



**Australian Government**

**Department of Defence**  
Science and Technology

## **Call for Submissions**

### **Defence Human Sciences Symposium 2018**

*Minder, Mentor, Minion, Mate: Warfighter roles in Future Complex Systems*

29<sup>th</sup> and 30<sup>th</sup> November 2018  
Curtin University, Western Australia

[www.dst.defence.gov.au/events/defence-human-sciences-symposium](http://www.dst.defence.gov.au/events/defence-human-sciences-symposium)

Hosted by Defence Science and Technology (DST)

The Defence Human Sciences Symposium (DHSS) is the principal Australian forum for those interested in the application of human sciences research to enhance Defence capability.

**Symposium Theme.** The theme for this year's symposium is "Minder, Mentor, Minion, Mate: Warfighter roles in Future Complex Systems". Defence has long recognised the capability advantage that teams provide over individual effort across the Defence domains (Land, Sea, Air, Joint). The study of human teams and the degree to which knowledge about human teams generalises to the opportunities and challenges presented by teams of human and non-human agents are therefore of critical importance.

Understanding the role and impact of humans and machines in systems and environments of the future will be an ongoing challenge and will have wide implications right across the soldier operational life cycle (Fig 1). The question of whether humans will serve as minders, mentors, minions or mates to non-human agents will affect how Defence goes about selecting and training individuals to work with non-human agents. It will also affect how Defence supports the human during operations (perhaps through investment in autonomous vehicles). The questions that will need to be answered will come from all areas of the human system (Fig 2) and include, for example, what are the cognitive characteristics of humans when acting as a minder, mentor, minion or mate? What tailored training interventions are most effective for the different roles? How should information be displayed to the human team members that may come from remote platform? What nutritional supplements can be used to support extended physically and cognitively demanding operations? How can the whole human-machine system be configured to deliver significant effect? And what does resilience look like in the new paradigm of mixed human/non-human teams?



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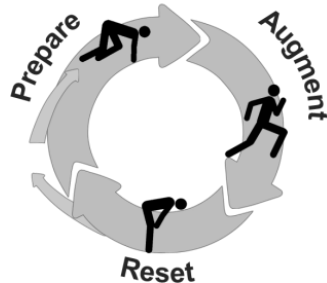


Figure 1 Operational Life Cycle

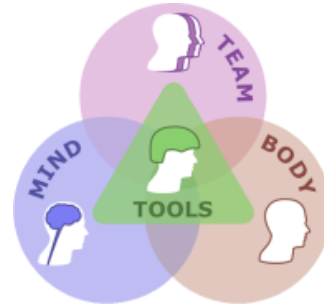


Figure 2 Human System

**Preliminary Program.** The DHSS program will take place over two days. Delegates interested in hearing more about the [Human Performance Research network](#) (HPRnet) can attend the [HPRnet Symposium](#) which will run the day before the DHSS in the same location. The DHSS will include a number of keynote speakers as well as technical workshops and presentations. Extended abstract presentations will be held Curtin University, WA, Bank West Lecture Theatre. The full program will be made available closer to the date. The DHSS Organising Committee is aiming for a diverse program. Abstract submissions are invited for presentations, as well as workshops in a wide range of topics including, but not limited to, the following.

**Defence focused themes**

- Future technologies (including Biotechnology)
- Health and Wellbeing
- Resilience
- Support to operations
- Trusted Autonomous Systems

**Human Performance themes**

- Anthropometry
- Cognitive enhancement and augmentation
- Cognitive performance: From Perception to Decision Making
- Food and nutrition
- Physical augmentation (assistive technologies)
- Physiology

**Human Systems Analysis themes**

- Ergonomics and Human Systems Engineering
- Human Systems Integration
- Training and Education

**Human Sciences in National Security themes**

- Cyber security
- Evaluation of software tools and techniques
- Mathematical and statistical modelling of social processes
- Social and cultural analysis of groups
- Social media exploitation

**Methodologies themes**

- Ethics
- Measurements and Metrics
- Modelling and Simulation
- Multidisciplinary Research
- Tools and Techniques

**Organisational Effectiveness themes**

- Health and Safety
- Organisational Culture
- Personnel Selection and Retention



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The above topics are indicative rather than all-inclusive. All submissions that directly relate to enhancing Human Sciences Capability will be considered.

**Extended Abstract Submissions**

- Instructions on abstract submission and a template will be provided soon.
- Extended abstracts of no more than 500 words are to be submitted. Full papers are not required.
- The review committee will accept submissions describing theoretical and applied research, as well as discussion papers, and papers describing work-in-progress.
- All submissions should be Unclassified.

**Registration**

Registration costs and details will be announced soon.

**Contacts**

If you have any enquiries please email [DHSS@dst.defence.gov.au](mailto:DHSS@dst.defence.gov.au) or contact the organising committee:

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(NB: Tom is also the POC for the HPRnet day)