| **Sunday 24 November 2019** | |
|---|---|
| 1.00pm-5.00pm | # Research Symposium.<br>Sunday 24 November 2019<br>Ann Harding Conference Centre, Canberra<br>**Paul Salmon - Chair**<br>**1pm – 1.10pm Symposium opening and housekeeping**<br>**1.10pm – 2.00pm Future work systems**<br>1.10pm – 1.25pm, Using cognitive work analysis to explore future changes to the work of human factors and ergonomics practitioners, *Gemma Read*<br>1.25pm – 1.40pm, Humanising non-human systems: the role of Human Factors and Ergonomics in Artificial General Intelligence system design, *Paul Salmon*<br>1.40pm – 2.00pm, Using Model-Based Systems Engineering to Consider the Impact of New Technologies Introduction on Organisational Systems, *Grace Kennedy*<br>**2.00pm – 3.30pm Safety and Risk**<br>2.00pm – 2.15pm, Forecasting emergent risks in the work systems of the future: the final frontier for Human Factors and Ergonomics, *Clare Dallat*<br>2.15pm – 2.30pm, Near mises in future work systems: Applying a multi-method systems analysis approach for determining effective work practice in near misses, *Brian Thoroman*<br>2.30pm – 2.45pm, Looking into a crystal ball: Developing leading indicators for future safety management, *Elizabeth Grey*<br>2.45pm – 3.00pm, Are workplace psychosocial hazards being effectively managed? Jenni Robertson, *Chris Jayne*<br>**3:00pm – 3:30pm Afternoon Tea**<br>**3.30pm – 4.10pm Cybersecurity and E-gaming**<br>3.30pm – 3.50pm, Functional Systems within Cryptolaundering processes – Work Domain Analysis Applied to Cryptolaundering Activities, *Dennis Desmond*<br>3.50 – 4.10pm, HFE and Cybercrime: Using Systems Ergonomics to Design Darknet Marketplace Interventions, *Ben Lane*<br>**4.10pm – 5.00pm Training and Behaviour**<br>4.10pm – 4.30pm, Goldilocks on a Train: Key Learnings for Reducing Sedentary Behaviour in Complex Work Environments, *Anjum Naweed*<br>4.30pm – 4.50pm, Augmenting Learning with Eye-tracking: An Evaluation in an Operational Fighter Pilot Training Setting, *Kyle Wilson* |
| 5.30pm-7.00pm | **HFESA Conference Welcome Reception**. Ann Harding Conference Centre, Foyer<br>Dress is smart/casual |

# HFESA 2019 Program – "Being Human and Beyond"

| | | |
|---|---|---|
| **Conference Day 1 : Monday 25 November 2019** | | |
| 8.30am | Registration opens | |
| 9.00am-9.10am | Welcome Lizzy Smith, Conference Committee Chair then Stephen Hehir, President HFESA | |
| 9:10am-9:25am | **Introduction to Dave Snowden's "Tricopticon"** by Facilitator Ben Jepsen.<br>HFESA tests out a day long version of a multi-day facilitation process created by Dave Snowden.<br>**We 'will re-imagine' one day of our event. We have set up a series of whole of conference interactions around 3 different perspectives on being human in a tech focussed world:**<br><br>Called Tricopticon, we will run three sessions of around 1hour 30 mins over the day. Each has:<br>• a short keynote presentation - 15 -20 mins<br>• responses from two fellow keynotes of - 5 min each<br>• audience in discussion in trios including ideas capture – 20 mins + 10 mins<br>• integration across conference where three large groups (working in groups of 5 or 6) creating themes from those ideas captured in 'trios' group discussion - 30 mins | |
| 9.25am-10.55am | **Tricopticon session 1 Delia Pembery Department of Human Services**<br>Conference Room | |
| 10:55am-11:25am | Morning Tea | |
| 11:25am-1.00pm | **Tricopticon session 2 Robert Holmes Aurecon**<br>Conference Room | |
| 1.00pm-2.00pm | Lunch | |
| 2.00pm-3.30pm | **Tricopticon session 3 Mike Weeks from Frontline Mind**<br>Conference Room | |
| 3.30pm-3.45pm | Afternoon tea | |
| 3.45pm-4.45pm | **Session : Interactive session with Juliet Scrine and Ian McColm of Eaton Gorge Theatre Company**<br>The Gang Gang Room<br><br>or<br><br>**HFESA National Annual General Meeting**<br>Conference Room | |
| 4.45pm | Day one closes<br>Delegates leave for dinner venue | |
| 7.15pm | Gala Dinner Dance, Pialligo Estate, 1/18 Kallaroo Rd, Pialligo ACT 2609, tel 02 6247 6060<br><br>(includes speeches and presentation of Society Honours and Awards) | |
| 10.00pm | Event closes | |

| **Conference Day 2 : Tuesday 26 November 2019** | |
|---|---|
| 8.30am | Registration opens |
| 9.00am-9.15am | Welcome<br>Opening address |
| 9.15am-10.00am | **Keynote Speaker**<br>**Prof. Frank Vetere - Ron Cumming Memorial Award**<br>Conference Room<br><br>Human physiology has been constant for millennia. Despite some population variations, the relative consistency of human capabilities is the bedrock of human factors research and practice. The tools for work may change, but the stable characteristics of the human body are essential to meaningful interventions. Similarly, the environmental context may vary, but the physicality of space is constant. Yet, new and emerging technologies are provoking us to think differently about the bodies and spaces we inhabit.<br><br>Through sensor and ubiquitous technologies, it is possible to design spaces that anticipate human actions. Through wearable and insertable devices it is possible to extend awareness of the surrounding environment. Through mixed reality, it is possible to occupy an avatar’s body and create digital spaces that embody expert knowledge and intelligently respond to human encounters.<br><br>In this Ron Cumming Memorial lecture I discuss how altered bodily capabilities and spatial characteristics affect our perception of being human. I present findings from a selection of research projects and explore some implications of these emerging technologies on the way we design and think about interactions between humans and technology. |
| 10.00am-10.30am | Morning Tea |
| 10.30am-12.00pm | Parallel Session<br><br>**Using near real-time story data for work design**<br>**Wendy Elford with**<br>**Delia Pembrey**<br>**Jean Mangharam**<br><br>In a fast changing world, we make decisions all the time that shape our experience of work and technology. We expect our business processes and legislation we use, even the models and frameworks we create as researchers, to help us predict and manage work. But “work as imagined’ quickly falls out of step with ‘work as done’. Our decisions and actions today are only as good as the data we have on what is actually happening to people in real workplace settings.<br><br>Yet humans have a powerful tool from our past to help us navigate our tech focussed future.<br><br>Way before human factors or ergonomics were invented as formal sciences, humans told stories about their day to day experiences, stories which revealed what was going on in a particular context. Scaling micronarrative – anecdotes about work and technology, for example – is now a powerful source of real time data to help us keep emerging work systems in sync with the changing context of work, to heep work human centered.<br><br>In this workshop we will recent research and projects to set the scene for why we suggest human sensor networks are a useful way see the situation from the perspective of multiple stakeholders. We suggest that story data can support our day to day decisions about work. We will capture new stories and use landscape and geometric ‘maps’ and data from more traditional survey questions to design experiments to improve an emerging work system. |

| | |
|---|---|
| | **or**<br><br>**Many Model Thinking in Systems Human Factors and Ergonomics**<br>**Paul Salmon**<br>In complexity science, the many models thinking philosophy argues for a multi-method approach to complex problems. Following this, five systems ergonomics analyses of road trauma are presented and their key insights extracted. The findings indicate that applying several systems ergonomics methods to the same problem is useful, as multiple insights are developed and deficiencies in one approach are countered by the others. Importantly, the case study demonstrates that the insights gained are compatible and support the development of holistic systems thinking based interventions. It is recommended that a many systems ergonomics model thinking approach be adopted by ergonomists working in complex problem spaces.<br><br>Presentations<br>• A many model systems ergonomics approach (Salmon)<br>• Using STAMP and Work Domain Analysis to model complex sociotechnical systems: road transport case study (Read)<br>• Using Causal Loop Diagrams to describe and understand complex problems: a case study on the fatal five driver behaviours (McLean)<br>• Computational modelling in Human Factors and Ergonomics: a system dynamics model of drink driving (Salmon)<br>• Designing safety interventions using the Sociotechnical Systems Design Toolkit: Preventing the fatal five driver behaviours (Read) |
| 12.00pm-1.00pm | **Workshop on Skills for Complex Human Systems**<br>**Kim Ballestrin**<br>Conference Room<br>Introduction to the Cynefin Framework (a conceptual framework used to aid decision-making) and its application to industry. |
| 1.00pm-2.00pm | Lunch |
| 2.00pm-3.30pm | Parallel session<br><br>**Workshop on Skills for Complex Human Systems continues**<br>**Kim Ballestrin**<br>Conference Room<br>Objectives of the workshop:<br>To become familiar with the Cynefin Framework and preferred styles of working.<br>To experience some of the facilitation approaches associated with the Cynefin Framework that are applicable to practice.<br><br>or<br><br>**Future of Work in HFE Across Australian Work Settings**<br>**David Caple**<br>**Amy Chung**<br>The Gang Gang Room<br><br>*Passing the HFE baton: How can we support the next generation of professionals?*<br><br>What capabilities do students and early career professionals need to develop to become established professionals? What initiatives would encourage students, early career professionals, and more established professionals to collaborate and learn from each other? Join Dr Amy Chung (HFESA NSW Branch Chair / Early Career & Student SIG Chair), David Caple (HFESA President 1998 - 2000, IEA President 2006 - 2009), and our panel members at various stages of their careers as we explore these questions. |
| | Afternoon tea (casual break out) |

| | |
|---|---|
| 3.45pm-4.45pm | **To infinity and beyond**<br>Conference Room |
| 5.00pm | Conference closes |