MAARA
Midlands Asthma & Allergy Research Association
SPRING 2019
Registered Charity No. 257131

Chairman's Message

Last year I outlined the thoughts and processes we went through to organise an event to mark the 50th anniversary of the formation of MAARA. The resultant public lecture was held on 20th June by Professor Ian Pavord, Professor of Respiratory Medicine at the University of Oxford. The event was most entertainingly introduced by Professor Philip Baker, University of Leicester's Pro-Vice-Chancellor, Head of College and Dean of Medicine.

The evening commenced with an opportunity to chat and meet with a number of people displaying their posters of MAARA sponsored projects along with Stuart Wili from Burkard Ltd, a long time sponsor of MAARA; not forgetting current and past members of the Association, notably Edward Stanger, the immediate past Chairman who had made the journey from his home in Glasgow.

Professor Pavord recounted his time at Glenfeld Hospital as a consultant in the mid-nineties and went on to describe the importance of the pioneering work of our founder, Dr Harry Morrow-Brown and how his theories and assumptions about asthma are as relevant today as they were in the sixties. He described how some of Dr Morrow-Brown's patients received life changing treatment which meant they were no longer housebound and were able to live relatively normal lives. I left the lecture understanding why MAARA receives such huge legacies.

Professor Pavord concluded by suggesting that, such was Dr Morrow-Brown's contribution to the understanding and treatment of asthma, the city of Derby should honour him in some way, perhaps with a Blue Plaque or similar. Professors Pavord and Baker then joined the committee for dinner, rounding of a very successful evening.

On a slightly more serious note, I have to report that Roger Chappell, our Treasurer for the past 29 years, decided to resign his post at the last AGM, although he is still happy to remain on the Executive Committee.

Myself, Professor Pavord and Edward Stanger

Roger was Treasurer when I joined MAARA and has done sterling work during his time with the Association. I would like to place on record mine and the Committee's thanks for his sound financial management and controls along with the precise reporting that Roger has carried out during this time. He is handing over the finances in an excellent state.

We are extremely fortunate that Peter Teasdale, an existing Committee member and also a Chartered Accountant, has agreed to take on the Treasurer role. I am extremely grateful to him for this and I know there is already a lot of work ongoing to make the necessary authorisation and verifcation changes with the banks, something I know from previous experience is both bureaucratic and stressful! I am pleased to say that new research funding requests are still being received and approved and that this year's travel fellowship is now over-subscribed. Finally I would like to thank all of the individuals and companies who contributed time and money to the organisation of the open lecture, particularly the University of Leicester who hosted and advertised the event. Special thanks also to Stuart Wili of Burkard Ltd. who very generously donated the outdoor multi-vial cyclone sampler, which he brought to the event. This specialist machine, worth thousands of pounds is now being used by the University of Leicester in MAARA sponsored research. As always, the committee gave freely of their time and some travelled great distances to attend our meetings, all without recompense. I thank them all.

Steve Watson - *Chairman*

THIS ISSUE:

MAARA Funded Projects

Aerobiology at Leicester University

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Improving attitudes, understanding and management of food allergy in children and adolescents Aston University & LRI

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E-NOSE Ember Study

—

Investigating the Mechanisms of ILC2 Tissue Recruitment

—

PEXa Machine - to study Lung Disease

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Welcome to the new Treasurer

Following the retirement of Roger Chappell as Treasurer, I was delighted to step into his shoes. Roger has been an excellent Treasurer over many years in the position and will be a hard act to follow – thank you, Roger, for your contribution to the efficient running of MAARA.

To give you some background about myself, I am a recently-retired Chartered Accountant who spent most of his career in industry. I was made aware of MAARA some years ago by Edward Stanger, eventually became a committee member and now Treasurer. I was particularly interested in the charity as my daughter, Lizzie, has a severe peanut allergy. She contributed an article in a previous Newsletter describing her first anaphylactic shock at the age of seventeen. I believe the work MAARA supports is a vital contribution towards the management, and hopefully eventual cure, of asthma and allergies and am glad to be able to contribute in a small way.

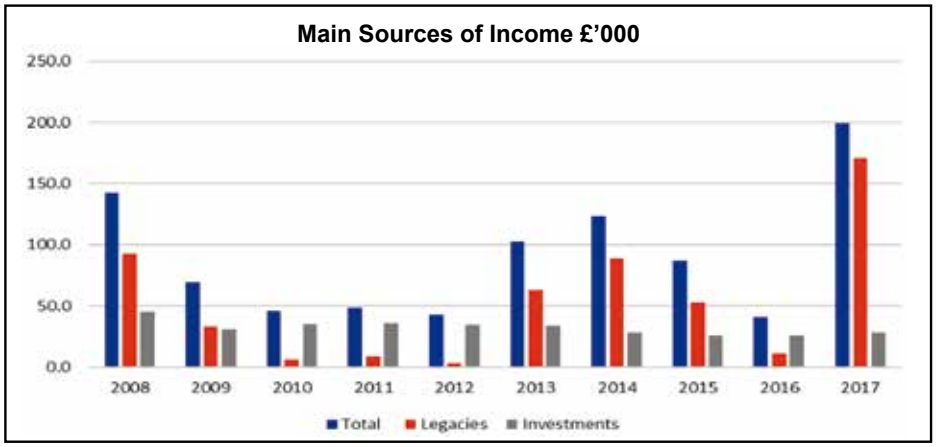
Peter Teasdale - *Treasurer*

Treasurer's Report

Financing our Activities, and Research Funding

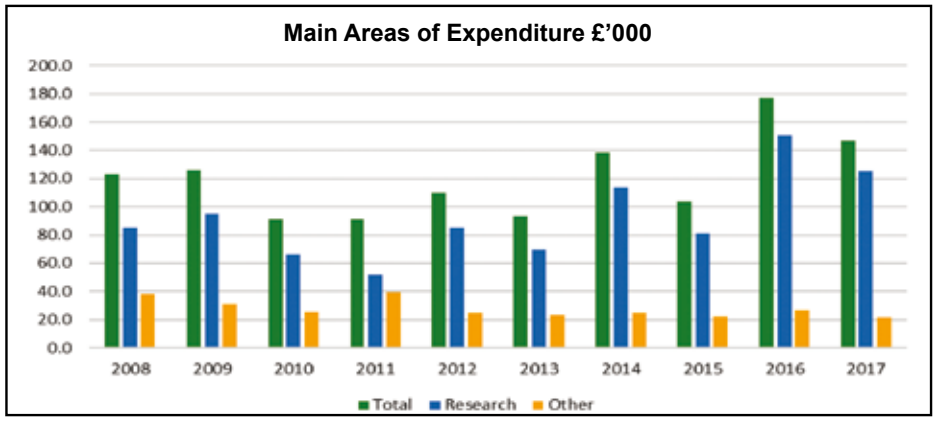
From our Treasurer Peter Teasdale

I am pleased to report a successful year in 2017. As usual, income is very dependent on the level of legacies, which by its nature fluctuates from year to year. Donations and legacies were a record £170,984, a welcome boost after the lower level of 2016, £10,923. Our investments continued to perform in a steady manner bringing in a further £25,123 (£26,060, 2016) which covers all our running costs (an average of £23,700 over the last five years). In addition, there are many fundraising events which individual MAARA members and members of the public undertake to support our charity. Our annual Golf Day raised £2,940 – once again many thanks to Eva Day for another splendid day.



The graph shows the significance of legacy income in recent years in relation to total income.

MAARA devotes the majority of its funds to important research projects, which is a core activity of the Association. The majority of these involve asthma and allergy specialists at the University Hospitals of Leicester NHS Trust, with some existing projects continuing over the coming years. We also committed in 2017 to substantial new funding of other important research programmes which are highlighted elsewhere in this Newsletter. MAARA's emphasis on funding important research projects whilst containing administration costs is highlighted in the next graph.



Thank you again for all your support which allows MAARA to continue its research funding programmes.

Barrow-on-Soar Murder Mystery hold a raffle for MAARA

Every year in Barrow-on-Soar there is a Murder Mystery evening. I say it as I shouldn't, but it's a great night and has proved very popular.
The cast of this year's show, Death by Radio by Paul Falcone, was asked to nominate charities to be a recipient of the ra f e we hold. One cast member, Abi Crossly has a baby whose allergies have given Abi and husband Mac, reason to be grateful for MAARA, so the cast selected MAARA as 2018's charity. Members of the cast donated ra f e prizes and approached local businesses (such as Peppercorns in Mountsorrel and Aqua Hairdressing in Quorn) for donations. The show was a sell out and people seemed to enjoy it very much (especially those who dressed up in 1940s costume, that being the time setting for the play.) We had a great time too – the best one so far said one loyal cast member.

The photo shows the whole cast in rehearsal: Craig Johnstone, Abi Crossley, John Bean, Jackie Johnstone, Danielle Gudger, Steve Crossly, Zac Gudger and Matt Gudger.

The raffle raised £101, which we hope is useful to MAARA.

Helen Sadler - *Director.*

Mr & Mrs Richardson MAARA Members with Cathryn Weston at the 50th Anniversary

Investigating the Mechanisms of ILC2 Tissue Recruitment

People with asthma have increased infammation within their airways caused by a variety of blood cells called lymphocytes. Recently, scientists have identifed a new type of lymphocyte called a type 2 innate lymphoid cell (ILC2 for short), that seems to be important in asthmatic responses. Like other lymphocytes, ILC2s circulate within the blood and are recruited to specifc tissues such as the lung following activation of proteins on their cell surface called receptors. One possible future treatment for asthma would therefore be to stop the recruitment of these cells to the airways by blocking these receptors. Unfortunately, little is known about how ILC2s are directed to the lung. Using a technique known as fow cytometry we have identifed several functional receptors on the cell surface of ILC2s isolated from human blood and lung tissue samples. Our data provide new insight into the potential mechanisms by which ILC2s may be recruited or activated in the human blood and lung and may therefore allow rational selection of future therapeutics targeting ILC2s in asthma. The fow cytometryin this project was performed on an instrument funded by MAARA.

Dr Cathryn Weston - *NIHR Biomedical Research Centre*

Research Update: E-NOSE EMBER Study

Recruitment will continue in the paediatric arm of the EMBER study until February 2019 to capture the busy winter months. Despite a relatively quiet winter last year the total number recruited to date stands at 69, 14 Healthy Volunteers and 55 Asthmatic. Another CMS instrument was introduced to the study which the participants found was very easy to use. Overall compliance and tolerability to all the instruments used in capturing the breath samples is over 95%. The EMBER study was featured in the autumn edition of the University Hospitals of Leicester Together magazine. The Scientists from both the University of Leicester and Loughborough University continue to work hard at analysing the samples collected looking for breath metabolomics biomarkers with results expected to be available in 2019.

Teresa McNally
Respiratory Research Nurse

Lecturship at the University of Leicester

Catherine Pashley

MAARA have played a huge role in my career to date, and I will always be thankful to them for the support they have ofered our group. We would not have been able to complete much of the research which we have written about over the past twelve years without them, which started with the launch of the then new aerobiology group at the University of Leicester in 2006. At the time I was recruited as a postdoc, funded by MAARA, and tasked to set up the group and initiate research projects to complement the aerobiology. In 2012 MAARA awarded me a fve year fellowship to continue the work we had started, and that fellowship was the cornerstone of my application to the University of Leicester to become a lecturer in 2017, when my fellowship ended my lectureship began. In addition to producing the pollen and fungal spore counts for the East Midlands, my group will continue to look at the efects of fungi on respiratory health. Continuing my long standing collaboration with Prof Andy Wardlaw, we will be looking at the efects of a novel inhaled antifungal drug in people with asthma, and in collaboration with Dr Erol Gaillard we will continue to look at the efects of fungi and bacteria on respiratory health in children with asthma or cystic fbrosis.

Jack Satchwell - Research Technician

I have been working for MAARA as a Research Technician at the University of Leicester since 2014. I am currently a year and a half into my three year funding grant from MAARA. With MAARA's funding I have been continuing their forty-eight year legacy of counting spore and pollen levels in the Midlands area. I update the MAARA website and the MET Of ce with this information to help inform the public of current levels of aeroallergens, so they can take relevant precautions. This funding also helps me to train new aerobiology and respiratory researchers in practical techniques. I also support several new and ongoing aerobiology and respiratory research projects based in the clinical mycology group at the University of Leicester. Recently I have been supporting Dr Deepa Patel who is looking into the role of fungi in cystic fbrosis. Hopefully novel research in this feld may contribute to improved clinical management and better life expectancy for patients with cystic fbrosis.

Eva-Maria Rick

I joined the Aerobiology and clinical mycology group, which frequently receives generous support from MAARA, in October 2014 to do a 4-year PhD project funded by Asthma UK and the Henry Smith Foundation. I investigated the fungal composition in the lungs of people with asthma (grouping people with asthma into those with fungal allergy and those without) and healthy individuals using respiratory samples such as sputum and bronchoalveolar lavage. Based on the fndings from DNA sequencing, I discovered some fungi whose role in asthma, particularly in subjects with fungal allergy, is largely unknown. To assess their role in the context of allergic reactions, I extracted proteins from a few species and used human serum to determine whether allergens were present. These were characterised by a protein sequencing technique called peptide mass fngerprinting. From six potential allergens, I was able to identify two which were cross-reactive with known allergens, meaning that these allergens share protein structure and functions. I submitted my PhD thesis in September and obtained a PostDoc position in the same group and started at the end of October. I will continue the allergen research which aims to further elucidate potentially new allergens which could contribute to the asthma pathogenesis.

New faces for the Aerobiology & Clinical Mycology Group

Beth Minskip

I am a third year Biomedical Science student from Nottingham Trent University currently working in the Aerobiology and Clinical Mycology group at the University of Leicester. My main role is to culture clinical samples from the Asthma and Allergy Clinic at Glenfeld Hospital, and identify any fungal growth. I am also undertaking other projects, including re-growing old samples that have been stored at 4°C, to then be stored in a more suitable medium at -80°C. I am enjoying learning new, practical laboratory skills, including; culturing techniques, DNA extraction and sequencing and PCR as well as becoming more independent in my work.

Dr Deepa Patel

I am a postdoctoral research associate with research interests in molecular biology and have worked at the University of Leicester since 2011 on a wide range of projects from studying the evolution of polyploidy in plants to investigating the antimicrobial nest-building glue in sticklebacks. I am excited to be currently working in the lab of Dr Catherine Pashley in the Aerobiology and Clinical Mycology Group, on a project that will use cutting edge molecular techniques previously developed in this lab to examine whether a relationship exists between the fungal and bacterial microbiota in the lungs of asthmatic and healthy individuals. The project will also look at the effect of antibiotics and antifungal therapy on the species diversity and relative abundance of the fungal and bacterial biomes, in addition to determining the extent to which bacteria and fungi present in the air have an effect on the lung microbiome.

Children's, adolescents' and parents' understanding of food allergy - update

Kristina has completed a collection of interview data with 11-16 year olds both with and without food allergies and is currently analysing the data in the hope of writing the data up for publication. Her systematic review paper is also now ready to be submitted to an academic journal, sharing current research in the beliefs of adolescents aged 11-19 with food allergies. Kristina has attended multiple conferences including the British Society of Allergy and Clinical immunology (BSACI) and ran a stall at the National Institute of Health Research (NIHR) showcasing event to present her research and there has been a rising interest and further discussion about food allergies.

She is now focusing on development of a scale questionnaire to quantifably measure beliefs and attitudes around food allergies of 11-16 year olds both with and without food allergies. Once the questionnaire is developed, it will be validated with previous adolescents who participated in the study to assess what questions are important, what should be removed and what could be reworded to give an accurate representation of the adolescent's beliefs. The scale will hopefully be ready to recruit participants (11-16 year olds living in the UK) in early 2019.

Dr Rebecca Knibb - *Reader in Psychology, Aston University*
Dr David Luyt - *Consultant Paediatrician, Leicester Royal Infirmary*
Kristina Newman - *PhD student, Aston University*

Kristina Newman

Pollen Season

This year the spring flowering tree pollen season has been affected by a colder than usual February and March. Ash and Birch have had a shorter season with higher peaks (Fig 1). Other species have been less affected.
The grass season was also affected by the weather, peaking sooner and falling sooner due to an unusual long dry summer (Fig2). This year peaked on the 10th of June with a count of 277 grains per cubic metre of air; falling short of the 2016 peak count of 300 grains per cubic metre of air.

Fungal Spore Season

This year has seen a long relatively dry summer. *Cladosporium* has seen higher peaks and *Sporobolomyces*, a wet weather spore, has not followed the intermittent peak pattern we usually see due to the more normal intermittent wet and dry days. This year has seen both *Cladosporium* species and Alternaria species pass allergenic thresholds. *Cladosporium* species can cause symptoms in allergic individual above 3000 spores per cubic metre of air on a given day. We have had levels above 3000 on more than 90 days this year with ten days reaching over 20,000! *Alternaria* species are a much larger spore and can cause symptoms in allergic individuals above 100 spores per cubic metre of air, levels achieved on more than 30 days this year and on at least two days levels were more than ten times higher than the allergenic threshold.

Fig. 1

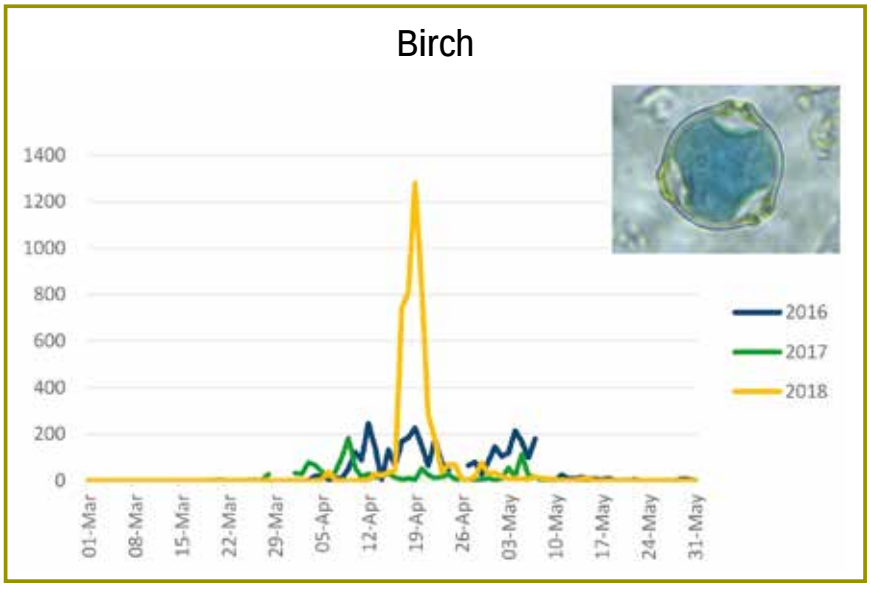


Fig 1: Graph showing levels of Birch over the last three years and a photo showing what Birch pollen looks like under a microscope.

Fig. 2

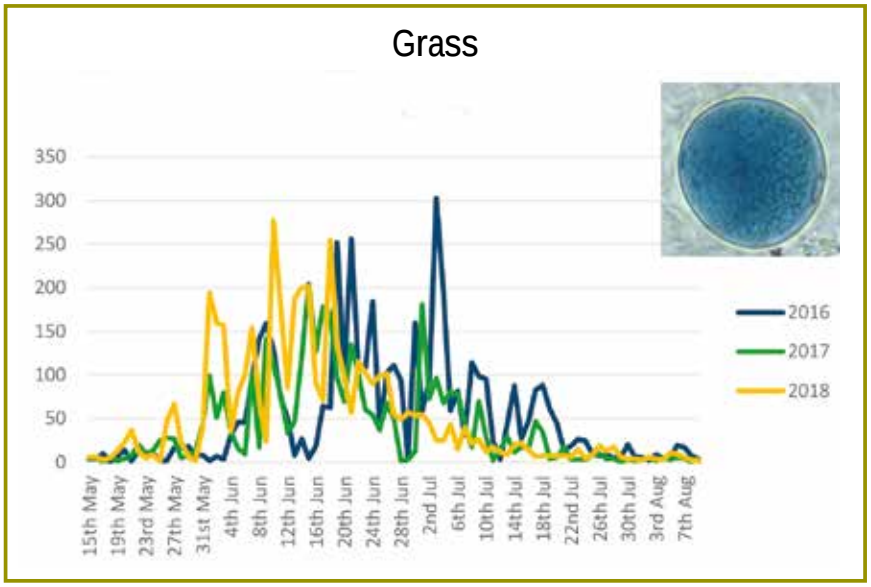


Fig 2: Graph showing levels of Grass over the last three years and a photo showing what Grass looks like under the microscope.

NUT ALLERGY

Stephen Watson

Suffering from a serious allergy to peanuts, nuts and fish, dining out for meals presents many challenges both physically and mentally. Most restaurants are really good with their allergen knowledge and control, especially large chains. However, I still either ring the restaurant or visit them beforehand to make sure that they can cater for me. Frequently, when I mention my allergies, the waiting staff bring me a large folder which lists every component of every meal and invite me to make sure that the dishes I would like are suitable. This draws attention to me and never fails to turn heads in a busy restaurant. I never assume that all restaurants are willing to cater for allergies; recently an expensive Italian restaurant in rural Leicestershire, informed me when booking that they couldn't cater for my allergies, leaving me unable to join the group dining there. However, another Italian restaurant, Livio's in Shepshed is excellent at catering for my allergies and do so very discreetly. Holidays in hotels are usually less stressful; checks are made before booking and confirmed in writing and always eating in the hotel restaurant means that both chefs and waiting staff are fully aware and any amendments to the menu are well managed. Restaurants' awareness is undoubtedly improving, and whilst acknowledging that it's my responsibility for ensuring restaurants are aware of my allergies, improvement is still required to make dining out enjoyable rather than stressful.

NUT ALLERGY FAQ's

I can vividly recall listening to a talk by Adam Fox early in my allergy career and well before we set up the Children's Allergy clinic in Derby. He explained that an admission that you are an allergist (or worse still a paediatric allergist) to a new acquaintance is usually greeted with a few follow up questions about allergies. The intervening years have proved him correct. Whilst I might prefer to spend dinner conversations talking about my family, holidays or the weather I have now resigned myself to my fate and try to keep some interesting nut facts up my sleeve.

Question 1. 'Is it getting more common'/'Can we prevent it'?

This question is surprisingly difficult to answer! I guess it depends where and when we 'start the clock'. It is hard to be sure what has happened over the last ten years or so. However, food allergy is more common than when I was a child and some of this is likely to stem from differences in approaches to weaning and a decreased exposure to environmental bacteria. We know that 'dirt is good'. We also know from the recent LEAP study from Gideon Lack and George du Toit that early exposure to peanut at least reduces the risk of developing nut allergy in egg allergic children.

Question 2. 'I have been told that I am allergic to nuts, do I have to avoid all of them?'

Another dinner party poser. Without taking a full history and doing a complete set of tests it is difficult to be sure. Some things are well known though. For instance, some nuts are very closely related and if you react to one then you are almost certain to react to its 'allergenic twin'. Therefore, people who are allergic to cashew will nearly always react to pistachio. Surprising really when we consider how biologically distinct these two nuts are. Similarly, pecans and walnuts are highly cross reactive (perhaps less of a surprise given that they look quite similar). Historically, I used to be quite cautious in clinic. However, it is clear that some people will only react to one nut type and over the years I got a lot braver about testing and then introducing 'other nuts'.

Question 3. 'My child is nut allergic. Do they need an adrenaline injector?'

Again, difficult to answer without a full history. The risks from nut allergy are real but low. The problem is that humans are very bad at dealing with probabilities. Whilst some tests have a limited value in predicting the risk of severe reactions, in general the best way to assess risk is to identify what happens when a nut is ingested and whether there are any other important risk factors. Children with asthma that is not well controlled should always have an adrenaline injector. They should also have a careful review of their asthma. Some things do make it more likely that a person will have a severe attack. This is called 'summative anaphylaxis'. If you are unlucky enough to have an intercurrentviral infection, to have ingested alcohol and to be exercising then reactions are more likely to be severe. I describe this to all the young adults who leave my clinic, knowing full well that all three are likely to be experienced separately or in combination over the next few years.

Dr Will Carroll
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PEANUT ALLERGY

Donna Traves - *Paediatric Consultant, Royal Derby Hospital*

Donna Traves

Nut allergy is common and afects approximately 2% of children and 0.5% of adults in the UK. Usually nut allergies are IgE mediated meaning that they are characterised by acute onset of reactions after ingestion. Nut allergies commonly present after the frst ingestion in the frst 5 years of life although if children have avoided nuts until later in childhood, this can also be the initial point of exposure, symptoms and diagnosis. Children will often present with symptoms after the frst known exposure, with the sensitisation to nuts therefore often occurring through the skin. For this reason children with severe eczema may have a higher incidence of nut allergies as their skin barrier is less intact and sensitisation is therefore more common. Diagnosis of nut allergy is made by a combination of history along with skin prick testing or blood tests (specifc IgE tests) to the nuts in question. A skin prick test of greater than 8mm being highly predictive of clinical symptoms of allergy.

Most nut allergies are life long and avoiding the nuts the individual is allergic to is the mainstay of treatment. All children with a nut allergy should be provided with a clear management plan of how to manage potential allergic reactions.

Further information on the diagnosis and management of nut allergies, can be found in the recently published BSACI guidelines about this subject. It is exciting times in the area of nut allergies as oral immunotherapy can now be used to help desensitise children allergic to peanuts and this is now starting to be used in some specifc cases.

Harry Morrow-Brown Travel Fellowships

Dr David Lo — European Respiratory Society Congress (ERS)

I am a recently appointed Consultant in Paediatric Respiratory Medicine based at the Leicester Royal Infrmary, and was previously a research fellow (partly funded by MAARA) working on children's asthma in the community. My research was an implementation study, looking at the feasibility and efectiveness of providing two objective tests (spirometry and exhaled nitric oxide) for children managed in primary care with asthma.

This September, I was very fortunate to be awarded the Harry Morrow-Brown Travel Fellowship to allow me to present my data at the 28th Annual European Respiratory Society Congress in Paris. This is the largest international conference in the respiratory feld, and this year brought together around 22000 delegates over fve days, attending over 420 scientifc and educational sessions! These sessions provided me with useful updates across a number of different paediatric areas including: asthma, cystic fbrosis, and the management of pulmonary infections.

Over two presentations, I shared my results on asthma misdiagnosis rates in primary care, and the potential beneft of using objective tests to guide asthma management in children. Both sessions generated a lot of interest and potential ideas for further work.

A thoroughly busy, but educational and stimulating conference. Thank you very much MAARA for providing this fellowship!

Dr Ibrahim Wadah, Clinical Research Fellow — European Respiratory Society

Having just returned from the 2018 European Respiratory Society (ERS) Annual Conference in Paris, I wanted to write and express my deep gratitude to MAARA for extending me the Harry Morrow-Brown Travel Fellowship. This year's conference was exceptional in so many ways, from the breakthrough scientifc symposiums, to the all-day workshops on respiratory physiology and learning how to start a thriving career in respiratory medicine. In addition there were special interest groups to connect with, which I'm sure will further my progress in the feld of breath research. ERS is the largest respiratory conference worldwide, sharing innovative ideas with over 20,000 delegates with similar interest was truly heart-warming. An experience that would not have otherwise been possible without the help of MAARA.

Once more, thank you for supporting early career respiratory researchers, your generosity truly makes a difference.

Felicity Easton

7th World Congress

A MAARA Harry Morrow-Brown travel fellowship award enabled me to attend the 7th World Congress of TRP ion channels, calcium signalling and oxidative stress. The meeting gathered the leading experts in my feld of study and has contributed enormously to my understanding of the topic and has benefitted my PhD research at a crucial time in my project.

I was eager to meet the international gathering of scientists that were programmed to give talks – having read a lot of their research papers during my literature review for my PhD project. Currently based at the University of Leicester I am a 3rd year PhD student investigating the role of TRP, which stands for Transient Receptor Potential channels, and their role in asthma. A key symptom of asthma is a tightening of the airways that restricts the airway making it difcult to breathe. This airway narrowing is caused by airway smooth muscle contraction. What makes asthma so terrible is that this contraction persists during an asthma 'attack', leaving the sufferer unable to breathe until medication is administered (usually your trusty blue inhaler!).

What scientists have shown so far, is that the airway contraction is due to lots of calcium entering the smooth muscle cells. If you block the calcium entering the smooth muscle cells then the contraction stops and the airway relaxes – and breathing returns to normal! We know that ion channels are the tunnel for calcium entry into the cell, the unsolved mystery is which ion channels are responsible for the undesired calcium passage?!

This is where my research comes in; I am trying to fgure out if the special TRP ion channels are responsible for the contraction that we see in asthma?

Karl Holden

ReCIVA Breath Sampling in Paediatric Asthma (ERS)

My name is Karl Holden and I am a junior doctor based in Leicester. Currently in an academic foundation programme post, I am involved with research into breath sampling and breathomics/metabolomics in children with asthma. To date, areas of research with which I have been involved within the East Midlands include the investigation of blood infammatory markers in preschool wheeze, online exhaled volatile organic compound analysis in preschool children and fungal sensitisation in preschool wheeze and childhood asthma. I was extremely grateful for the support of the Harry Morrow-Brown Travel Fellowship as this allowed me to travel to Paris to present a poster discussion entitled 'ReCIVA breath sampling in paediatric asthma: a feasibility study' at the largest international respiratory conference, the ERS Congress. This was a fantastic opportunity and my poster was well received and generated stimulating questions and conversation. Moreover this fellowship allowed me to attend a meeting of the ERS Task Force on developing European guidelines for diagnosing asthma in children, of which I am a junior member. I look forward to continuing research here in the feld of paediatric respiratory medicine in the East Midlands.

Ruth O'Dowd

5th Food Allergy & Anaphylaxis Meeting (FAAM)

I am a Specialist Allergy Nurse working within the Allergy Service at the Leicester Royal Infrmary.

I was fortunate to attend the 5th Food Allergy and Anaphylaxis Meeting (FAAM) held in Copenhagen this year after being granted a Harry Morrow-Brown travel fellowship from MAARA.

This was my frst experience of a European Conference and it did not disappoint with many Symposiums and Plenaries as well as Workshops and Thematic poster sessions. A few of my colleagues from the Leicester Allergy service attended so we were to go to as many of the different sessions. It was interesting to see the different views and experiences from different allergy services across the world such as the under use of adrenaline in Denmark, Hazelnut Immunotherapy in Florence, Italy and how the shortage of Adrenaline auto injectors has varied globally.

I successfully submitted a poster titled 'Evaluation of open food challenge service in a tertiary referral centre, assessment of criteria compliance, positive rate and reaction'. My colleague, Heidi Ball (dietician) presented this and I felt our poster was well received; generating discussion and questions. It was a great opportunity to show and share our food challenge service at Leicester.

Overall this was a fantastic experience and I would like to thank MAARA for supporting me in attending FAAM Copenhagen 2018.

Dr Molla Imaduddin Ahmed — European Respiratory Society

I am working as a locum paediatric respiratory consultant at the University Hospitals of Leicester and an honorary fellow with the Department of Infection, immunity and inflammation at the University of Leicester.

I have special interest in paediatric sleep medicine - I review children in the sleep clinic and am involved in the setting up and interpretation of sleep studies. I completed a study reviewing the paediatric sleep study outcomes from University Hospitals of Leicester and studied the correlation between clinical symptoms reported by the child and parents and the diagnosis of sleep disordered breathing on polysomnography. I presented the results of this study at the ERS International congress in September 2018. Following a grant from the Harry Morrow-Brown Fellowship awarded by MAARA.

I am involved in several paediatric respiratory research projects and clinical trials and have presented at various national and international meetings. I have completed projects focusing on sleep disordered breathing in children and lung infections in paediatric cystic fibrosis.

I aim to continue my involvement in paediatric respiratory research focusing on my areas of interest of paediatric sleep medicine and cystic fibrosis.

Eva-Marie Rick — European Academy of Allergy & Clinical Immunology (EAACI)

In May this year I was granted the Harry Marrow-Brown Travel Fellowship to fund my trip to the European Academy of Allergy and Clinical Immunology (EAACI) annual congress in Munich (Germany). This 62nd conference of the academy lasted five days and covered topics around allergy ranging from basic science, phenotyping, over diagnosis to treatment. The organisers chose to use electronic media in a new way: EAACI TV went on air for the first time with interviews and information about the congress; posters were presented on big screens with audio available for the presenter and a media library was available on the computers of the information hubs. The first day mostly covered interactive postgraduate courses about topics such as immunotherapy or anaphylaxis, but also included introductory sessions about, for example, diagnosis and immunotherapy of food allergies, or current knowledge about respiratory diseases in adults. Each of the following days was opened by a choice of plenary symposiums, with a wide range of topics such as therapy-resistant asthma, allergy prevention, the mycobiome, or tolerance and sensitisation, which was attended by most of the delegates. These plenary symposia were followed by a variety of smaller symposia, oral abstract presentations, poster sessions, poster discussion sessions, company sponsored symposia, satellite symposia, sister society symposia, year in review sessions, and concluded by business meetings.

My research area covers the mycobiome in patients with asthma, whereby I investigate the fungal component of microorganisms present in the lungs. This has recently expanded to characterise allergens from black fungi as those were found more frequently in the lungs of patients with asthma compared to healthy individuals and suspected to contribute to lung damage. I was allowed to present a poster about the latter aspect of my project on the second day of the conference. One of the hot topics of the conference included phenotyping and endotyping of asthma, which is still a controversial area that requires clearer definitions to enable a personalized medical approach for the patients. The new promising drug, Dupilumab, was also widely discussed and compared with “older” drugs such as Omalizumab. Another area, which was broadly covered was immune tolerance with the role of regulatory T cells and IgG4, which both seem to have a protective effect against allergic diseases. I was particularly interested in characterisation of allergens and sensitisation tests done by other institutions and research on the mycobiome as crucial influence from the environment, the lung or the gut to allergy and asthma development. All in all, it was a fantastic experience with the opportunity to exchange knowledge with fellow scientists and clinicians, and to learn more about the latest research in asthma and allergy across Europe and beyond. I am very grateful that MAARA gave me the opportunity to attend this great congress.

Harry Morrow-Brown Travel Fellowship

The Midlands Asthma and Allergy Research Association (MAARA) supports research into asthma and allergy in Derby and Leicester. The Harry Morrow-Brown travel fellowship was launched in 2014 in memory of the founder of MAARA. This fellowship will offer researchers an opportunity to travel to a national or international allergy or asthma conference to present their original work. The fellowship is awarded annually, and successful applicants can apply for support for travel, accommodation and conference registration fees. For full details of eligibility contact **enquiries@maara.org**

MAARA funding has supported the purchase of a new type of lung sampling device - the 'Particles in Exhaled Air (PEXa)' device.

The device is being trialled by a team of researchers led by Professor Salman Siddiqui (Clinical Professor of Airways Disease) at the University of Leicester and NIHR Biomedical Research Centre. Patients with airway diseases such as asthma and COPD are being evaluated using PEXa to collect tiny liquid particles from the small airway tubes of the lung. The particles come from the fuid lining the small airways and allow researchers to study abnormal inf ammatory patterns in the lungs without needing to perform invasive techniques such as bronchoscopy. It's important to study the small airways as many lung diseases such as asthma and COPD start in the small airways and the disease can be 'silent' in the small airways for a long time before patients develop any symptoms. It is hoped that by developing new tests to measure disease in the small airways we can detect diseases such as asthma and COPD earlier and of er interventions.

Dr Marcia Soares (advance respiratory physiologist) demonstrating the PEXa technique on Rosa Peltrini a PhD researcher at the University of Leicester. The PExa device is housed in a state of the art breath research facility coordinated by Professor Siddiqui within the Leicester BRC. Rosa Peltrini will be evaluating proteins within liquid particles from the small airways of the lung, collected using the PEXa technique as part of her PhD research.

Professor Siddiqui outlined that 'the MAARA funding has provided us with a unique and exciting opportunity to look deep into the lungs and study inf ammation in diseases such as asthma. Up until now this has only been possible with invasive techniques that require putting cameras into the lungs. In contrast PEXa samples can be acquired in 10-15 minutes in patients that are simply asked to breathe into the device. We have already shown that we can study a range of lung proteins and lipids using the PEXa technique. Now we need to see if any of these markers are markers for disease activity or treatment response in conditions such as asthma'.

More details about the PEXa technology can be found by clicking on the link below

http://pexa.se/en/product-services/how-pexa-works/

Further enquiries should be directed to Professor Siddiqui **(ss338@le.ac.uk) or rp417@le.ac.uk**

Meet the Committee

As a charity, MAARA needs to be run in accordance with rules from the Charity Commission, who recommend that a committee be used to regulate a Charity's operations.

The MAARA Executive Committee is responsible for decisions regarding our day to day running and for ratifying major financial decisions. Without their input the charity could not function. We are fortunate to have committee members from all backgrounds, medical specialists, business-people, technical experts and those who have experience of asthma and allergy either personally or from a family member. The photographs below allow names to be put to the faces of our Committee!

Steve Watson
Chairman

Prof Andrew Wardlaw
Vice Chairman

Peter Teasdale
Treasurer

Lisa Bacon
Secretary

Dr Martin Stern
Medical Adviser

Dr David Luyt
Consultant Paediatrician

Dr Will Carroll
Consultant Paediatrician

Dr Erol Gaillard
Consultant Paediatrician

Roger Chappell
Committee Member

Stuart Mills
Committee Member

Jim Pain
Committee Member

Eva Day
Staff Member

MAARA DONATIONS ON-LINE

Credit card donations can now be made on-line by going to

www.maara.org

and clicking on the

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Dates for Your Diary

The MAARA AGM will be held in September 2019.

If you would like more information about this event please contact:

0116 247 9888.

or email

enquiries@maara.org

In Memoriam

Keith Austin

Michael & Carmel Fitzpatrick

Legacies

Margaret Robotham | Eunice Wright

Anya Llewellyn-Smith

Shirley Walker | Florence Marriott

CONTACTS

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DONATIONS - A Big Thank you

A Big Thank you *to everyone who made a donation and continues to support MAARA.*

How Gift Aid Works - Gift aid donations are treated as having basic rate tax deducted which MAARA can reclaim. So for every £10.00 you give, MAARA will receive another £2.50 from the Government. If you would like a gift aid form please contact Eva Day or download a copy from our website.

Payroll Giving - If your employer operates a payroll giving scheme you can make a donation through your salary.
For further details go to www.hmrc.gov.uk/charities/payroll

Website Donations - There is a facility at www.maara.org to make donations online, just click on Donate Now page and follow the instructions.

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Become a Member

By joining MAARA you will be supporting research work that MAARA funds and you will be supporting people with asthma and allergic **disease. It only costs £10 for one year or £20 for five years.**

Would you like to become a fundraiser for MAARA by holding a Bring and Buy, Coffee Morning, Sponsored Run, Charity Lunch.
No event is too small we are grateful for all donations

The Future of Airways Disease

Over the last 20 years, researchers in Leicester have revolutionised our approach [redacted] management of severe asthma requires an in depth analysis of the factors responsible for continued morbidity and a targeted approach to treatment. [redacted]