergy and chronic inflammatory diseases – the One Health approach."

This year's hybrid format will bring all the benefits and innovations which were experienced during the first EAACI Hybrid Congress last year. However, we sincerely hope that the improving epidemiologic situation will also allow many physicians and scientists to participate in person this year, giving them the opportunity to make face-to-face contact with friends and colleagues old and new, and to experience all that the magical city of Prague has to offer. Located at the heart of Europe, Prague is very easy to access, with direct flight connections to all major airports worldwide.

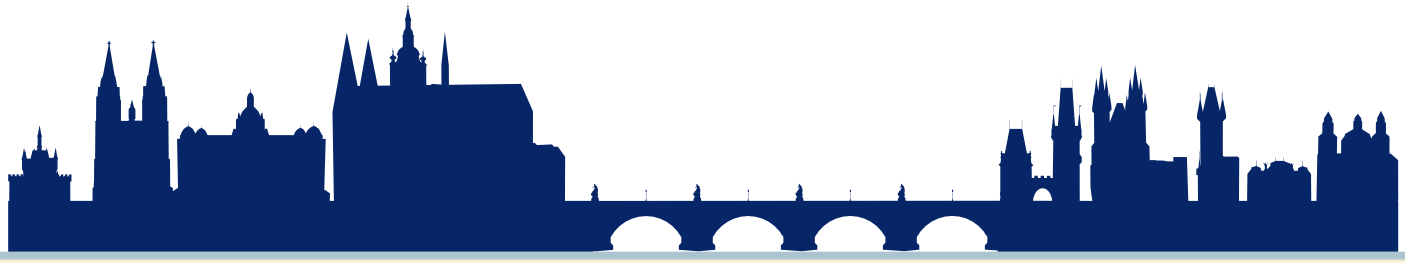
The EAACI Hybrid Congress 2022 will provide an engaging and interactive forum for the allergy and clinical immunology scientific community to discuss latest developments in our field. The Scientific Programme Committee has been working hard with EAACI sections, interest groups and working groups to bring you what we are sure will be an innovative and original programme. The focus of the Hybrid Congress 2022 will be the theme of "The One Health approach" – exploring the links between human health and all environmental factors such as pollution, climate change, and more. This new perspective has the potential to introduce completely new horizons for our attitudes towards how we respond to disease. We fully expect very stimulating and exciting discussions during the Hybrid Congress 2022.

The EAACI Hybrid Congress 2022 promises once again to be among the world's largest scientific events in the field of allergy and clinical immunology, providing a unique educational and learning experience for both clinical practitioners and researchers in the field. We are eager to share with you all the latest developments in basic, translational and clinical research in allergy, asthma and immunology and, as ever, we warmly invite you to contribute your own valuable insights, knowledge and enthusiasm, which will ensure the unwavering success of the EAACI Congress again this year.

Visit https://www.eaaci.org/eaaci-congresses/eaaci-2022 for further details.

We look forward to meeting you all in Prague at the beginning of July!

Best wishes,
Petr Panzner
EAACI Hybrid Congress 2022



From the EAACI Family

Magna Alves Correia
JMA Board representative

EAACI JM Activities during the 2021 Congress

The COVID 19 pandemic put huge constraints on all of us again at the 2021 Congress but fortunately I was able to represent the EAACI Junior Member Assembly (JMA) Board in loco.

The JMA Board organised and chaired three sessions. The first of these was the JMA Scientific Symposium on "Approaching infants at high risk of allergic disease", which took place on Saturday 10th July and included three informative presentations. The first of these, "Understanding immunological mechanisms that confer a higher risk of allergy" was by Rodrigo Jiménez-Saiz, also a JMA Board member. Maeve Kelleher talked about "Infants at high risk of food allergy: Nutritional and skin barrier repair interventions",, whilst Ibon Eguiluz-Gracia our former JMA chair presented a talk on "Exposome modulation and immunotherapy in infants at higher risk of respiratory allergies". All three talks presented us with a thorough review and up-to-date knowledge of the three fields.

On Sunday July 11th, the JM Educational Session "Lessons learned from #COVID19 pandemic" took place. Three very different topics concerning aspects of the problematic COVID-19 pandemic were approached: "Mental health during the Covid-19 pandemic: How to cope with job stress and build resilience", presented by Audrey Dunn Galvin; "The legacy of COVID-19 infection in children: Tackling long term effects of the pandemic", presented by Daniel Munblit; and "Covid-19 vaccination: Separating facts from fiction for your patients", by Beatriz Moya Camacho, another JM Board member.

The JMA Case Report session took place on the third and final day of the Congress and was another fruitful session of knowledge sharing, based on exceptional clinical cases which undoubtedly enriched us all.

The JMA Board would like to thank all the speakers for the excellent quality of the content of the presentations again last year, particularly in such tough times. Keep in touch with us through our social media pages (@EAACI_JM on twitter, EAACI Junior Member on Facebook). We sincerely hope that we be all able to see each other again soon.

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From the EAACI Family

FOOD ALLERGENS
and food oral immunotherapy as a trigger of eosinophilic esophagitis

Antonella Cianferoni
MD, PhD
Allergy and Immunology Division, The Children's Hospital of Philadelphia, Philadelphia, PA, USA

Eosinophilic esophagitis (EoE) is a worldwide chronic clinical-pathologic disease defined by eosinophil infiltration limited to the oesophageal epithelium that can be associated with significant oesophageal fibrosis and dysfunction when left untreated. In the last decade, EoE has been described globally and has become more prevalent in western countries, with a yearly incidence now considered to be like that of Crohn's disease[1]. Up to 90% of the patients affected by EoE have other atopic diseases such as allergic rhinitis, atopic dermatitis, eczema, asthma, and food allergies[1]. About 5% of children with food allergies develop EoE, especially those with multiple food allergies[2]. Given the primarily eosinophilic inflammation and the co-morbidity of other atopic diseases, it is not a surprise that the eosinophilic oesophageal inflammation in EoE is associated with all the typical T helper type 2 (Th2) mediators and polymorphisms in gene drivers of Th2 inflammation, such as thymic stromal lymphopoietin (TSLP) which is located close to the Th2 cytokine cluster (IL-4, IL-5, IL-13) on chromosome 5q22[3–6].

Foods have been shown to be the trigger of EoE in both adults and children using elimination diets. In general, the more restrictive the diets, the more rapidly and consistently they will induce remission of symptoms and inflammation. Diet approaches that have shown effectiveness in EoE patients are:

- **i.** a strict elemental diet using only elemental formulas as nutrition sources;
- **ii.** empiric food elimination based on avoidance of most common food antigens including milk, egg, soy, wheat, legumes, f ish/shellfish, and peanuts/nuts; and
- **iii.** specific antigen avoidance based on allergy testing[7, 8].

Most patients, however, appear to be responsive to a diet that avoids 1–2 foods, with milk and/or wheat being the most common triggers of EoE in both children and adults[7, 8]. Lately, with the expanded use of food oral immunotherapy (OIT) to treat food allergies, EoE has emerged as a long-term side effect of OIT, although in some cases EoE could have been pre-existing and

discovered or exacerbated during OIT treatment[9]. Currently is not clearly established how food allergens and OIT induce EoE. The available evidence suggests that a dysfunctional oesophageal epithelium in genetically predisposed individuals favours sensitisation to previously tolerated food allergens. The resulting Th2 inflammation causes epithelial damage and consequent chronicity of the disease. Although IgE specific for various foods seem often to be present, they don't seem to have a pathogenetic role, hence a diet based solely on elimination of IgE positive foods is less effective than an empiric diet eliminating most common allergenic foods. Specific recognition by Th2 cells seems to be more likely, but currently no definitive pathways have been found and therefore no in vitro tests to predict food allergen triggers of EoE are available[6, 7]. Hopefully in the near future the use of monoclonal antibodies and less invasive diagnostic tools will help us to elucidate the pathogenesis of food-induced EoE, with the consequent finding of sensitive and specific non-invasive biomarkers.

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From the EAACI Family

Thank you EAACI

Pollen and spore monitoring stations map the world

José Oteros

Jeroen Buters

Celia Antunes

Ana Galveias

EAACI WG Aerobiology & Pollution with their Task Force Inventory of Pollen Monitoring Stations in the World

In 2017 EAACI supported the WG Aerobiology & Pollution with their Task Force (TF) Inventory of Pollen Monitoring Stations in the World. The TF created an interactive world map of pollen and spore monitoring stations. The aim of the map was NOT to show pollen or spore counts, or highlight pollen predictions or scientific results, but to create a platform on which anybody with an interest could see who is doing what in the field of pollen and spores around the world.

The map was needed as the world of pollen was fragmented. Although being an international issue (pollen do not stop at borders), networks were always local or national. Often, even experts in the field did not know about colleagues in neighbouring countries. At the time of original publication (2018) there were 1020 pollen traps in the inventory, 130 of them being automatic. Today (as of 8 February 2022), there are 1219 pollen stations, 182 of them being automatic. Currently, no scientific presentation is without a slide of the map! The great success of the map has been the ability we now have to know all our colleagues, even in distant countries. For example, do you need to know (for your next grant) who is doing pollen monitoring in Africa? Or perhaps you need to know where the nearest automatic pollen monitor is? Or know how many automatic pollen monitoring stations are available? In the beginning, we had to ask scientists if they wanted to be on the map; today, stations send requests to placed on it! The increase of stations on the map has been dramatic, especially in countries difficult to contact, such as China. This is often also a good argument for funding: why does my neighbouring country have x-number of stations, and we have none? We have added improvements: if you want to know the pollen flight in Paris, just go to the map and click the link that Paris itself has added, to see where to get their data. The map holds many keys to the world of pollen and spore monitoring, and has a search engine. So, if you are going on vacation and want to know if you will run into pollen trouble, please check for yourself!

Funding ended in 2019 after 2 years (with a total of €4,500) and we would like to thank EAACI for providing the project's seed money which allowed the nucleus of the project to be achieved, after which a few Task Force members continued as volunteers. For full details, please see Buters et al. (2018)[1]. Today, the interactive online map has now been implemented for over 4 years. It is constantly changing as stations appear (frequently) or disappear (infrequently). We invite you to visit the map following the links below:

- ➜ www.eaaci.org/19-activities/task-forces/4342-pollen-monitoring-stations-of-the-world.html
- ➜ www.zaum-online.de.
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From the EAACI Family

Finding a way through telemedicine terminology

Telehealth, telemedicine (TM), telecare, mHealth, eHealth and remote sensing: many different similar-sounding terms are used, often interchangeably, but do they really all mean exactly the same thing? It's time to make some clear standardised definitions. According to the common World Health Organization[1], European Commission[2] and John Mitchell[3] definitions, eHealth refers to the combined use of electronic information and communications technology (ICT) in the health sector to share, store and retrieve electronic health data for prevention, diagnosis, treatment, monitoring, educational and administrative purposes, both on site or at a distance.

Both telehealth and TM (which is a part of it) come under the wider umbrella of eHealth. TM and telehealth take place at a distance, and while TM refers specifically to remote clinical services, telehealth can refer to remote non-clinical services, such as provider training, administrative meetings, and medical education, in addition to clinical services. Put another way, telehealth delivers healthcare at a distance, including health education, and remote treatment and TM.

Telecare consists of the use of ICT, such as alerts and sensing technologies, for the remote monitoring of care needs, emergencies and lifestyle changes of elderly or vulnerable individuals with physical or mental disabilities for the provision of personalised care services at a distance, supporting patients' self-management and helping them to remain independent in their home environment. Sometimes telecare is distinguished from TM and telehealth but often TM and telecare are considered synonymous – they have many similarities but each refers to a different way of using ICT to deliver healthcare services. mHealth can be used in any of these systems and refers to services supported by mobile devices.

Sylwia Smolińska
EAACI ROC Telemedicine Group Leader

From the Greek meaning 'healing at a distance', telemedicine (TM) has existed as a term since the 1970s, though it has been around in some form for millennia. We could say that the first use of TM was when ancient civilisations sent smoke signals to warn other clans of a contagious illness outbreak. Today, the idea of TM is to improve patients' outcomes by increasing access to care and medical information using ICT. Many of us use fitness

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apps installed on our smartwatches and wristbands which monitor heart rate or pulse in real time. Mobile phones routinely include their own TM apps tracking users' daily step counts. The fact that these devices – along with laptops and tablets – are in such widespread use means that patient accessibility to remote TM medical services is easier today than it's ever been. Furthermore, the COVID-19 pandemic has forced an even faster and more broad use of TM around the world. Yet, despite more than 100 peer-reviewed suggestions, we still do not have a standardised definition.

TM was initially introduced to improve health outcomes by overcoming geographical barriers to provide medical services to people living in remote areas using various types of ICT. Today, TM has become an everyday necessity providing clinical support – for people living in both developed and developing regions. When using TM in a specific discipline the name is often shortened to, for example, teleradiology, teledermatology, telepathology or telepsychology.

There are a number of different telehealth service delivery models, including:

• The store-and-forward technique (also known as asynchronous TM) – in which pre-recorded healthcare data is exchanged between two or more individuals at different times, so that their presence at the same time is not required. This is usually done through e-mail, so is inexpensive and easy to set up.

• Real-time (or synchronous) TM – which requires the immediate transmission of information through a communication device to allow real-time interaction between patient/healthcare professional and other healthcare providers/specialists, who are simultaneously present, but remotely. Usually it is done through video-conferencing equipment, but a phone call or an online chat forum are also interactive forms of synchronous communication.

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• Remote Patient Monitoring (RPM) – which involves the reporting, collection, transmission and evaluation of patient health data through electronic devices such as wearables, mobile devices, smartphone apps, and internet-enabled computers. RPM technologies remind patients to weigh themselves, check vital signs like blood pressure, oxygen levels and transmit the measurements to their physicians.

A number of mHealth applications are on the market and available ready to be downloaded and installed on phones which let users get in touch with a medical advisor any time and anywhere.

There are also a number of different examples of medical services provided at a distance:

• **Teleconsultation** – which allows easy and convenient access to medical services and assumes a critical relevance for those who live in rural and remote areas (where sometimes there is a lack of healthcare professionals) and for people with physical disabilities (who can experience difficulties with attending physical consultations). Teleconsultations can help save patients' time and transportation costs.

• **Teletriage** – which refers to the process of identifying a patient's problem, accessing the level of urgency and offering advice via phone (by trained professionals), in order to guarantee a safe, timely and appropriate assessment of patient symptoms. The main task of these professionals is the ability to identify urgent symptoms, rather than diagnose symptoms, and make safe decisions regarding patients, recommending on-site or home treatment. Teletriage is beneficial to patients as a powerful tool to use under conditions of urgency or uncertainty. From the health institutions' perspective, teletriage contributes to reduce healthcare system costs with inappropriate emergency visits.

• Telediagnosis – which is the determination of the nature of a patient's illness, at a remote location, based on clinical data and information (i.e. data, images, and video records) transmitted through ICT.

• **Telesurgery** –which refers to the use of TM equipment and ICT to support and monitor surgical procedures at a distance, or even to perform surgery remotely, such as by telementoring (which consists of remote interactive assistance given by a specialist to a surgeon during a surgical procedure through the use of video and audio connection) or by telepresence/teleintervention surgery (which uses robotised and computerised technologies to actively perform remote surgeries by linking a surgeon's movements to a scaled-down and very precise movement produced by a small robot machine).

The remote delivery of health care services by using ICT for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, for research and evaluation, and for the continuing education of health care providers all in the interests of advancing the health of individuals and their communities is today a reality for many of us. The number of available TM tools as well as our access to them is increasing constantly, with digital possibilities and applications being so wide-ranging that many solutions we had only recently dreamed about are now both available and essential.

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Stallergenes Greer at EAACI 2022

Furthering **AIT's** promises with precision medicine

AGENDA

Opening remarks
Giorgio Walter Canonica, Italy

01 **AIT's potential: a rapid & durable rebalancing of the immune system**
Kymble Spriggs, Australia

02 **One patient, one drug: finding the best match**
Philippe Gevaert, Belgium

03 **From biomarkers to care pathways: the asthma example**
Ioana Agache, Romania

04 **AIT & precision medicine: a fruitful patient management**
Pascal Demoly, France

Conclusion
Giorgio Walter Canonica, Italy

Chairs
Giorgio Walter Canonica, Italy
Kymble Spriggs, Australia

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From the EAACI Family

Harnessing epigenetic changes in allergy

Both genetics and the environment play a strong role in the etiology of allergic diseases. The genetic heritability of asthma, allergic rhinitis and atopic dermatitis have been shown to be highly variable, ranging between 35–95%, 33–91% and 71–84%, respectively[1,2]. Although a number of risk alleles and susceptible loci have been identified, they only account for a small proportion of the genetic heritability[3]. Further, the rises in different allergic diseases over the last few decades are too rapid to be explained through genetic changes. Epigenetic modifications, such as DNA methylation, histone modifications, and non-coding RNAs, are now thought to bridge the gap between the genome and the environment. Epigenetic changes may account for some of the missing heritability and the rapid rise in allergic diseases in response to the changing environment. However, it should be noted that while transgenerational epigenetic inheritance via the germline has been observed in plants, nematodes and fruit flies, its occurrence in mammals is controversial[4].

In the last few decades, while there has been increased interest in understanding the effect of epigenetics in allergic disease, there has been little consistency between studies. These differences are likely due to the small sample sizes, sample heterogeneity, methylation and sequencing techniques, cross-sectional design, and differences in cell types and statistical methods used for analysis. Unlike DNA sequences, epigenetic alterations are cell- and tissue-specific. While most DNA methylation studies use easily accessible peripheral blood or cord blood, these may not reflect those in airway tissue, gastrointestinal cells, or other tissues involved in allergy.

However, technological advances in analytical tools are expected to lower costs and advance the field. The Illumina EPIC BeadChip array, which covers more than 850,000 CpGs, is a significant improvement on its predecessor which could only cover approximately 450,000 CpGs[5]. Other advances in technologies, such as the Assay for Transposase-Accessible Chromatin using sequencing (ATAC-seq) and cytometry by Time-Of-Flight

Kari Nadeau

Vanitha Sampath
Sean N. Parker Center for Allergy and Asthma Research at Stanford University, Stanford, CA, USA

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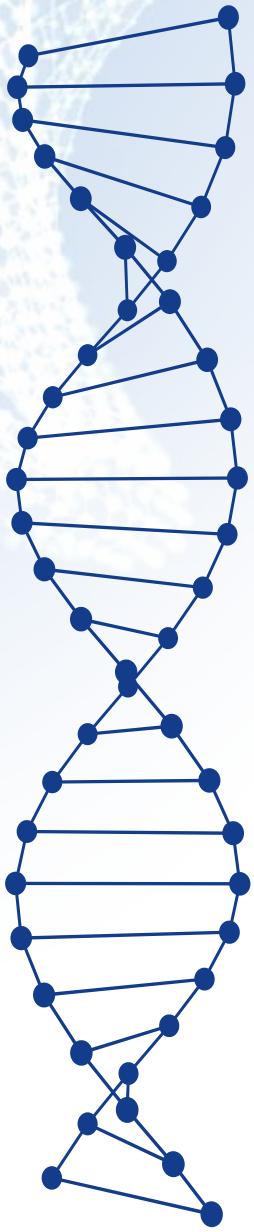

(EpiTOF) have made it possible to study histone modifications and chromatin accessibility across the whole genome and at a single cell level[6,7].

Potential applications of epigenetics include diagnostics for allergic disease as well as monitoring treatment outcomes with therapy. Determination of epigenetic changes in allergic disease can also assist with development of treatments and strategies for prevention. Martino et al. found that in food-sensitised infants, clinical outcome could be predicted with 79% accuracy using 96 CpG methylation sites. These methylation markers outperformed commonly used allergen-specific IgE and skin prick tests for predicting oral food challenge outcomes[8]. A study by Syed et al found that peanut oral immunotherapy resulted in hypomethylation of the forkhead box protein 3 (FOXP3) gene suggesting its use as a marker to monitor desensitisation and treatment progress with immunotherapy[9]. Some studies have associated prenatal fish oil consumption with decreased risk of asthma, but the evidence is weak[10]. Another study found that dietary fish consumption altered histone acetylation in placentas from mothers[11]. This suggests a epigenetic mechanism by which fish oil can enable tolerance in infants and a potential dietary intervention for preventing asthma in infants[11].

With progress in technologies and bioinformatic tools, we can expect more robust and reproducible data regarding epigenetic sites in allergic diseases and the development of pharmacotherapeutic drugs. There are currently a number of epigenetic drugs that are in clinical trials for cancer. The CRISPR/Cas9 technology has also paved the way for epigenetic editing[12]. It is only a matter of time before we can harness epigenetic tools for the diagnosis, prevention and treatment of allergic diseases.

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Advocacy and Outreach

Patient organisations making an impact around the world

The EACCI Patient Organising Commitee (POC) continues to work to improve the management of allergic diseases through active engagement in initiatives and sharing of best practices. Below we feature just three important initiatives involving the EAACI POC and other patient organisations around the world: working to improve food allergen labelling; contributing to PAAM 2021; and making progress with Australia's National Allergy Strategy.

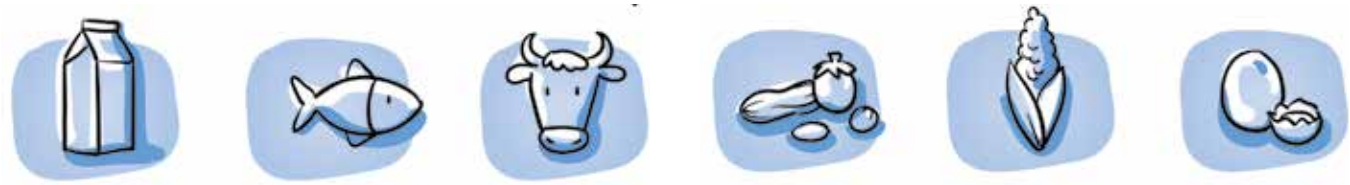
After delays due to the pandemic, the Codex Committee on Food labelling (CCFL) – part of the Codex Alimentarius, and the global body that sets the framework for food safety and labelling – met in September 2021. Several food allergy patient organisations, also members of EAACI's POC, raised the patient voice in Codex discussions by providing feedback through national contact points and letters to the CCFL. Since October 2019, the European Federation of Allergy and Airways Diseases Patient Organisation (EFA) – an umbrella organisation of European patient organisations – has had Observer status with the CCFL, allowing them to make official contributions. POC members Sabine Schnadt (German Allergy and Asthma Association) and Marcia Podesta (Food Allergy Italy) have represented the EFA in electronic working groups (eWG) and meetings of the CCFL, where the new framework for allergen labelling is discussed.

Currently under review are the list of allergens that must be declared and various aspects which are intended to improve the labelling of allergenic ingredients. Of particular importance to patients is the regulation of unintended allergen presence and precautionary allergen labelling (PAL). The EFA, in consultation with many other patient organisations around the globe, is campaigning for a mandatory regulation of PAL based on a quantitative risk assessment. The next CCFL meeting will be in Spring 2023. Until then, engaged patient organisations will continue to raise the patient perspective on all allergen labelling related discussions.

Maria Said

Mary Jane Marchisotto

Sabine Schnadt
EAACI
Patient Organisation Committee



Advocacy and Outreach

Another effort to elevate the patient voice was offered when organisers of PAAM Digital 2021 invited POC members to participate in chairing sessions and contributing to on-demand content. Our members co-chaired six sessions and provided two on-demand lectures: "Psycho-social impact of food allergies" and "Empowering allergic patients and their families through education" delivered by Jennifer Gerdts, Food Allergy Canada. Thank you to Dr Helen Brough, PAAM Chair, and Dr Stefania Arasi, PAAM Co-Chair, and to the organising committee for initiating this engagement, for continuing efforts to highlight the patient perspective and for promoting collaboration between clinicians, researchers and patient organisations.

Australia's National Allergy Strategy provides a success model for engaging government through clinician and patient collaboration. Launched in 2015 and supported by government funding, this initiative is co-led by Allergy & Anaphylaxis Australia and by the Australasian Society of Clinical Immunology and Allergy (ASCIA), as the leading patient and medical organisations for allergy in Australia. Two very recent milestones are:

- A new Acute Anaphylaxis Clinical Care Standard (CCS) by the Australian Commission on Safety and Quality in Health Care (ACSQHC). The CCS guides all health professionals, whether in health settings or in the community (such as first responders, including paramedics), to treat anaphylaxis following the evidence-based guidelines of ASCIA. This addresses the variety of emergency responses to anaphylaxis between hospitals, providing one CCS for acute anaphylaxis that should be followed;
- New national Best Practice Guidelines for Anaphylaxis Prevention and Management in Schools and Children's Education and Care services. The Best Practice Guidelines allow for a national approach to the prevention and management of anaphylaxis in school and childcare settings. A new Allergy Aware Resource hub houses the Best Practice Guidelines and many other resources to help school and childcare staff, students, young children and parents to manage the risk of anaphylaxis.

Both Canada and the UK are taking similar steps to engage government and POs are following the progress in Australia for shared learning and reapplication.

EAACI Beyond Europe

The Korean Academy of Asthma, Allergy, and Clinical Immunology (KAAACI)

Yoon-Seok Chang
Secretary General of KAAACI
Division of Allergy and Clinical Immunology, Department of Internal Medicine, Seoul National University Bundang Hospital, Seoul National University College of Medicine, Seongnam, Korea

The Korean Academy of Asthma, Allergy and Clinical Immunology (KAAACI) was founded in 1972. For 50 years, KAAACI has been devoted to improving the treatment of allergic diseases, to promoting understanding of allergy, asthma and clinical immunology, and to being an active advocate of clinical and basic research. KAAAI holds Spring and Autumn Congresses each year. This year, KAAACI celebrates its 50th anniversary and will hold the KAAACI International Congress (on May 6–7; see: https://kaaaci.or.kr/2022s/eng/index.php) with international organisations such as WAO, APAAACI, EAACI, AAAAI, GAA-Interasma, WPAS, and EAAS in Seoul, Korea. You can join the congress either onsite or online. The congress registration fee will be waived for overseas delegates to celebrate the 50th anniversary of KAAACI. Please register to explore and enjoy the Congress! Allergy, Asthma & Immunologic Research (AAIR; https://e-aair.org) is a flagship journal which has been published by KAAACI and the Korean Academy of Pediatric Allergy and Respiratory Disease (KAPARD) since 2009. AAIR's 2020 impact factor is 5.764. The Korean Journal of Asthma, Allergy and Clinical Immunology, a scientific quarterly journal published by KAAACI from 1981, has been published with KAPARD since 2013 under the name of Allergy, Asthma, & Respiratory Disease (AARD, https://aard.or.kr). KAAACI has published Korean National Guidelines on Asthma and Allergic diseases since 1994. For example, the Korean Asthma Guideline was the first national guideline from KAAACI published in 1994 (revised and updated in 1998, 2003, 2007, 2011, 2015, and 2021). KAAACI has also published National Guidelines and Consensus Statements on allergic rhinitis, chronic cough, chronic urticaria, anaphylaxis, radiocontrast media hypersensitivity, and recently on COVID-19 vaccine-associated anaphylaxis and allergic reactions. KAAACI is also actively involved in advocacy: collaborating with the Korea Disease Control and Prevention Agency, the Ministry of Food and Drug Safety, the Korean Asthma and Allergy Foundation, and the Atopy·Asthma Education Information Centers. KAAACI is an active international allergy member society holding important international congresses such as the World Allergy Congress (WAC) and APAAACI Congress in Korea, and sister society symposia at WAO, APAAACI and EAACI Congresses. KAAACI has been a good and sincere friend of EAACI, and is a member of the EAACI International Societies Council. After the historic KAAACI–EAACI leadership meetings of Prof. Sang-Heon Cho and Prof. Antonella Murano in 2016, and of Prof. Sang-Heon Cho and Prof. Ioana Agache, KAAACI and EAACI established the EAACI–KAAACI Speaker Support Program at the KAAACI Congress, and the EAACI–KAAACI Joint Symposium at the EAACI Congress. In 2019, the EAACI–KAAACI memorandum of understanding was finally signed, led by Prof. Marek Jutel and Prof. Ho Joo Yoon. It was a great pleasure and honour for me to actively participate in the whole process as the Chair of the KAAACI international committee. We look forward to having more collaborations between KAAACI and EAACI! Because of the COVID-19 pandemic, we have not been able to meet face-to-face for a long time (although we could see each other and watch congress online). I very much look forward to meeting my friends and colleagues of EAACI in Seoul and Prague!

EAACI Hybrid Congress 2022

EAACI is eager to welcome you to the EAACI Hybrid Congress 2022, which will this year be held in Prague, Czech Republic and online **on 1-3 July 2022**. Following up on the hugely successful first EAACI hybrid congress held in Krakow, Poland last year, we will provide you again with the flexible format, which enables **joining us either onsite in the picturesque, historical city of Prague or attend from the comfort of your homes**.

The motto this year corresponds to the current research priority of our Academy: **the One Health Approach**. With this contemporary way of thinking we bring to your attention that the health of our environment, animals and plants is deeply linked to human health. Within the European Commission, the World Health Organisation and other key health opinion leaders, this approach has gained immense momentum, with new initiatives, research and multidisciplinary collaborations carving out an obvious and relevant space for us to join in with our expertise.

A multitude of common factors seems to be responsible for allergic diseases development, duration, and severity in all mammalian species. These include the effects of global warming, climate change, and air pollution which have already become clear; in addition to novel species of plants and animals in geographical regions where they have not been resident before; differences in blooming seasons; changes in the allergenicity of molecules due to CO2, ozone, or pollution contributing fine- and ultra-fine particles; the environmental hygiene status; body hygiene; diet and food composition; nutritional status; food processing; pollution of water, air, and environment; medications such as antibiotics or acid-suppressing drugs, the epithelial barrier hypothesis and many more.

All these factors may have a varying influence on development and outcome of allergic diseases. Therefore, to successfully combine them, **a well-coordinated approach both in humans and in animals is necessary**.

There is no better place to bring all these minds together than the **EAACI Hybrid Congress 2022**, which will provide three days of deep knowledge sharing, world-class lectures by our experts, and much more.

We look forward to seeing all of you at the **EAACI Hybrid Congress 2022!**

EAACI Beyond Europe

INDANA: Narrowing the gap between nutrition and food science, food allergy and immunology

Marion Groetch
INDANA, chair

Isabel Skypala
past INDANA chairs

Berber Vlieg-Boerstra
past INDANA chairs

Carina Venter
past INDANA chairs

The International Network for Diet and Nutrition in Allergy (INDANA) was established in 2009 by Berber Vlieg-Boerstra, Isabel Skypala and Carina Venter to unify and promote evidence-based practices for the nutritional management of patients with food hypersensitivity. The network has been supported through the years by our esteemed international champions: professors Hugh Sampson (US), Steve Taylor (US), Gideon Lack (UK) and Susan Prescott (AU).

In 2010, founder members of INDANA were invited to establish the Allied Health Interest Group of EAACI and, in recent years, INDANA was recognised as a sister society of EAACI, with INDANA members involved as integral partners in the pursuit of science in the field of food allergy. INDANA members have taken a leading role in collaborative, multi-professional activities within EAACI such as education, mentorship, research, protocol development, and harmonisation of clinical resources and guidelines. Since 2012, INDANA members have led and contributed to the publication of numerous position papers, systematic reviews, and guideline developments1–10 within the EAACI family. INDANA members have provided expertise in dietary assessment, nutrition and food allergy management and the development of competencies for allied health professionals working in allergy. Current projects include a collaboration with the Research and Outreach Committee to address the topic of 'Improving Practical Dietary Management of Food Allergy'. In recent years, INDANA members have led the promotion of nutrition within allergy, through the establishment of and leadership in the Immunomodulation and Nutrition Workgroup. Our past INDANA Chair, Dr Isabel Skypala, currently serves as Member at Large on the EAACI Executive Committee. The vision of the founder members of INDANA to advance the role of diet and nutrition in allergy has led to collaboration within our global community and among diverse health care professionals. Together, we are actively narrowing the gap between nutrition and food science, and food allergy and immunology. INDANA members hail from six continents all sharing the unifying goal of supporting families managing food allergies. Please visit our website and join us! See: http://www.indana-allergynetwork.org/

EAACI Beyond Europe

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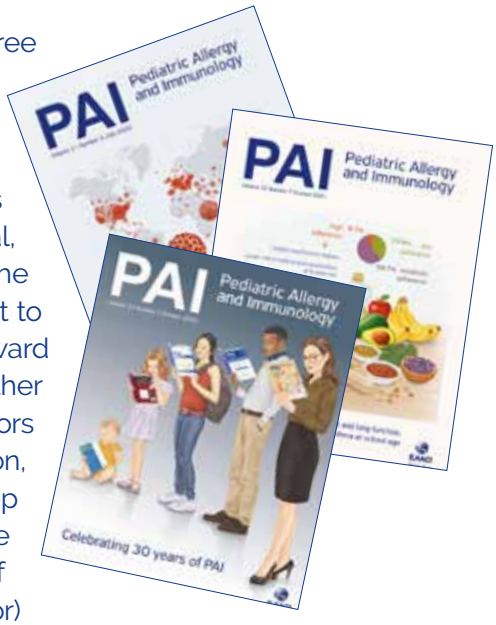
From the EAACI Family

PAI HIGHLIGHTS from 2021 and perspectives on 2022

Philippe Eigenmann
Editor-in-Chief,
Pediatric Allergy and Immunology



Pediatric Allergy and Immunology (PAI) is one of EAACI's three official journals. It is the leader in the field of and immunology covering not only Europe but with contributions from all around the world.

In 2021, 625 manuscripts were submitted. All manuscripts went through editorial screening and, if accepted, peer review. In total, 216 contributions were accepted last year. We greatly appreciate the essential contribution of our reviewers who donate their time and effort to the scientific quality of the journal. In 2021 once again, our Review Award acknowledged the most active reviewers of the previous year. The other essential part of the reviewing process is provided by the associate editors of PAI, and in this area 2021 witnessed a few changes when Hugh Sampson, who has contributed to the journal for over 30 years, decided to step down. Many thanks to Hugh for his dedicated service to PAI! We were able to recruit two new Associate Editors: Fabio Candotti (in charge of primary immunodeficiency) and Carmen Riggioni (Junior Associate Editor) – a warm welcome to them both!

In 2022, the journal will undergo major internal changes as we move from 8 to 12 issues per year. From now on, as soon as a manuscript is accepted, it will be assigned to the next monthly issue, allowing for much more rapid publication. Despite this change, however, and since the journal has already been exclusively published online for more than a year, readers will not see too many differences. You will still find all the usual reviews, position papers, rostrums, original articles and letters. In 2022, we will continue to accept case reports in the format of clinical letters to the editor, which we began accepting last year, but will only accept new cases with a real benefit to readers and all submissions will obviously undergo peer review. And in 2022 we also aim to produce thematic issues which will feature original reviews as well as the most relevant recently published articles on the selected topic.

We hope that our readers enjoy PAI and that the journal provides a relevant contribution for your continuous education and the advancement of science in our specialty. Please continue to submit your best scientific work to the journal, and do not hesitate to contact us with any suggestions, which help us to continuously improve PAI.

From the EAACI Family

An update on the forthcoming revised EAACI Food Allergy Guidelines

Alexandra Santos
Chair, EAACI
Food Allergy Guidelines Expert Group

The EAACI Food Allergy Guidelines were last published in 2014 with an update on immunotherapy as part of the 2017 EAACI Guidelines on Food Allergen Immunotherapy. An Expert Group has now been formed with members from all over the world to advise on the much-awaited next update of the EAACI Food Allergy Guidelines. This Expert Group is led by a Steering Committee formed of Alexandra Santos (Chair), Isabel Skypala, George Du Toit, Carmen Riggioni and two methodologists, Jon Genuneit and Daniel Munblit. Alexandra Santos is the current Chair of the EAACI Food Allergy Interest Group and, together with Isabel Skypala, leads the Food Allergy Group of the EAACI Research and Outreach Committee. Carmen Riggioni is the Chair of the Junior Members Committee. The new EAACI Food Allergy Guidelines will be informed by two systematic reviews of literature (SRLs), one on diagnosis and one on treatment, and also by other existing literature that will be quality appraised. The SRL on diagnosis is led by Jon Genuneit and the SRL on treatment has been commissioned from Inmusc, led by Loreto Carmona. The Protocol for the SRL on diagnosis has been published in Pediatric Allergy and Immunology (link) and the Protocol for the SRL on treatment will be published very soon. The SRL protocols have both been registered on Prospero (Diagnosis protocol link; Treatment Protocol link) The Expert Group will be meeting online in May 2022 to start elaborating the recommendations on the diagnosis of food allergy. Preparation of the recommendations on treatment will follow before the end of the year. Watch out for the consultation exercise which will appear on the EAACI website later in the year, which will allow you to provide your feedback and to contribute to the EAACI Food Allergy Guidelines – the reference for high quality clinical care for food allergic patients in Europe and across the globe!

Some of the Expert Group members during a group video meeting - from left to right and top to bottom: Charlotte Mortz (Denmark), **Alexandra Santos** (UK), **Ronald Van Ree** (The Netherlands), **George Konstantinou** (Greece), **Jon Genuneit** (Germany), **Lucila Camargo Oliveira** (Brazil), **Cezmi Akdis** (Switzerland), **Carsten Bindslev-Jensen** (Denmark), **Isabel Skypala** (UK), **Lars Poulsen** (Denmark), **George Du Toit** (UK), **Karin Hoffman-Sommergruber** (Austria), **Barbara Ballmer-Weber** (Switzerland), **Mubeccel Akdis** (Switzerland), **Carmen Riggioni** (Singapore), **Beatriz Moya** (Spain), **Helen Brough** (UK), **Gideon Lack** (UK), **Daniel Munblit** (UK), **Montserrat Alvaro-Lozano** (Spain), **Bernadette Eberlein** (Germany), **Eric Linsi** EAACI HQ), **Alberto Alvarez-Perea** (Spain), **Betul Buyuktiryaki** (Turkey), and **Rosan Meyer** (France).

EAACI 2022 HYBRID PRAGUE

EAACI
EUROPEAN ACADEMY OF ALLERGY AND CLINICAL IMMUNOLOGY

EAACI Hybrid Congress 2022

Common origins of allergy and chronic inflammatory diseases - One Health approach

Prague, Czech Republic and online

1-3 July 2022