

this research tends to focus only on explicit, research-based, forms of knowledge. There is also a gap in the literature linking the use of KMB specifically to DR education.

**Purpose:** The aim of the poster is to introduce KMB theory to the radiography profession and the potential for further research with relation to DR education.

**Summary:** This poster will give an overview of KMB research associated with health and education. It will also provide a critical review of the current portrayal of knowledge and knowledge sharing in DR education literature. Further to this, it will examine the potential for KMB to be used as a tool for further research to be carried out in this area.

1. Wye, L., Bolton, H., Thomas, C., Hopewell-Kelly, N., & Gibson, A. (2021). Knowledge Mobilisation, Communications & PPI Compared. NIHR Health Protection Research Unit in Behavioural Science and Evaluation at University of Bristol. Available at: <https://www.hprubse.nihr.ac.uk/knowledge-mobilisation/> [Accessed: 07/12/2021] 2. Davies, H. T., Powell, A. E., & Nutley, S. M. (2015). Mobilising knowledge to improve UK health care: learning from other countries and other sectors—a multimethod mapping study. *Health Services and Delivery Research*, 3(27). 3. Appleby, B., Cowdell, F., & Booth, A. (2020). Knowledge mobilization in bridging patient-practitioner-researcher boundaries: A systematic integrative review. *Journal of Advanced Nursing*, 77(2), 523–536. 4. Ferlie, E., Crilly, T., Jashapara, A., & Peckham, A. (2012). Knowledge mobilisation in healthcare: A critical review of health sector and generic management literature. *Social Science and Medicine*, 74(8), 1297–1304. 5. Di Michele, L., Thomson, K., McEntee, M. F., Kenny, B., & Reed, W. (2020). Knowledge translation: Radiographers compared to other healthcare professionals. *Radiography*, 26, S27–S32. 6. England, A., & McNulty, J. P. (2020). Inclusion of evidence and research in European radiography curricula. *Radiography*, 26, S45–S48. 7. Munn, Z. (2020). Why isn't there an evidence-based radiography? Reflections and a call to action. *Radiography*, 26, S14–S16.



## Proffered papers: History

### D8.1 A history of PET|PET-CT in the UK

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Positron Emission Tomography [PET] and more recently Positron Emission Tomography/ Computed Tomography [PET/CT] are the two most recent diagnostic modalities to be introduced into clinical practice. Paul Dirac first postulated the existence of the positron particle in 1928 and Carl D Anderson in 1932 introduced the term positron. David Kuhl and others introduced the concept of emission tomography in the late 1950's in Pennsylvania and work by Phelps and others in Washington led to further developments with Phelps credited with inventing the first PET camera in 1973. Early scanners were confined to imaging the brain. The first whole body PET scanner became available in 1977. The production of isotopes for scanning became available due to the work of Ernest Lawrence on the cyclotron in the 1930's at Berkley, California. The Massachusetts General Hospital in Boston (G Brownell and colleagues) also played a major role in advances in PET scanning. PET/CT was initially proposed by David Townsend (at the University of Geneva), Ronald Nutt (at CPS Innovations in Knoxville, Tennessee, USA) and colleagues. An early prototype system was installed in 1998 in Pennsylvania, USA. PET- CT hybrids came into use from about 2000 onwards and improved image resolution. In this talk the development of clinical PET services in the UK will also be discussed.

Reference Wong W L and Banerjee A.K (2021) A brief history of PET and PET/CT services in the UK *Invisible Light: The Journal of the British Society for the History of Radiology* 49 p5-12

### D8.2 L.H Gray (Physicist and Radiobiologist): His life (1905-1965), laboratory (1957-2008) and legacy

*Edwin Aird*

Retired Physicist

LH Gray has been called “the Father of Radiobiology’ by E Powers when he was writing an appreciation of the impact Gray had in the USA.

His early life will be described, leading to the establishment of: “The Gray Laboratory “at Mount Vernon Hospital, Northwood in 1957.

His Legacy will be discussed, which includes President of BIR 1949-1950; seminal papers (1953,1955) considering the role of oxygen in tumours and the possibility of manipulating the oxygen level in the body to enhance tumour damage; and the Bragg-Gray theorem that links the ionisation in a small air volume to absorbed dose, the unit of which: The Gray, was adopted by the ICRU in 1975.

Hal Gray was a true polymath. In 1982 Peter Wardman (Joint Executive of The Gray with Barry Michael in 1999) wrote: "Gray must have been the first scientist to have a thorough appreciation of current activity in all 4 sectors of radiation research: physics, chemistry, biology and medicine".

His studies in tumour hypoxia, taken forward by his colleagues at the Lab, are his most important legacy.

### D8.3 Exploring the equilateral: Why are medical images rectangular?

Michael Jackson

Royal Hospital for Children and Young People, Edinburgh

Radiological images are almost exclusively constructed and viewed in a rectangular format - a seemingly obvious and banal statement to imaging professionals. However, the origins of rectangular image format and the constraints it imposes upon how we view the body requires consideration to fully understand the past and present of medical imaging, and to help shape its future in the best interest of patients. This paper draws upon early precursors of digital image capture including tapestry and the reticolato grid used by early pioneers of linear perspective, together with more recent rectangular framing devices (such as cinematic aspect ratio) to demonstrate why a well-rounded approach to imaging individuals will be required in the era of Artificial Intelligence.

### D8.4 Neuroradiology and philology as presented in *The Doctor is sick* of 1960 by Anthony Burgess

Adrian Thomas

Canterbury Christ Church University

The relationship between a patient and radiography is developed in *The Doctor is Sick* written by Anthony Burgess (1917-1993) in 1960. Edwin Spindrifft, the central character, is investigated in the neurosurgical department of a London hospital for a suspected brain tumour. Edwin is a linguist and there is much discussion of words and their origins in the book. The book is semi-autobiographical since Burgess himself collapsed whilst teaching history. The character of Doctor Eddie Railton, who looks after Edwin in the novel, is based on Sir Roger Bannister (1929-2018) the London neurologist who looked after Burgess and arranged for the investigations. The relationship of the patient to the image of the patient, and to how the image is obtained is a complex one. The description by Burgess of being on the receiving end of medical imaging is a fascinating account by a writer of the first order. Maintaining the correct balance between efficiently obtaining a diagnostic result from a complex radiological study and the patient not becoming simply a passive object is not an easy one, either then or now. The themes of the relationship between image and reality are even more relevant now than in 1960, as the virtual and the real become progressively less distinct and will be discussed.

Burgess, A. (1960) *The Doctor is Sick*. Heinemann: London. Thomas, A.M.K. (2022) *The Invisible Light*. Boca Raton: CRC Press (in press)



## Proffered papers: Paediatrics and Head & Neck

### E5.1 The role of the radiographer in a children's hospital during the COVID-19 pandemic

Clare Simcock

Great Ormond Street Hospital for Children NHS Foundation Trust

**Background:** The impact of the COVID-19 pandemic is far reaching, and radiographers have played a vital role in the diagnosis of this new virus. Fortunately, most children don't become seriously unwell with COVID-19. Despite increased rates of infections in children, hospitalisation rates remain very low at 1-5 in 100,000. [1]. However, a very rare and new condition associated with COVID-19 infection has been identified called Paediatric Multisystem Inflammatory Syndrome (PIMS-TS). This has led to a new referral pathway for imaging of these patients and required adaptation to current clinical practice.

**Purpose:** This poster aims to describe this new syndrome and its associated symptoms. Children with paediatric multisystem inflammatory syndrome temporally associated with COVID-19, develop a significant systemic inflammatory response. This rare syndrome shares common features with other paediatric inflammatory conditions including Kawasaki disease, staphylococcal and streptococcal toxic shock syndromes, bacterial sepsis and macrophage