Socio-Technical Outreach Self-Assessment

The Defence Science & Technology Group has recently established a dedicated Socio-Technical Futures Analysis discipline to contribute to its Critical Technology Foresight capability in collaboration with the Department of Prime Minister and Cabinet's Critical Technology Policy Coordination Office (CTPCO), specifically focused on assessment of the social implications of emerging and potentially disruptive technologies.

To support this effort, staff are conducting outreach within the academic and think-tank communities to establish the level of available expertise at the intersection of people, technology and society, as assessed against Australia's Critical Technology List. This is intended to capture those working in the humanities and social-sciences, as well those with appropriate socially-focused backgrounds in business, law and science/engineering fields.

We are collecting this information principally for knowledge exchange purposes as well as for identifying potential candidates for future funding opportunities and invitation to upcoming Defence Science & Technology Group workshops, symposiums and conferences.

Instructions for Completion

1. Insert your contact details, representative publications and previous relevant funding sections.

2. To complete the self-assessment table, mark your level of expertise against the **ORANGE** themes by marking the relevant box with an **X** and noting your discipline and focus. An empty box will be taken to denote an absence of socio-technical expertise on this topic.

3. If you have specific expertise in one of the sub-fields, mark the relevant box as above.

4. Submit to the address at the end of the document.

5. *Note: by providing a completed copy of this form to a Defence representative you consent to: the provided information being securely stored by the Department of Defence for the conduct of its Critical Technology Foresight business; it being shared with relevant Australian Government partners; and being contacted by the Australian Government for related engagement and research purposes.*

Contact Details

Title: Dr   Associate Professor   Professor   Other:

Name: _____

Dept/School/Centre:

University and location:

Email:

Phone:

Do you hold or have you ever held a security clearance (provide details if yes):

Representative Publications

Please note your top three publications relevant to the social impact and assessment of emerging and potentially disruptive technologies:

1.

2.

3.

Previous Relevant Funding

Please note any previous funding you have received that may be of relevance to the social impact and assessment of emerging and potentially disruptive technologies:

Funder:

Title: _____

Amount: Period:

Funder:

Title:

Amount: Period:

Funder:

Title:

Amount: Period:

Funder:

Title:

Amount: Period:

CRITICAL TECHNOLOGIES SOCIO-TECHNICAL CAPABILITY SELF-ASSESSMENT TABLE	I have a background interest	I have done some tangential research	I have published research on the topic	I have published extensively on the topic	Notes: (1) From which academic/disciplinary background does your expertise stem (e.g. ethics, sociology)? (2) Do you focus on a particular sector (defence, intelligence, health, agriculture)?
ADVANCED MATERIALS AND MANUFACTURING					
Additive manufacturing (inc. 3D printing)					
Advanced composite materials					
Advanced explosives and energetic materials					
Advanced magnets and superconductors					
Advanced protection					
Continuous flow chemical synthesis					
Coatings					
Critical minerals extraction and processing					
High-specification machining processes					
Nanoscale materials and manufacturing					
Novel metamaterials					
Smart materials					
AI, COMPUTING AND COMMUNICATIONS					
Advanced data analytics					
Advanced integrated circuit design and fabrication					
Advanced optical communications					
Advanced radiofrequency communications (inc. 5G & 6G)					
Artificial intelligence algorithms and hardware accelerators					
Distributed legders					
High performance computing					
Machine learning (including neural networks and deep learning)					
Natural language processing (inc. speech and text recognition and analysis)					
Protective cyber security technologies					
BIOTECHNOLOGY, GENE TECHNOLOGY AND VACCINES					
Biological manufacturing					
Biomaterials					
Genetic engineering					
Genome and genetic sequencing and analysis (next-gen)					
Nanobiotechnology					
Nanoscale robotics					
Neural engineering					
Novel antibiotics and antivirals					
Nuclear medicine and radiotherapy					
Synthetic biology					
Vaccines and medical countermeasures					
ENERGY AND ENVIRONMENT					
Biofuels					
Directed energy technologies					
Electric batteries					
Hydrogen and ammonia for power					
Nuclear energy					
Nuclear waste management and recycling					
Photovoltaics					

Supercapacitors					
QUANTUM					
Post-quantum cryptography					
Quantum communications (inc. quantum key distribution)					
Quantum computing					
Quantum sensors					
SENSING, TIMING AND NAVIGATION					
Advanced imaging systems					
Atomic clocks					
Gravitational-force sensors					
Inertial navigation systems					
Magnetic field sensors					
Miniature sensors					
Multispectral and hyperspectral imaging sensors					
Photonic sensors					
Radar					
Satellite positioning and navigation					
Scalable and sustainable sensor networks					
Sonar and acoustic sensors					
TRANSPORTATION, ROBOTICS AND SPACE					
Advanced aircraft engines (inc. hypersonics)					
Advanced robotics					
Autonomous systems operation technology					
Drones, swarming and collaborative robots					
Small satellites					
Space launch systems					

Any comments you wish to provide:

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The completed form can be submitted to:

Hon. A/Professor Jai Galliott
Socio-Technical Futures Analysis Discipline Leader
Critical Technology Foresight

Strategy and Joint Force
Human & Decision Sciences Division
Email: Jai.Galliott1@defence.gov.au