

Nottingham Hospitals Charity  
**Research Fund**



# Research Report 2022

Nottingham Hospitals **Charity**  
At the heart of your care





Our **VISION** is for an outstanding NHS for the people of Nottinghamshire.

Our **MISSION** is to enhance patient care and help families and carers in the East Midlands by transforming hospital services through innovation, funding local research, investing in whole-hospital development projects, purchasing the newest technology, and creating a caring environment for all who use Nottingham's hospitals.

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# Research innovation in Nottingham

## A word from our Chief Executive, Barbara Cathcart



As Chief Executive of Nottingham Hospitals Charity for over 15 years, I am deeply proud of the vital work we do to enhance patient care for all who use Nottingham's hospitals.


We are absolutely dedicated to supporting the work of Nottingham University Hospitals NHS Trust (NUH Trust). From stroke services to the children's cancer wards to cardiac care, we work alongside the Trust, raising funds to help adults and children across Nottinghamshire and the East Midlands.

Not only does the support of our kind-hearted donors and fundraisers help transform hospital services but it is also essential in funding local medical research and innovation to help develop patient care in Nottingham and beyond.

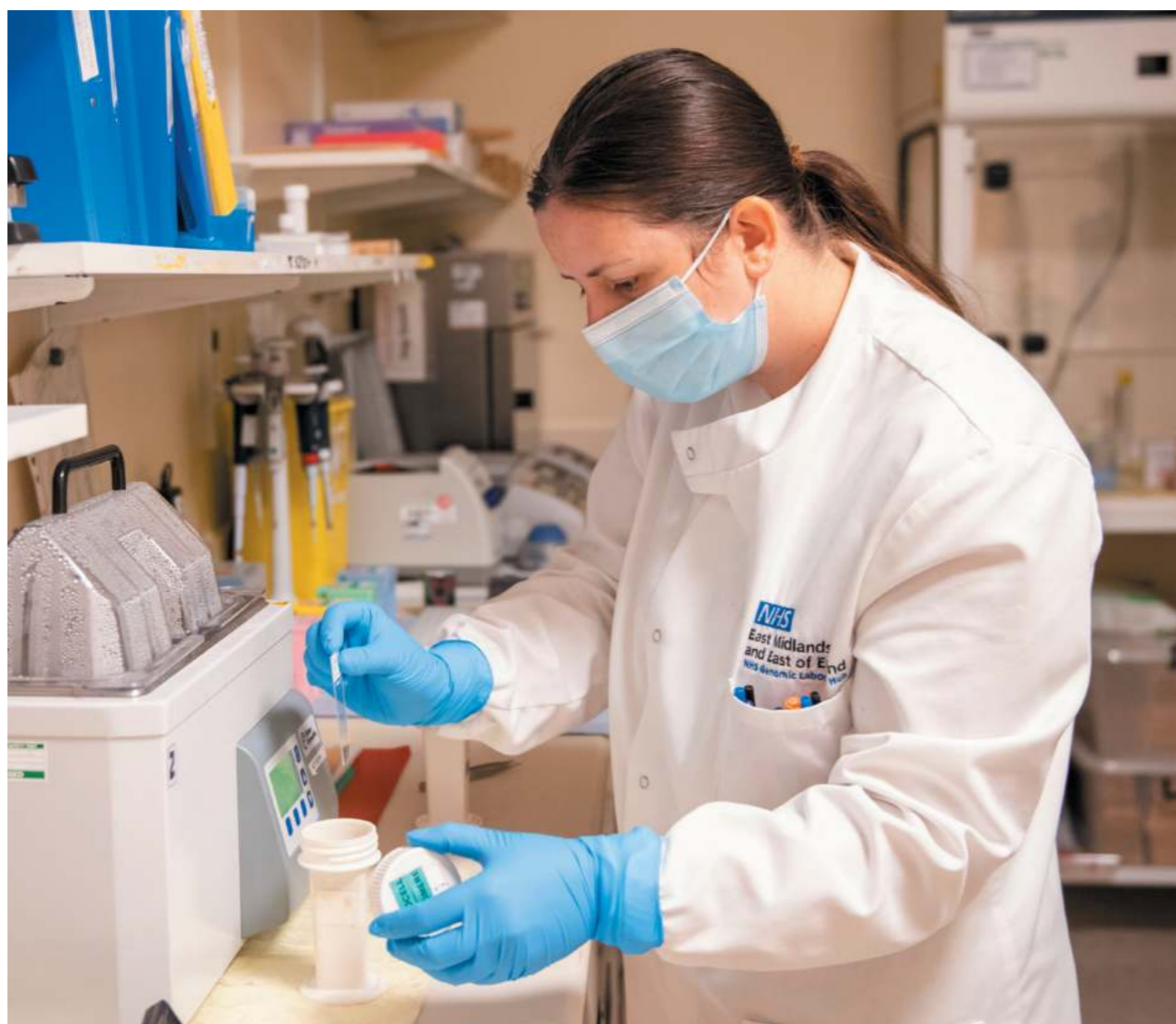
Medicine is always developing thanks to the incredible work of scientists and

medical researchers, including many at Nottingham's hospitals, with NUH Trust being an international leader in innovative, ground-breaking medical research. This research, which is at the very heart of healthcare, is vital to ensure that patients with a diverse range of diagnoses are receiving the best possible treatment available.

It is with my sincere thanks to the generosity and commitment of our donors and fundraisers, to say that Nottingham Hospitals Charity has contributed almost £10 million to research at our hospitals over the past 16 years, with one aim in mind: to help save lives and enhance patients' wellbeing.

I could not be happier that patients in Nottingham and beyond will benefit from our Research Fund for many years to come, thanks to the support of so many of you. Thank you. 





## Introduction

Nottingham Hospitals Charity has been supporting research as a key component of our grant-making to NUH Trust since we formed as a charity in 2006.

Nottingham is one of the country's most important NHS research centres. We are proud that through our charity we have developed a nationally-significant research programme that actively supports excellence in research. We have achieved this by investing in a variety of funding programmes to support our talented pool of Nottingham researchers. This includes providing seed funding to encourage new researchers, supporting experienced clinical teams to carry out research, and developing our prestigious new Research Fellowships.

## Working in partnership with clinical teams

Situated alongside our clinical teams, we have a unique understanding of the importance of research that can translate from the researcher's desk to delivering direct impacts at the patient's bedside. Through this approach we are excellently placed to develop focused, impactful fundraising campaigns such as our Big iMRI Appeal, which was launched in 2018.

The iMRI appeal was a partnership with NUH Trust's paediatric neurosurgery team, Nottingham Children's Hospital and the University of Nottingham's medical research centre. **Nottingham is the original home of the MRI and our joint £2.9 million fundraising campaign provided a state-of-the-art intra-operative MRI scanner**, which was unveiled in December 2020 and is used both for clinical treatment on children undergoing brain tumour surgery and for research into more effective techniques and treatments.

Since its unveiling, the scanner has proved extremely valuable, providing high-quality intra-operative images, which in most cases mean children do not need to be brought back following their operation for further scans. It also means that patients can be scanned during their surgery, to ensure as much of their tumour has been removed as possible – enabling surgeons to take them straight back to the operating table if needed, reducing the likelihood of further operations.

In addition to intra-operative use, the scanner has been used for diagnostic work in the MRI department, scanning hundreds of children. Many of the children can avoid having a general anaesthetic while they are scanned due to the relaxing environment and ability to watch a DVD during their scan.



## Delivering outcomes

Since 2006, Nottingham Hospitals Charity has funded over 200 research projects. As part of this, we have **contributed almost £10 million** and attracted well over £14 million from national grant-making bodies such as the National Institute of Health Research and the Medical Research Council.



# Research Advisory Board

Comprised of some of Nottingham's key specialist researchers, our Research Advisory Board has provided the driving force and focus for the Charity's research programme over many years.





We are working increasingly collaboratively with NUH Trust's Research and Innovation department and, as such, our Research Advisory Board is becoming more closely integrated with the Trust's Research and Innovation Board to further develop our scope.

We are indebted to those who have devoted their time and expertise as part of the group and are grateful for the support and commitment from our Advisory Board members:

**Emeritus Professor  
Harish Vyas**  
Chairman

**Professor  
Joanne Cooper**  
Vice-Chairman

**Professor  
Stephen Chan**  
Director of Clinical Trials  
in Breast Cancer

**Professor  
Joseph Manning**  
Registered Children's Nurse, Clinical  
Academic Senior Research Fellow

**Dr Louise Bramley**  
Head of Nursing and  
Midwifery Research

**Dr Don Sharkey**  
Associate Professor of Neonatal  
Medicine and Consultant Neonatologist

**Professor  
Stephen Ryder**  
Director of Research  
and Innovation

**Professor  
Dominick Shaw**  
Professor of Respiratory  
Medicine

The strength of our Research Advisory Board has been underpinned by the fact that we invest in proactively recruiting our members from across the full spectrum of clinical specialities and areas within NUH Trust, thus ensuring that we continue to work with the brightest and best in clinical research.



# Nottingham Hospitals Charity Research Programme

## Nottingham Hospitals Charity's Research Fellows

Our research fellows are the backbone of our research programme. Each fellow is a leading clinical researcher who has shown the ability to undertake unique and pioneering research programmes.





Drawn from a wide range of specialities, our Fellows have made key contributions to the wellbeing, welfare and future outcomes for many thousands of patients in Nottingham and nationally.

Two people currently hold the prestigious 'Nottingham Hospitals Charity Research Fellow' title; one for our **Oncology Research Fellowship** and one for our **William Colacicchi Fellowship** launched in 2018 in honour of the Charity's long-serving inaugural chairman.

## The William Colacicchi Fellowship Award

This award is a three-year proactively-recruited fellowship from across a wide range of clinical research disciplines at NUH Trust.

William Colacicchi's chairmanship of the charity from 2006 to 2017 ensured a focus on supporting clinical excellence, and as such, the first William Colacicchi Fellowship was awarded in 2018 to Dr Sarah Forster for her research into the role of IT in supporting emergency care in NHS emergency departments.

The research was developed in the context of many millions of pounds spent on systems designed to predict which patients needed review by a nurse or doctor based on scores generated from routinely collected vital signs observations. Scores were previously based on retrospective observational data with no measurement of how the scoring systems impacted on mortality, hospital systems or staff, or how the hospital systems and staff impacted the performance of the scoring systems.

Dr Forster proposed to examine the statistical performance of the latest National Early Warning Score (NEWS) in the Nottingham inpatient population and in the setting of chronic disease. The aim was to investigate how digital healthcare information could be used to improve the monitoring of patients and help staff understand how future interventions could be used to improve their efficiency.

Due to the pandemic, some of the research had to be refocused. Dr Forster instead looked at the use of NEWS2 across the country, with investigation into how around 140 acute trusts use NEWS2 with regard to electronics observations platforms and escalation protocols. Dr Forster recognised there was a uniform score across the country, but if everyone was using it in a different manner the way in which trusts recognised and responded to deteriorating patients remained diverse.







## Two of the current research programmes being undertaken by our Research Fellows are outlined below:

### Osteoporosis and falls – Giulia Ogliari

*The purpose of this study was to investigate the association between vision and hearing impairment and falls in community-dwelling adults aged over 50. It was part of the Survey of Health, Ageing and Retirement in Europe (SHARE).*

This was a prospective study on 50,986 participants from 18 countries assessed in SHARE. Dr Ogliari and her team recorded socio-demographic data, clinical factors and self-reported vision and hearing impairment. The team classified participants as having good vision and hearing, impaired vision, impaired hearing or impaired vision and hearing. They recorded falls in the six months prior to the baseline assessment and at two-year follow-up interviews.

The team concluded self-reported vision impairment, versus no impairment, was cross-sectionally and longitudinally associated with an increased falls risk in adults, independent of age, sex, self-rated health, co-morbidities and medications. The risk was highest when vision and hearing impairment coincided.

Going forward, the study has found simple questions on self-reported sensory impairment can be used to assess the risk of falls in adults.

*Dr Ogliari has also supported Professor Tahir Masud on two additional charity-funded studies: 'Improving quality of life in older patients' and 'Using routinely collected "Big Data" in NUH to improve services for older people and improve outcomes'.*

### Artificial Intelligence 3D biventricular scar modelling to guide precision VT ablation – N. Jathanna

*A project aimed at developing an artificial intelligence (AI) model to accurately define ventricular scar and geometry using cardiac magnetic resonance (CMR) imaging scans.*

According to the Department of Health, sudden cardiac death causes 100,000 deaths per year. The most common cause is scarring in the heart following a heart attack. This leads to life-threatening heart rhythms such as ventricular tachycardia. Treatment includes medications, which are often poorly tolerated, and insertion of devices to deliver life-saving electric shocks, which are painful and cause patients significant physical and psychological trauma.

CMR can clearly show the distribution and location of cardiac scar. AI systems can 'see' features unapparent to humans and interpret large amounts of data faster than humans. Creation of an AI scar model using CMR which displays the intricate complexity and distribution of scar during an ablation procedure can more precisely target ablation with improved outcomes.

This project aims to prove the developed machine learning AI model can accurately and rapidly delineate and define the scar on CMR at least at a level comparable to humans, with the ultimate aim of improving patient treatment and outcomes.

## Oncology Research Fellowship

This three-year charity research fellowship was created for research that will have an impact on patients in Nottingham and more widely in the short to medium term (3-5 years).

In 2019, the fellowship was awarded to Ruth Parks for her research on bio-geriatric assessment (BGA), a novel tool to optimise treatment of primary breast cancer in older women.

The project is using tissue samples from 1,785 older women with primary breast cancer treated in Nottingham. The cancer cells are being tested for a series of biological markers.

Using statistical methods, the research aims to determine what combination of markers predicts good survival.

The research has included immunohistochemical staining of a panel of 28 biomarkers identified to be of potential significance in primary breast cancer in older women, in all available surgical excision and core needle biopsy tissue microarrays.

It is hoped the data can be used to create a computer programme, so that when a new patient presents with early breast cancer, data obtained from initial biopsy can be entered to predict the clinical outcome.



# Driving innovation; generating seed funding

Supporting clinical consultants in the pursuit of innovative research is what drives innovation in patient care. It also provides an important avenue of seed funding, unlocking further resources from key regional and national bodies which can be invested in the work of our Nottingham researchers.





**£10 million  
Invested**

Across the spectrum of our funding programmes – from asthma to eczema, from dementia to diabetes and from cancer to cardiac research – **Nottingham Hospitals Charity has invested almost £10 million, which has unlocked well over £14 million of funding for our research teams.** This direct and very visible investment is ensuring that our Nottingham clinicians can stand shoulder to shoulder with medical research teams across the country.

Locally we support some of the many talented teams and leading researchers who are at the very forefront of pioneering research.

## A pilot study of adenosine receptor expression in melanoma – Hester Franks, Poulam Patel, Andrew Jackson and Stephen Hill

*Immunotherapy which ‘takes the brakes off’ the immune system and allows it to attack tumours is making a dramatic difference to survival in melanoma. However, not all patients benefit from immunotherapy. Tumours have mechanisms which enable them to ‘hide’ from the immune system. Understanding and reversing these mechanisms are key to making immunotherapy more successful and produce benefits for a larger number of patients.*

This study aimed to develop a method to characterise adenosine receptor expression, then generate pilot data on the patterns

of adenosine receptor expression in melanoma. The data would enable the team to seek more substantial external funding to explore this further as a potential new therapeutic approach and/or a method of predicting who will benefit most from immunotherapy.

Despite some technical challenges and delays enforced by the pandemic, the researchers optimised the technique to analyse expression of all four adenosine receptors in melanoma tissue.

## Breast cancer – Professor Ian Ellis and Emad Rakha

*Of the 55,000 women who get breast cancer each year, most patients can be treated and survive the disease. However, some develop an aggressive form of the disease associated with poor survival.*

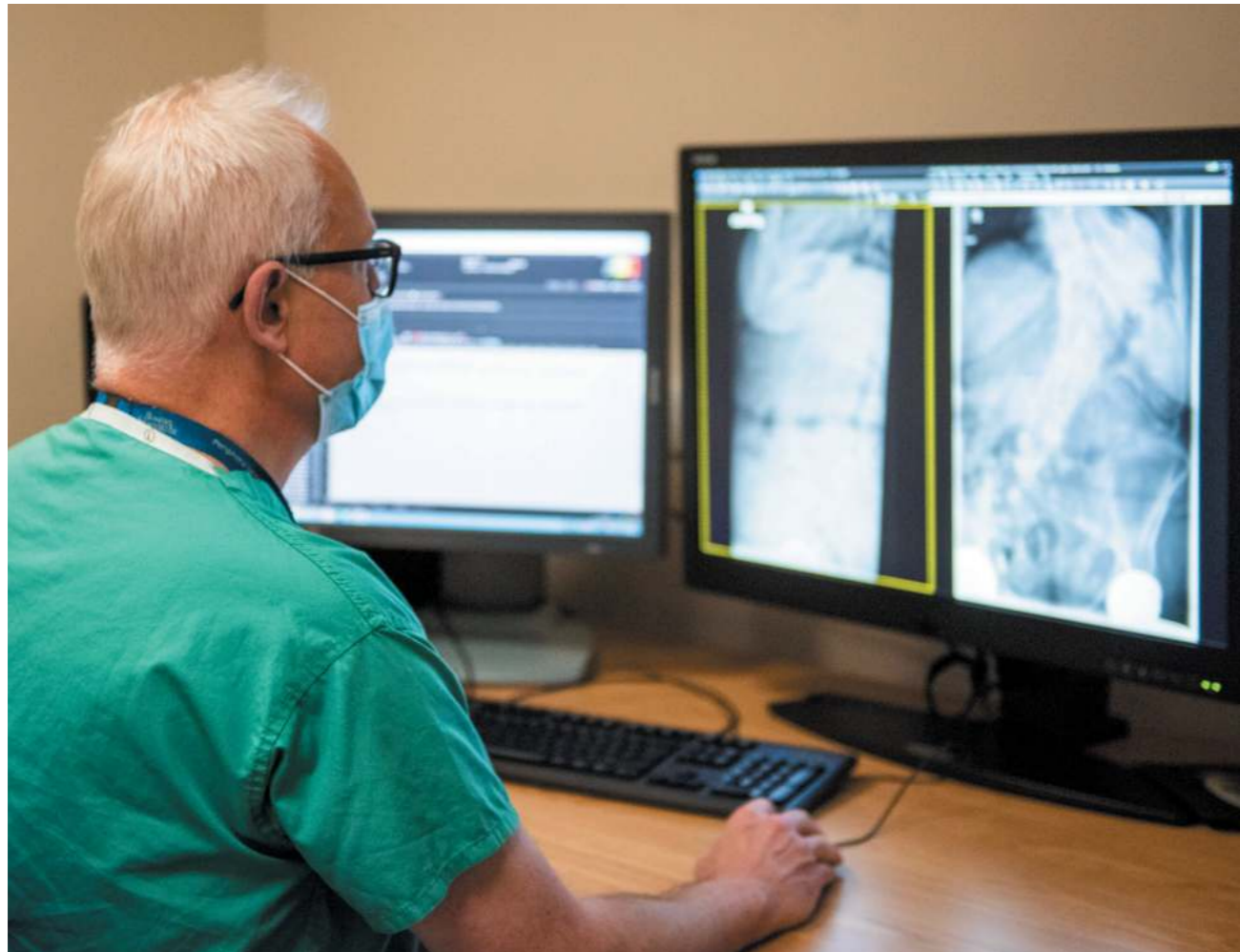
The funding for this project was used to purchase consumables required for Professor Ellis’s ongoing breast cancer pathology research programme in Nottingham, the specific focus of which is the investigation of prognostic and predictive factors in breast cancer.

This research programme aims to characterise 2,000 invasive breast cancers and 1,000 ductal carcinoma in situ cancers into the recognised biological subgroups. The hope is to determine new ways to treat these aggressive forms of breast cancer by developing drugs that stop tumours from growing.



The study underpins future research which should ultimately provide a more sophisticated personalisation of treatments for patients with these forms of breast cancer.

The project was successfully completed in November 2021.



## Research into diabetic foot ulcers – Alison Musgrove

*Diabetic foot ulcers present a major clinical problem. They cost the NHS in England around £1 billion a year and can have poor clinical outcomes, such as amputation. This condition has many overlapping causes, the most important being peripheral artery disease (PAD) and nerve damage (neuropathy). While the need to assess and treat PAD is well accepted, the implications of all the consequences of neuropathy are less established.*

The specific aim of the study was to develop a technique to investigate abnormalities of the blood flow return in capillaries after they have been compressed. This is known as ‘capillary

refill time’ (CRT) and is indicative of impaired blood flow, which is likely to be an important factor in foot ulcer development. The overall aim of this research was to create a new tool to monitor CRT that can be used to identify those at risk of developing foot ulcers.

The project led to the production of a device which has the potential to incorporate the existing ‘chairside test’ of CRT as well as other parameters of circulatory compromise which could impact on the healing of diabetes-related foot wounds.



## Severe asthma - Professor Ian Sayers

*Patients with severe asthma have worsening symptoms and inadequate symptom control and are unresponsive to existing therapies. These patients may be offered a drug called mepolizumab to reduce inflammation and help control their symptoms. However, patients respond differently to this treatment with some not responding at all.*

There was a need to identify an early marker in patients which would predict whether this treatment would be of clinical benefit. This would reduce the burden of medication in unresponsive patients and the financial cost of mepolizumab to the NHS. Professor Sayers used nasal brush samples obtained from the patients enrolled in the translational study – Poor Response To Monoclonal Therapy In Asthma (PROCLAIM).

The results so far suggest taking the drug significantly changes the gene expression profile in the nose, including genes known to be involved in inflammation in asthma and changes in the airway structure. Research is ongoing and the patient data will be analysed again at the one-year mark.



## A scoping review of the changing landscape of geriatric medicine in undergraduate medical education – Professor Tahir Masud and Giulia Ogliari

*The world's population is ageing. Therefore, every doctor should receive geriatric medicine training during their undergraduate education. This was a collaborative review by multiple authors based at NUH Trust and from across Europe who are specialists in the field of older people's healthcare. It aimed to summarise recent developments in geriatric medicine that would potentially inform the updating of undergraduate medical curricula for geriatric content.*

The study recommended including newly emerged topics and advances in existing topics in geriatric medicine in undergraduate medical curricula, as well as considering using different teaching settings and

methods. It found employing vertical integration throughout the undergraduate course could usefully supplement learning achieved in a dedicated geriatric medicine undergraduate course. Interprofessional education could improve understanding of the roles of other professionals and improve team-working skills.

A focus on improving communication skills and empathy should particularly enable better interaction with older patients. Embedding expected levels of geriatric competencies should ensure medical students have acquired the skills necessary to effectively treat older patients.

## Brain tumours – Richard Ashpole and Stuart Smith

*A pathological validation of an ultraviolet headlight and bandpass filter glasses for the recognition and dissection of Gliolan fluorescing gliomas (brain tumours) as equivalent to the operating microscope u/v light and filter.*

The malignant brain tumour glioblastoma (GBM) is a significant cause of cancer deaths. Mr Smith and Mr Ashpole operate on approximately 180 patients per year in Nottingham for GBM and run active research programmes to try to improve care.

The current usage of 5ALA fluorescence requires a neurosurgical operating microscope to emit the blue light and filter and polarise the received pink light. The microscope alone can cost around £200,000 and the specialist light and filter a further £40,000. The hospital currently has two working microscopes, but this is a significant capital investment and would be impossible in resource-poor healthcare systems.

The team has worked to develop a headlight-based light source to deliver identical light of the same wavelength as the microscope. This is worn in conjunction with a specially designed pair of filter glasses that act in the same fashion as the filtering mirror in the microscope. This equipment allows the wearer more flexibility in movement and in illuminating all aspects of the resection cavity. Importantly, the equipment is also much cheaper than the microscope equivalent, representing a substantial potential cost saving for NUH and other hospitals.

Final analysis is ongoing, but first rounds of testing indicate the regions identified as fluorescent by the headlight appear very similar/identical to regions identified using the conventional microscope technique. This may result in greater accessibility for 5ALA fluorescence guide surgery with reduced capital costs.



## Multiple Myeloma: A neoplastic disease – Claire Seedhouse

*Multiple Myeloma (MM) is a heterogeneous condition with overall survival ranging from one year to more than ten years. The disease generally remains incurable, with treatment aimed at slowing progression, alleviating symptoms and improving quality of life. Response to treatment is variable, and there is a need for new and effective treatments as well as a requirement for sensitive approaches to compare the efficacy of therapies.*

The project aimed to identify the factors involved in the fact that some myeloma cells respond better to established anti-myeloma

drugs and novel agents than others. The team planned to look at why some cell lines are resistant to certain drugs and whether other drugs can be used in combination with specific targeting agents to improve the level of MM cell death. They also proposed to identify a biomarker to measure drug sensitivity in a timely manner.

Some of the project's aims could not be completed due to the pandemic, but the research that was completed has provided an excellent platform to further probe MM sensitivity to specific drugs.



## Emergency department use and length of stay by younger and older adults: Nottingham cohort study in the emergency department (NOCED) – Giulia Ogliari

*To evaluate the associations between age and clinical characteristics and length of emergency department (ED) stay among adults attending the ED.*

This project had two main objectives. First, to compare the patterns of ED use of younger and older adults; Dr Ogliari and her team hypothesised a direct age-gradient in the frequency and urgency of attendances, and a diverse mix of presenting complaints across age groups. Second, to explore the association between age and length of ED stay.

The study showed attendances of older adults had an increased risk of a length of ED stay of



four hours or more, compared to those of younger adults, independently of triage acuity.

It recommended the age-mix of patients should be taken into account when assessing the performances of different EDs. When evaluating quality of healthcare, it suggested age-specific targets for length of ED stay, to reflect the complexity of older adults attending the ED.

It concluded knowledge of the age distribution of ED attendees should prompt the development of geriatric patient flow pathways in hospitals with higher and increasing attendances by older adults, as well as support to community geriatric services

## Evaluation of oxygen-enhanced MRI for identification of hypoxia induced resistant tumours in patients with head and neck cancer – Judith A. Christian

*An essential collaboration between radiotherapy and MRI to allow the NUH radiotherapy department to host a proton service in five years' time to serve the whole of the East Midlands cancer population.*

There are currently only two proton units in the UK (London and Manchester), so the aim of this project was to expand the service while capitalising on the close links between the University of Nottingham and NUH Trust.

MRI provides excellent visualisation of tumours and vital adjacent organs. This allows for very accurate information of tumour volumes requiring radiotherapy treatment and the normal tissues that need to be avoided.

The unique ability of MRI is to provide information on biology and function of tissues, including

oxygen delivery. This can be achieved by comparing images acquired whilst breathing air versus pure oxygen.

The project used this method to assess tumour oxygenation in head and neck cancers and detect areas of poor oxygenation which are less likely to respond to standard radiotherapy treatment. This would allow better personalising of the radiotherapy treatment plan and potentially improve the outcome for these patients in the future.

The success of the project, supported by the charity, has led to the Trust approving a new consultant post based on this piece of work being done – a very good outcome for this grant.



# Supporting research excellence

Comprised of some of Nottingham's key specialist researchers, our Research Advisory Board has provided the driving force and focus for the Charity's research programme over many years.



## Our donors are key partners in ensuring Nottingham Hospitals Charity can deliver world class research projects and outcomes in Nottingham.

### Finding the perfect match

Our donors are essential to the success of our research programmes within Nottingham's hospitals. Working in partnership with donors we have a track record of constructing research teams around specific donations and legacies. By taking this enlightened, dynamic and tailored approach to matching researchers to research funders we continue to achieve great outcomes for research in Nottingham.

### Partners in delivering great research

Some of our most impactful research programmes are the result of carefully matched and structured partnerships. Current examples include the following:



### A family legacy

The Bethell Haematology Research Fellowship is a lasting legacy supporting treatment of blood cancers. Approximately 5,500 patients are diagnosed with multiple myeloma in the UK each year. The disease is incurable, with treatment aiming to slow progression, alleviate symptoms and improve quality of life.

This project aims to contribute to identifying appropriate therapies that may target specific groups of myeloma patients and ultimately improve outcomes for them.

The Bethell Haematology Research Fellowship is the result of a legacy from a grateful family, with over £500,000 going to fund the research fellowship focused on those facing multiple myeloma. Based at City Hospital, the Haematology Department's Day Case Unit is named after the legator in recognition of the family's contribution and support.

### Diabetes research funding

Diabetes affects almost 400 million people worldwide and just under 5% of the UK population. It is typically irreversible and its complications cause decreased life expectancy and major medical, social and financial burdens.

Neuropathy is a common complication of diabetes. It most often manifests as a symmetrical sensory neuropathy affecting the lower limbs, but it may also cause isolated motor neuropathies or cranial nerve palsies and may affect the autonomic nervous system.

This research study uses non-invasive, painless MRI of the spinal cord for the earliest detection and monitoring of diabetic neuropathy, and takes advantage of the unique high field imaging expertise in Nottingham, the reputed team of diabetes specialists and the large, multidisciplinary clinics.

This study has been funded through a £350,000 legacy from a lady called Hilda Lees, to whom we are most grateful.

Other studies undertaken as a result of this legacy include a project looking at



nerve antibodies in diabetic patients with neuropathy, a study investigating hyperspectral imaging of the foot to plan structured clinical care for diabetic patients and an exploration of the role of cardiac arrhythmia in the mortality associated with foot disease in diabetes.



### Pioneering innovation

The Dutton Oncoplastic Research Fund supports the life-changing work of Nottingham Hospital's consultant surgeon Mr Douglas MacMillan in developing oncoplastic breast reconstruction for women who face mastectomies following breast cancer. The donation of over £280,000 has funded a five-year research programme focused on assessing breast reconstruction options and impacts, including psychosocial effects.





# An unrivalled track record of research in Nottingham

Over the last 15 years Nottingham Hospitals Charity has set the standard for an unrivalled track record of funding for some of the most wide-ranging and impactful research projects across the region.



The research we have funded ranges from projects covering individualised treatment options for hepatitis B virus patients, through measuring recovery after major traumatic injury, to controlling coordination after childhood cerebellar cancer.

The research projects listed below are the majority of over 200 grants we directly supported with almost £10 million of research funding from 2008 to 2022:

### 2008 Charity-funded research projects

**Fiona Broughton-Pipkin** – The measurement of individual components of the renin-angiotensin system £4,996

**Fiona Broughton-Pipkin** – Provide proof of principle investigating the role of folate in the onset of pre-eclampsia £4,994

### 2009 Charity-funded research projects

**Guruprasad Aithal** – Identification of biomarkers for the prediction and early diagnosis of anti-tuberculous drug-induced liver injury £9,616

**David Baldwin** – The use of metabolomics to develop a biomarker for the early detection of lung cancer £9,800

**Philip Bath** – Rapid Intervention with GTN in Hypertensive stroke trial (RIGHT) £9,038

**Bryn Baxendale** – The translation and implementation of mandatory service change: a formative evaluation of the NPSA Safe Surgery Live Checklist £10,000

**George Bugg** – To investigate the placental vessel type identified by 3D power Doppler angiography within the placenta of normal pregnancies and those complicated with pre-gestational diabetes £2,600

**Steve Chan** – A study of neo-adjuvant therapy in high-risk localised early breast cancer in Nottingham and Mansfield: Prediction of response to therapy and neo-Nottingham prognostic index £16,000

**Jonathan Corne** – Rapid screening of serum samples for COPD using a novel protein array technology £8,100

**Mark Devonald** – Investigation of the risk of chronic kidney injury following an episode of acute kidney injury in the intensive care unit £10,000

**Nikos Evangelou** – Optimisation of T2\*-weighted MRI at clinical field strengths for improving diagnosis of multiple sclerosis £9,925

**Andrew Fogarty** – What are the risk factors for allergic disease in Cuba: a society in transition? £10,000

**Indra Neil Guha** – The assessment of a functional biomarker to detect gastro-oesophageal varices in liver cirrhosis £9,500

**John Hammond** – Characterising Kupffer cell activity in health and disease: the role of the innate immune response in liver regeneration after partial hepatectomy £7,540

**W L Irving** – Does the addition of metformin to standard combination therapy increase sustained response rates for patients with chronic hepatitis C virus infection? £8,000

**Martin W James** – Effect of probiotics on bacterial translocation and incidence of spontaneous bacterial peritonitis (SBP) in cirrhotic patients with ascites £9,750

**Alan Knox** – Effect of  $\beta_2$ -agonists on myofibroblast differentiation in idiopathic pulmonary fibrosis £9,950

**Peter Lanyon** – Production of micro-scale screening arrays for detection of anti-citrullinated protein autoantibodies to improve early disease diagnosis and future monitoring in rheumatoid arthritis and systemic inflammatory conditions £7,375

**Kenneth Mellits** – A biobank of patients suffering from *Campylobacter jejuni* gastroenteritis £10,042

**Jacqueline Randle** – Improving children's and their visitors' hand hygiene compliance £11,636

**Bernard Schoonakker** – Determination of how adsorption of insulin onto administration sets

influences insulin delivery to sick neonatal patients £9,798

**Sue Watson** – Establishing a molecular profile which links to a translational screen of therapeutic response to newly emerging class of anti-cancer agents in colorectal metastasis to liver £9,800

### 2010 Charity-funded research projects

**Mark Batt** – Predicting patient outcomes – the development of a patient-based functional movement score to assess 'motor intelligence' £8,484

**Catherine Brewin** – A national survey of OT to identify practice for hip precautions following total hip replacement £9,973

**Helen Budge** – Influence of maternal overweight, obesity and gestational diabetes on placental pro-oxidative status – a pilot study to examine the role of sirtuins £8,400

**Helen Budge** – Optimising early parental nutrition is tolerated by, and improves outcomes in, infants born extremely preterm £9,990

**Judith Christian** – Prevalence of high risk human papilloma virus in patients with squamous cell carcinoma of the oropharynx and its impact on clinical outcomes £10,000

**Ian Daniels** – Does the therapeutic monoclonal antibody rituximab induce a long-term immune response in patients with B-cell lymphomas? £9,270

**Suha Deen** – Chemokines gradient contributes to metastatic spread of epithelial ovarian carcinoma £3,600

**Rob Dineen** – The imaging of depression in multiple sclerosis (IDIoMS) pilot study £9,980

**Melanie and Mark Ferguson** – Brassington evaluation of benefits from motivational engagement in first-time hearing aid users £5,272

**Mark Fox** – Assessment of gastric motor and sensory function following a large test meal by scintigraphy, magnetic resonance imaging and a nutrient drink test in patients with functional dyspepsia £9,700

**Nick Jones** – Production of a nasal polyp tissue microarray to investigate the role of

immunoglobulin free light chains as mediators of allergic responses involved in nasal mucosa remodelling £10,000

**Rhodri Jones** – Development of protocols for processing mesenchymal stem cells for patient therapy in the clinical tissue laboratory at NUH £10,000

**Dileep Lobo** – Modelling chemotherapy associated steatohepatitis (CASH) in a microfluidic primary human liver culture system £9,920

**Tahir Masud** – The effectiveness of the Nintendo Wii in the delivery of exercise in falls prevention classes for older adults: a feasibility study £10,000

**Ruth Murphy** – Feasibility study for a multicentre clinical trial studying treatments for vulval erosive lichen planus £9,640

**Nick Raine-Fenning** – Randomised, controlled study of hysteroscopic metroplasty for women with a septate uterus and a history of miscarriage or preterm labour: part of the Systematic Evaluation of the Prevalence and Treatment of Uterine Malformations (SEPTUM) studies £9,275

**Opinder Sahota** – Effects of ageing and vitamin D deficiency on vitamin D receptor (VDR) in skeletal muscle £9,600

**Don Sharkey** – Development of a non-invasive systemic perfusion monitor for critically sick children and newborns £9,530

**Alastair Simpson** – A systematic review of treatments for preoperative anaemia £1,150

**John Simpson** – The aetiology of pain in chronic pancreatitis £9,825

**Tracey Twomey** – A pilot study to explore the experiences of congenitally profound deaf candidates who receive cochlear implants as adults £3,137

### 2011 Charity-funded research projects

**James Catton** – The effects of an intensive nutritional support programme on body composition, insulin resistance and clinical outcomes during neoadjuvant chemotherapy for oesophago-gastric cancer: A before and after pilot study £10,000

**Joanne Cooper** – Improving the care of patients with palliative oesophago-gastric cancer £9,000

**Andrew Fogarty** – The development of point of care diagnostics suitable for use with children who have malaria £9,000

**Heather Fortnum** – Speech perception in middle aged people and its relation to noise exposure, tinnitus and cognitive function £7,500

**Sarah Goldberg** – Research looking at continence problems amongst older people admitted to hospital with dementia £9,000

**Richard Grundy** – Adjuvant chemotherapy for malignant brain tumours delivered via a novel intra-cavity PLGA/PEG sintering polymer £9,000

**Mohammad Ilyas** – Gene sequencing to help predict responsiveness to chemo-radiotherapy drugs in people with colorectal cancer £9,000

**Richard Ingram and Emily Staples** – Towards a diagnostic test: which patients infected with *Helicobacter pylori* are predisposed to develop, or are protected against, stomach cancer? £7,461

**K Jayaprakasan** – Efficacy of dehydroepiandrosterone medication to overcome the effect of ovarian aging £10,000

**Simon Johnson and Imran Haq** – Identification of novel biomarkers in lymphangioleiomyomatosis £9,700

**Pip Logan** – An evaluation of the community and hospital in research intervention: proof of concept study £9,856

**Srinivasan Madhusudan** – Evaluation of a serum biomarker test to predict response to chemotherapy in oesophago-gastric cancer patients £10,000

**Luca Marciani** – A new MRI ‘stress test’ for colonic function in laxative-resistant constipation £9,560

**Paul Matthews** – Specialist therapeutic care as an alternative to surgical intervention for those with osteoarthritis £9,000

**Abhik Mukherjee** – Optimisation of the estimation of lymphovascular invasion in early primary breast cancer patients for routine clinical use £10,000

**Ira Pande** – Bone health in compensated cirrhosis – The Compensated Cirrhosis Cohort Nottingham Study £12,000

**Des Powe** – Investigating prognostic and predictive biomarkers for prostate cancer: selected using a novel bioinformatic and a biologic mechanism approach £9,793

**Helen Spiby** – Research to assist the beliefs of midwives who support women in early labour £7,992

**Krishna Varadhan** – Effect of preoperative anabolic drugs on muscle insulin resistance following major abdominal surgery £9,000

**Hywel Williams** – A functional mechanistic study of the effect of emollients on the structure and function of the skin barrier £8,800

## 2012 Charity-funded research projects

**Guruprasad Aithal** – Telomere length and telomerase activity as a measure of cumulative burden of oxidative stress in non-alcoholic fatty liver disease £8,260

**Helen Budge** – Development and evaluation of an online, multimedia parenting intervention to promote motor development in pre-school children born very preterm £9,738

**Helen Budge** – Study into the use of imaging of brown adipose fat tissue using magnetic resonance and thermal imaging £6,000

**Vincent Crosby** – Study into whether body composition can help identify the optimal dose of chemotherapy in patients with lung cancer £2,130

**Roshan das Nair** – Comparing individual versus group psychological adjustment interventions for people with multiple sclerosis £10,992

**Mark Devonald** – Investigation of micronutrient loss in patients with acute kidney injury requiring renal replacement therapy £9,000

**Avril Drummond** – An education programme for assessing risk in stroke patients’ homes £9,973

**Lucy Fairclough** – Early diagnosis of chronic obstructive pulmonary disorder using novel autoantibody microarrays £8,290

**Mark Fox** – Clinical application of novel non-invasive studies of digestive function in patients with dyspeptic symptoms £12,000

**Ian Gaywood** – Patient engagement and complex treatment decisions in RA – what do patients need to know and how do we tell them? £7,894

**James Law** – A case-control study of brown adipose activation in children with Type 1 diabetes, hypothyroidism or hyperthyroidism £8,950

**Srinivasan Madhusudan** – Analysis of lymphatic and blood vessel invasion in early-stage oesophageal cancer for improved patient prognosis £8,000

**Stewart Martin** – Use of calpain in acute myelogenous leukaemia and the role of calpastatin £5,750

**Shalini Ojha** – Analysis of abdominal adipose fat tissue in children £2,975

**Alan Perkins and Vidhiya Vinayaka-Moorthy** – Clinical PET-CT imaging of hypoxia using [18F] HX4 £22,500

**Des Powe** – Development of a beta-adrenergic receptor mutation detection assay, which is a tool for determining mutation frequency and predicting disease progression in breast cancer £9,239

**Catherine Vass** – Survey of footwear in elderly patients £9,336

## 2013 Charity-funded research projects

**Mat Daniel** – Research into what is important to parents of children with glue ears £2,000

**Rob Dineen** – Hippocampal dysfunction as a mechanism for cognitive deterioration following breast cancer chemotherapy – a pilot study £9,920

**Melanie Ferguson and Mark Brassington** – The development and evaluation of interactive educational audio-visual materials to enhance communication £9,997

**Ian Hall** – Pilot study on functional magnetic resonance lung imaging using inhaled hyperpolarised 129Xe £10,000

**Helen Henshaw** – Identifying treatment uncertainties for mild-moderate hearing loss from the perspective of patients and clinicians: A James Lind Priority Setting Partnership £14,335

**Joseph Manning** – Development and evaluation of re-usable learning objects (RLOs) to support the psychosocial wellbeing of carers of children diagnosed with cancer £9,998

**Luca Marciani** – Effect of gluten content of bread on gastrointestinal symptoms: an MRI study £9,730

**Maria Matthews** – Motivations and barriers towards lifestyle change and characteristics of non-alcoholic fatty liver disease (NAFLD) patients £10,110

**Julie McGarry** – Effective identification and management of domestic abuse within emergency department settings £8,675

**Tanya Monaghan** – A study into the colonization by *C. difficile* amongst adult inflammatory bowel disease (IBD) patients £9,900

**Monica Pallis** – A study into whether BH3 profiling can predict a patient’s responsiveness to chemotherapy for those who have acute myeloid leukaemia £6,350

**Katie Robinson** – Testing the principles of a chair based exercise (CBE) programme: A proof of concept study £9,038

**Don Sharkey** – Preterm infant transport street (PremiTrans) pilot study £11,050

**Dominick Shaw** – The Grumble Button: a project aiming to lead to a new, intuitive, rapid and user-friendly method for reporting adverse events in hospitals £8,600

**Shiu Soo** – A prospective study of Enterobacteriaceae colonisation of nasogastric feeding tubes, its contribution to neonatal bowel flora, late onset healthcare associated bacteraemia in premature/low birth weight infants on neonatal intensive care units, and investigation of the healthcare environment, formula feed, and fortifiers as potential sources of contamination £9,922

**Helen Spiby** – Women’s expectations and experiences of membrane rupture prior to and in early labour at term £9,560

## 2014 Charity-funded research projects

**Elaine Bellamy** – Comparison of the effectiveness of a hydrogen peroxide misting whole room disinfection system (ASP Glossair) against manual disinfection methods using sodium hypochlorite against Vancomycin Resistant Enterococci (VRE) in a clinical environment £2,827

**Heather Buchanan** – Helping parents with chronic kidney disease talk to their children: exploring parent-

child communication about kidney disease and developing support resources £9,805

**Paul Byrne** – Intraoperative ultrasound for neurosurgery department £38,234.89

**Steve Chan** – Predictive markers of response to chemotherapy using archival tumour tissue; in collaboration with a research group in Perth, Australia £27,500

**Cris Constantinescu** – Use of a novel normalised spinal cord area measurement in monitoring diabetic neuropathy £201,400

**Rob Delahay** – The contribution of a novel virulence factor of *Helicobacter pylori* to gastroduodenal disease outcome £8,920

**N Evangelou** – Star-MS Study: single test to arrive at MS diagnosis. A pilot study to test new MRI test in predicting multiple sclerosis in cases of diagnosis uncertainty £12,000

**N Evangelou** – Assessing the use of non-standardised, routine, clinical MRI scans in MS research and clinical practice £10,000

**Antonella Ghezzi** – Assessing nutrition through observation in early cirrhosis of the liver (ANTO) study £10,499

**Mark Glover** – In vitro characterisation of thiazide sensitive pathways of sodium reabsorption in the kidney £24,397

**Pippa Hemingway** – Can we reduce children's emergency department attendances? Analysis of parents' decisions having chosen the emergency department for children aged 0-5 years with non-urgent medical complaints £9,980

**Mohammad Ilyas** – Using cfDNA (liquid biopsy) to monitor treatment response in patients with colorectal cancer £10,000

**William Jeffcoate** – Hyperspectral imaging of the foot to plan structured clinical care (NEAT study) £80,750

**William Jeffcoate** – Exploration of the role of cardiac arrhythmia in the mortality associated with foot disease in diabetes (QTC study) £28,500

**William Jeffcoate** – Investigating the cause of painful neuropathy in diabetes, combined with documentation of abnormalities of the ECG (QTC prolongation) in this condition (PPN study) £9,500

**Michelle John** – Physical activity and cardiovascular risk in patients with COPD £7,366

**Robert Kerslake** – Development of a concise muscle MR imaging and analysis package £7,457

**Paul Maddison** – Body composition measurements and functional impairment in myotonic dystrophy type 1 £7,000

**Paul Maddison** – Antineuronal antibodies and diabetic peripheral neuropathy £47,500

**Gordon Moran** – Reduced intestinal motility in inflammatory Crohn's disease – optimisation studies in healthy volunteers £10,000

**Des Powe** – Arresting adrenergic receptor mediated prostate cancer progression: a role for adjuvant novel adrenergic receptor inhibitions (ARIs) £9,108

**Emad Rakha** – Determining oestrogen receptor (ER) positivity in breast cancer when assessed on core biopsy using immunohistochemistry £10,000

**Hari Ratan** – Determine new markers of prognosis in African-heritage men with prostate cancer £9,900

**Claire Seedhouse** – Resistance mechanisms in acute myeloid leukaemia £25,000

**Don Sharkey** – A live feedback monitoring system to improve oxygen saturation targeting in premature infants £8,520

**Dominick Shaw** – A study into supporting patients to navigate their way within large hospitals, such as Nottingham £20,000

**Nikola Sprigg** – Visual impairment after stroke: Assessing priorities and acceptability of emerging technologies to improve outcome £9,993

**Joanna Stephens** – Stratifying risk of gastric adenocarcinoma in *Helicobacter pylori* infected patients: development of a non-invasive test £5,892

**Laila Tata** – To what extent are women with asthma receiving optimal clinical management during pregnancy? £15,402

**David Walker** – Understanding language dysfunction in survivors of childhood posterior fossa tumour £10,000

**Angus Wallace** – The effect of teriparatide (rPTH) on accelerating the healing of osteoporotic ankle fractures in elderly patients – a pilot study £10,138

**Denis Walsh** – Women's experiences of being 'overdue' in pregnancy £9,483

## 2015 Charity-funded research projects

**Holly Blake** – Development and evaluation of a prototype for an online multimedia intervention to promote physical activity in children with type 1 diabetes £10,000

**Helen Budge** – A study of adiposity in infants of mothers with diabetes £10,000

**Judith Christian** – Development of class solutions in the treatment of stereotactic ablative radiotherapy for patients with solitary or multiple brain metastases, isolated spinal metastases and extra cranial tumours £33,000

**Rob Dineen** – Novel quantitative MRI versus amyloid PET biomarker of dementia £10,000

**Linda Fiaschi** – Assessment of hyperemesis gravidarum clinical management in secondary care settings £19,924

**Michelle Hall** – Feasibility of a mindfulness-based intervention for patients with osteoarthritis (OA) related knee pain £12,934

**Tim Harrison** – Identifying the mechanisms of a new anti-IgE treatment for asthma £30,000

**Robert Henderson** – An investigation into the causes of anaemia in patients with aortic stenosis, with particular emphasis on the role of acquired von Willebrand factor deficiency £56,379

**Kris Inkpin** – Development of a novel 'steerable' bougie to assist in difficult airway management £10,062

**Sarina Iwabuchi** – The feasibility of using magnetic stimulation to treat resistant depression £15,600

**Gordon Moran** – An assessment of muscle function in Crohn's disease £10,000

**Rachael Murray** – Maintaining activity in patients with COPD after rehabilitation (MAC) – a feasibility study £11,162

**Robert Pierzycki** – Tinnitus effect on device programming and speech outcomes in cochlear implant users £5,686

**Ian Sayers** – Targeting the urokinase plasminogen activator receptor (uPAR) in asthma £10,000

**Robert Scott** – 2x2 crossover study design – apply and develop MRI techniques to characterise the changes in the small bowel associated with permeability under normal and positive control conditions in healthy volunteers (GerMinH) £10,000

**Rachael Taylor** – To assess the presence of sarcopenia (muscle wasting) in older people who fall, and undertake a proof-of-concept study to treat sarcopenia with the aim of reducing falls £17,002.74

## 2016 Charity-funded research projects

**Tim Bowling** – The effect of oral feeding on gastric emptying, small bowel water content, superior mesenteric artery blood flow, plasma hormone concentrations and blood volume in obese and healthy weight subjects £10,000

**Steve Chan** – Nottingham Personalised Therapy Oncology Research Group: full time research fellow £46,925

**Hannah Gregory** – Oncoplastic research and audit at the Nottingham Breast Unit to provide accurate information to patients on the efficacy and outcome of available surgical techniques £149,807

**Tahir Masud** – Sarcopenia study to assess the prevalence of sarcopenia (muscle wasting) in older people who fall, with the aim of treating sarcopenia to reduce the risk of falls £3,615.00 & £4,355.21

**Andrew Prayle** – Developing a laboratory modelling of kidney damage through antibiotic toxicity in children £9,896

**Claire Seedhouse** – What underpins myeloma sensitivity to DNA damaging agents £175,622

**Claire Seedhouse** – Studying the nucleophosmin (NPM) gene as a therapeutic target in acute myeloid leukaemia £146,025

**Nina Squires** – A pilot study of voice banking in the Motor Neurone Disease (MND) Clinic £10,054.44

## 2017 Charity-funded research projects

**Jennifer Allen** – An investigation of urinary micronutrient profile as an early biomarker for acute kidney injury £51,446.44

**A Aravinthan** – Prognostic utility of serum of hepatocyte senescence in liver disease £9,991

**J Chalmers** – A James Lind Alliance Priority Setting Partnership in pemphigus and pemphigoid to identify and prioritise unanswered research questions for patients, their carers and clinicians £9,942

**Steve Chan** – Full time clinical research fellow for 2-years for the Nottingham Personalised Therapy Oncology Research Group £54,222 and £54,019

**M Ferguson** – The development and evaluation of decision aids for people seeking help with hearing loss and their communication partners £9,450

**Neil Guha** – Nottingham non-alcoholic fatty liver disease longitudinal cohort study (NoNALCS) £10,986

**Robert Henderson** – An investigation into the causes of anaemia in patients with aortic stenosis, with particular emphasis on the role of acquired von Willebrand factor deficiency £65,079

**Y Mahida** – Feasibility studies to investigate the role of ursodeoxycholic acid in the prevention of recurrence of C. difficile infection £9,642

**E Rakha** – Intra-operative spectroscopic sentinel lymph node evaluation in breast cancer £10,000

**S Samuel** – Serum oncostatin M (OSM) levels to predict colectomy in patients with acute severe ulcerative colitis (ASUC) £4,743

**A Sharif** – EGFR testing on cfDNA in non-small cell lung cancer (NSCLC) £7,000

**Don Sharkey** – Reducing adverse noise exposure in the neonatal unit – a feasibility study £10,029

**R Simpson** – Improving the diagnosis of recurrent DVT £9,556

**S Thomas** – Physical activity as an intervention for children with acquired brain injury, brain tumours and neurological conditions £5,579

## 2018 Charity-funded research projects

**Richard Ashpole and Stuart Smith** – A pathological validation of an ultraviolet headlight and bandpass filter glasses for the recognition

and dissection of brain tumours £14,000

**Katherine Belfield** – Research into the prevention of paradoxical antimicrobial resistance associated with biomaterials used in joint replacement and treating infections £4,249.49

**Louise Bramley** – A study to assess the feasibility of using Nervecentre and eRostering data to investigate associations between nurse staffing, missed nursing care, and patient outcomes, including mortality, in older patients £9,586

**Stephen Chan** – Research into wild type and mutant GFP-SPAG5 in breast cancer cells and their effect on mitosis and response to anti-proliferative agents £4,856.81

**Judith Christian** – Funding for two 2-year Doctor of Medicine (MD) research fellows, to develop the department of academic radiotherapy at NUH Trust £21,490

**Ian Ellis** – Biological characterisation of breast cancer, underpinning research into more sophisticated personalised treatment £6,743.69

**Sarah Forster** – Investigating how factors involved in recognition and escalation of deteriorating hospital patients can be used to optimise patient safety £168,000

**Hester Franks** – A pilot study of adenosine receptor expression in melanoma to improve therapies for patients £40,386.78

**Abby Hunter** – Identifying research uncertainties in the use of electronic cigarettes for smoking cessation and harm reduction from the perspective of patients and clinicians: A James Lind Alliance Priority Setting Partnership £15,650

**Karine Latter** – Development of a re-usable learning object for parents of infants with Pierre Robin Sequence £9,147

**Michelle Lister** – Development of next generation sequencing (NGS) for improved diagnosis of infection and causal pathogens in patients £42,590.83

**Douglas Macmillan** – Funding towards maintenance and improvement of research service within Nottingham Breast Institute, specialising in oncological surgery £149,450

**Giles Major** – Research into gastro-intestinal problems present in cystic fibrosis (CF) patients and to what extent they are impacted by medication £8,372.34

**Gordon Moran** – Investigation into efficacy of aminosaliculates in treating Crohn's disease (CD) involving 1,580 adult CD patients from the UK and Canada £20,000

**John Robertson** – Assessing value of autoantibodies (AAB) in early detection and profiling various sub-types of breast cancer £40,800

**Pooja Sachdev** – Research into how taking glucocorticoid (GC) medication might induce secondary adrenal suppression in children and young people £14,018

**Claire Seedhouse** – A study to identify why some myeloma cells respond differently to established anti-myeloma drugs and novel agents than others £181,077.15

**Rajiv Shah** – Research into detection of viral markers in blood of hepatitis B virus (HBV) patients, enabling better understanding of infection and more individualised treatment options £8,903

**Don Sharkey** – Collaboration between all 20 UK newborn transport teams to create a 'vibration hotspot' map, detailing areas to avoid when transporting babies between hospitals £11,975

**Yue Xing** – Research into how 'swallow tail' sign in MRI scans of Parkinson's Disease (PD) patients compares with DaTSCAN regarding diagnostic accuracy £10,800

## 2019 Charity-funded research projects

**Philip M Bath** – Efficacy of nitric oxide in stroke-2 £25,000

**Caroline C. V. Blanchard** – Controlling coordination after childhood cerebellar cancer £24,994

**Colin Crooks** – Developing the algorithm for a tool for targeted case finding of coeliac disease in children £5,000

**Eleanor Douglas** – What is the impact on patients and caregivers of a post-critical illness rehabilitation class? Mixed methods, feasibility study £21,035

**Alison Musgrove** – A study to investigate the creation of a new tool to monitor capillary

refill time to identify those with diabetes at risk of developing foot ulcers £24,998.40

**Ruth Parks** – Three-year Oncology Research Fellowship: Bio-geriatric assessment (BGA), a novel tool to optimise treatment of primary breast cancer in older women £155,538

**Ian Sayers** – Identification of asthma patients that respond to mepolizumab using a nasal gene signature £24,813

**Brigitte E. Scammell and Laura Angela Wyatt** – Investigating why some people have ongoing ankle pain and poor recovery following a significant ankle injury; the Significant Ankle Ligament Injury (SALI) cohort study £47,011

## 2020 Charity-funded research projects

**James Bailey** – Research to develop new methods for early diagnosis of bowel cancer £5,000

**Mark Bishton** – Describe the impact of brentuximab vedotin (BV) on overall survival for patients with relapsed anaplastic large-cell lymphoma £3,493

**Judith A. Christian** – Researching the unique ability of MRI to provide information on biology and function of tissues, including oxygen delivery, in head and neck cancer patients £35,000

**Simon Craxford and Benjamin Ollivere** – Measuring recovery after major traumatic injury £2,130

**Alexander Foss** – Development of an eye-tracking device for the treatment of amblyopia ('lazy eye') and strabismus ('squint') in children £24,000

**Joanne Stocks** – Investigating the effect of endurance training on gut microbiome composition in UK middle-aged participants; runners cohort £1,000

**Joanne Stocks** – Investigating the effect of endurance training on gut microbiome composition in UK middle-aged participants; Afro-Caribbean cohort £3,000

## 2021 Charity-funded research projects

**Helen Barr** – Analysis into how sputum and plasma inflammation levels can predict need for antibiotics

and treatment response in non-CF bronchiectasis patients £700.80

**Mark Bishton** – Analysis of NCRAS data gathered from T- and NK-cell lymphoma cases to improve outcomes for blood cancer patients £15,966.72

**Charlotte Bolton** – Dynamic assessment of multi-level organ dysfunction, including changes in whole body function, in patients recovering from Covid-19 £29,000

**Sherif Gonem** – Real-world implementation of a novel scoring system for detecting early warning signs of clinical deterioration in respiratory patients £24,574.23

**Martin Grundy** – Cellular and molecular studies into abnormal haematopoietic cells, with a focus on mechanisms of drug action and resistance £654

**Matthew Hall** – Research into kidney adaptations to pregnancy in Alport syndrome to provide insight into pathophysiology of proteinuric kidney diseases £38,686

**Matthew Hall** – Using sonoclot to evaluate risk of developing blood clots (venous thromboembolism, VTE) in pregnant patients with proteinuric renal disease £30,575.60

**Aimee Hibbert** – Using advanced MRI to explore a link between the presence of iron rim lesions (IRLs) and clinical disability in multiple sclerosis patients £4,679.49

**Shahnaz Jamil-Copley** – Developing an artificial intelligence model to accurately define ventricular scar and geometry using cardiac magnetic resonance (CMR) imaging scans £50,555.36

**Douglas Macmillan** – Funding for two research posts to support and manage various projects, including changes in genetic testing protocols for high-risk patients £56,280

**Tahir Masud** – Using routinely collected ‘big data’ in NUH Trust to improve services and outcomes for older people £24,000

**Georgette Oni** – A study to establish barriers faced by Black women in engaging with breast cancer services, in comparison with other ethnicities £5,000

**Claire Seedhouse** – Research determining patterns of wild-type (WT) and mutant nucleophosmin (NPM1) in mitotic chromosomes in acute myeloid leukaemia (AML) £40,188.59

**Claire Seedhouse** – Research into the role of CDC28 protein kinase regulatory subunit 1B (CKS1B) in drug resistance in patients with multiple myeloma £119,371.20

**Kate Walker** – Funding for Born And Bred in Nottingham (BABi-Nottingham), an electronic birth cohort study linking various data sources to improve outcomes £23,395.20

## 2022 Charity-funded research projects

**Andrew Prayle** – A study in how effective a new drug called Kafrio is in treating abdominal symptoms in children with cystic fibrosis (CF) £6,500

**Alan Smyth** – Developing a universal core outcome set for clinical trial in cystic fibrosis (CF) £5,000

**Chantelle Tomlinson** – Churchill Foundation: piloting the Equip care package £9,060

# Thanks to our donors


The pioneering local research studies and innovative projects highlighted in this report are only possible thanks to the continued support of our generous donors.

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