



PSBRU
Plastic Surgery & Burns Research Unit

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Newsletter

Edition 1: Summer 2019

The PSBRU (more commonly known as the Bradford Burns Unit) was founded by Professor David Sharpe following the Fire Disaster at the Bradford City football club in 1985. The PSBRU continues its efforts towards improving the delivery of health care to any patient with similar or related injuries.

Today, the PSBRU is led by its Director, Mr Ajay L Mahajan, Consultant Plastic Surgeon who, with his research fellows, carries out research activities at the University of Bradford. Research activities look at various ways in which wound healing and scarring can be improved. The PSBRU has had 26 Research Fellows over the years.

The infrastructure for the work of the PSBRU is provided by the University of Bradford, where it is attached to the Centre for Skin Sciences (CSS). The CSS is led by its Director, Dr Julie Thornton, who has taken over from Prof Des Tobin. The majority of PSBRU activity depends directly on donations from the public, who have supported the Unit so generously over the years. This newsletter aims to keep our supporters updated on the work of the PSBRU and how their vital donations are used to improve outcomes for patients.

PSBRU Team Update

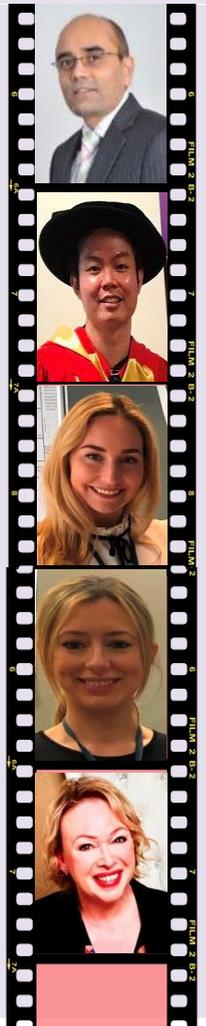
Mr Mahajan is a Consultant Plastic Surgeon at Bradford Teaching Hospitals NHS Foundation Trust and Research Lead for Plastic and Reconstructive Surgery, Bradford Teaching Hospitals NHS Foundation Trust. He continues to campaign for raising funds for the unit and oversees the work of the research fellows both at the University and at the Bradford Royal Infirmary.

Following his graduation in December 2018, Dr Jing Tay, David Sharpe Fellow, left the PSBRU to start the next journey in his career. While at the PSBRU, the focus of Jing's PhD research was the role of vitamin D in wound healing and his work received international recognition at the European Association of Plastic Surgeons. Congratulations to Jing on all he achieved during his fellowship and we wish him well in his future work.

Dr Lucy Trevor, Bradford City Football Club Supporters' Fellow, started her fellowship in 2017, after completing her foundation training as a junior doctor. Lucy is working part time at the Bradford Royal Infirmary whilst completing a MPhil at the Plastic Surgery and Burns Research Unit. Lucy is performing research into wound healing in breast tissue which has been scarred by radiotherapy cancer treatment. Lucy's research focuses on the potential therapeutic applications of adipose stem cells. This is a new and exciting opportunity for Lucy to pursue research into a personal area of interest. Lucy is continuing with her work for a PhD now.

Dr Kirsty Smith is working with the PSBRU on research relating to the assessment of burns and whether machine learning can be used to identify the difference between burn and normal skin, and calculate the area of a burn. Lucy completed a BSc degree in Pharmacology at The University of Liverpool after leaving school, before graduating from The University of Sheffield Medical School in 2011. Kirsty completed the foundation years as a junior doctor before pursuing an interest in surgery.

Dr. Julie Thornton has a BSc in Biochemistry from the University of East Anglia and a PhD from the University of Bradford. Her PhD thesis was a study of androgen action in cultured dermal papilla cells derived from human hair follicles. She is currently a Faculty Member of the Centre for Skin Sciences and is the Director for the Centre for Skin Sciences in the school of Chemistry and Biosciences.





Leeds International Festival

In May, Dr Julie Thornton participated in Facing Brave, an event held as part of the Leeds International Festival.



The panel session looked at the alarming topic of acid attacks, including exploration of the scientific challenges of skin burns and the wider issues around this aggressive crime. The event was well attended and included a lively and thought provoking panel question session.

Annual Home game Collection at Bradford City FC

The last home game of the season once again honoured and remembered the 56 people we lost during the 1985 Bradford City fire disaster. Valley Parade fell silent for one minute in respect of all those affected by the tragedy.

The annual collection in support of the PSBRU took place before the game. The overwhelming generosity shown by fans year after year is a fitting tribute and helps ensure the work of the PSBRU can continue. This year was no exception and the kindness of the home and away fans was overwhelming, with an amazing £3400 collected. Thanks to the Bradford City Supporters' Board Remembrance Panel, in particular, Emma Tillotson, Sally Thackray and Tony Sykes, for their work in organising this annual collection and all they do to commemorate the Bradford City Fire Disaster.

Research Update



British Society for Investigative Dermatology

Staff and fellows from the PSBRU and Centre for Skin Sciences hosted the British Society for Investigative Dermatology Annual Meeting in Bradford in April. The event saw Professor Des Tobin, a former Director of CSS, make a welcome return to the University. Talks were given by a number skin scientists and academics, including Research Fellows, Dr Lucy Trevor and Dr Kirsty Smith, who presented their research.

Lucy presented research titled, *paracrine factors secreted by human pre-adipocytes stimulate the migration of dermal fibroblast derived from breast skin following radiotherapy: potential roles in wound healing*.

Compromised wound healing in irradiated tissue is a significant clinical problem. This can potentially be improved by stromal vascular fraction (SVF), a heterogeneous cell population derived from subcutaneous adipose tissue. Lucy established a procedure to isolate and characterise cells from the SVF. Since murine wound healing studies have shown that pre- adipocytes stimulate migration of dermal fibroblasts into the wound bed, Lucy sought to determine whether these cells secrete paracrine factors that improve migration of irradiated breast dermal fibroblasts.

The focus of Kirsty's research is whether machine learning can be used to automatically extract relevant burn injury information from 2D photographs.

Initial assessment of burn injuries is performed in emergency departments. This assessment varies greatly depending on the experience of the assessor. The assessment is then relayed to a burn centre or unit via a telephone conversation and a decision on management is made. If the assessment is incorrect it can mean over- or under-estimation of the burn size, resulting in delayed treatment or wasted journeys for patients to a burns specialist, sometimes many miles away. The aim of Kirsty's research is to determine if machine learning technology can be used to extract information from a 2D image of a burn injury to allow the assessor to distinguish between burn and normal skin and, secondly, estimate the area affected.

European Association of Plastic Surgeons

PSBRU also presented their work at the European Association of Plastic Surgeons meeting in Helsinki in May. The presentations were well received and the event allowed PSBRU researchers to meet potential future collaborators from across Europe.



The PSBRU team at EURAPS



Dr Lucy Trevor presenting her research at EURAPS

City Park Memorial 11 May 2019

The 1985 Bradford City fire disaster had a lasting and wide reaching effect on the City. Each year, on the anniversary, the City comes together in Centenary Square to remember and honour the 56. The 34th Anniversary Memorial Service was held on Saturday 11 May 2019. The PSBRU was represented by Mr Ajay L Mahajan, who placed a wreath in memory of those we lost. The ceremony was hosted by the Lord Mayor and was attended by over 1000 people from across the city, and the wider community.



Danielle & Tony presenting the cheque to Mr Mahajan and Dr Thornton

An Order of Service was kindly provided by Cooperative Funeral Care, who also coordinated a collection for the PSBRU. This was generously supported by those in attendance and £1433.36 was raised for the Burns Unit. Thank you to all who donated. A special thanks to Tony Vogel and Danielle Poole from Cooperative Funeral Care who support the Memorial Service every year.

Fundraising update – the year so far!

Despite Christmas being a busy time, our amazing and dedicated supporters continued to think of the PSBRU during the festivities, with donations continuing to come in. These included raffle proceeds, sponsored football events and a full year of dress down fundraising! The spring was an equally generous season, including one of our supporters carrying out a 'no drink for a month' fundraiser – well done and thank you!



Charity Football match: Bantam Rooters vs West Yorkshire Fire and Rescue

In April, The Thornton Bantam Rooters, a local supporters group, held a charity football match in support of the PSBRU. The match was played in the intense sunshine of the Easter weekend and turned into a 10 goal thriller! The Bantam Rooters played against a team from the West Yorkshire Fire and Rescue Service, some of whom were on call that day. The match ended in a 5-5 draw. Within seconds of the final whistle, the firefighters received an emergency call and were off with blue lights and sirens! Thanks to all involved in the day for their sportsmanship and generosity. The event raised an amazing £1007.60 for the PSBRU.

Our supporters continue to find unique and fun ways to support the work of the PSBRU and every donation is very gratefully received. The vast majority of PSBRU activity depends directly on donations from our supporters, who have given to the Unit so generously over the years. If you have, or would like to, organise a fundraising event or sponsored activity, we'd love to hear from you!

Thank you to everyone who has supported the Burns Unit this year. It is this generosity which allows the PSBRU to continue with its work and advance this area of health care.

Contact Us

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