professionals is impacting upon them. Physiological monitoring is now advancing to such an extent that it is becoming possible to monitor how busy different clinical staff are or how they are moving around a hospital. By combining different sets of data about clinical work we can start to support the design of clinical work more effectively, modelling patterns of tasks within different healthcare contexts, designing layouts of healthcare settings to be more supportive of the different types of tasks that take place, and helping managers to plan effective levels of staffing.

... support the design of clinical work ...

Ergonomics and Human Factors has much to offer to support the design of healthcare, and contributes to the improvement of patient safety in all clinical settings. There are a number of things that will help this to happen:

1. To move beyond the emphasis on attribution of 'root cause' and 'human error' to understanding the good practice that contributes to a 'resilient system';

2. To ensure that when incidents occur, investigations are followed up with action, and resources are deployed to enable the lessons learned when, sadly, things do go wrong, to be transferred as widely as possible;

3. To harness the potential provided by the vast sets of data that are now being generated, about patient health state and clinical performance; and

4. To ensure that we always consider the whole system and its stakeholders.

Healthcare is complex – a hospital comprises not only the patients and clinical staff, but also porters, cleaners, procurement specialists, maintenance engineers, data analysts, and managers. Patient care involves many skilled people, and affects not only the patients but also their relatives, friends and carers. And clinical tasks involve multiple devices and artefacts. E/HF has a valuable role to play in supporting the design of the current and future healthcare environment, and is critical if we are to ensure that patient safety remains a priority for the future.

... Patient care involves many skilled people ...

Other speakers at the meeting on 13th October were Jocelyn Cornwell, Chief Executive, The Point of Care Foundation, and Janet Anderson, Senior Lecturer in Adult Nursing, Kings College London. We hope to publish summaries of their talks in a future issue of Science in Parliament. Recordings of their presentations, together with the powerpoint files can be found at www.scienceinparliament.org.uk.

References

1 Newton et al. (2010) Making Existing technology safer in healthcare. *Qual Safe Health Care* **19**: i19-i24.

2 Densen, P. (2011) Challenges and Opportunities facing medical education. *Trans Am Clinical and Climatological Association*, **122**.

ROYAL SOCIETY PAIRING SCHEME

Alan Malcolm

Once again the Parliamentary and Scientific Committee supported the Royal Society in the launch of its Pairing Scheme on 23rd November.

Each autumn the Royal Society coaxes a few dozen MPs, (as well as some senior civil servants) to be paired with a scientist from their constituency.

The scientist spends four days in Westminster "shadowing" the MP to gain an insight into how Parliament works. The universal reaction from the scientists is to note how incredibly hard MPs

Jo Johnson MP, Minister of State for Universities and Science, Dr Julie Maxton, Executive Director, Royal Society, Nicola Blackwood MP, Chairman, House of Commons Science and Technology Select Committee

work, and how remarkably little time there is for reflexion and meditation.

The quid pro quo is that the MP spends time in the laboratory of their local scientist to see how a laboratory runs. For reasons in the above paragraph, this is not usually as long as four days!

Nonetheless most MPs leave with an understanding of hypothesis, design, errors, controls, and statistics as well as pressing matters such as funding (shortage of) and career progression (haphazard).

Perhaps even more important than this first taste of each other's life style is the friendship which is often established between the two. The MP knows that when (s)he wants a quick answer to a scientific question, there will be a willing respondent at the end of a phone line, or email.

SCIENTISTS AND THEIR PARLIAMENTARY/CIVIL SERVICE PAIRS

Dr Theo Tryfonas, University of Bristol
Dr Marta Costa, University of Cambridge
Professor Tamara Galloway, University of Exeter
Dr Matthew Levy, University of Oxford
Dr John McGeehan, University of Portsmouth
Dr Scott McGrane, University of Surrey
Dr Rebecca Dewey, University of Nottingham
Dr Marina Parry, CRUK Manchester Institute
Dr Simon Clarke, University of Reading
Dr Isabel Vincent, Glasgow University
Dr Jonathan Roiser, University College London
Dr Jessica Ash, University of Oxford
Professor Michelle Peckham, University of Leeds
Professor Sian Harding, Imperial Heart and Lung Institute
Dr Nicholas Levsen, Newcastle University
Professor Darrin Baines, University of Coventry
Dr Jason Lotay, University College London

Dr Joy Farnaby, Imperial College London
Dr Davide Mattia, University of Bath

Dr Julius Hafalla, London School of Hygiene and Tropical Medicine
Professor Peter Styring, University of Sheffield

Mrs Madeleine Moon MP
Mr Daniel Zeichner MP
Mr Ben Bradshaw MP
Ms Nicola Blackwood MP
Mrs Flick Drummond MP
Ms Anne Milton MP
Ms Lilian Greenwood MP
Ms Liz McInnes MP
Mr Ed Vaizey MP
Ms Carol Monaghan MP
Sir Keir Starmer MP
Mr George Freeman MP
Mr Chris Green MP
Lady Victoria Borwick MP

Ms Chi Onwurah MP
Lord David Prior of Brampton
Dr Tom Salter, the Department for Transport
Dr Charlotte Woolley, the Ministry of Defence
Dr James Davey, the Department for Energy and Climate Change
Ms Eleanor Richman, the Home Office

Dr Emma Hennessey, the Foreign and Commonwealth Office

Dr Mariam Kiran, University of Bradford	Mr Gary Spencer, the Department for Business, Innovation and Skills
Dr Liz Stephens, University of Reading	Mr Colin Armstrong, the Government Office for Science, Department for Business, Innovation and Skills
Dr Nathalie Pettorelli, Institute of Zoology	Mr Tom Leveridge, the House of Commons Environmental Audit Select Committee
Dr Simon Willcock, University of Southampton	Professor Tim Wheeler, the Department for International Development
Dr Kate Hendry, University of Bristol	Dr Julius Piercy, the Department for Food, Environment and Rural Affairs
Dr Caroline Hattam, Plymouth Marine Laboratory	Mr Tom Reid, the Department for Transport
Dr James Henstock, University of Keele	Dr Thomas Payne, the Centre for Applied Science and Technology, part of the Home Office
Dr Katie Morton, University of Cambridge	Dr Beverley Bishop, the Health and Safety Executive
Dr Jean-Christophe Nebel, Kingston University	Dr Graham Dean, the Centre for Applied Science and Technology, part of the Home Office
Professor Rachel Williams, University of Liverpool	Mr Daniel Acheampong, the Centre for Applied Science and Technology, part of the Home Office

The following scientists also took part in the first day's events on 23rd November:
Dr Rick Stafford, University of Bournemouth
Professor Albert Ferro, King's College London
Ms Tamsin Bell, University of Cambridge

Chris Green MP and Professor Michelle Peckham, University of Leeds

Ed Vaizey MP, Minister of State for Digital Industries, and Dr Simon Clarke, University of Reading


Dr Julie Maxton, Executive Director, Royal Society


Nicola Blackwood MP, Chairman, House of Commons Science and Technology Select Commmittee


Victoria Borwick MP

Carol Monaghan MP and Dr Isabel Vincent, Glasgow University


Jo Johnson MP, Minister of State for Universities and Science

Dr Emma Hennessey, Foreign and Commonwealth Office and Professor Peter Styring, University of Sheffield