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Bleak future for fire engineering?

Fire engineers could be something of a dying breed without closer co-operation between industry and academia in developing courses, research programmes and people. FP&FEJ reports

THE FUTURE for fire engineering is bleak unless more students enter the discipline both at under-graduate and postgraduate levels, according to speakers at the annual Institution of Fire Engineers Rasbash Lecture in London on 15 June.

Fire academics, Professor David Lucht and Professor Dougal Drysdale, explained that – despite rising demand for professional fire engineers in industry, and a greater need for research to fill knowledge gaps and develop better engineering tools – fire engineering courses are failing to attract students in the quantities necessary.

But even more worrying is the fact that, even where universities have managed to attract undergraduates, they fail to entice such students to enter into postgraduate research or stay on in academia to teach.

Tribute to pioneers

The professors paid tribute to the fire engineering pioneers of the past who managed to build fire safety engineering into the professional discipline it is today. However, they explained that in engineering terms the discipline was very young.

'Some of the holes in performance-based fire safety design include a lack of credible and generally-accepted references, charts and tables,' said Professor Lucht, who provided this year's Rasbash Lecture.

Speaking of the global move from prescriptive fire legislation to performance-based building codes, he declared: 'One may ask whether we fire engineers have got a little ahead of ourselves in implementing performance-based methods on such a wide scale, with so many uncertainties looming in the background... Some have asked whether the sophistication of the science, engineering methods, published data and training of practitioners are mature enough to fill the vacuum left by specific, tangible requirements.'

Professor Drysdale took this sentiment yet further. 'The academic discipline is now soundly based but is still evolving,' he declared. He explained that further development was necessary as a result of:

- advances in our understanding of the interaction of fire and structures
- advances in computational fluid dynamic modelling of fires
- the drive towards performance-based fire safety engineering (FSE) design
- the need for more robust methods for selection of materials
- the need for a risk-based approach to FSE design
- the need to change the fire safety culture

'There has been a disconnect between the "industry" and academic departments – unlike the manner in which traditional engineering disciplines developed,' he declared, pointing to a lack of support and funding from Government, industry and universities alike.

Opportunities

However, the event was not all doom and gloom. The move from a prescriptive regime, the low numbers of graduates and the youth of the discipline means that those working within it can expect to have an interesting and somewhat varied career.

Views on the opportunities available to those in the industry were offered by graduate fire engineer, Nathan Hewitt. He described the role of the graduate fire engineer, explaining that the discipline offered cutting-edge work and that the skills used cut across a number of other disciplines, including law; computing; finance; medicine; architecture; media; management consultancy; politics; and emergency services.

Dr Jim Marsden, Dave Berry and John Judd provided views on the role of the fire engineer, both graduate and otherwise, in the fire service and the need for continuous professional development at all levels. Mr Berry explained that fire services and fire engineers in industry had to 'look at the whole package' when considering fire risk management; this includes reflecting on fire and rescue service facilities and operations and how they impinge on building design.

Fire consultant, Mick Green, brought all of these issues together, describing the 'circle of fire safety' which links together fire risk management, design aspirations, fire strategy and operational fire service plans. He called for a step change in the way people are taught and for stronger collaboration between universities and industry to produce a stronger, clearer voice which could bring influence to bear on governments and university administrations.

The Rasbah Lecture provides fire professionals with an annual opportunity to look to the past to explore the roots of the profession. while also investigating how it should develop in the future. This year's event provided something of a wake-up

profession, while also encouraging the continued development of the young fire prevention engineering discipline. It is a call for fire professionals, reminding them that without increased support from all sectors of the fire community, this young and exciting discipline soon may not have a future to consider.

Further information on the event and the speakers, as well as their presentations, is available on the IFE website:

www.ife.org.uk

The lecture commemorates the pioneering fire safety engineering work undertaken by Professor Rasbash (1921-1997). A former employee of the Fire Research Station and the first Professor of Fire Engineering at the University of Edinburgh, Professor Rasbash was involved in influential research on, for example, fire extinction techniques, smoke production, automatic fire detection and the quantification of risk. His work also promoted the establishment of the Institution's Engineering Council Division.

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