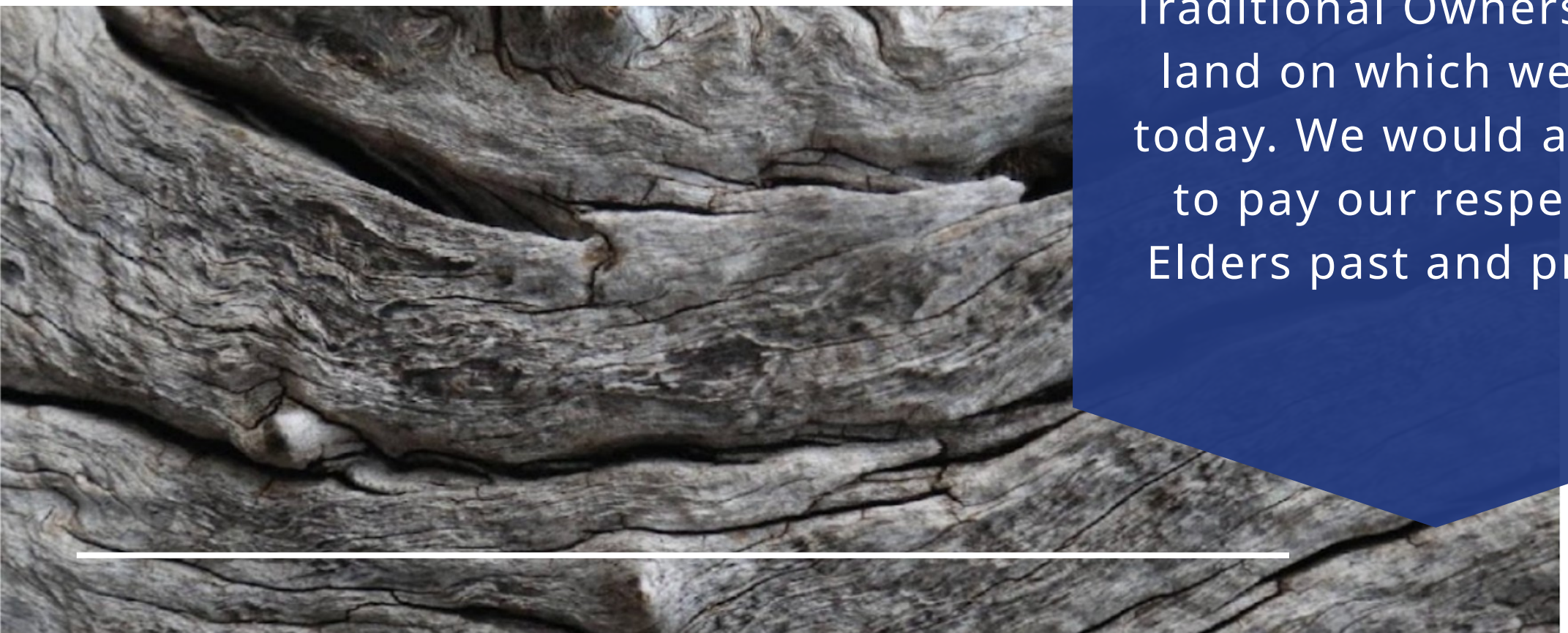
FUTURE-PROOFING THE DIGITAL RESEARCH INFRASTRUCTURE WORKFORCE

Attracting and Retaining Top Talent in the Digital Research Infrastructure Space

ACKNOWLEDGEMENT OF THE COUNTRY



We’d like to begin by acknowledging the Traditional Owners of the land on which we meet today. We would also like to pay our respects to Elders past and present.

FACILITATORS

Gin Tan
Monash University

Daniel Meloncelli
QCIF

Sara King
AARNet

Nic Geard
The University of Melbourne

Kathryn Unsworth
ARDC

Gordon McDonald
The University of Sydney

Juliana Villa
Monash University

Maciej Cytowski
Pawsey Supercomputing Centre

AGENDA

- Welcome & Overview
- Presentation - Sach Jayasinghe (CEO – QCIF) - 10 mins
- Guided Discussion – 30 mins
- Outcomes and sustainability plan - 10 mins

We'd love your inputs to help us move our plan into action

Recruit, Retain and Develop RI Talent

Sach Jayasinghe, Founder & Executive Director

Academy for Collaborative Research Infrastructure

CEO, QCIF Ltd

Adjunct Prof (Research Infrastructure), UQ

Industry Fellow (Data & Digital), QUT

PhD Candidate (RI Workforce), GU

The Workforce Profile

I oversee select research infrastructure (equipment and spaces), focussed on local end-user induction, equipment maintenance and upkeep (often described as technical services). I do not normally contribute to experimental design or develop new methods.
10%

I have organisational-wide responsibility for research infrastructure (e.g. Pro Vice-Chancellor-Research Infrastructure, CEO-NCRIS Project).
10%

I am an academic (e.g., research fellow, post-doc) who has part-time responsibility in leading and managing select research infrastructure capabilities. The said capability is intimately linked with my independent research discipline.
4%

I lead/manage a research infrastructure facility or a grouping of research infrastructure capabilities.
30%

I am a specialist technologist, scientist, engineer, software developer or informatician that enables leveraging of research infrastructure. My intellectual contributions are often acknowledged through authorship or other research outputs. I do not …35%

I provide strategic and/or operational support to research infrastructure of an organisation or a government program.
11%

Maslow's Hierarchy of Needs

- Simple 5-tier model for motivation (circa 1943)
- Lower levels need to be satisfied (not necessarily 100%) in order progress
- Can be applied to organisations and employees
- Dynamic - consider impact of a formal organisational change

Safety Needs - Employment Security

- Longer terms contracts 3-5 years contracts
  - Retain the investment in staff and minimise opportunity costs
  - Recruit the best from interstate and overseas
- 12-month or less contracts – still exists to support project roles – may lead to longer-terms roles (already trained)
- Business case – aligned to research agenda and technology roadmaps (e.g., QUT's research centres)
- Investment in staff development as part of BAU
- Tenured/ongoing roles? Ensuring an equitable approach across divergent pace of technology advancement (e.g., genomics vs electron microscopy); changes to Fair Work Act

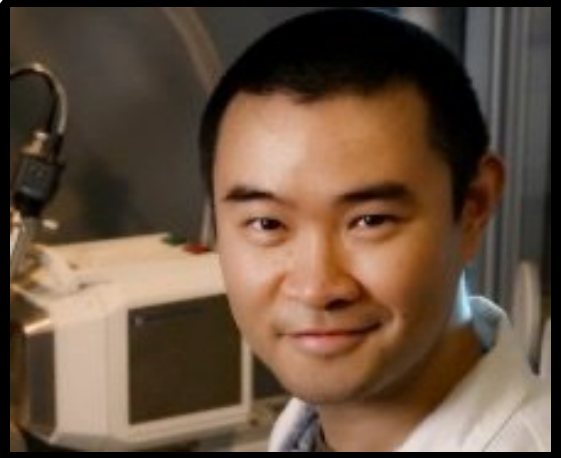
Sense of Belonging

- Organisational vision and mission
  - Where do I fit?
  - My role within the team?
  - How do I contribute?
  - How will my contributions be recognised?
  - What are my objectives?
- Frequent revisits required as priorities change often – consider impact of COVID/new strategic plans
- A critical leadership responsibility and key to developing staff (e.g., entrepreneurial mindset within QUT RI)

Professional Development and Training Priorities....(N=100+, 2020/21)

Project Management (capital project delivery, equipment procurement, delivering industry projects, effective use of contracts, etc)	200
Strategy and Planning (aligning to organisational strategy, external factors, capability roadmaps, budgets, developing business cases, KPIs, etc)	256
Finance & Management Accounting (pricing, cost-recovery, operating ratio, forecasting, budgeting, financial reporting, etc)	265
Effective and Efficient Operations (policy, systems and processes, information systems, delivery of training, operating models, etc)	311
Customer Service (client focus, managing expectations, survey tools and metrics, continuous improvement, etc)	314
Quality Control and Assurance (NATA, ISO, industry requirements/expectations, etc)	355
Snapshot of the Australian Innovation Eco-system (the tri-party system of academia, industry and government, funding system, etc)	391
Communication and Engagement (governance structures, end-user feedback, links to corporate functions (eg. Facilities, Health and Safety), etc)	395
Marketing and Business Development (competitive advantage, 4Ps, mix of fee-for-service versus projects, etc)	411
Ethics and Integrity (animal ethics, human ethics, privacy, authorship and acknowledgement, research codes of conduct, etc)	457

**Highest priority on top



Sense of Belonging

- Need to deal with the Higher Education dichotomy of Professional (about job) and Academic (about person):
  - Professional staff are/can be scientist and researchers
  - Academic staff can administer and manage
  - Literature refers to ‘blended professionals’ (Whitchurch C, 2009)
- QUT – Research Infrastructure Specialist ‘job family’
  - About the person, can be promoted
  - A non-professorial track, in theory up to Level E
  - Has created additional flexibility for individuals and the organisation

Sense of Belonging

- People are the capability (not just the kit); links to primary research activity (e.g., membership in centres and participation in grants)
- Co-authorships and research outputs (embedded school-based academic staff in CORES/RI); reflected in the Academic Career Framework
- Recognise teaching and training in cohorts of HDRs as opposed to supervision of individual students

QUT- Centre for Material Science

Professor Godwin Ayoko

g.ayoko

Professor Stephen Blanksby

stephen.blanksby

Dr Craig Cowled

craig.cowled

Dr Veronica Gray

veronica.gray

Dr Michael Jones

mw.jones

Dr Robert Jones

r79.jones

Dr Emad Kiriakous

e.kiriakous

Associate Professor Josh Lipton-Duffin

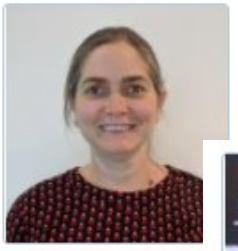
josh.liptonduffin

Esteem –Recognition/Identity

- Job titles matter – acknowledge the unique capabilities
- Use in web, staff profiles, published outcomes, impact stories…

Dr **David Marshall**

Research Infrastructure Specialist (Molecular Mass Spectrometry)



Ms **Elizabeth Graham**

Senior Technologist (Physical Properties)

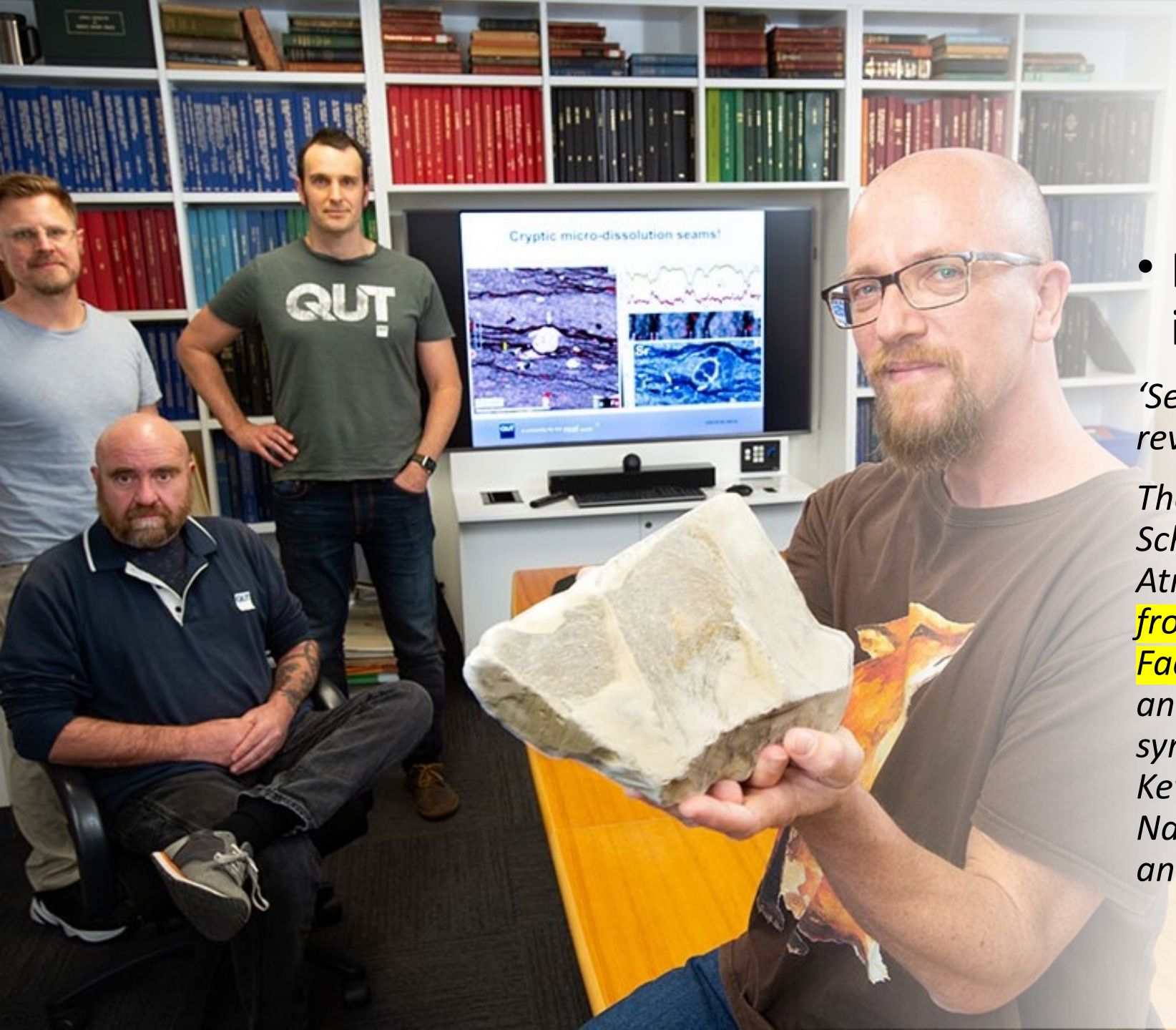
Ms **Garima** Samvedi

Senior Research Engineer, (Robotics & Autonomous Systems)

Mr **Sam Hames**

Developer/ Data Scientist

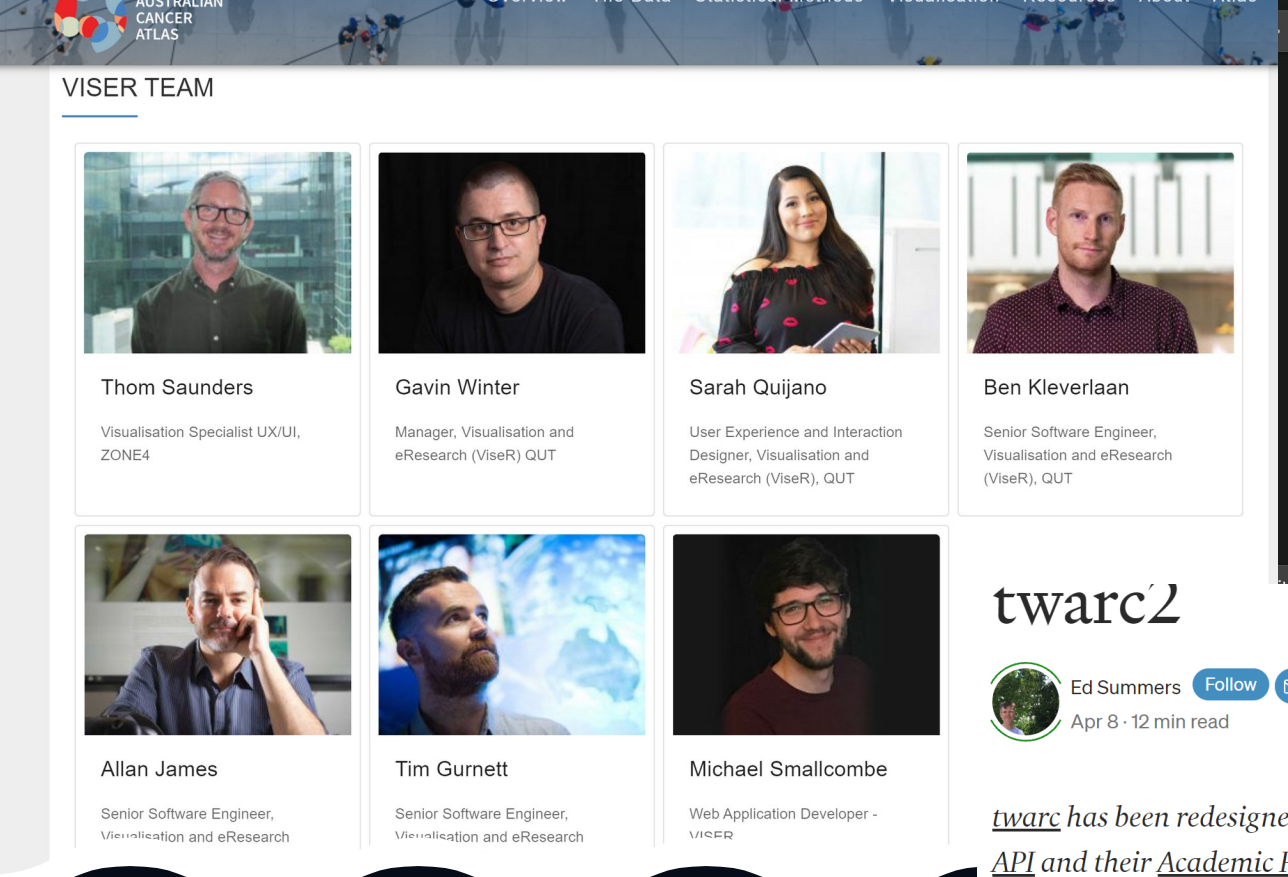
Esteem

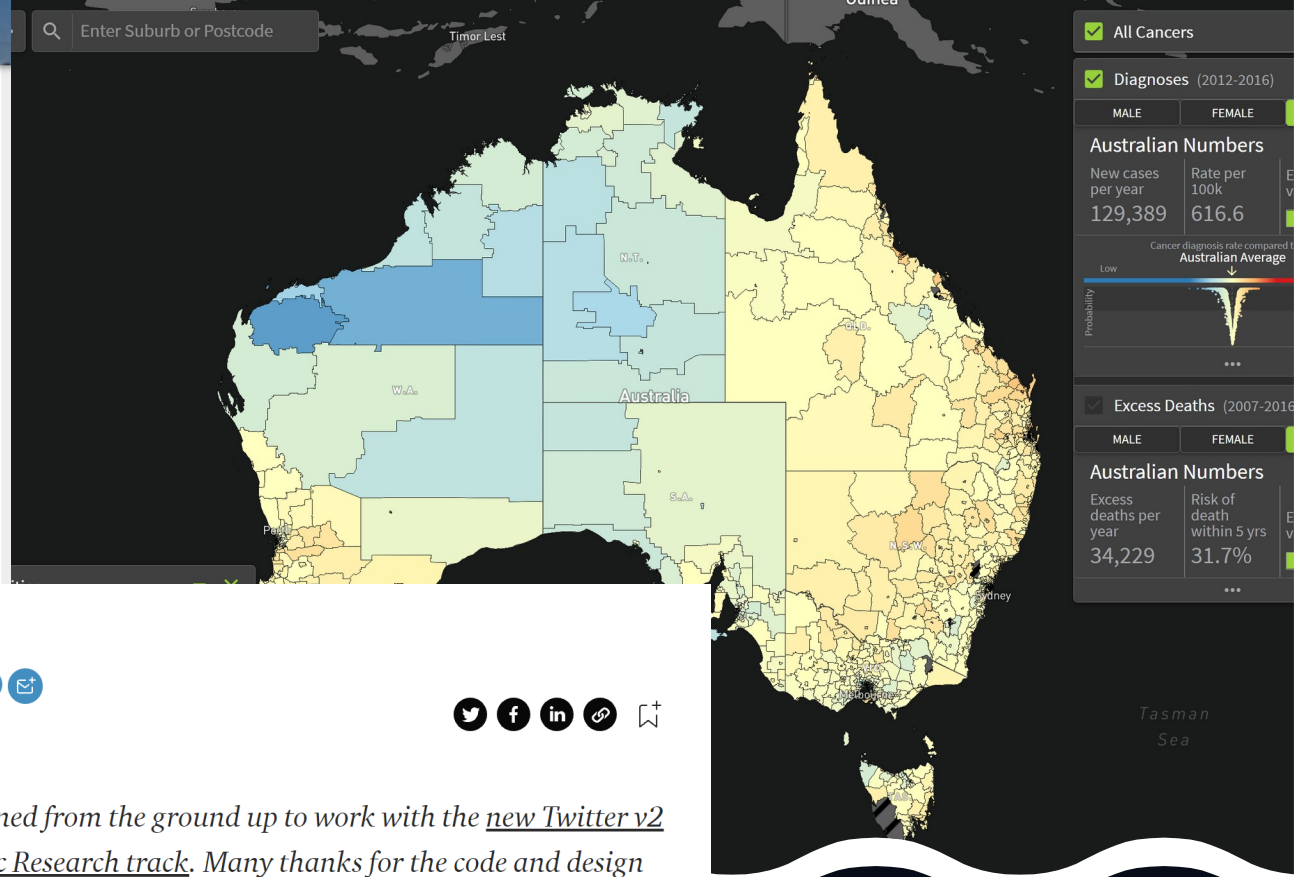


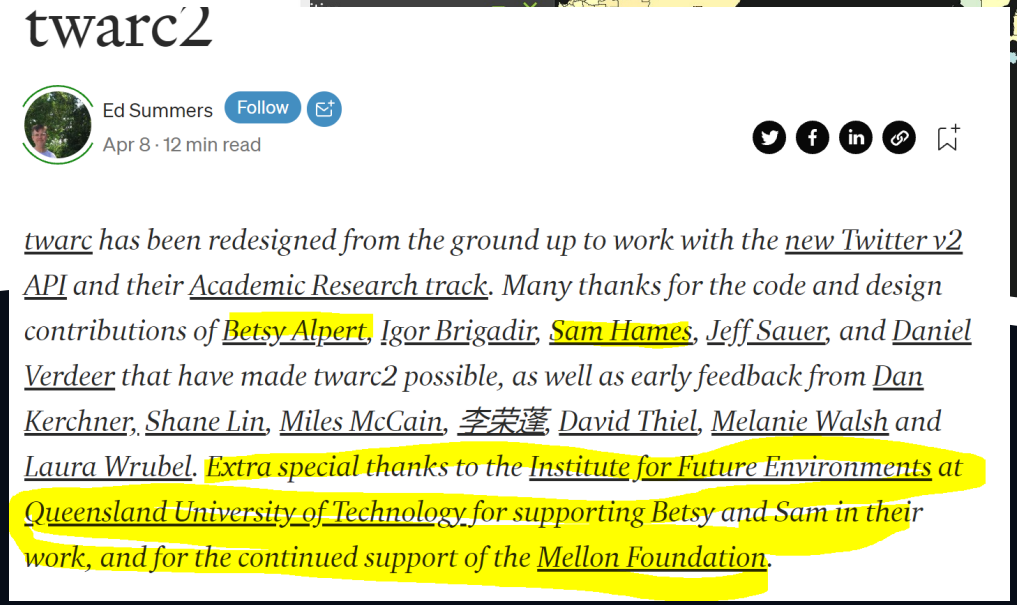
- Recognition of intellectual input

'Secrets of Earth's largest carbon sink revealed by synchrotron research'

The research team, led by Dr Christoph Schrank from QUT's School of Earth and Atmospheric Sciences, Dr Michael Jones from QUT's Central Analytical Research Facility, and Australian Nuclear Science and Technology Organisation (ANSTO) synchrotron scientist Dr Cameron Kewish, published their findings in the Nature journal Communications Earth and Environment.







twarc2

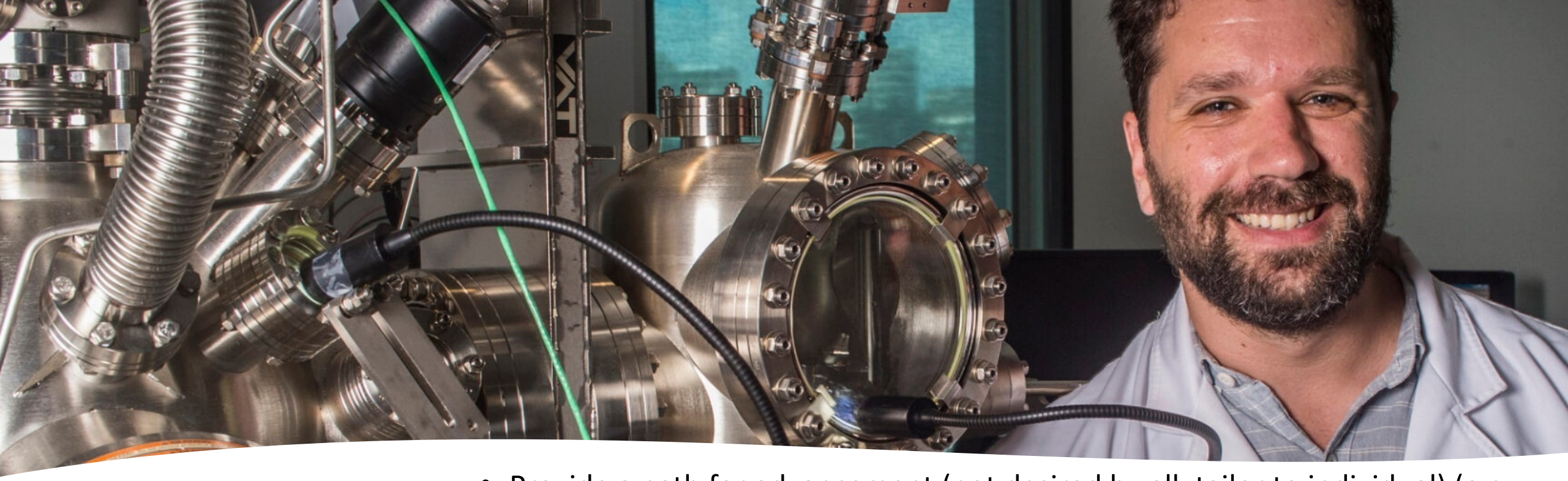
Ed Summers Follow

Apr 8 · 12 min read

twarc has been redesigned from the ground up to work with the new Twitter v2 API and their Academic Research track. Many thanks for the code and design contributions of Betsy Alpert, Igor Brigadir, Sam Hames, Jeff Sauer, and Daniel Verdeer that have made twarc2 possible, as well as early feedback from Dan Kerchner, Shane Lin, Miles McCain, 李荣蓬, David Thiel, Melanie Walsh and Laura Wrubel. Extra special thanks to the Institute for Future Environments at Queensland University of Technology for supporting Betsy and Sam in their work, and for the continued support of the Mellon Foundation.

Esteem

Recognition within multi-institutional collaborative ventures (project website)



Self-actualisation (the best one can be)

- Provide a path for advancement (not desired by all, tailor to individual) (e.g., QUT RIS)
- Academic Career Framework recognises contributions to research infrastructure
- Not just technical development, also management and leadership; consider secondment opportunities – organisations must invest accordingly
- Understand and apply mentorship and coaching
- Use the appraisal and performance planning as a positive exercise (e.g., define targets in support of promotion)

Not dogma, but rather principles

- Need to contextualise to local systems/structures, academic culture, strategic imperatives, legal (e.g., EB)
- Work with principles (address the Hierarchy of Needs)
  - Link to organisational vision and mission/purpose and objectives
  - Acknowledge and celebrate contributions to research and teaching – use policy mandates when necessary
  - Provide job security; do not employ for the job, secure the right talent
  - Deliberately invest in professional development: both technical and ‘soft’ skills
  - Embed primary research into Cores/RI (ensure fit-for-purpose finance/budget and operating models - minimise internal tensions)
  - Provide a clear path for advancement with set targets
  - Challenge the ‘status quo’….

International Efforts

Technician Commitment

Evidence of Impact: A Snapshot

Independent review (2021): An external evaluation of the TC[5] found measurable culture change within four years of launch. Around one-third of technicians reported higher visibility and recognition, and one-fifth reported improved career development and sustainability. These results confirmed that even at an early stage, the TC was delivering independent, verifiable shifts in workplace culture.

1/3 of UK technical professionals report increased visibility and recognition (2021)

Examine the establishment of the Technician Commitment in Australia
Part of NCRIS 'Workforce' Submission

Academy for Collaborative Research Infrastructure

ACRI

Mission

Our mission is to accelerate research excellence and societal impact by:

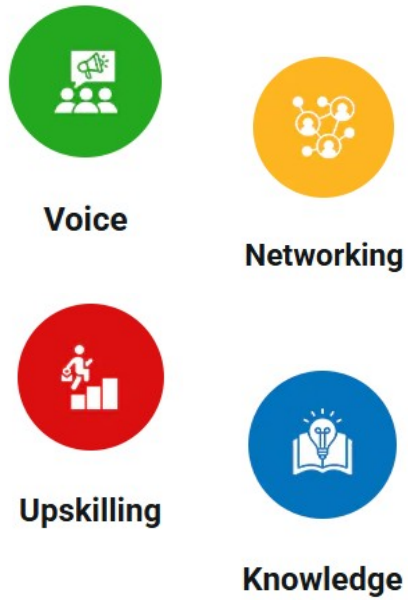
- Advocating for the research infrastructure workforce, reflected in national policy and systems with embedded changes, where reward and recognition of contributions translate to equitable and clear career paths.
- Upskilling and developing the research infrastructure workforce through dedicated training and education, including pathways for formal accreditation, aligned with national priorities
- Proactively providing opportunities for the research infrastructure community to network and collaborate, including conferences, workshops, and forums.
- Facilitating effective and efficient knowledge transfer through coordination of resources and information for the research infrastructure community.

Vision

To be the principal voice of the research infrastructure workforce in Australia and the region.

Values

- **Collaboration** - The collective can make meaningful and enduring change in the sector.
- **Equity** - Reward and recognition for all who contribute to research and innovation.
- **Growth** - Lifelong learning for the individual, contributing to the broader research and innovation ecosystem.



- 150+ individual members in less than 18months
- Annual Conference in Melbourne, June 23-24, 2026
- Part of NCRIS ‘Workforce’ Submission

Peter Mac Peter MacCallum Cancer Centre Victoria Australia
THE UNIVERSITY OF WESTERN AUSTRALIA
ARDC Australian Research Data Commons
BIOPLATFORMS AUSTRALIA
HIA HEAVY ION ACCELERATORS
THERAPEUTIC INNOVATION AUSTRALIA

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

Roadmaps & Embedding Change

-What the roadmap thought:
-A coordinated approach is needed
Investment is needed
-Apprenticeships
-Better recognition of ‘technical’ staff
-Improved external and internal training programs
-Formal qualifications in research infrastructure management
-Development of entrepreneurial or business skills for NRI staff

Technician Commitment

Institutions

Any solutions must be enduring/embedded in policy & systems

Individuals

ACRI

Guided Discussion

Scan the QR Code

OR

Go to menti.com and insert 1584 6175

Topics	Discussion Lead
Creating Career Pathways - Opportunities, mobility between orgs, pathways to senior roles	Juliana Villa-Ortiz
Increasing recognition of research contributions - Authorship standards, engagement, agreements	Nic Geard
Retaining talent - Employment conditions, work culture, intellectual motivations, mission/value-based incentives	Gin Tan
Improving job security - Funding stability, impacts of fair work legislation changes	Dany Meloncelli
Expanding knowledge and skills base - Internship, upskilling and skill-sharing	Kathryn Unsworth

Outcomes & Sustainability Plan

- Each table will present the outcome of the discussion
- Focus on the short-term goals to achieve the long-erm objectives
- Establish the working group to carry out the action plan
- Aim to report back next year about the progress

Thank You

Gin Tan
Monash University

Daniel Meloncelli
QCIF

Sara King
AARNet

Nic Geard
The University of Melbourne

Kathryn Unsworth
ARDC

Gordon McDonald
The University of Sydney

Juliana Villa
Monash University

Maciej Cytowski
Pawsey Supercomputing Centre