

Eugene Burke, Director of Science & Innovation, SHL Group Ltd.

Role in SHL: Eugene's responsibilities lie in four principal areas. As Director of Science, he is responsible for promoting scientific excellence through SHL's technical programmes and product development processes. As Director of Innovation, he is responsible for developing new solutions to improve the efficiency and quality of SHL psychometric business processes, and to developing solutions to client problems particularly where scale, cost and risk are key issues. For example, in recent years he has led on major projects for the National Air Traffic Services in the UK, for the European Personnel Selection Office of the European Commission, for UBS Bank and for HSBC where large scale content development, item calibration and IRT based applications have been required. The third area that Eugene is responsible for is the management of SHL's core psychometric programmes for the OPO and related products, for SHL's online ability testing programmes and specifically Verify for which he acted as lead architect and programme manager, and for all localisation projects within which Differential Item Functioning (DIF) plays a major role. The final key area of responsibility for Eugene is to represent SHL at major professional events, through publications as well as through contributions to the development of professional and best practice standards. Eugene is a regular contributor to professional conferences and events such as the Association of Test Publishers Conference in the US (six contributions at the last 2009 conference covering areas such as best practice in localisation and adaptation of tests, new paradigms in testing including new developments in IRT, online testing, test security and test practices in Europe), the British Psychological Society's Division of Occupational Psychology Conference (three contributions at the last 2009 conference including IRT based testing applications and testing in a global context), the European Association for Work and Organizational Psychology (with three contributions at the forthcoming 2009 conference including an expert panel on personnel selection, screening for counterproductive behaviours and advances in testing), the International Testing Commission Conference (five contributions at the last 2008 conference including advances in test localisation and adaptation, test security, applications of simulations, online testing and advances in norm models), and the Society for Industrial and Organizational Psychology (three contributions at the last 2009 conference including Situational Judgement Tests, test security and advances in test development and applications). An example of his contribution to best practice is Eugene's contribution as the lead UK practitioner representative to the current international project to develop an ISO standard for assessment services due to be published in 2010/2011.

Career history: Eugene began his career as a research psychologist in the Directorate of Science (Air) of the UK Ministry of Defence in 1980 responsible for the psychometric analyses and the validation of paper-and-pencil and

apparatus tests used for the selection of enlisted personnel and officers including air crew and technical specialists for the Royal Air Force. He was promoted to Senior Psychologist and led on the specification of computer-based tests for navigator selection with the then introduction of the new Tornado aircraft.

In 1986, he took up a two year post as exchange psychologist with the United States Air Force (subsequently extended to two and a half years). Working in the Armstrong Human Resources Laboratory at Brooks Air Force, San Antonio, Texas, Eugene worked on the Armed Services Vocational Aptitude Battery (ASVAB) as well as computer-based tests for the selection of USAF pilots and navigators (weapons systems operators).

In 1989 and on his return to the UK MOD, Eugene was promoted to Principal Psychologist and led on the development and implementation of the RAF's fully computerised selection batteries for officer and aircrew selection, one of the first large scale implementations in a European military force. In addition, he managed a variety of other programmes including reviews of enlisted personnel selection and tests, conducting the first trials of the ASVAB outside the US and large scale DIF analyses as part of that programme, as well as tri-service validations of pilot selection tests.

Eugene also served on two international working groups. He was the UK representative and the technical leader for the Euro-NATO Pilot Selection Working Group, covering the US and all major European NATO members, from 1989 to 1993 during which time he advised on NATO wide pilot selection standards as well as led on shared technical projects. From 1989 to 1993, Eugene also served on the NATO Research Study Group (RSG) responsible for reviewing the then state of computer-based testing programmes for military selection, including CAT applications, and drafted the technical standards for computer-based testing of military personnel published by that RSG in 1994.

Eugene was also a regular presenter at conferences of the International Military Test Association (IMTA) as well as a member of the IMTA's board from 1991 to 1993.

On leaving the UK MOD, Eugene continued his research and development to produce the Pilot Aptitude Tester or PILAPT, a fully computerised test battery now widely used in pilot selection including many military air forces. He has also consulted on many military pilot selection projects both as an independent consultant and through SHL.

Eugene left the UK MOD to set up the Occupational Psychology Unit at the London Fire Brigade in late 1993. Over the next four and a half years, Eugene designed the competency framework covering all major ranks from

entry as a fire fighter to promotion as a senior officer, and designed and managed assessment programmes at each major career point. Responsibilities ranged from the design, development and adaptation of ability tests and self report measures (e.g. personality and personal values questionnaires); assessment and development centre exercises ranging from in-trays through to interactive group problem solving exercises, as well as low fidelity simulations of critical operational incidents. Eugene also led on several human factors projects such as exploring decision making at different levels of operational incident used to develop a Brigade model for the training of decision making skills.

Eugene was recruited by SHL in 1998 as UK Research & Development Director to refocus R&D in SHL's largest operating company with responsibilities ranging from new product development through to product management as well as consulting to major public and private sector companies including the Metropolitan Police (London) and American Express. In his career with SHL, he has held the positions of Director of Consultancy UK responsible for managing SHL's largest consultancy group at that time in the areas of job analysis and competency design, assessment process design and implementation and personnel development programmes, and as Product Director responsible for global product management before taking up his current role with a focus on applying modern test theory including IRT applications to SHL's global development programmes.

Professional experience: Eugene is a past Chair of the British Psychological Society's Steering Committee on Test Standards (1995-2000), a past Council Member of the International Test Commission (1999-2001), a past Chair of the BPS Division of Occupational Psychology (2006) and is currently the Vice-chair of the European Association of Test Publishers (due to be chair in 2010). He has also served on various working groups on test standards for the BPS and ITC, and is the UK lead practitioner representative to the international working group drafting a new ISO standard for the management of assessment services.

Sample publications:

- Burke, E. (1997). Competence in command: Recent R&D in the London Fire Brigade. *Journal of Managerial Psychology*, **12**, 261-279.
- Burke, E. F. (1997). A short note on the persistence of retest effects on aptitude scores. *Journal of Occupational and Organizational Psychology*, **70**, 295-301.
- Burke, E. (2006). *Better practice for online testing*. Thames Ditton, UK: SHL.
- Burke, E. (2009). Preserving the integrity of online testing. *Industrial and Organizational Psychology*, **2**, 35-38.
- Burke, E. (2008). In J. Passmore (Ed.). *Psychometrics in coaching: Using psychological and psychometric tools for development*. London: Kogan Page
- Burke, E., Hobson, C., and Linsky, C. (1997). Large scale validations of three predictors of pilot training success. *The International Journal of Aviation Psychology*, **7**, 225-234.
- Burke, E., Kokorian, A., Lescreve, F., Martin, C. J., Van Raay, P., and weber, W. (1995). Computer-based assessment: A NATO survey. *International Journal of Selection and Assessment*, **3**, 75-83.
- Burke, E., Van Sommeren, G., and Tatham, N. (2006). *Verify technical manual*. Thames Ditton, UK: SHL.
- Hunter, D. R., and Burke, E. F. (1994). Predicting aircraft pilot training success: A meta-analysis of published research. *The International Journal of Aviation Psychology*, **4**, 297-313.
- Hunter, D. R., and Burke, E. F. (1995). *Handbook of pilot selection*. Farnham, UK: Ashgate Publishing.
- Lievens, F., and Burke, E. (2009). The importance of test fraud prevention and detection in unproctored Internet testing of cognitive ability (in review for journal publication).
- Pian, C., Kokorian, A., and Burke, E. (1997). Defining the critical aptitudes for attack helicopter crews. Proceedings of the 9th. International Symposium on Aviation Psychology, Columbus, Ohio, May.
- Tharenou, P., and Burke, E. (2002). Training and organisational effectiveness. In D. Bartram, I. Robertson and M. Callinan (Eds.). *Organizational effectiveness: The role of psychology*. Chichester: John Wiley and Sons.