TAS Hub Agile / Integrator Programme Briefing

Dr. Joel Fischer
Associate Professor in HCI
University of Nottingham
Research Director, UKRI TAS Hub
www.tas.ac.uk
TAS Research Programmes - Participation and Principles

Objectives

- bringing together multi-disciplinary and diverse academic and stakeholder communities of practitioners (partners)
- creating an inclusive environment for diverse views, creative, and responsible research

Principles (see tas.ac.uk/our-guiding-principles)

- Inclusive and Responsible Research
- Nurturing a diverse research community
- Openness
- Working across disciplines

Our research programmes

- Community-led, with a steer towards the TAS vision
  - Alignment with grand challenges, priority areas, project types

Participation
Agile / Integrator Programme

Programme for YOU: community-led / bottom-up TAS research development

• Agile projects, in which multidisciplinary teams from the Hub will propose, develop and engage in focused research to complement and inform ongoing research in TAS;

• Integrator projects, in which multidisciplinary teams from across the TAS Network will expand, integrate and enhance ongoing TAS research and establish new links across the wider TAS Network.

Your proposed project should integrate researchers from different disciplines, particularly from social sciences, arts and humanities and propose research on the technical, social and ethical challenges surrounding trustworthy autonomous systems.
TAS Research Themes

- Initial analysis of the topics of the 12 pump priming projects and 6 Agile projects (confirmed by PP project leads)
- These projects cover a range of disciplines, examine different issues related to trust (e.g., facilitators vs. barriers)
- Across a range of themes and research areas

Example topics

- Transfer of control
  - Flexible Autonomy
  - Failure recovery
  - Validation & Verification
  - Resource allocation
- Perception of risks & opportunities
  - Ethical concerns
  - Explainable AS
  - Human autonomy
  - Acceptance, Adoption and participation

- Human-machine organisations
  - Multi-agent Coordination
  - Teaming & collaboration
  - Managing conflicts
  - Task sharing
  - Social & societal impact
- Understanding stakeholder/user needs
  - Consent and Privacy
  - Inclusion
  - Participation / PD
  - Open science
  - Skills
  - Human-centred design
  - Production / financing
- Policy evaluation
  - Resilience
  - Regulation
  - Legal implications
  - Auditing

Cross-cutting values

Human-centredness; Equality, diversity & inclusion; responsible research and innovation; trust & trustworthiness; fairness, accountability, transparency & ethics (FATE)
Programme information online
https://www.tas.ac.uk/integrator-programme/
https://www.tas.ac.uk/research-programmes/agile-programme-2/

Key dates
• Call Announced – 18 February 2022
• Project idea submission deadline (300-word abstract) - 16 March 2022
• Idea-sandpits allocations confirmed – w/c 21 March 2022
• Virtual Sandpits – 4-6 April, 9:30-12:30
• Bid submission – 13 May 2022
• Awards announced – June/July 2022
• Projects start – July/August 2022

Supporting documents
• Briefing event video
• Call for Participation
• Idea submission web form (released next week)
• Submission form
• Note on research ethics
• FAQ (coming soon)
Scope of the programme

What funding is available?
• The Agile/Integrator Programme does not represent a new stream of funding; it relies on utilisation of existing research staff within the TAS Network to develop and carry out research activities

Who is it for?
• Researchers at institutions involved in the UKRI TAS Network (Hub, Nodes, Responsibility projects, and Pump Priming projects) and project partners (industry third sector) are invited to participate

What is it about?
• This programme aims to encourage TAS Network researchers to establish new collaborations, areas of common interest, explore research ideas, and foster new research partnerships

For how long?
• We welcome activities that range in scale and scope but would not expect them to exceed 12 months in duration
Research Development Process

Idea submission
- By 16 March
- Title, abstract
- Grand Challenge/Priority Area alignment
- Partner needs
- Reviewed and grouped by TAS expert working group

Virtual sandpits
- 4-6 April
- 3 Sandpits themed around Grand Challenges/Priority Areas based on submitted ideas
- Anyone from TAS Network and potential partners welcome!

Submit proposal
- By 13 May
- Approved by local PI(s)
- Submitted via ERPNext
- Peer reviewed
- Prioritised by TAS expert working group
Who can apply

• Applicants at one of the research institutions formally involved in the TAS programme (Hub, Nodes, Responsibility projects, and Pump Priming projects)
  • Colleagues at TAS Network institutions not already involved in TAS can participate with approval of local TAS Network PI(s)
• Applicants **must** have the approval of the local PI(s) to apply
• Early-Career Researchers (ECRs) are particularly encouraged to lead proposal development
• **Multidisciplinary teams** with the appropriate expertise to develop novel and creative research activities that are focused on trustworthiness as a property for autonomous systems
What we’re looking for

• Projects supported by this programme either
  • complement and inform ongoing research within the TAS Network (not duplicate it)
  • or integrate and expand on it (not simply carrying on with ongoing work).

• Creative, inter- and multi-disciplinary research which focuses on
  • Ensuring the design, engineering, and operation (use) of autonomous systems generates positive outcomes and mitigates potentially harmful outcomes for people, societies, economies and the environment

• Autonomous System – definitions
  • We understand an autonomous system to be a system involving software applications, machines, and people, that is able to take actions with little or no human supervision
What we’re looking for (cont’d)

• complement the existing UKRI TAS Hub programme (see resources on the website to understand the current portfolio)

• collaborate with the wider programme

• undertake novel and creative multidisciplinary research which addresses the key challenges around trustworthy autonomous systems

• co-create and carry out the research with stakeholders and users from industry and other sectors in society

• building skills and capability in the development of trustworthy autonomous systems

• contribute to the development of a cohesive and world-leading UK community in trustworthy autonomous systems
New Priority Areas for 2022

- TAS to accelerate the path to net-zero: how can TAS contribute to reach net-zero carbon emissions, improve our energy systems, and encourage sustainable use of natural resources?
- TAS to aid the recovery from the pandemic: how can TAS contribute to economic, societal, mental and physical health and prosperity as we are transitioning towards a post-pandemic world?
- TAS to contribute to the creation of an inclusive, fair and just world: how can TAS foster the design and creation of technologies and systems for inclusive and equitable societies?

Note that all proposals submitted will be assessed equally, irrespective of their application area and whether or not it aligns...
Project categories

1. **Agile Project (Hub only)**
   If the project involves team members from only the TAS Hub (Universities of Southampton, Nottingham, King’s College).

2. **Integrator Project (Wider TAS Network)**
   If the project involves team members from the wider TAS Network (Hub, Nodes, Responsibility projects, Pump Priming projects).
Support available

• This programme *does not represent a new stream of funding*; it relies on utilisation of existing research staff within the TAS Network

• Subject to availability of funds, Hub and Node resources can be requested for activities such as travel, workshops (both COVID permitting!), research expenses, staff time or interns

• Resource requests should *only* include Directly Incurred costs; however, these costs must be covered by the current research budget within the applicant’s organisation.

• Directly Allocated costs are expected to be contributed in-kind (it is assumed that DA time is already funded by UKRI)

• Before submission, the local PI(s) of the relevant Network project(s) *must agree* to the participation in the programme
How to apply

• Proposal and team development (Feb-April)
  • Prospective applicants are strongly encouraged to submit their project idea(s)
  • and take part in the virtual sandpits to collaboratively develop the project idea and build a multi-disciplinary and cross-institutional team

• Proposal writing and submission (April-May)
  • Ensure you comply with any internal institutional processes and deadlines
  • Prepare your proposal using the provided WORD template (linked from call website); respecting section headings and page/word limits
  • Applicants should be explicit about the added value their proposed activity brings to a specific area of the programme.
  • Identify one team member as the Main Contact. They will submit the bid and be the point of contact with TAS Hub for all communication during the process
  • Submission deadline: 16:00 GMT, 13 May 2022.
How your proposal will be assessed

• 2 stage-process: peer review and expert panel (standard UKRI process)

• Reviewing and panel rank ordering will take into account the following assessment criteria
  • Quality of the proposed activity
    • Novelty, timelines, ambition, contribution to state of the art, consideration of trust or other core TAS issues
  • Relevance to stakeholder
    • At least one named non-academic project partner, evidence of co-creation
  • Applicant team
    • Members from at least two disciplines, different career stages, particularly suitable ECRs
  • Fit to TAS programme
  • Equality, Diversity & Inclusion and Responsible Research & Innovation
    • Embedding RRI in the research, adequate consideration of EDI
  • Resourcing
Ideas and virtual sandpits – some notes

• Who can submit ideas?
  • Anyone eligible to take part in the programme: colleagues at TAS Network institutions and potential partners from industry, third sector etc.

• What will happen with the submitted ideas?
  • They will be screened for relevance and grouped by our TAS expert working group. They will be made available to the TAS community before the sandpits.

• Who can take part in the virtual sandpits?
  • As above, anyone eligible. You do NOT need to submit an idea to take part.

• What are the sandpits for?
  • To rally round, flesh out, and develop ideas further. Form teams for proposal writing and, hopefully, to do the research together as part of the TAS Network!
Q&A time!
https://www.tas.ac.uk/integrator-programme/
https://www.tas.ac.uk/research-programmes/agile-programme-2/

Key dates
• Call Announced – 18 February 2022
• Project idea submission deadline (300-word abstract) - 16 March 2022
• Idea-sandpits allocations confirmed – w/c 21 March 2022
• Virtual Sandpits – 4-6 April, 9:30-12:30
• Bid submission – 13 May 2022
• Awards announced – June/July 2022
• Projects start – July/August 2022

Supporting documents
• Briefing event video
• Call for Participation
• Idea submission web form (released next week)
• Submission form
• Note on research ethics
• FAQ (coming soon)
Research Development Process

Idea submission
- By 16 March
  - Title, abstract
  - Grand Challenge/Priority Area alignment
  - Partner needs
  - Reviewed and grouped by TAS expert working group

Virtual sandpits
- 4-6 April
  - 3 Sandpits themed around Grand Challenges/Priority Areas based on submitted ideas
  - Anyone from TAS Network and potential partners welcome!

Submit proposal
- By 13 May
  - Approved by local PI(s)
  - Submitted via ERPNext
  - Peer reviewed
  - Prioritised by TAS expert working group
Domains of projects

- **6 Agile Projects covering:**
  - Autonomous Vehicles
  - Human-Swarm Teaming
  - Assisted Living
  - Protecting young people online

- **12 Pump Priming projects covering:**
  - AVs
  - Health and wellbeing
  - Education, HRI
  - Governance and resilience
  - Research methods
  - Consent

- **Projects starting Q1/2 2021, multidisciplinary teams**