



Human Factors & Ergonomics Society of Australia Inc.

46th Annual Conference 2010

# Safer and more productive workplaces

31st October - 3rd November 2010

Novotel Twin Waters Resort, Ocean Drive, Twin Waters,  
Sunshine Coast, Queensland.

## Keynote Speakers

### Dr. James Collins

Dr. James Collins, Associate Director for Science for the Division of Safety Research, National Institute for Occupational Safety and Health (NIOSH). Dr. Collins has 27 years of experience as an Engineer and an Epidemiologist conducting laboratory and field research with the Centres for Disease Control and Prevention, NIOSH. His recent research has focused on safe resident lifting and slip, trip, and fall prevention in nursing homes and hospitals.

### Professor Martin G. Helander

Martin G. Helander, PhD, CPE, is Professor in the Division of Systems Engineering and Management at Nanyang Technological University in Singapore, and a principal consultant with Damai Sciences Pty. Ltd., Singapore. His research includes process control, formal design methods and affective design.

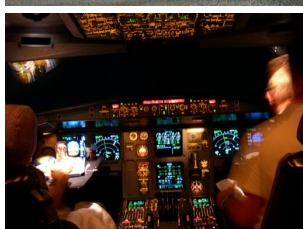
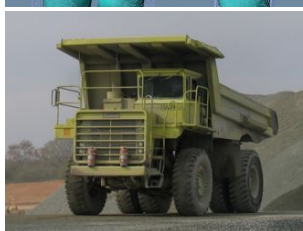
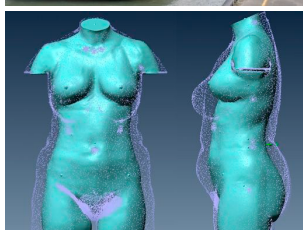
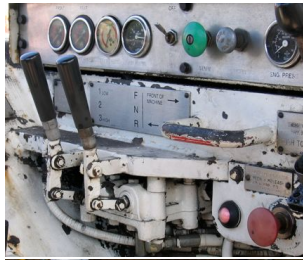
## Cumming Memorial Lecture

### Greg Ralph

Greg Ralph CPE has consulted in user interface design, usability strategy and applied ergonomics for almost a quarter-century. As one of Australia's most experienced user-centred design practitioners, Greg gets a kick out of designing interactive systems that support people in their work. Greg has since formed his own company, named Edison Interaction Design in the belief that good design comes from both inspiration and perspiration.

Register online from early July 2010 via HFESA website [www.ergonomics.org.au](http://www.ergonomics.org.au)

HFESA Secretariat Phone: (02) 9680 9026 Email: [secretariat@ergonomics.org.au](mailto:secretariat@ergonomics.org.au)



### Sunday 31st October

- 10:30-4:00pm Optional Social Golf - 'Ambrose' Competition
- 1:00-4:30pm Optional Sea Kayaking trip on Mooloolaba Bay.
- 5:00-6:00pm Registration
- 6:30-10:30pm Welcome Dinner on the resort Poolfront Beach.

### Monday 1st November

- 8:00am Registration
- 8:30am **Conference Opening and Welcome**
- 8:50am Keynote Speaker - **Jim Collins** (NIOSH, USA)  
**Conducting injury prevention research that translates into workplace practice.**
- 10:00am Morning Tea & Poster Session
- 11:30am **Development of a 'toolkit' to promote workplaces prevention of MSDs: an IEA-WHO project.**  
Wendy Macdonald (Latrobe University)
- 12:15am Lunch
- 1:15pm **Measuring and training hazard perception in driving.**  
Mark Horswill (The University of Queensland)
- 2:00pm **Anthropometry in the Information Technology Era.**  
Daisy Veitch (Sharp Dummies)
- 2:45pm Afternoon Tea
- 3:15pm **Adolescence - a critical window of opportunity to prevent spinal pain.**  
Leon Straker (Curtin University of Technology)
- 4:00pm HFESA Annual General Meeting
- 6:30pm Conference Dinner held at the resort's Lily's on the Lagoon, featuring presentation of HFESA Awards.



### Tuesday 2nd November

- 8:15am Day Registration
- 8:45am Cumming Memorial Lecture - **Greg Ralph** (Edison Interaction Design)  
**From Here to Usability: user-centred design for interactive systems**
- 9:45am Morning Tea
- 10:15am Keynote Speaker - **Martin Helander** (University of Singapore)  
**The use of formal methods for Human Factors design.**
- 11:15am **Models of Participation at Work**  
Verna Blewett (University of South Australia)
- 12:00am Lunch
- 1:15pm **Designing for a new world: Ergonomists in the fight against global poverty**  
Andrea Shaw (Shaw Idea)
- 1:45pm Afternoon Tea (with an opportunity to view the running of the Melbourne Cup).
- 2:15pm **Non-Technical Skills: Integrating Human Factors into training and assessment across diverse industry contexts.**  
Matthew Thomas (University of South Australia)
- 3:00pm **Musculoskeletal Disorders in NSW Mines - overview of a mail survey and workshop.**  
Christine Aickin (Workability)
- 3:45pm Close and HFESA 2011 information.
- 6:30-10:30pm BBQ Dinner on Mudjimba Verandah (Optional)

8:15am Day Registration

8:30am **Workshop 1**

**Designing work to increase physical activity and reduce sedentary behaviour - fighting the obesity epidemic through active workplaces**

Leon Straker, Nic Gilson & Sharon Parry

Insufficient physical activity is likely to be THE major Australian health risk this century. Prolonged sedentary behaviour in the workplace, or occupational sitting, is also beginning to emerge as an important, independent risk factor for chronic disease. A new ergonomics approach is to design work to increase physical activity at the expense of occupational sitting. This workshop will provide an overview of health issues associated with both behaviours, outline various approaches to encourage employees to move more and sit less, and provide practical sessions on designing and evaluating interventions.

12:00pm Lunch

1:00pm **Workshop 3**

**Developing design controls for manual tasks through participative workshops**

Gary Dennis

Around 40% of occupational injuries are associated with manual tasks. Whilst much effort has been focused on assessing the injury risks associated with manual tasks, too often these assessments forget three key essential factors required to facilitate the implementation of effective control measures that will reduce injury risk. These three key factors are: (1) formalised input from the workers performing the task; (2) real support from management; and (3) an assessment tool that effectively focuses and evaluates the control development process. This workshop will focus of workshop processes to develop and evaluate effective controls to manage manual task injury risk. This control development and evaluation will be conducted using a format of smaller interactive teams and real case studies.

4:00pm Close

**Workshop 2**

**Usable or not? An introduction to usability and its evaluation.**

Greg Ralph

System usability is increasingly recognised as key to organisational health. Websites, employee applications and other interactive software must be crafted to be fit for use by their intended audience. Although many ergonomists know “in their gut” that a system’s design is problematic, they don’t necessarily have the language or the approach to diagnose, discuss or rate the severity of usability issues. This half-day workshop will introduce: (a) concepts and definitions of Usability; (b) the user-centred design process; (c) typical usability issues; (d) different usability evaluation techniques; (e) how to rate the severity of discovered issues; and (f) to practise Heuristic Evaluation.

**Workshop 4**

**Citarasa Engineering: a method for affective product design**

Halimanhtun M. Khalid & Martin G. Helander

Affective design is still an emerging niche in human factors and product design. To achieve affective design, product designers must identify customers’ affective needs, besides functional ones. This workshop is aimed at introducing the citarasa engineering method for application in affective product design. Customers have a strong intentional component when they evaluate a product. In citarasa engineering, it is not about evaluating the customers, but the customers evaluating their needs. The method is a five-step process, from modeling, data gathering, analysis, data mining to mapping design solutions. We will describe the techniques and outcomes at each step, using vehicle design as an example. The workshop is targeted for human factors designers, product developers, and academics who wish to explore a novel approach towards understanding customer needs. At the end of the workshop, participants will learn about concepts and tools that can lead to explicit measurement of customer affective needs.



## Conference registration information

### Registration fees

**HFESA Member:** Earlybird full conference \$450 (Paid before 30 July)  
Full conference \$550

**Non-Member:** Earlybird full conference \$600 (Paid before 30 July)  
Full conference \$700

**Student:** (Full-time student only, current student ID MUST be emailed with registration)  
Full conference \$320

Please note a limited number of reduced price student registrations will be available in return for acting as a volunteer at the conference, for further information please contact the HFESA Secretariat.

**Day Delegates: Monday or Tuesday** (day delegate price does not include any social events)  
Single Day registration - \$300

### Post-conference workshops registration fees

**Conference Delegate:** One workshop \$120      Two workshops \$150

**Non-Conference Delegate:** One workshop \$170      Two workshops \$300

**Student:** One workshop \$50      Two workshops \$100

### Accommodation

Novotel Twin Waters Resort has specially priced rooms allocated for delegates of the conference. Room rates range from \$180 to \$310 per night depending on room size. These rooms must be **booked and fully paid for on the registration form**. Only a limited number of rooms have been reserved and rooms will be allocated in order of receipt.



### Social functions

Full Conference and Student Registration includes:

**Welcome Dinner:** Join us on the Poolfront Beach for the Welcome Dinner. This magical night under the stars will include entertainment by Keychange. Don't forget it is Halloween, so come prepared.

**Conference Dinner:** A night of elegance at Lily's on the Lagoon, featuring the presentation of the annual HFESA Awards, plus dancing to the sounds of Soul Therapy.

Morning Tea, Lunch and Afternoon Teas (during the programme).

### Optional social functions

Social Golf - 'Ambrose' Competition - starting from 10:30am Sunday 31st October, and finishing by 4:00pm. Cost is \$95 which includes green fees, golf cart, range balls, and lunch. More details can be found on the flyer which will be accessible through links at [www.ergonomics.org.au/events/conferences.aspx](http://www.ergonomics.org.au/events/conferences.aspx) soon.

Sea Kayaking on Mooloolaba Bay - 1:00 till 4:30pm on Sunday 31st October. Cost is \$55. More details can be found on the flyer which is accessible through links at [www.ergonomics.org.au/events/conferences.aspx](http://www.ergonomics.org.au/events/conferences.aspx).

Tuesday dinner - a BBQ dinner on the Mudjimba Verandah \$40

### Guest tickets for the social functions

Welcome Dinner - Sunday evening (includes meal only) \$65

Conference Dinner - Monday evening (includes meals and drinks) \$100

Optional BBQ Dinner - Tuesday evening (includes meal only) \$40

### Cancellations

Cancellations must be made in writing to the Conference Secretariat. If notice of cancellation is received on or before 31 August 2010 a full refund less an administrative charge of \$65.00 shall apply. No refunds are available on cancellations after this date however, delegates may send a substitute. Please advise the Conference Secretariat of any substitutions by 22 October 2010. Refunds of accommodation payments shall be at the discretion of the hotel.

**Register** online early July via HFESA website [www.ergonomics.org.au](http://www.ergonomics.org.au)  
HFESA Secretariat, PO Box 7848, Baulkham Hills BC, NSW 2153  
Phone: (02) 9680 9026 Email: [secretariat@ergonomics.org.au](mailto:secretariat@ergonomics.org.au)

## Presenter Biography

**Christine Aickin** CPE has spent the last twenty-three years in technical, research and management occupational health and safety roles in both the public and private sector. Christine is the President Elect of the Human Factors and Ergonomics Society of Australia.

AProf **Verna Blewett** is an ergonomist in the field of organisational design and management. She has a special interest in participatory processes at work. Verna pursues research in this area as Associate Professor, OHS Research, at the University of South Australia.

Dr **James Collins** currently serves as the Associate Director for Science in the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research. Using his engineering and epidemiology backgrounds, Jim has applied multidisciplinary methods to conduct research spanning the public health model from problem identification to rigorous science to evidence and advocacy for prevention. His early work defined the injury problem by identifying and targeting the highest risk tasks for prevention. Later he conducted a biomechanical lab study to identify safer ways to lift and move patients, and engaged extensive partners to conduct a 9-year intervention field study to demonstrate the effectiveness of a best practices safe patient handling program.

Dr **Gary Dennis** CPE is involved in both ergonomic research and the application of applied occupational ergonomics to improve occupational performance and reduce injury risk through two ergonomics consulting companies, ErgoEnterprises and ErgoSolutions. Gary has an adjunct appointment at the University of Queensland.

Dr **Nick Gilson** is a lecturer and researcher in physical activity and health at the School of Human Movement Studies, The University of Queensland. His area of expertise focuses on developing and evaluating 'best practice' intervention strategies that target physical activity and sedentary behaviour in workspace. He is currently working on a number of Queensland work site projects that include partners such as Brisbane City Council and Centrelink.

Prof **Martin G. Helander** CPE is Professor in the Division of Systems and Engineering Management at Nanyang Technological University in Singapore, and a principal consultant with Damai Sciences Pty. Ltd, Singapore. He has authored 300 publications including 10 books: A Guide to Human Factors and Ergonomics (Taylor & Francis) and the Handbook of Human-Computer interaction (Elsevier). Dr. Helander is Past President of International Ergonomics Association (1994-1997). He is an elected Fellow of the International Ergonomics Association, Human Factors and Ergonomics Society in USA, the Ergonomics Society in UK, and the Institute of Engineers in Singapore.

Dr **Mark Horswill** is currently a Senior Lecturer at the School of Psychology, The University of Queensland. He headed the team that developed the hazard perception test that is now part of the driver licensing process in Queensland as well as a patient observation chart that may become the standard across Queensland and possibly nationwide. His research has also formed the basis of road safety campaigns.

Dr **Halimahtun M. Khalid** PhD CPE is Executive Director and Principal Scientist/Consultant of Damai Sciences, Malaysia and Singapore. She is Past Chair of the Science Technology & Practice standing committee of the International Ergonomics Association (IEA), and Co-Chair of the Affective Design Technical Committee. She is also a Fellow of IEA, and Past President of the Southeast Asian Ergonomics Society, which is now a network of the IEA called SEANES. Previously, she was Professor of Cognitive Ergonomics, Founding Director of the Institute of Design and Ergonomics Application, and Founding Dean of the Centre for Applied Learning and Multimedia at University Malaysia Sarawak, Malaysia.

A/Prof **Wendy Macdonald** is Director of the Centre for Ergonomics and Human Factors at La Trobe University, which is part of the World Health Organisation network of Collaborating Centres in Occupational Health. She is a Manager of the WHO network's current workplan, and is Co-Chair of the International Ergonomics Association Technical Committee on Musculoskeletal Disorders.

**Sharon Parry** is a physiotherapist with a passion for health promotion. Sharon's current doctoral studies are comparing the contribution of work to overall physical activity in office workers and comparing different interventions to enhance office worker physical activity.

**Greg Ralph** has consulted in user interface design, usability strategy and applied ergonomics for almost a quarter-century. As one of Australia's most experienced user-centred design (UCD) practitioners, Greg gets a kick out of designing interactive systems that support people in their work. This practice is in keeping with his broader ergonomics philosophy – that well-designed jobs and tools provide great (although often unrecognised) social value. Greg's company, Edison Interaction Design, is founded on the belief that good design comes from both inspiration and perspiration. Greg is past National Chair of the HFESA's Computer-Human Interaction Special Interest Group (CHISIG). He was a Convenor of Australia's first shared Conference of CHISIG and the HFESA in 2002, and was awarded the CHISIG Medal and made a Fellow in 2009.

**Andrea Shaw** works as an ODAM ergonomist from her base in rural Victoria. The focus of her work is using participative processes to address issues of organisational power, creating workplaces that treat people with dignity and respect. Recent projects have included work in South Africa, Germany, New Zealand and Australia as well as ongoing voluntary work in Timor Leste. Andrea led the team that was awarded the 2008 International Ergonomics Association/Liberty Mutual Medal in Occupational Safety and Ergonomics for the Digging Deeper project.

Prof **Leon Straker** is a National Health and Medical Research Council Senior Research Fellow and Professor of Physiotherapy at Curtin University. Since the RSI epidemic in the early 1980s he has used an ergonomics framework to help prevent musculoskeletal disorders related to the activities people perform. Leon has published over 100 peer-reviewed journal articles. He was the first non-UK editor of the leading journal in the field, Ergonomics, and founder of the CybErg virtual conference series. He is currently directing a number of projects investigating the physical activity impact of technology and children and adults.

Dr **Matthew Thomas** is a Senior Research Fellow and Program Director of Human Factors and Safety Management programs at UniSA. He has a background in Human Factors, having completed his PhD in the area of training system design in 2000. His research interests focus on human error, non-technical skills, and the design of error tolerant systems. He has an established consultancy and publication record in these areas and is currently involved in a range of projects with industry partners in aviation, healthcare, and rail. He has been developing innovative approaches to simulation-based training and assessment and specialises in the area of Non-Technical Skill development and Threat and Error Management.

**Daisy Veitch** is Managing Director of SHARP Dummies, which is a private research company that specializes in engineering anthropometry and its applications. She is a founding member of the international WEAR group (World Engineering Anthropometry Resource). The WEAR group is a not for profit organization registered in France that is dedicated to making high quality anthropometric data and the tools available to researchers and industry.