SciDataCon 2025



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Type: Session

The highs and lows of providing digital infrastructure to enable safe access to sensitive data for research

Wednesday 15 October 2025 14:00 (1h 30m)

Significance of the issues to be tackled in the session

A Trusted Research Environment (TRE) is a highly secure computer system where sensitive data is stored. TREs are designed to be safe, allowing only authorised individuals to access the data. Data cannot be added or removed without proper permissions, ensuring transparency and accountability. Multiple sources of data can be combined in a TRE to create a comprehensive dataset for research. The technical and legal demands on these environments are considerable, resulting in challenges for these systems to interoperate.

International standards-setting organisations such as the Global Alliance for Genomics and Health (GA4GH) and ELIXIR provide resources that lower the barrier for TRE providers to align the development of their infrastructures. The HEALTHWISE consortium brings together providers of TREs, and other digital infrastructure for safe access to sensitive data, to tackle challenges around transnational and transcontinental federation. During this session, HEALTHWISE members will present the state-of-the-art in digital infrastructure to enable safe access to sensitive data. During an expert panel discussion, the challenges and opportunities for federation of these infrastructures will be discussed in conversation with the audience.

Description of the approach, structure, format, and suggested agenda for the session

The aim of the session is to set out the international landscape of digital infrastructures that enable safe access to sensitive data for research. Audience questions about the highs and lows of providing such infrastructure will be addressed by a panel of experts in conversation. The session will begin with brief presentations from invited speakers on the theme of providing secure digital infrastructure to access sensitive data. This will be followed by an interactive panel discussion with infrastructure providers, led by a moderator who will guide the conversation, explore the topic from multiple perspectives, and facilitate audience questions.

Draft agenda

Part 1: Welcome and introduction to the aims of the session (10 mins) Tim Beck, University of Nottingham

Part 2: Setting the scene - 10 min presentations (50 mins) Chair: TBC Five speakers:

- 1. Phil Quinlan, University of Nottingham, Federation of UK TREs & NHS Secure Data Environments (SDEs)
- 2. Dom Gorse, University of Queensland, Making Queensland Health Data Accessible for Research: The Role of SMART Hub and UQ TRE
- 3. Sumir Panji, University of Cape Town, Making African Data more Discoverable
- 4. Simon Thompson, Swansea University, Large Scale TRE Provision & Operation
- 5. Neerja Karnani, A*STAR, Making Data Science Secure and Connected: Insights from Singapore

Part 3: Panel discussion with infrastructure providers and audience questions (30 mins) Moderator: TBC

Panellists: Phil Quinlan, Dom Gorse, Sumir Panji, Simon Thompson and Neerja Karnani.

Proposed speakers and the subject of their talks

Phil Quinlan, University of Nottingham, UK

The UK has invested in federated programmes, such as in Health Data Research UK (HDR UK) and in Data and Analytics Research Environments UK (DARE UK). The team in Nottingham are leaders in these programmes and during this talk we will present the current state of the possible and the international collaborations that are flourishing via open source and open standards methodologies.

Dom Gorse, University of Queensland, Australia

Queensland's Integrated Electronic Medical Record (iEMR) is a single system deployed across the state, providing a unified platform for health data management. Access to Queensland Health data for research is facilitated through the University of Queensland's SMART Hub and Trusted Research Environment (UQ TRE). The SMART Hub connects researchers with health data, ensuring secure and compliant access, while the UQ TRE offers a highly secure environment for analysing sensitive health data. This talk will also explore the principles of TREs and the CARE principles, which guide the ethical and responsible use of data.

Sumir Panji, University of Cape Town, South Africa

The eLwazi platform is developed by the University of Cape Town and is an African-led Open Data Science Platform (ODSP) designed to support health and biomedical research across the continent. It is a key component of the DS-I Africa initiative, which aims to harness data science for health discovery and innovation in Africa. The eLwazi platform actively incorporates Global Alliance for Genomics and Health (GA4GH) standards to enhance data interoperability, security, and accessibility. This talk will explore how these initiatives are making African data more discoverable.

Simon Thompson, Swansea University, UK

Swansea University makes available SeRP (Secure e-Research Platform), which is a secure data platform that provides TREs for researchers to access and analyse sensitive data, particularly health and administrative data, while ensuring data privacy and security. It is used by academic institutions, government bodies, and health organisations. A prominent example is SAIL Databank, which uses UK SeRP to provide access to anonymised health and administrative data from Wales. This talk will explore the diversity and demands of running multiple large-scale TREs in the UK and Internationally.

Neerja Karnani, Bioinformatics Institute, A\STAR, Singapore*

This talk will provide insights into our cross-institutional efforts and collaborations with national platforms, industry, and international data communities to advance secure data science in Singapore. These initiatives are shaping the future of federated analytics by aligning technological innovation with strong data governance. It will also highlight emerging use cases, the adoption of open standards, and expanding opportunities for global collaboration.

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Presenters: Prof. GORSE, Alain-Dominique (University of Queensland); Prof. KARNANI, Neerja (Bioinformatics Institute, A*STAR, Singapore); Prof. THOMPSON, Simon (Swansea University); Dr PANJI, Sumir (University of Cape Town); BECK, Tim (University of Nottingham); QUINLAN, Philip

Track Classification: SciDataCon2025 Specific Themes: Infrastructures to Support Data-Intensive Research - Local to Global