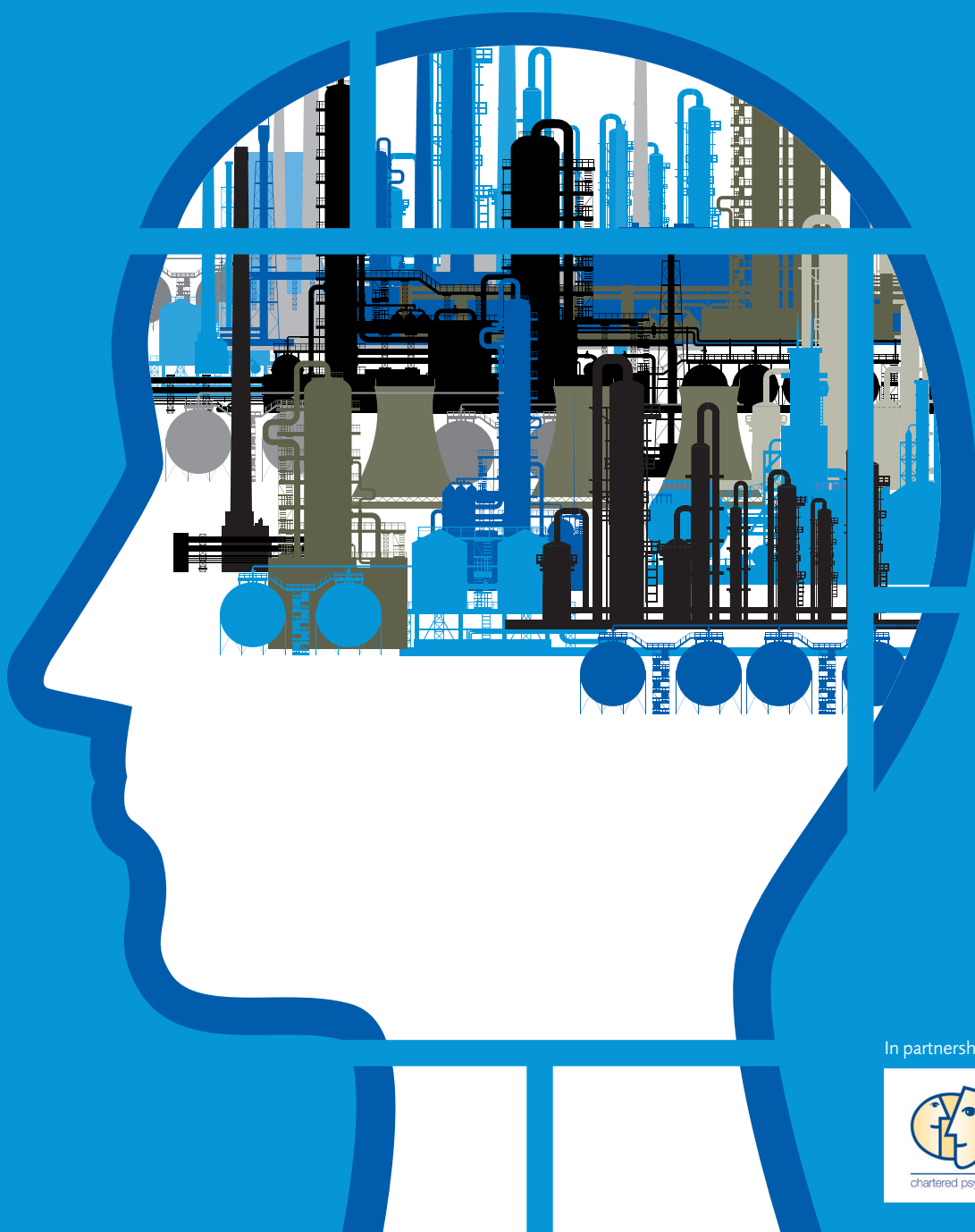


# Human Factors in Health and Safety

A professional development programme for the process industries and resource sector for 2021



In partnership with:



# Human Factors in Health and Safety, online

## A professional development programme for the process industries and resource sector

### Introduction

There is an increasing emphasis on the importance of managing human factors to achieve improved safety and business performance in the chemical process industries and resource sector. Major accidents, including those at Longford, Varanus Island, Montara, Gretley and Moura, have highlighted the importance of addressing this aspect of performance. However, many of the safety and operational professionals charged with managing human factors have no formal qualifications or training in the human and behavioural sciences.

*Human Factors in Health and Safety* is modular training designed to meet the needs identified in the process industries and resource sector. Designed by the Keil Centre and IChemE, this programme intends to develop an understanding of the core human factors issues and outline how to manage them to achieve improved safety performance.

### Key features

- content covering human factors in process safety, health and safety, with links to other aspects of business performance
- a modular course design, with short residential events, also providing networking opportunities with like-minded professionals
- advice to help implement human factors solutions
- training is delivered by recognised human factors professionals with significant process industry experience, drawn from a range of resource sector employers, specialist consultancies and industry regulators

### Course content

Topics are organised to cover the UK Health and Safety Executive's top human factors issues in major hazard sites, but these topics are just as applicable and relevant to non-UK regulatory frameworks.

The content has been developed in consultation with IChemE's safety and loss prevention specialists.

### Who should attend?

The programme is specifically designed for those who want a comprehensive overview of the subject matter, access to practical research-based tools and approaches, and discussion in small groups with acknowledged industry experts.

This may include:

- internal human factors advisors/focal points
- operations managers
- HSE advisors and specialists
- industry regulators

### Programme overview

*Human Factors in Health and Safety* consists of four modules, supported by independent study. The modules are independent of each other and can be completed in any order. You can sign up for all four to get a comprehensive overview of human factors, or attend single modules to develop understanding in a particular area.

For each online module, teaching will be delivered by:

- four live sessions (approximately 3.5 hours in length each) over four days
- pre-course reading and pre-work for some topics

The timings for each module:

Modules 1 & 2: 9:00-12:30 AWST, MYT / 11:00-14:30 AEST / 13:00-16:30 NZST

Modules 3 & 4: 9:00-12:30 AWST, MYT / 11:00-14:30 AEST / 12:00-15:30 AEDT / 14:00-17:30 NZDT

The programme caters for two audiences, specifically:

- those who want to complete the whole programme, who would complete the initial consultancy skills pre-reading, and all four modules
- those who wish to attend single modules (subject to availability)

### Module structure

Each module will cover four key human factors topics and will have the same basic structure:

- all sessions delivered by a recognised human factors professional, with significant process industry/resource sector experience
- a mix of theory, case study, discussion and practical exercises in small syndicates
- identification of key success factors in implementation

Delegates are encouraged to keep a learning log throughout the programme.

# About the programme

## Programme schedule and module details

All modules will be delivered online.

Pre-reading and joining information will be sent approximately two weeks prior to the module.

The timings for each module:

Modules 1 & 2: 9:00-12:30 AWST, MYT / 11:00-14:30 AEST / 13:00-16:30 NZST

Modules 3 & 4: 9:00-12:30 AWST, MYT / 11:00-14:30 AEST / 12:00-15:30 AEDT / 14:00-17:30 NZDT

Module One	Managing Human Factors	Presenters
Wednesday 14 July 2021	Introduction to human factors in risk management	Melanie Todd
Thursday 15 July 2021	Managing safety culture and behaviours	Emily Novatsis
Wednesday 21 July 2021	Safety critical communications	Martin Levey
Thursday 22 July 2021	Managing organisational change	Julia Pitsopoulos

Module Two	Managing Human Failure	Presenters
Wednesday 25 August 2021	Reducing human error	Matt Thomas
Thursday 26 August 2021	Managing non-compliance	Melanie Todd
Wednesday 1 September	Human factors in incident investigation	Nicole Gray
Thursday 2 September 2021	Mentally healthy workplaces	Amy Douglas

Module Three	Strengthening Organisational Performance	Presenters
Wednesday 6 October 2021	Staffing and workload	Nicole Gray
Thursday 7 October 2021	Training and competence	Stuart Dickinson
Wednesday 13 October 2021	Effective supervision and safety leadership	Melanie Todd
Thursday 14 October 2021	Managing fatigue	Kirsty McCulloch

Module Four	Human Factors and Design	Presenters
Wednesday 24 November 2021	Integrating human factors in design	To be confirmed
Thursday 25 November 2021	Ergonomic risk assessment and workspace design	Claire Folland
Wednesday 1 December 2021	Developing effective procedures	Melanie Todd
Thursday 2 December 2021	Design of the human/machine interface	Ronan McInerney

## Course prize

Delegates who complete all four modules are eligible to enter for a course prize for best application of human factors knowledge. Previous winners of this award include:

- Thomas Willer, Evonik Corporation - USA (2019)
- Catherine Henderson, Wesfarmers Chemicals Energy & Fertilisers & Alamgir Hossain, Nufarm Australia – Australia (2018)
- Ian Taylor, SABIC UK Petrochemicals - UK (2018)
- Ron Ramshaw, Interconnector - UK (2017)
- Ross Swainson, Caltex Australia & Tim Sweet, Jacobs - Australia (2016/2017)
- Phil Morris, Engineering Manager, EDF Energy Gas Storage - UK (2016)
- Toro Havini, Bis Industries –Australia (2014/15)



### 2019 USA

Thomas Willer, Occupational Safety and Health Manager, Evonik Corporation, USA (2019)

opened my eyes to untapped potential to be more proactive incorporating human factors not just in our production facilities but at every level and every part of our global organization.



Thanks to IChemE and the Keil Centre for their partnership in the Human Factors in Health and Safety programme. It is an honour to receive this award. Evonik believes that a deeper understanding of human factors is key to the future of the chemical industry because humans are the common denominator in everything we do. Human factors is so much more than “operator error”... This course has



Thomas Willer, Evonik Corporation, USA



### 2018 Australia

Alamgir Hossain, Nufarm Australia



### 2018 Australia

Catherine Henderson, Wesfarmers Chemicals Energy & Fertilisers

# Programme presenters

**Stuart Dickinson** is a human factors specialist who has been managing a range of projects in safety critical industries for over ten years. Industries in which he has worked include: rail, offshore, chemical/ pharmaceutical and manufacturing. Stuart is Principal Consultant and Director of Human Risk Solutions, a human factors consultancy based in Victoria. He is practiced in the application of a broad range of human factors tools and techniques and has worked in various areas of human factors from assessing the impact of workplace design upon operators' physical stress, to assessing workload and identifying the potential for human error. With regards to training, in recent years Stuart has developed and delivered human factors training for inspectors at NOPSEMA and WorkSafe Victoria.

Stuart is a registered member of the Chartered Institute of Ergonomics and Human Factors.

**Amy Douglas** is a clinical psychologist. She has been practising psychology for many years in both heavy industry and clinical mental health care settings. She is currently employed in a regulatory role by the Department of Mining Industry Regulation and Safety (DMIRS), as the Special Inspector of Mines – Mental health and wellbeing for WA, a role in which she focusses on psychosocial risk management (including development of the code of practice), and application of Human Factors to regulation of mining and extractive resources.

Amy maintains involvement in the treatment of mental health in the community by working as a clinician for the health department.

**Claire Folland** is a Certified Professional Ergonomist (CPE) and 'work health and safety' specialist certified by the Human Factors and Ergonomics Society of Australia (HFESA). She is a Principal Consultant and Director of Alba Ergonomics.

Claire has a BSc in Occupational Therapy, an MSc in Ergonomics, and a Certificate IV in Training and Assessment. Claire's ergonomics qualifications include human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity.

Claire has over 20 years of professional experience, both as a health professional and as an independent consultant practitioner. Claire has previously served as the HFESA NSW Chair and Board Representative. At present, she is on the panel for the society's Professional Affairs Board and is co-chair for the society's Design Special Interest Group.

**Nicole Gray** is a Registered Psychologist and Principal Human Factors Advisor with The Keil Centre, based in Brisbane. Nicole has worked for many years in applied psychology and human factors across a range of industrial settings, including defence, aviation, rail, and maritime industries. Her specialist interest areas include accident and incident investigation, human error analysis, fatigue risk management, and safety culture and leadership. She also has extensive experience in development and delivery of employee wellbeing programs in challenging environments.

Nicole holds a BA (Psychology) and Master in Human Factors, as well as the Diploma of Transport Safety Investigation. She is a member of the Australian Aviation Psychology Association and the Human Factors and Ergonomics Society of Australia.

**Martin Levey** is a registered psychologist and human factors specialist with significant experience in military aviation systems, food production and road safety.

As a military psychologist and senior Army officer, Martin has operated in complex safety critical systems, providing psychology services to military aviation, major operational deployments, special forces and other government undertakings such as Antarctic station operations. He understands the far reaching impacts of system safety failure and has investigated some of Australia's worst military accidents and has a keen interest in humans working in complex systems.

Martin holds a Bachelor of Science with Honours in Psychology, a Master of Organisational Psychology and a Post Graduate Diploma in Human Factors and Safety Management Systems. He has advanced aircraft accident investigation training from Cranfield University UK and is a member of the Australian Psychology Society, the Australian Aviation Psychology Association and the Human Factors and Ergonomics Society.

**Kirsty McCulloch** is considered a world expert in fatigue risk management, and her methods have been adopted as regulatory models in several industries, across multiple countries. Kirsty also has extensive experience in understanding human failure, human factors in incident investigation, task analysis, critical procedure reviews and safety culture. She has worked in many safety critical industries, including petroleum, mining, power generation, medicine, emergency services, transport, and manufacturing. She holds a PhD in Applied Behavioural Science, and is a member of the Human Factors and Ergonomics Society of Australia. Kirsty is Principal Consultant and Director of Kirsty McCulloch Consulting, based in Adelaide.



I have found it stimulating and educational throughout - it is not often (ever) I have looked forward to a course continuance each quarter so much. Excellent!



2018 Human Factors delegate



**Ronan McInerney** is a Human Machine Interface (HMI) specialist at Metro Trains Melbourne and also runs User First, a HMI design training business. He has spent over a decade working in the defence and rail sectors, with a focus on design of user interfaces for operation-critical systems. Ronan has a passion for educating others on the importance of good user interface design to support safe operations, and has spoken at multiple forums across Australia on the topic.

Ronan holds qualifications in Cognitive Science, Computer Science and Psychological Science (Hons). His background in both research and industry has given him a unique set of skills suited to bridging the gap between those with high-level operational needs and those implementing low-level technical requirements.

**Emily Novatsis** is a Registered Organisational Psychologist and has 18 years of experience as a human factors practitioner. She has worked in both internal and external consulting roles and in a range of safety-critical industries, including oil and gas, chemical processing, construction and rail. Emily has implemented solutions to improve performance across a range of human factors subjects and applies a user-centred, evidence-based and pragmatic approach.

Emily holds a Bachelor of Science with honours in Psychology and a Doctor of Psychology (Organisational) degree, where her research focus was organisational culture. Emily is currently Head of Zero Harm Programs at Metro Trains Melbourne. Here she leads the human factors program remit, including integrating safety leadership and culture development initiatives into safety management practices.

**Julia Pitsopoulos** is a Human Factors Specialist and Director of HFRM, based in Melbourne. With a Doctorate in Organisational Psychology and 20 years' experience in risk and safety management roles, Julia has a successful track record in managing human risk to enhance safety. She has worked across a variety of sectors including transportation (rail, aviation, marine), oil/gas/process, defence and manufacturing sectors. She has won industry awards for her innovative safety initiatives, and has undertaken a range of projects in training and competence management in order to manage risk.

**Matthew Thomas** is one of Australia's leading scientists in the field of human factors and safety management in high risk work environments. For over a decade he has provided expert advice and human factors solutions to airlines, the road and rail industry, healthcare, mining, utilities, construction and defence.

He is currently Associate Professor Human Factors at the Appleton Institute (CQUniversity) and Director of Westwood-Thomas Associates. He holds a range of leadership positions in the human factors discipline internationally, including immediate-past President of the Australian Aviation Psychology Association, member of the Australian Advisory Board of the Flight Safety Foundation, and Chair of Council of the Australian Patient Safety Foundation.

With a PhD in the area of Instructional Design and Computer-Based Training, Matthew has published widely in the academic literature and brings a blend of scientific integrity and industry application to his work.

**Melanie Todd** is a Principal Human Factors Advisor with The Keil Centre, specialising in accident and incident investigation, human error analysis, fatigue risk management, and training. Prior to joining The Keil Centre, Melanie worked for the Australian Transport Safety Bureau as Manager, Aviation Safety Investigation. She has extensive experience in both regulatory and investigative roles as a specialist in human factors.

Melanie holds a Bachelor of Aviation, Masters of Science and Technology in Aviation (Human Factors), and a PhD in Psychology (Human Factors) as well as the Diploma of Transport Safety Investigation. She is the president of the Australian Aviation Psychology Association and a member of the Human Factors and Ergonomics Society of Australia.



Excellent course, a lot to take to my workplace



2018 Human Factors delegate

## About the organisers

### The Institution of Chemical Engineers (IChemE)

Founded in 1922, the Institution of Chemical Engineers (IChemE) is a multi-national institution with primary offices in the UK and Australia. IChemE advances chemical engineering's contribution worldwide for the benefit of society. We support the development of chemical engineering professionals and provide connections to a powerful network of over 35,000 members in more than 100 countries.

We support our members in applying their expertise and experience to make an influential contribution to solving major global challenges. If you're a chemical engineer, student or experienced leader, and want to be part of our vibrant community, join us today.

For more details visit [www.icheme.org](http://www.icheme.org)

**The Keil Centre**, established in 1983, is a private consultancy practice of chartered psychologists and chartered ergonomics and human factors specialists based in Edinburgh, UK and Australia. The Keil Centre has long-standing links with the process industries through our international commercial consulting activities and involvement in IChemE safety conferences, seminars and symposia, and the European Process Safety Centre.

For more details visit [www.keilcentre.com.au](http://www.keilcentre.com.au)

## Live online course

For each online module, teaching will be delivered by:

- four live sessions (approximately 3.5 hours in length each) over four days
- pre-course reading and pre-work for some topics

## Fees

Single module	AUD\$2,300 + GST
All four modules	AUD\$2,000 + GST per module

The fees include attendance at all live sessions and E-course materials.

All four modules must be booked at the same time to qualify for the discounted rate

## How to book

Register online at [www.icheme.org/online-training](http://www.icheme.org/online-training)

Complete and return the registration form by email to [austcourses@icheme.org](mailto:austcourses@icheme.org)

## More details

Visit: [www.icheme.org/online-training](http://www.icheme.org/online-training)

Tel: +61 (0)3 9642 4494

Email: [austcourses@icheme.org](mailto:austcourses@icheme.org)

CPD **12.5 hrs** per module

CPD **50 hrs** for total programme

Maximum duration for CPD recording

## In-company training

If you have several colleagues interested in this course, why not consider running it in-house?

For a quote or to discuss your requirements contact [austcourses@icheme.org](mailto:austcourses@icheme.org)

# Registration form

## Human Factors in Health and Safety

Complete this form and return it by email to [austcourses@icheme.org](mailto:austcourses@icheme.org)

### I wish to book a place on:

- ☐ **Module one** 14–15 July & 21–22 July
- ☐ **Module two** 25–26 August & 1–2 September
- ☐ **Module three** 6–7 October & 13–14 October
- ☐ **Module four** 24–25 November & 1–2 December

Discount code: .....

I am a member of IChemE: ☐ Yes ☐ No membership number: .....

Last name: .....

First name: .....

Title (Dr/Mr/Miss/Mrs/Ms/Prof/Eur Ing): ..... Gender: ☐ Male ☐ Female

Work details – company: .....

Company ABN : .....

Job title: ..... Department: .....

Country: ..... Post/zip code: .....

Address: .....

Town/city: ..... County/state: .....

Direct telephone: ..... Direct fax: .....

Special dietary requirements: .....

Email (for pre-course correspondence): .....

### Method of payment (payment must be received in full before the event date otherwise admission cannot be guaranteed)

- ☐ Debit my credit/debit card: (payment in AUD\$ only):

Cardholder name (as it appears on the card): .....

Billing address (if different from above): .....

.....

Cardholder's signature: ..... Telephone number: .....

☐ Visa ☐ Visa Debit ☐ MasterCard ☐ AMEX

Card number:

Valid from date:     Expiry date:     Issue number:  CVC code :

(3 digits on reverse of (debit card only)  
card or 4 digits on the front of AMEX)  
This is mandatory for VISA and MasterCard

- ☐ Invoice my company quoting purchase order number: .....

**Note: a registration cannot be processed unless a copy of your purchase order is received with your registration form. Your booking will be confirmed by IChemE on receipt of either: an official purchase order or cleared funds. By submitting this form you have agreed to our terms and conditions and cancellation policy. Terms and conditions are available at: [www.icheme.org/terms](http://www.icheme.org/terms)**

### Cancellation policy

Written cancellation received up to two weeks before the course will be subject of an administrative charge of AUD\$150 inc GST. No refunds will be made for cancellation received after this date or for non-attendance, but copies of the course documents will still be sent. Substitutions are welcomed at any time up to the start of the course. IChemE reserves the right to modify, or cancel a course up to two weeks prior to the event.

ABN 75 112 253 040

[www.icheme.org/online-training](http://www.icheme.org/online-training)

### Data protection

In accordance with the Data Protection Act IChemE (and companies processing data on its behalf) will hold and use the data contained on this form for administration purposes, to keep you informed of its activities, and offer goods and services provided by the Institution. If you would prefer not to receive IChemE product and service literature mark the box ☐

If you would prefer not to receive emails on IChemE product and service literature mark the box ☐

The Institution is fully registered under the Data Protection Act as both a data user and a computer bureau.

IChemE is a registered charity in England and Wales, and a charity registered in Scotland (SC 039661)

**IChemE offices in**  
Kuala Lumpur, London,  
Melbourne, Rugby and  
Wellington

[www.icheme.org](http://www.icheme.org)

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