

# MANAGING COMPETENCE: USING HUMAN FACTORS METHODS TO DEVELOP SKILLS AND EXPERIENCE.

Institution of  
**MECHANICAL  
ENGINEERS**

Safety and Reliability Group  
**Seminar**

8 October 2013  
London  
[www.imeche.org/events/S1744](http://www.imeche.org/events/S1744)



## WHY YOU SHOULD BE THERE

### Developing your organisation's competence management structure reduces business risk from lost knowledge and is a key way to promote good business continuity.

At this seminar, you'll learn how established human factors methods can contribute to developing competence frameworks for your industry and your organisation.

Using practical examples of established methods of knowledge capture and task assessment, you'll be able to deliver a framework for competence assessment and management. Our expert speakers will give a summary of the current state of competence management and provide an insight into recent major initiatives.

Featuring presentations from experienced human factors specialists from Lloyd's Register, National Skills Academy Process Industries and the Health and Safety Laboratory, as well as academic and industrial research and applications, this event shows you how to benchmark your own competence management approach against best practice and implement improvements immediately.

## BENEFITS OF ATTENDANCE:

- Understand the issues associated with competence management for your industry
- Analyse practical examples of competence management frameworks
- Explore human factors tools and methods to support knowledge capture, competence assessment, skills development and training
- Network with other industry representatives and competence management professionals

### WHEN

8 October 2013

### WHERE

One Birdcage Walk, Westminster, London, SW1H 9JJ

### BOOK ONLINE

[www.imeche.org/events/S1744](http://www.imeche.org/events/S1744)

## SUPPORTING ORGANISATIONS



## SPONSORSHIP & EXHIBITION OPPORTUNITIES

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Attending this event as either an exhibitor or sponsor will give you the opportunity to display your solutions, services and products to the right people at the right time.

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### BENEFITS OF SPONSORING

- Plant yourself firmly in the minds of key decision-makers
- Cross many markets and broaden your international appeal
- Be associated with industry-wide publicity
- Enjoy well-targeted networking opportunities
- Have your company logo and URL featured on our website

# SPEAKERS AND CONTRIBUTORS



## GARRY MOON

PRINCIPAL CONSULTANT,  
LLOYD'S REGISTER CONSULTING  
Garry is an occupational psychologist and an associate fellow of the British Psychology Society. Garry has designed and led several organisational projects for clients in the offshore oil and gas industry including safety culture assessments, change management and competency assessments.



## NEVILLE STANTON

PROFESSOR OF HUMAN FACTORS  
ENGINEERING, UNIVERSITY OF  
SOUTHAMPTON  
Neville has authored and co-authored over 200 peer-reviewed journal papers and 20 books on human factors and ergonomics, including lead author on the second edition of 'Human Factors Methods: A Guide for Engineering and Design' published this year.

# PROGRAMME

**WELCOME  
TUESDAY  
8/10**

**9:00 REGISTRATION**

**9:30 CHAIRMAN'S WELCOME AND INTRODUCTION**  
John Mount, Technical Specialist – Human Factors, Rolls-Royce Submarines

**9:45 KEYNOTE: COMPETENCE ASSURANCE IN THE PROCESS INDUSTRIES**  
Clint Devine, Downstream Account Manager, National Skills Academy Process Industries

- Demonstrating leadership and commitment
- Identifying business-critical activities
- Setting procedures and standards
- Compliance against your standards and taking action to improve competence
- Commitment to continuous improvement

**10:15 COMPETENCE MANAGEMENT IN HAZARDOUS INDUSTRIES**  
Garry Moon, Principal Consultant, Lloyd's Register Consulting and Jenny Gilroy, Senior Consultant, Lloyd's Register Consulting

- Demonstrating importance of competence management in high-hazard industries
- Ensuring validity and reliability of your organisation's competence management system
- Focus on key aspects of a competency management system that frequently need development, for example:
  - o Ensuring that competence is gained from training – attendance versus accreditation
  - o Avoiding the pitfalls in on-the-job training
  - o Recognising and addressing deterioration of competence over time
  - o Competence at different levels of a role

**10:45 Q&A**

**11:00 REFRESHMENTS**

**11:25 A SYSTEMS ERGONOMICS METHOD FOR COMPETENCIES DEVELOPMENT**  
Neville Stanton, Professor of Human Factors Engineering, University of Southampton

- Putting competencies into a systems context
- The trade between proficiencies, competencies and other systems features
- Competencies of humans and technical systems
- Individual vs team vs system competencies

**11:55 THE IMPORTANCE OF NON-TECHNICAL COMPETENCIES IN MANAGING HEALTH AND SAFETY**  
Phoebe Smith, Principal Human Factors Specialist, Health and Safety Laboratory

- Methodologies used to develop competency frameworks in the health sector
- Importance of attitude as an element of competence
- Non-technical competencies in performing technical activities
- Training non-technical competencies

**12:25 Q&A**

**12:40 LUNCH BREAK**

**13:30 CASE STUDY 1: COMPETENCE WITHIN THE ROAD MARKING INDUSTRY**  
Chris Stops, Principal, Chris Stops Associates

- Establishing solutions for competence
  - o Differentiating real and absolute needs
  - o Essential skills, knowledge and behaviours for the job
- Principles of formal training
- Ensuring knowledge transfer through informal methods

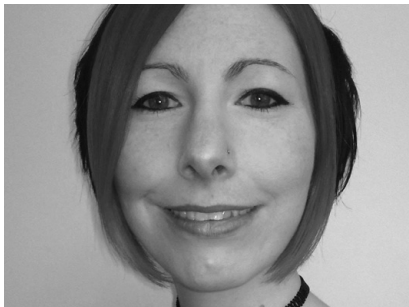
## SPEAKERS AND CONTRIBUTORS



### PHOEBE SMITH

PRINCIPAL HUMAN FACTORS  
SPECIALIST, HEALTH AND  
SAFETY LABORATORY

Phoebe is an associate fellow of the British Psychological Society with over 20 years' experience of human factors in high hazard environments. She works on HSE investigations and inspections and has developed competency frameworks, decision aids and training guidance for the health sector.



### JENNY GILROY

SENIOR CONSULTANT,  
LLOYD'S REGISTER CONSULTING

Jenny is a registered ergonomist with over 13 years' experience in human factors consultancy, particularly for rail and offshore oil and gas. Jenny specialises in control room and offshore platform design, competency assessment and developing competency matrices.



### CHRIS STOPS

PRINCIPAL, CHRIS STOPS ASSOCIATES

Chris has had involvement and responsibilities for health and safety throughout his career, spanning mechanical engineering disciplines in Europe, Australia and South Africa. His current clients include contractors in and around manufacturing, engineering and construction.

## PROGRAMME (CONTINUED)

|              |  |
|--------------|--|
| <b>14:00</b> | <p><b>CASE STUDY 2:<br/>PRACTICAL EXPERIENCES IN THE ASSESSMENT OF<br/>COMPETENCE MANAGEMENT SYSTEMS</b><br/>Darren Jinks, Principal Consultant, ABB Consulting</p> <ul style="list-style-type: none"> <li>• Common issues identified in assessments within the process industries.             <ul style="list-style-type: none"> <li>- No appreciation of how to begin a programme in competency management</li> <li>- Failure to understand the linkages in ensuring competency</li> <li>- Lack of understanding of who needs to be competent</li> <li>- Failure to grasp what competencies are</li> </ul> </li> </ul>  |
| <b>14:30</b> | <p><b>CASE STUDY 3:<br/>ENHANCING THE SAFETY OF GAS OPERATIONS<br/>THROUGH COMPETENCE MANAGEMENT</b><br/>Paul Leach, Principal Consultant, Greenstreet Berman Ltd</p> <ul style="list-style-type: none"> <li>• Ensuring you have the right arrangements in place:             <ul style="list-style-type: none"> <li>- Risk based competence management</li> <li>- Benchmarking competence arrangements against best practice</li> <li>- Strategic planning-Implementing these arrangements</li> <li>- Development and assessment of technical and non-technical skills</li> <li>- Fostering on-going learning and assurance of competence</li> <li>- Driving change and improvements</li> </ul> </li> </ul> |
| <b>15:00</b> | <b>Q&amp;A</b>   |
| <b>15:15</b> | <b>REFRESHMENTS</b>  |

|              |   |
|--------------|---|
| <b>15:45</b> | <p><b>ROUNDTABLE DISCUSSIONS</b><br/>Facilitated group discussions covering each speaker's presentation – providing you with an opportunity to ask questions and share experiences. Topics for discussion include:</p> <ul style="list-style-type: none"> <li>• Benefits of implementing a competence management approach</li> <li>• Likely challenges when introducing or updating a competence management framework</li> <li>• Benefits of supporting competence management with human factors methods</li> </ul> |
| <b>16:45</b> | <b>SUMMARY OF DISCUSSIONS AND CLOSING REMARKS</b>   |
| <b>17:00</b> | <b>CLOSE OF SEMINAR</b>   |

**Find out more about our speakers at [www.imeche.org/events/S1744](http://www.imeche.org/events/S1744)**

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

### **Safety and Reliability Group Organising Committee:**

John Mount, Chairman, Safety and Reliability Working Group 4:  
Human Factors in Safety and Reliability

### **The event organisers would like to thank the following supporters:**

Process Industries Division  
Pressure Systems Group

**We are the market leader among professional engineering bodies. We've been supporting engineers since 1847 and have 100,000 members in over 120 countries, working in the world's most dynamic and important industries. Our comprehensive events programme brings you the latest research and best practice from industry and academia.**

### OTHER EVENTS TO LOOK FOR:

16-17 October 2013, London

#### **CARBON CAPTURE AND STORAGE: ENGINEERING FOR COMMERCIAL DEPLOYMENT.**

As important industry and policy decisions are being taken regarding the investment in CCS, explore the latest technological, legal and regulatory developments in the sector with this overview of international projects and UK perspectives.

[www.imeche.org/events/S1763](http://www.imeche.org/events/S1763)

5 November 2013, London

#### **RED FOR DANGER: OPTICAL VISION SYSTEMS IN INDUSTRIAL CONTROL AND SAFETY.**

Resolving our growing safety and security challenges depends on using advanced optical vision systems in order to control risks and protect workers and the public appropriately. Join us to examine the state-of-the-art developments and applications of these systems.

[www.imeche.org/events/S1778](http://www.imeche.org/events/S1778)

13 November 2013, London

#### **RELIABILITY: MANAGING LOSS OR RETENTION OF EMPIRICAL KNOWLEDGE.**

At this seminar, find decisive solutions, avoid wastage of man-hours and costs and ensure your products and systems retain reliability and safety. System knowledge is vital if systems are to be supported throughout and beyond their designed life.

[www.imeche.org/events/S1745](http://www.imeche.org/events/S1745)

If you are interested in any of these events, please contact **Rhiannon Stuart-Jones** on +44 (0)20 7973 1291 or [srg@imeche.org](mailto:srg@imeche.org)

**FOLLOW OUR WEEKLY UPDATES ON [WWW.IMECHE.ORG](http://WWW.IMECHE.ORG)**

### JOURNALS

**Professional Engineering Publishing** is the publisher for the Institution of Mechanical Engineers. For more information about our magazines, journals and conference proceedings visit [www.uk.sagepub.com/imeche](http://www.uk.sagepub.com/imeche)

You may be interested in:

**Journal of Risk and Reliability**  
(Proceedings of Institution of Mechanical Engineers, Part O)

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To find out more contact **Subscriptions** on +44 (0)1952 214050 or email [subscriptions@imeche.org](mailto:subscriptions@imeche.org)

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Whether you're a student, apprentice, graduate, qualified engineer or just have an interest in engineering, Institution membership offers the highest professional prestige. Professional registration is a valuable investment for any engineer who is serious about their career.

Find out which level you're best suited for at [www.imeche.org/membership](http://www.imeche.org/membership) or email us on [membership@imeche.org](mailto:membership@imeche.org).

### GET INVOLVED

Whether you're new to the profession or well established, volunteering is a great way to gain new skills, knowledge and experience. As an Ambassador you have the chance to represent your profession and give something back to the engineering community as well as inspiring the next generation.

See [www.imeche.org/volunteering](http://www.imeche.org/volunteering) for more information or go to <http://nearyou.imeche.org> to find engineering events hosted by volunteers in your area.

### Keep up your CPD

#### **Continuing Professional Development (CPD)**

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Our online Career Developer tool can help you:

- **Plan** Create an Action Plan and identify targets
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Register for Career Developer and get more from your career [www.imeche.org/careerdeveloper](http://www.imeche.org/careerdeveloper)

For tailored advice contact [cpd@imeche.org](mailto:cpd@imeche.org)

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# BOOKING FORM

SAFETY AND RELIABILITY GROUP  
**MANAGING COMPETENCE:  
USING HUMAN FACTORS METHODS TO  
DEVELOP SKILLS AND EXPERIENCE.**  
8 OCTOBER 2013  
**S1744**

## REGISTRATION Please complete in capitals.

|  |                       |
|--|-----------------------|
| Family Name  | Title (Mr, Mrs, Miss) |
| First Name   | Job Title             |
| Membership No  | Institution           |
| Name of Organisation (for name badge)  |                       |
| Address for correspondence   |                       |
| Town/City  |                       |
| Postcode   |                       |
| Contact Telephone  |                       |
| Email  |                       |
| Do you have any special requirements?  |                       |
| How did you hear about this event? <input type="checkbox"/> Direct mail <input type="checkbox"/> Website <input type="checkbox"/> Colleague <input type="checkbox"/> Other |                       |

## FEES AND CHARGES Please complete the appropriate box.

Registration fees include entry to the sessions, refreshments, lunch, and a copy of the event proceedings.

| DELEGATE FEES                              | Fee     | VAT    | Total   | £     |
|--|---------|--------|---------|-------|
| Institution of Mechanical Engineers Member | £240.00 | £48.00 | £288.00 | _____ |
| Member of supporting organisation          | £240.00 | £48.00 | £288.00 | _____ |
| Non-Member                                 | £295.00 | £59.00 | £354.00 | _____ |
| Student                                    | £48.00  | £9.60  | £57.60  | _____ |
| Retired Member                             | £70.00  | £14.00 | £84.00  | _____ |

| EXTRA ITEMS                      | Fee    | VAT   | Total        | £     |
|----------------------------------|--------|-------|--------------|-------|
| Invoice Charging (if applicable) | £10.00 | £2.00 | £12.00       | _____ |
|                                  |        |       | <b>Total</b> | _____ |

## PAYMENT DETAILS

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

Please indicate method of payment:  Cheque  Credit Card  BACS  Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

**Credit Card:**  Visa  MasterCard (please note we cannot accept American Express, Diners Club or Maestro)

|   |            |   |             |   |
|---|------------|---|-------------|---|
| Card No   | Valid From | / | Expiry Date | / |
| Name of Cardholder                                      |            |   |             |   |
| Billing Address of Cardholder (if different from above) |            |   |             |   |
|   | Postcode   |   |             |   |
| Amount to be Deducted                                   | Signature  |   |             |   |

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Delegates wishing to be invoiced must provide an order number. If your company does not use order numbers please include a formal request for invoicing on your company's letterhead. A charge of £10 +VAT will be made to cover additional administration costs. Invoices are payable on receipt and no alterations to these terms will be accepted.

|  |          |
|--|----------|
| Order No   |          |
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| Name and Address for Invoicing   |          |
|  | Postcode |
| Tel  | Fax      |
| BACS bank transfers can be made to: <b>IMechE Current Account, NatWest Charing Cross Branch.</b> |          |
| Sort code: <b>60-40-05</b> Acc No: <b>00817767</b>   |          |
| Swift Code: <b>NWBKGB2L</b>  |          |
| A copy of the draft must accompany this form.  |          |
| IBAN Code: <b>GB96NWBK60400500817767</b>   |          |

For added convenience you can also book online at: [www.imeche.org/events/S1744](http://www.imeche.org/events/S1744)

Please complete and return this form to:

## EVENT REGISTRATIONS

Institution of Mechanical Engineers  
1 Birdcage Walk, London SW1H 9JJ

Fax +44 (0)20 7222 9881

For registration enquiries call

**Tina Churcher** on +44 (0)20 7973 1258  
or email [t\\_churcher@imeche.org](mailto:t_churcher@imeche.org)

Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

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## SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

## CANCELLATION

For a refund (minus £25 +VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid.

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## SUPPORTING ORGANISATIONS

Members of supporting organisations can register at members' rates: Hazards Forum, SaRS, HSL, The Institute of Ergonomics, Human Factors, iED, FESI and The Society of Environmental Engineers.

## VENUE

This event will be held at One Birdcage Walk, Westminster, London, SW1H 9JJ.

## LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

## ACCOMMODATION

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or email [rg@imeche.org](mailto:rg@imeche.org)

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