

Repurposing drugs

Professor Chris Thiemermann Artesunate in Ischaemia and Trauma

Artesunate, a plant extract used to treat malaria, was discovered by a Chinese scientist (Dr Tu Youyou) who was awarded the Nobel Prize for this in 2015. Professor Chris Thiemermann, realising that drugs like Artesunate could improve the survival of tissues and organs after ischaemia, trauma or blood loss, tested this concept successfully in biological models and has patented this discovery. The first clinical trial, now underway, could revolutionise therapy for these serious conditions. Trauma is the main cause of death of children and young adults – every year 12,500 people in England and Wales die from trauma injuries.



ARTESUNATE
could improve the
survival of tissues and
organs after trauma

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I have had a longstanding and personal interest in the work of the William Harvey Research Foundation who have been instrumental in facilitating my support for Child Health Research into Endocrine diseases which culminated in the establishment of a new Chair in the Medical School. I strongly commend their continued efforts to support cutting-edge research in the world-leading William Harvey Research Institute.”

Mr Chris Hobden, Founder, Hobden Group

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WHR has become a powerhouse for research into human diseases and a leading centre for translation into innovative treatment. I am hugely impressed with the high impact research output of its highly-productive scientists. I am an enthusiastic supporter of WHR and look forward to following its exciting future.”

Professor Tim Williams FRS, Emeritus Professor in Airway Disease, Imperial College London, WHRI International Scientific Advisory Board



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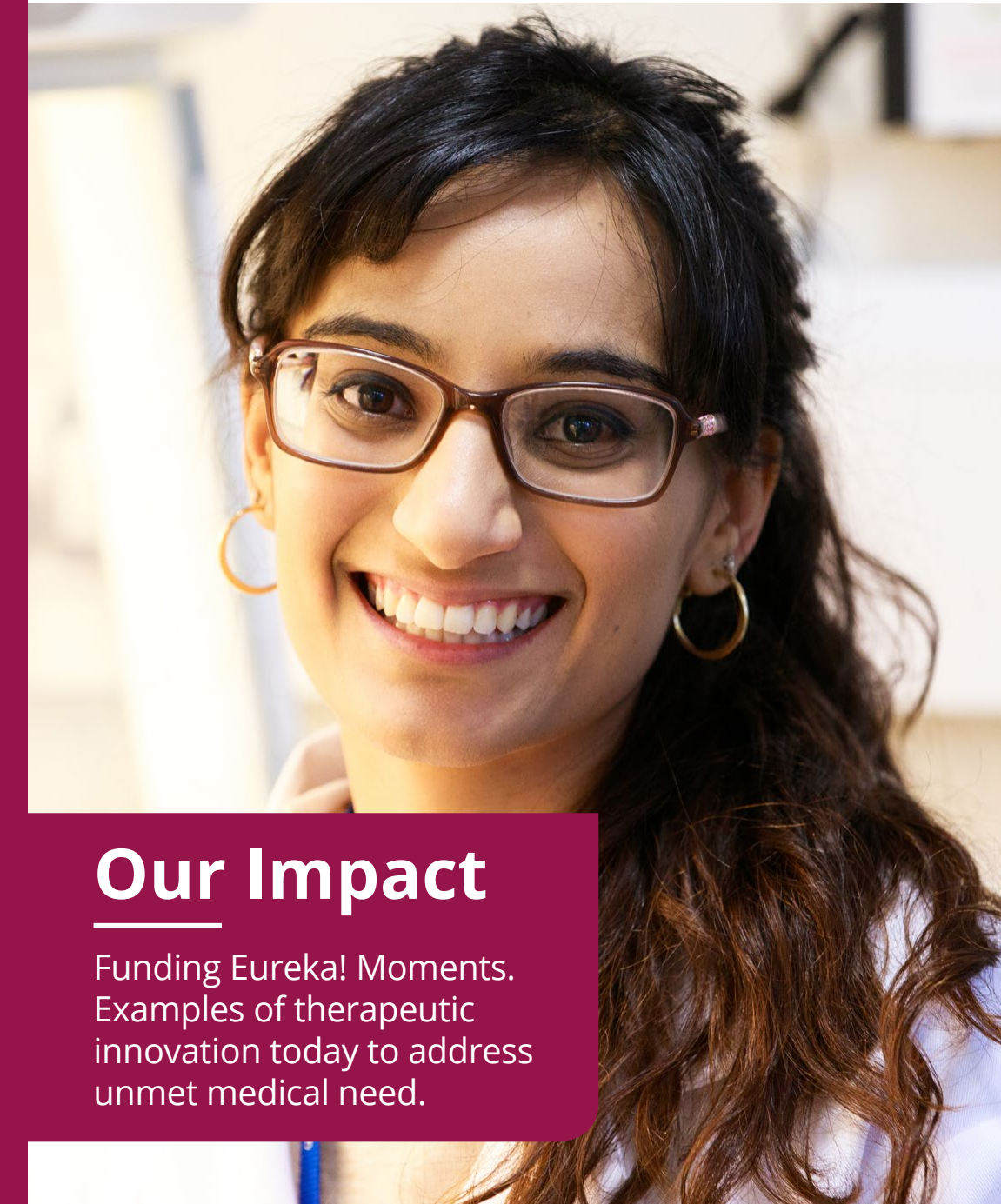
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Our Impact

Funding Eureka! Moments.
Examples of therapeutic
innovation today to address
unmet medical need.

New drug discoveries

Professor Adrian Hobbs Heart Failure


Professor Hobbs showed in his research that one peptide, CNP, helps recovery from heart attacks and to prevent heart failure. He has now discovered small molecules that mimic the effect of CNP; with the right research and funding, these could be developed into new drugs. Significant work is required to refine these compounds and demonstrate their safety before clinical trials can begin, but the potential global benefits are immense.



A molecule that mimics
THE PEPTIDE CNP,
to help recovery
from heart attacks

Dr Li Chan Congenital Adrenal Hyperplasia

Congenital adrenal hyperplasia affects 1 in 10,000 new-born children. Its life-changing effects include disordered sex hormones, masculinisation of females, precocious puberty and psychological disorders. It is currently treated with steroids, but high levels of ACTH (a natural product of the pituitary gland) complicates this therapy. Dr Chan (working with MRC Technology) has found a compound that blocks this effect of ACTH without affecting other hormonal functions. This drug is being tested in biological models before starting clinical trials. This research could result in this transformative treatment being offered to patients.




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New therapies

Professor Ken Suzuki Stem Cells for Heart Failure

800,000 people in the UK have heart failure (when the heart is unable to pump blood around the body) for which there is no cure. Professor Ken Suzuki has pursued the idea of attaching stem cells to a matrix to create a 'cell dressing' or 'cell plaster' that can be placed directly onto the heart to act as heart-muscle cells. Extensive work over several years has now identified a suitable matrix specifically made for this purpose that is highly effective in animal models and which supports survival and propagation of these cells to an extent never before achieved. Future research needed includes a clinical trial in patients undergoing open-heart surgery and to explore direct injection of the matrix into the space surrounding the heart without the need for surgery. This discovery may provide the first effective treatment for heart failure.



CELL PLASTER
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An alternative
treatment for macular
degeneration, which effects
600,000 PEOPLE
in the UK

Dr James Whiteford Novel Treatments for Blindness

In collaboration with the Institute of Ophthalmology at Moorfields Hospital, Dr James Whiteford showed that a group of molecules known as syndecans was highly effective in blocking new vessel formation at the back of the eye. This could provide a highly effective treatment for macular degeneration, the most common cause of sight loss, affecting 600,000 people in the UK. Current treatment is with highly expensive drugs that need to be injected directly into the eye on a monthly basis. A clinical trial of syndecan therapy is needed and if successful may provide a cheap, infrequent and easily administered treatment. Excitingly, the possibility exists to expand the use of this treatment for other eye diseases such as diabetic retinopathy (the leading cause of blindness in young people) and in certain lung diseases.

Professor Francesco Dell'Accio and Dr Anne-Sophie Thorup A Treatment for Osteoarthritis

Osteoarthritis results from degeneration and loss of cartilage in the joints, and is one of the most common ailments in the UK population, affecting one third of people over the age of 65. Currently, there is no curative treatment for this debilitating condition. However, Dr Anne-Sophie Thorup and Professor Francesco Dell'Accio have recently discovered that blocking a specific protein in cartilage cells treats the disease effectively. In animal models this leads to recovery of normal joint cartilage and a remarkable improvement of pain and return to activity. More work is needed to explore the application of this treatment – potentially the world's first curative treatment for osteoarthritis.



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