



ACADEMY OF
THE SOCIAL SCIENCES
IN AUSTRALIA



Australian Government
Australian Research Council

HASS ARC Centres of Excellence Workshop

Alastair Swayn Theatre

11 December 2017

Professor Janeen Baxter

University of Queensland, FASSA

Director ARC CoE Children & Families over the Life Course



HASS CENTRES OF EXCELLENCE WORKSHOP

Janeen Baxter
Director

ARC Centre of Excellence for Children and Families over the
Life Course

PLANNING

- Start early – long term strategic planning essential
Build on existing relationships and fill gaps strategically
- Themes – think big and beyond research questions to institution building and impact
Not a research project – capacity building, engagement, relationship management, impact, translation
- Identify Director, key CIs and partners
*4 universities, 9 CI's, 10 international partners, 6 Govt depts, 2 NGOs
\$20 million ARC + \$8million (partners)*
- Bid preparation is a fulltime job & support is essential + if you make it *practice practice practice* for interview

SCOPE

SCALE

VISION

- Not an academic enterprise – what are the enduring problems facing the world?
What levers can be pulled to produce change?
- Move outside comfort zone
The vision has to be broad and multidisciplinary and not addressable by one project or one group
- Have a vision and a plan, but be flexible
Where do you want to be in 7 years, what is the best plan to get there? But be a bit flexible about new opportunities and challenges
- Work closely with partners to co-design projects and priorities
Don't forget your partners

INTEGRATED MULTI- DISCIPLINARY RESEARCH

- Need different disciplines but also uniting theme (s) or spine (s)

Conceptual life course approach + methodological quantitative large scale empirical

- Governance structure + projects + people for integration

Portfolios help to ensure more than the sum of our parts

- Design projects that require cross-nodal and multi-disciplinary collaboration to achieve

LCC Exec approves all projects – these are multi layered

ESTABLISHMENT

- Good governance arrangements are key
Different arrangements may be needed at different stages so review and revise as needed depending on stage of COE
- Appoint best people – academic and professional
Some of these may be international
- Centre manager is critical to success
Single most important appointment
- Bring people together face to face as much as possible and ensure ongoing discussions and opportunities
Retreats, CI and Exec meetings, annual planning meetings, workshops, seminars, conferences, online platforms, websites, newsletters
- Year 1: ready-to-go projects and laying the foundations for bigger plans
Build your networks to ARC, other Directors/COEs, mentors

EVALUATE REVIEW

- KPIs + Annual Report +CODIE
These provide one viewpoint – track regularly – online reportal
- End-of-year CI planning meeting
Highlights and “lowlights” + review milestones for the year and plans
- Conducted our own internal review prior to ARC mid term review
Revised governance, reviewed research and strategic plans, established new portfolios

- The most exciting, rewarding and wonderful opportunity to build something big and to have an impact.
- But also the hardest and most demanding undertaking in my career to date
- Don't step in lightly

PERSONAL REFLECTION

Professor Hazel Bateman

University of New South Wales

Deputy Director, ARC Centre of Excellence in Population Ageing
Research



ARC CENTRE OF
EXCELLENCE IN
**POPULATION
AGEING
RESEARCH**

HASS – ARC Centres of Excellence Workshop

11 December 2017

Professor Hazel Bateman, UNSW
(Deputy Director, CEPAR)



Application planning process

- Choice of issue: eg – ‘population ageing’
 - Relevant and timely
 - potential for multi disciplinary, multi sector, global interest/collaboration/impact
- Plan years in advance
 - Connect with relevant stakeholders (academics, government, industry, NFP) and seek input early
- Gather the best Australian academics

Scope, scale, vision

- Research questions – address an issue (population ageing) comprehensively with cutting edge research
- Involve multiple disciplines & multiple methods
 - Economics (pensions, health, labour, macro, public finance, financial economics), Actuarial Science, Econometrics, Psychology, Sociology, Demography, Organizational Behavior, Epidemiology
- Focus on institution building
 - CEPAR (2011) has an identity, national/international recognition

Establishment, business model

- High quality professional staff (Centre manager etc..)
- Professional model of corporate governance model
 - board chair with corporate executive board experience and strong business connections
- Physical environment
 - Significant number of core researchers/post docs/research students centrally located
 - Capacity for visitors
 - Facilitate quality research and collaboration
- Resource research translation
- Research training

International collaboration & networks

- Strategic choice of international partner investigators and ‘international scientific advisory committee’
- Facilitate 2 way international collaboration at all levels (CIs, AIs, post docs, research students)
- Continue to build international research strength partnerships
 - INPARR (International Network of Pensions, Ageing and Retirement Research – US PRC, Dutch Netspar, Australian CEPAR – OECD)
 - China Population Ageing Research Hub

Evaluation and review

- Monthly collection
 - Research output
 - Engagement, impact
- Use governance structure effectively –for feedback, strategic direction
 - International Scientific Council (academics)
 - Executive advisory committee (CEOs)
 - Stakeholder reference groups (by research stream)

cepar

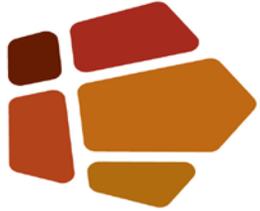
ARC CENTRE OF
EXCELLENCE IN
**POPULATION
AGEING
RESEARCH**

Professor Richard 'Bert' Roberts

University of Wollongong

ARC Laureate Fellow

Director, ARC Centre of Excellence for Australian Biodiversity and
Heritage (CABAH)



AUSTRALIAN RESEARCH COUNCIL
**Centre of Excellence for
Australian Biodiversity
and Heritage**



Australian Government

Australian Research Council

Australia's Epic Story

ARC Centre of Excellence for Australian
Biodiversity and Heritage (CABAH)

CABAH composition

People

- 18 Chief Investigators
- 14 Partner Investigators / Organisations
- 11 Associate Investigators
- **CIs/PIs:** 70% male, 30% female (3 Indigenous)

Discipline areas

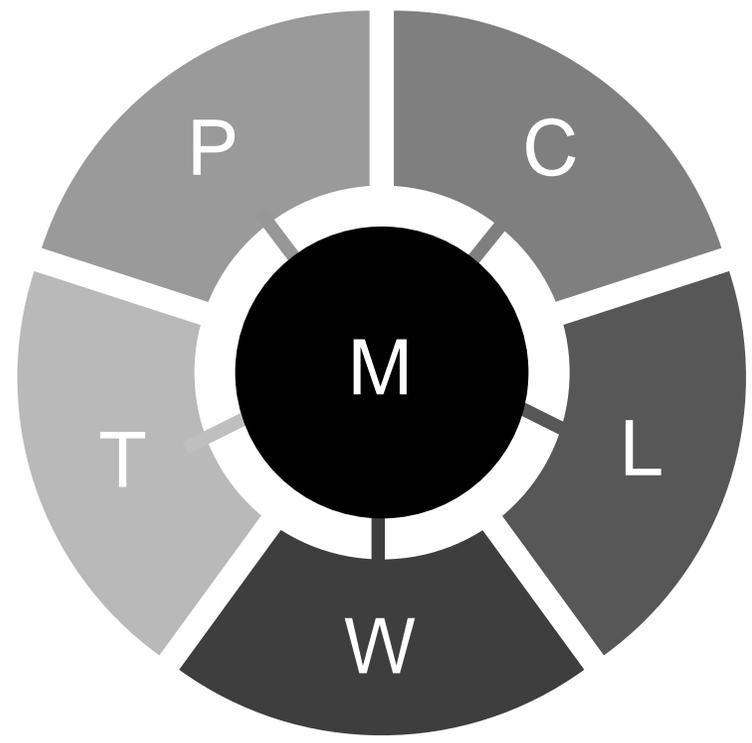
- **natural sciences:** earth and climate sciences, ecology and genetics
- **humanities and the arts:** archaeology, history, museology and Indigenous studies
- **CIs/PIs:** 60% STEM, 40% HASS



CABAH distribution



Research and training



- P** People
- C** Climate
- L** Landscapes
- W** Wildlife
- T** Time
- M** Models

- transdisciplinary and multicultural: STEM, HASS and Indigenous knowledge

Education and engagement

- educational materials for schools
- interactive digital magazine for young adults
- artists-in-residence program
- exhibitions and major events
- 'on country' activities with Indigenous communities



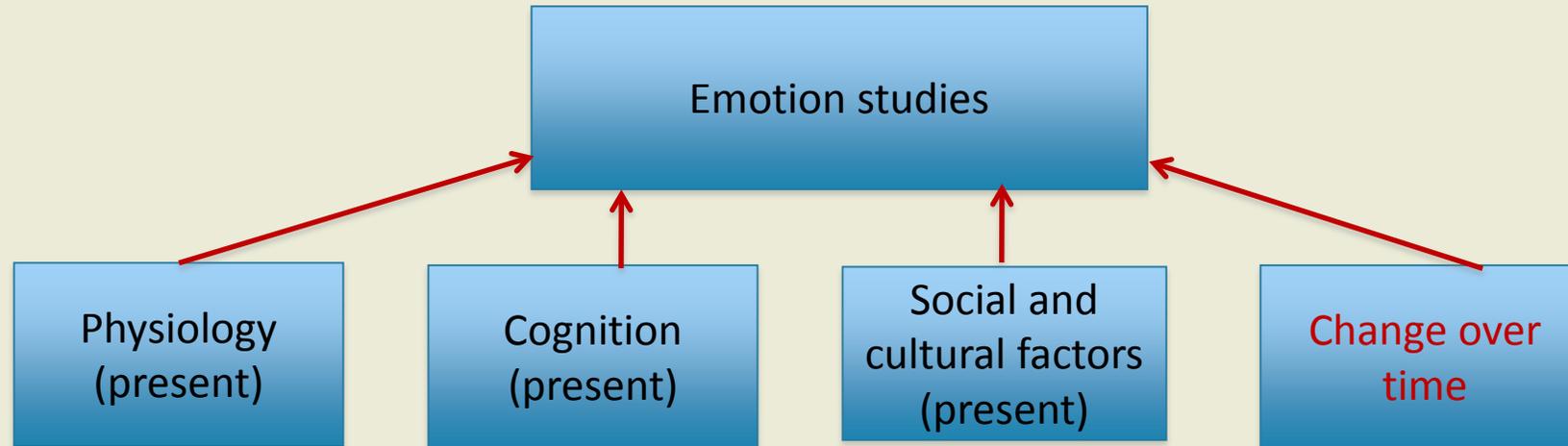
Professor Susan Broomhall

University of Western Australia

FAHA - Australian Research Council Future Fellow

Honorary Chief Investigator, ARC Centre of Excellence for the
History of Emotions

Emotions are fundamental to individual and social well-being



Pre-modern European emotions are significant:

- **Europeans' first contacts with our Indigenous people and our Asian neighbours**
- **our sense of our past (heritage)**
- **our cultural reference points (arts)**
- **our social lives (emotional well-being)**

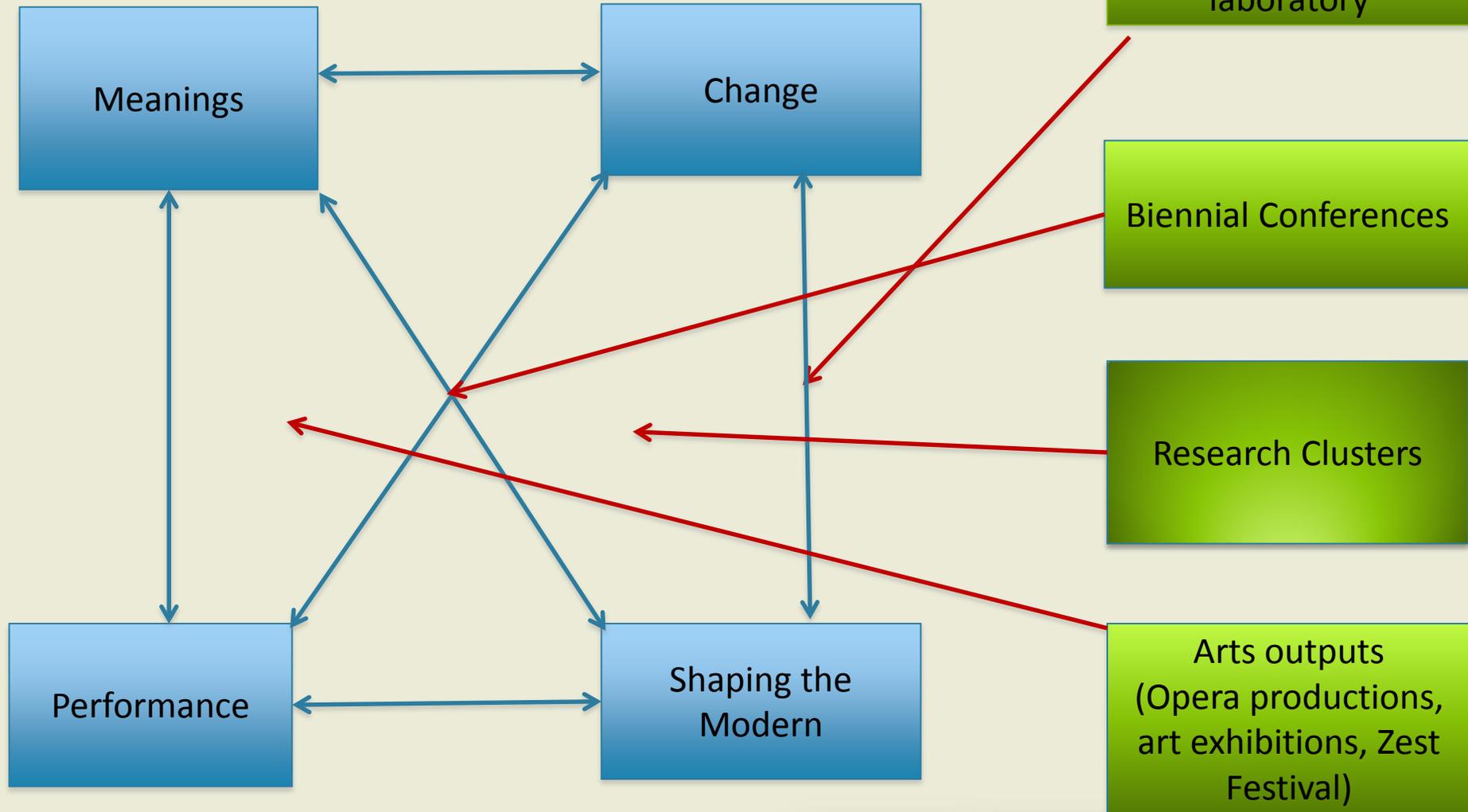


Why a Centre?

- maximise interdisciplinary synergies.
- create a paradigm of large-scale Humanities research.
- produce pure basic and end-user research outcomes.
- train a new generation of researchers in interdisciplinary and industry-linkage skills.
- put Australia in the forefront of the field internationally.



Our Research Structure



Personnel

Chief Investigators – full-length, 0.3-0.5FTE

Associate Investigators – 12 months, renewable

International Partner Investigators – full-length

Postdoctoral fellows – 3 years

Project to Publication Short-term Fellows – 3-6 months

Specific Project Officers – 3-6 months

Postgraduate Students – 3-3.5 years

Honours Students – 12 months

International Visiting Fellows Visitors – 4-6 weeks

Early Career Visiting Fellows – 2 -3 months

Industry Visiting Fellows – variable

Centre Manager

National Communications Officer

Education and Outreach Officers

Administrative Officers



- Research focus
- Ambitious scholarly agenda
- World-leading, next generation training
- High public visibility, industry and community engagement
- Iconic outputs

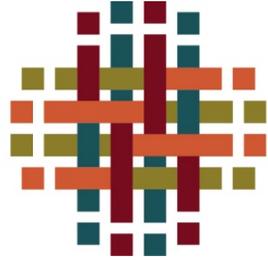


Professor Nicholas Evans

Australian National University

ARC Laureate Fellow

Director, CoE for the Dynamics of Language



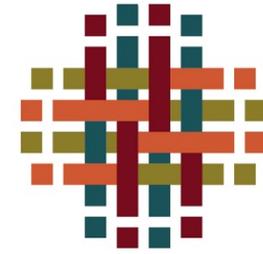
ARC CENTRE OF EXCELLENCE FOR
THE DYNAMICS OF LANGUAGE

ARC CoE Information Session for
future CoE applicants

12 December 2017

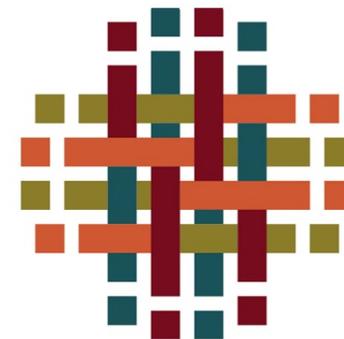


Why and how - Planning the bid



- Surfing the wave: sensing the big swell, and what is needed to catch it – ideas, people, resources
- Start with a small trusted cluster of great colleagues across several nodes and work outwards
- Mix established collaborations with promising wild cards (UQ / speech technology in our case)
- Use Associate Investigators and CoE-internal mechanisms (affiliates etc) to create semi-permeable structure
- Build in initiative schemes to give autonomy to ECRs who will be prime interdisciplinary connectors
- Institutional support & help from old hands – start off agnostic about lead node: institutional hunger matters!

Weaving CoEDL together: Building a multi-disciplinary integrated research program



Tech threads

Summer School

Executive Meetings

Advisory Board

Regular training workshops

Transdisciplinary Innovation Grants

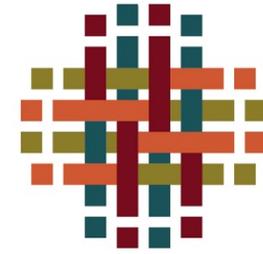
Annual Planning Retreat

Student mobility scheme

CoEDL Fest

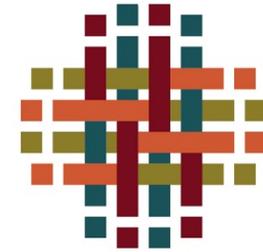


Role of international collaboration and networks



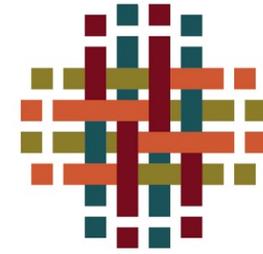
- Intensify existing relationships with star collaborators, ideally already connected to more than one CI
- Plan in ways of distributing international visits across nodes
- Draw on international visitors to strengthen the field more broadly across the country
- Consider what CoE is offering in return
- Consider complementarity of national funding schemes
- Look for institutional depth to favour cohort-to-cohort links

Establishing the CoE



- *Get yourself a real good COO, soon*
- Establishing good internal communication (through weekly email updates, skype sessions, meetings, accessible website, don't neglect face-to-face in many configurations...)
- Establishing good external communication (budget for a good media+comms officer)
- Training the research leaders of the future: balance in-CoE solidarity (CoEDLFest) with training national and international ECRs more widely (summer school)
- Porous boundaries help identify and recruit talent and spread reputation

Evaluation and review



- *Make good use of your advisory board*
- We have a single board mixing scientific, social and industry stakeholders – attend annual CoEDLFest
- Annual CI retreats give a chance to reflect each year.
- Plan in budgetary flexibility so as to give the chance to regroup and focus on the most promising developments
- The mid-term review is an excellent opportunity to reflect and plan for the final 3 years.

Professor Susan Dodds

**University of New South Wales,
Dean, UNSW Arts & Social Sciences
ARC CoE Electromaterials Science**

ARC Centre of Excellence for Electromaterials Science (ACES)



Materials

Health

Energy

Ethics

Exploring
New Dimensions

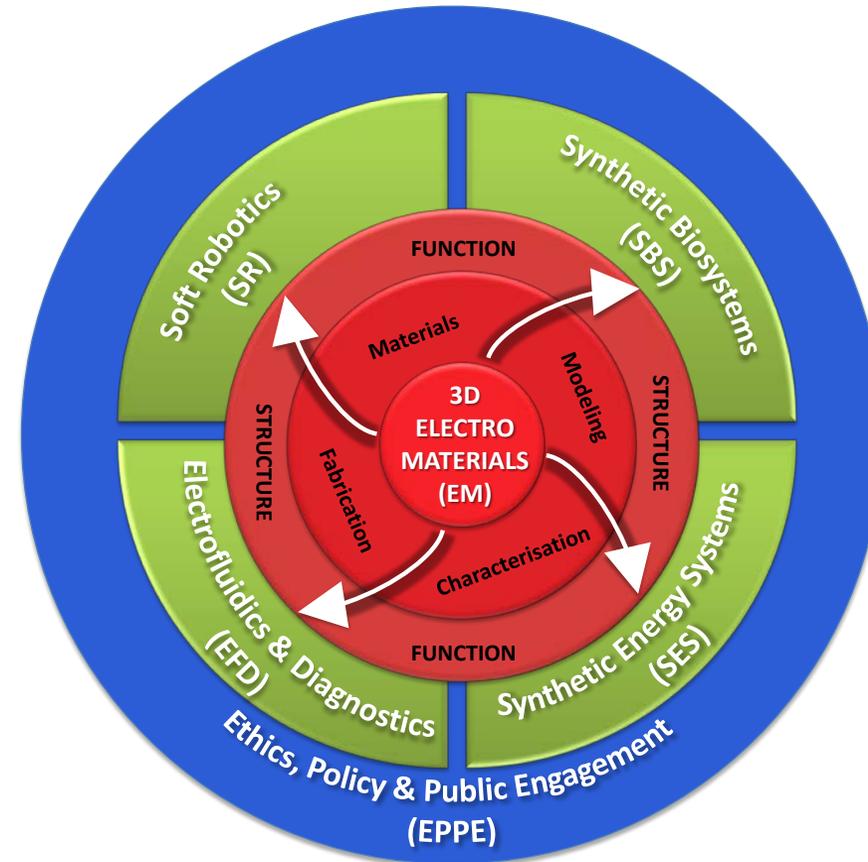
ACES I 2005–2014

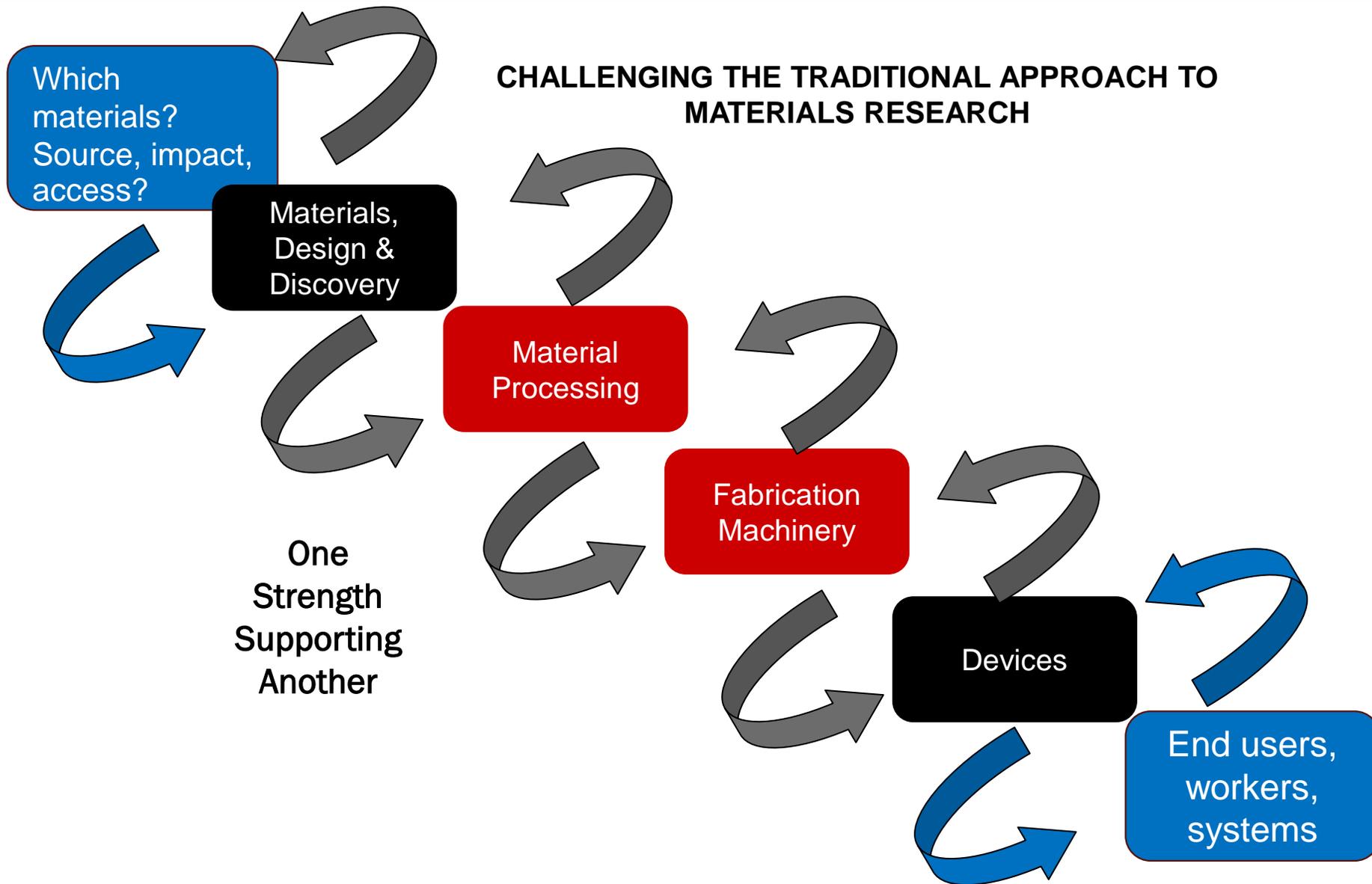


Mission Statement Aims

- ▶ Expand upon our reputation in electromaterials science and to see the centre recognised as a world leader in the area.
- ▶ Explore the science of nanomaterials having an electron or charge transfer functionality: to prepare such nanomaterials, study and develop theories for their behaviour and exploit these new behaviours in a number of selected applications.

ACES II 2014–





- Quality of the Director and generosity of spirit
- CIs who want the Centre to succeed (not just their own bit)
- Commitment to intergenerational capacity building
- Clear, ambitious but achievable milestones and measureable progress
- Commitment of Admin Org and support of collaborators
- Regular communication between nodes at all levels
- International advisory board and Chair
- Prepare for the interview (teamwork)



People

- Spend time together talking about the work of the Centre
- Show students how it works and how they contribute
- Support and celebrate success

Research

- Stay in front
- Monitor milestones and measure progress/ adapt in light of the research
- Communication between nodes at all levels

Look outside the centre

- Outreach activity and national, international collaboration
- Use the International advisory board and Chair for advice

THINK BIG



Professor Terry Hughes

James Cook University

Director, ARC CoE Coral Reef Studies



ARC CENTRE OF EXCELLENCE
Coral Reef Studies

ARC Centre of Excellence for Coral Reef Studies

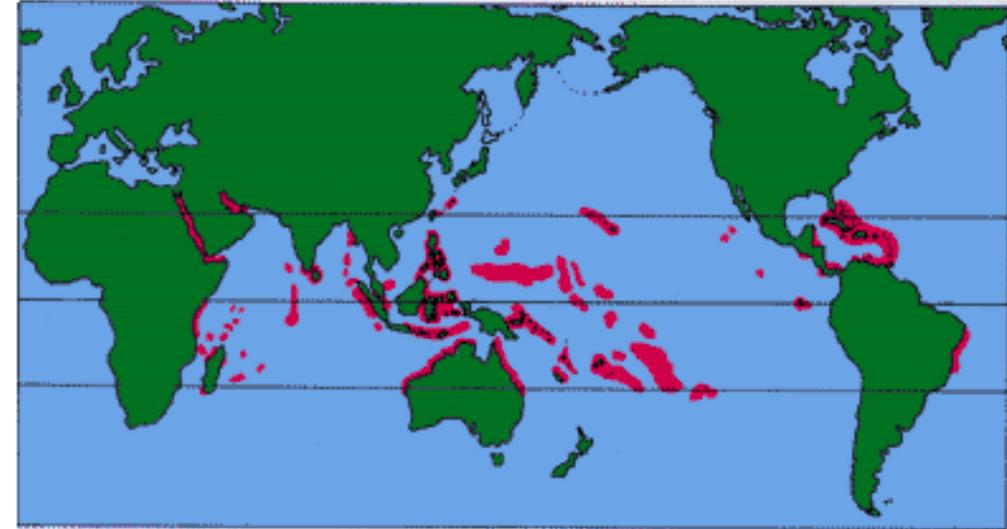
Terry Hughes

Global importance of coral reefs

Ecosystems AND Society

Reefs provide essential ecosystem goods and services to ~500 million people in 130 developing countries....

.....highlighting the need for multidisciplinary research, capacity building, knowledge-transfer and outreach at a global scale.



Coral reef hotspots around the World

Global leadership and collaboration

Building research capacity and global networks



Building a successful ARC Centre:

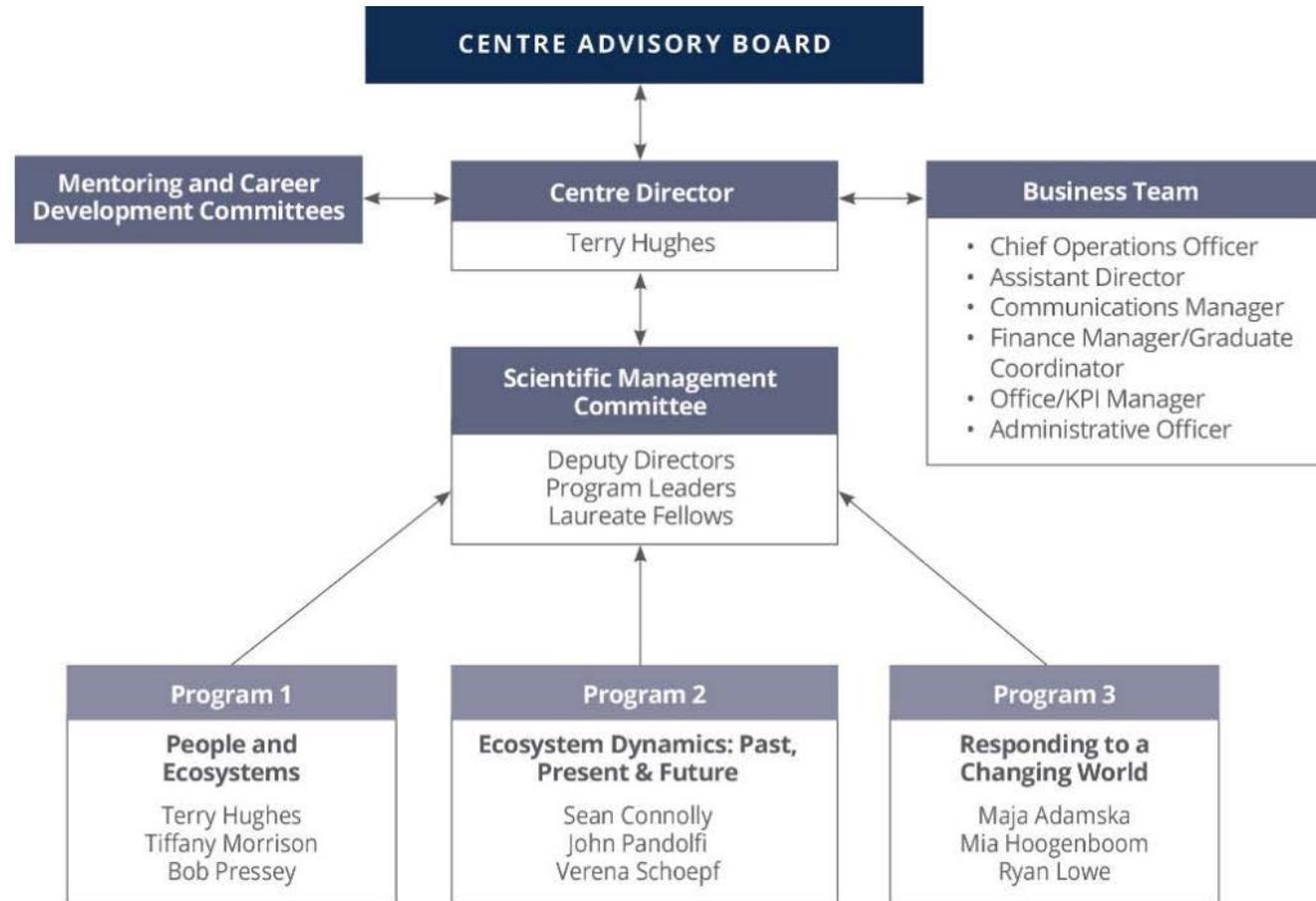
Five Key Elements:

- **Creating a Centre culture**
- **People, People, People**
 - leadership and vision,**
 - strategic recruitment,**
 - mentoring and training**
- **Establishing a global reputation**
- **Navigating funding opportunities**
- **Developing communication strategies**

Moving away from individual grants to multi-disciplinary programs of research, creating “space” for experimentation

- **Developing new multi-nodal research programs** – flexible funding model, program retreats, inter-node co-supervision
- **Creating a sense of belonging** - ARC Centre badging, logos, signage, website, media presence, seminars, annual symposium and dinner, annual report
- **Rewarding performance** (e.g. student awards, prize nominations, academic promotions)

A few final words on University placement, governance, succession, gender equality.....



Professor Katrina Brown
University of Exeter, UK



ARC CENTRE OF EXCELLENCE
Coral Reef Studies

ARC Centre of Excellence for Coral Reef Studies

Thank You!

www.coralcoe.org.au

A/Prof Matthew Kearnes & A/Prof John McGhee

University of New South Wales

ARC CoE in Convergent Bio-Nano Science & Technology

ARC CoE for Convergent Bio- Nano Science & Technology

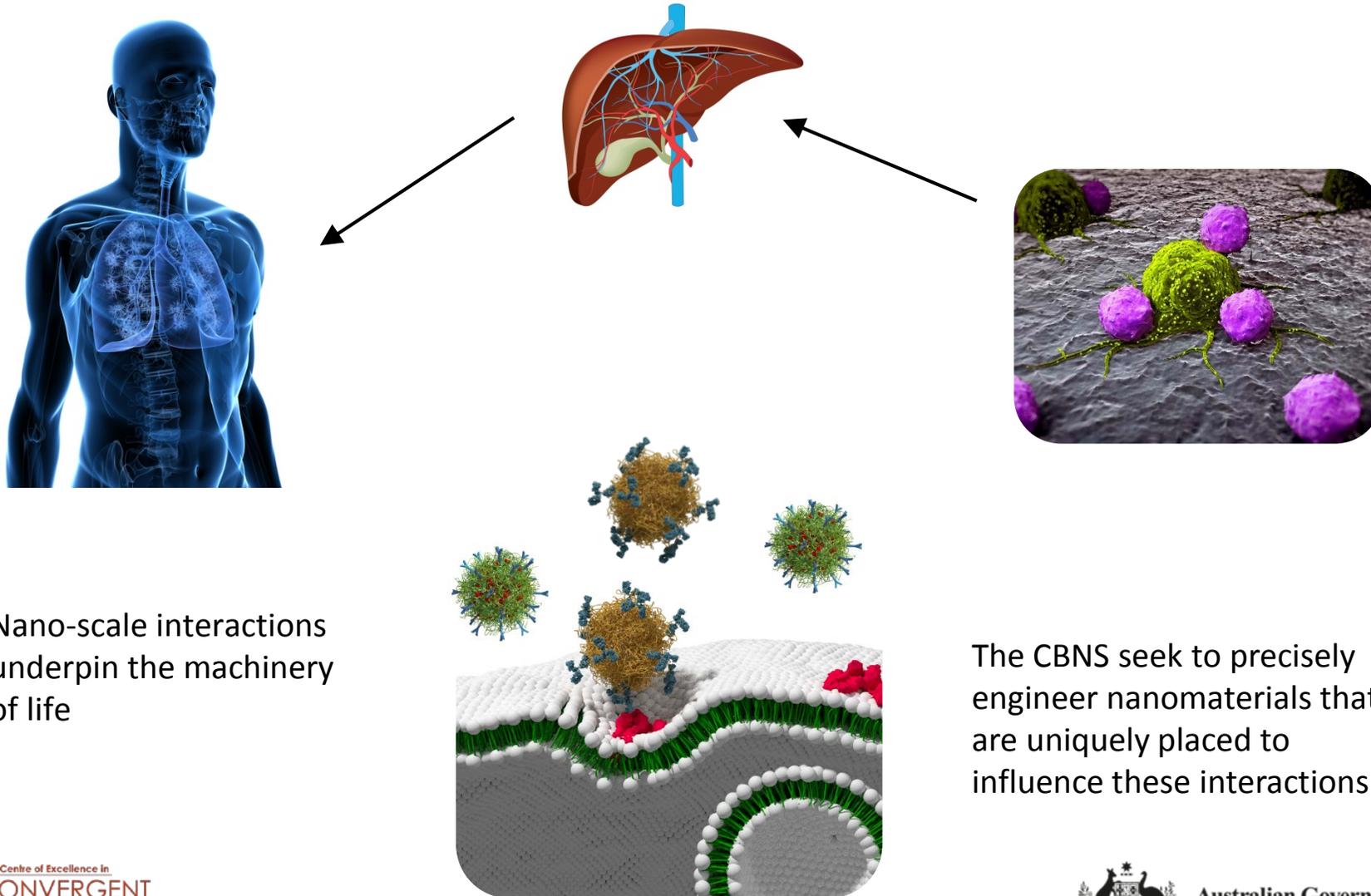
A/Prof. Matthew Kearnes & A/Prof. John McGhee,
UNSW



ARC Centre of Excellence in

CONVERGENT
BIO-NANO SCIENCE
& TECHNOLOGY

The bio-nano interface



Nano-scale interactions underpin the machinery of life

The CBNS seek to precisely engineer nanomaterials that are uniquely placed to influence these interactions

Our vision

The research focus of the CBNS is to understand the bio-nano interface in order to better predict, control and visualise the myriad of interactions that occur between nanomaterials and the biological environment.

PREDICT

- We aim to accurately predict nanoparticle fate using laboratory based tools and analysis

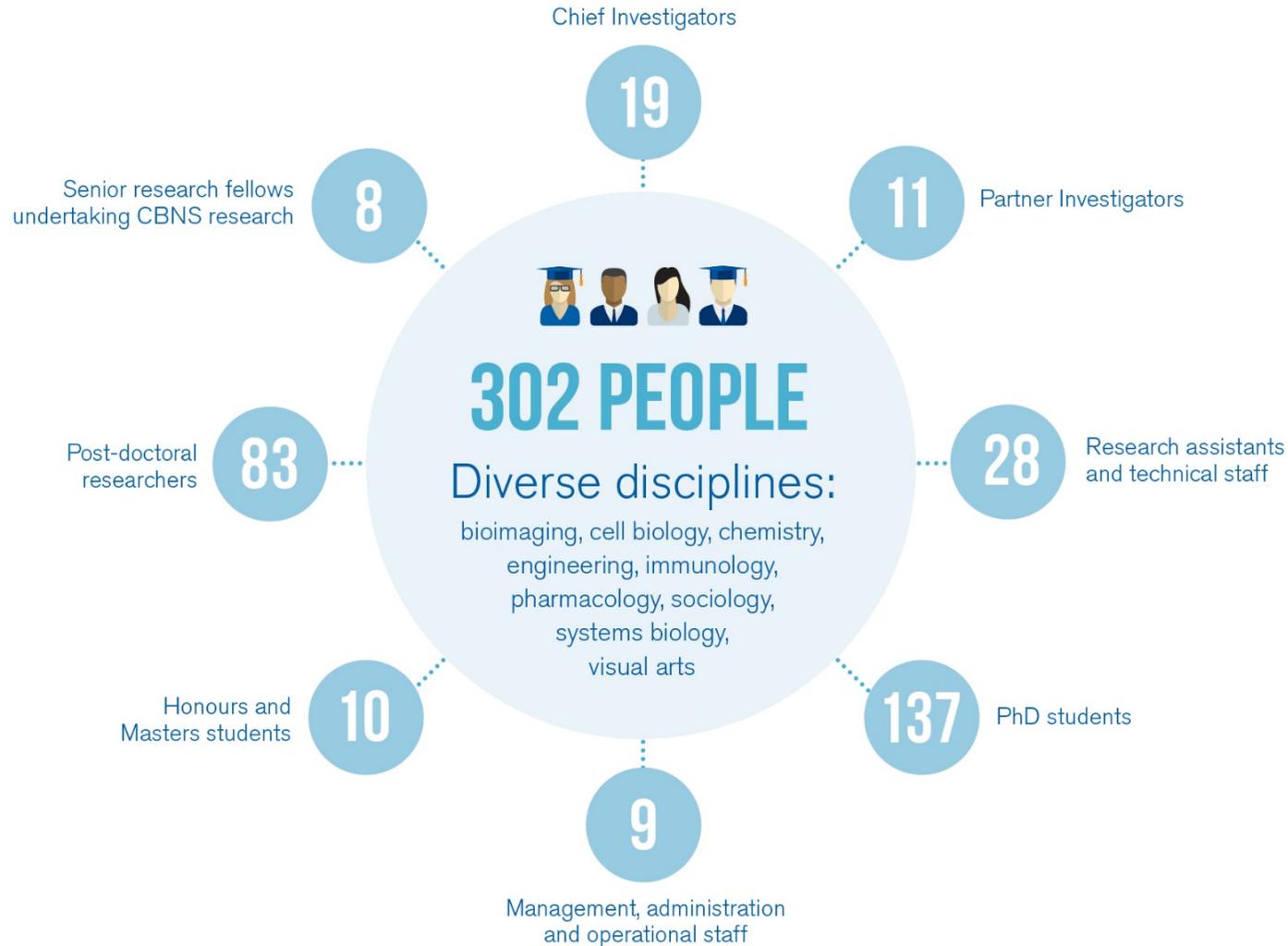
CONTROL

- We seek to precisely control the routes of uptake and interaction of nanomaterials into cells and their subsequent delivery to intracellular compartments

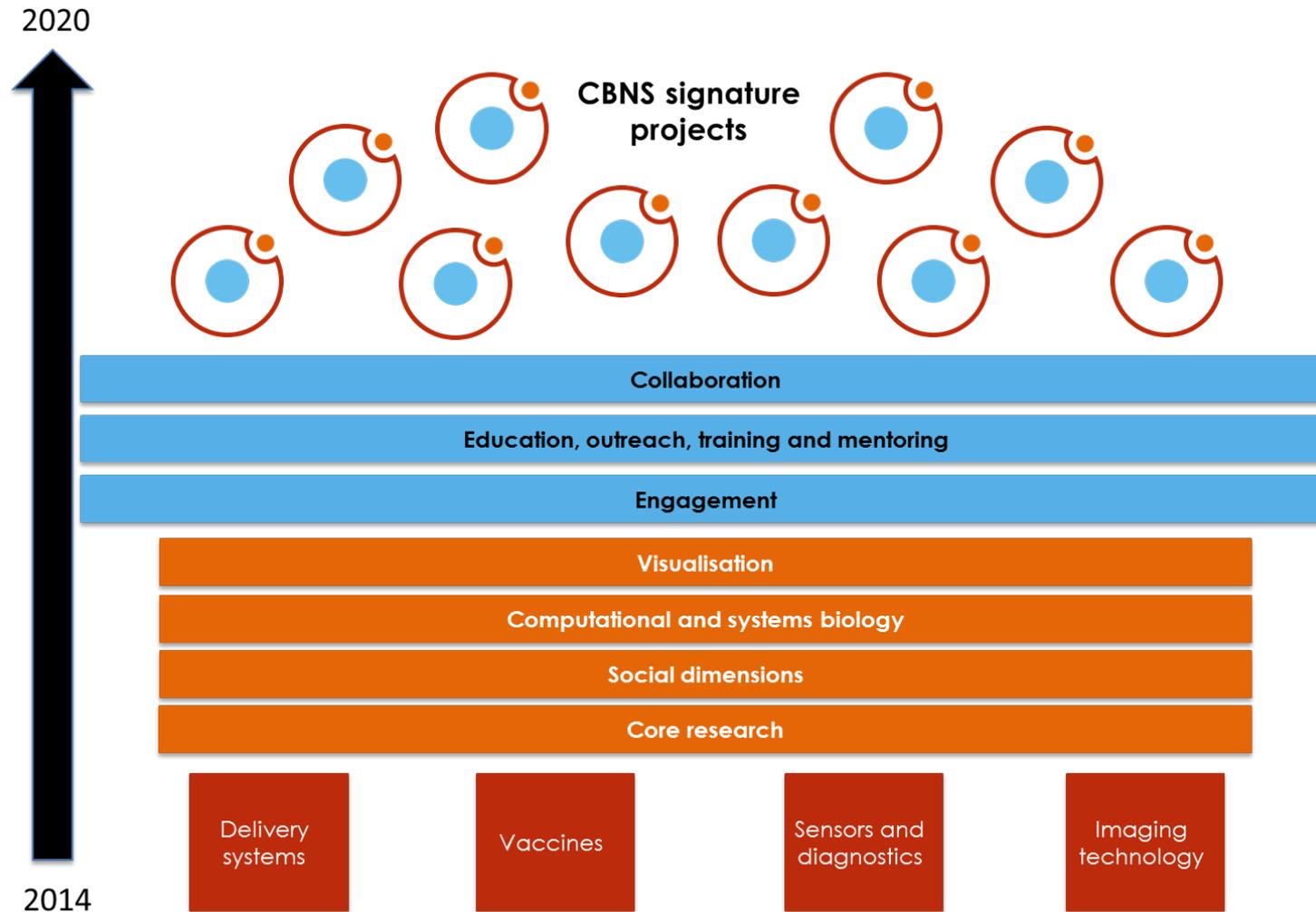
VISUALISE

- We develop visualisation methods that communicate the complexity of bio-nano interactions

Our people



Strategic plan



HASS Research Streams

1. Social dimension of bio-nano interaction (Kearnes)
2. JTCC: Visualising bio-imaging and data in 3D Virtual Reality (VR) (McGhee)



HASS Research Streams

General considerations:

1. Think big – what are the major HASS questions raised by the centre?
2. Make it real – how can collaboration in a STEM-focused CoE propel conceptual and methodological developments in HASS fields?
3. Reflective practice – HASS-style analysis and reflection is not the sole preserve of HASS. STEM researchers often interested and adept at thinking about broader questions.
4. More than PR – beyond ‘public acceptance’ and marketing.
5. Collaborate in the life of the centre – governance and centre exec.

HASS Research Streams

Think Big

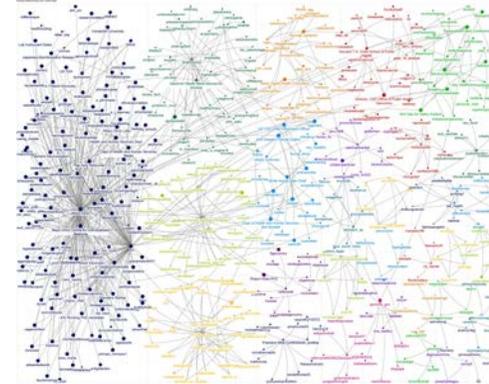
Social sciences, regulation and law reform has often struggled to keep pace with the development of novel areas of S&T. Often narrowly focused on 'impacts' and 'public acceptance' - located 'downstream'.

How to understand the emergent social ramifications of bio-nanotechnology in real time?

Make it Real

How to develop on anticipatory methods – from ELSI to 'post-ELSI', focus on collaboration, integration, 'upstream engagement' and 'responsible innovation'.

- Embedding HASS researchers in CBNS labs – 'emerging cultural economies of bio-nano research'.
- Real-time policy analysis - how are novel nanotechnologies accommodated by and challenge existing regulatory frameworks?



HASS Research Streams

Reflective practice –

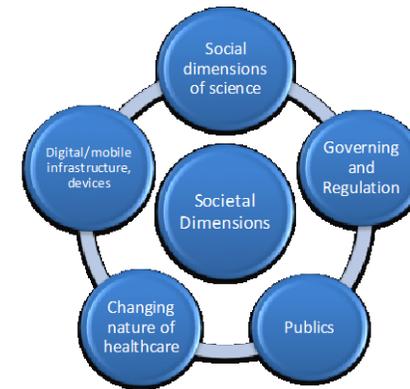
Collaborative initiatives with CBNS CIs on the 'imagined social worlds' that underpin research in bio-nanotechnologies and targeted therapies.

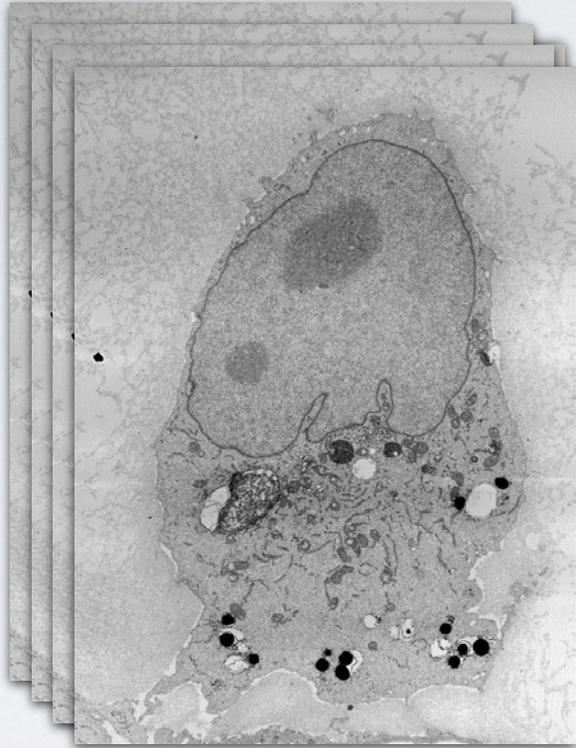
More than PR

Targeted upstream public engagement – building toward major national public dialogue on bio-nanotechnology.

Collaborate in the life of the centre

High-level HASS involvement in the management and governance of the centre.

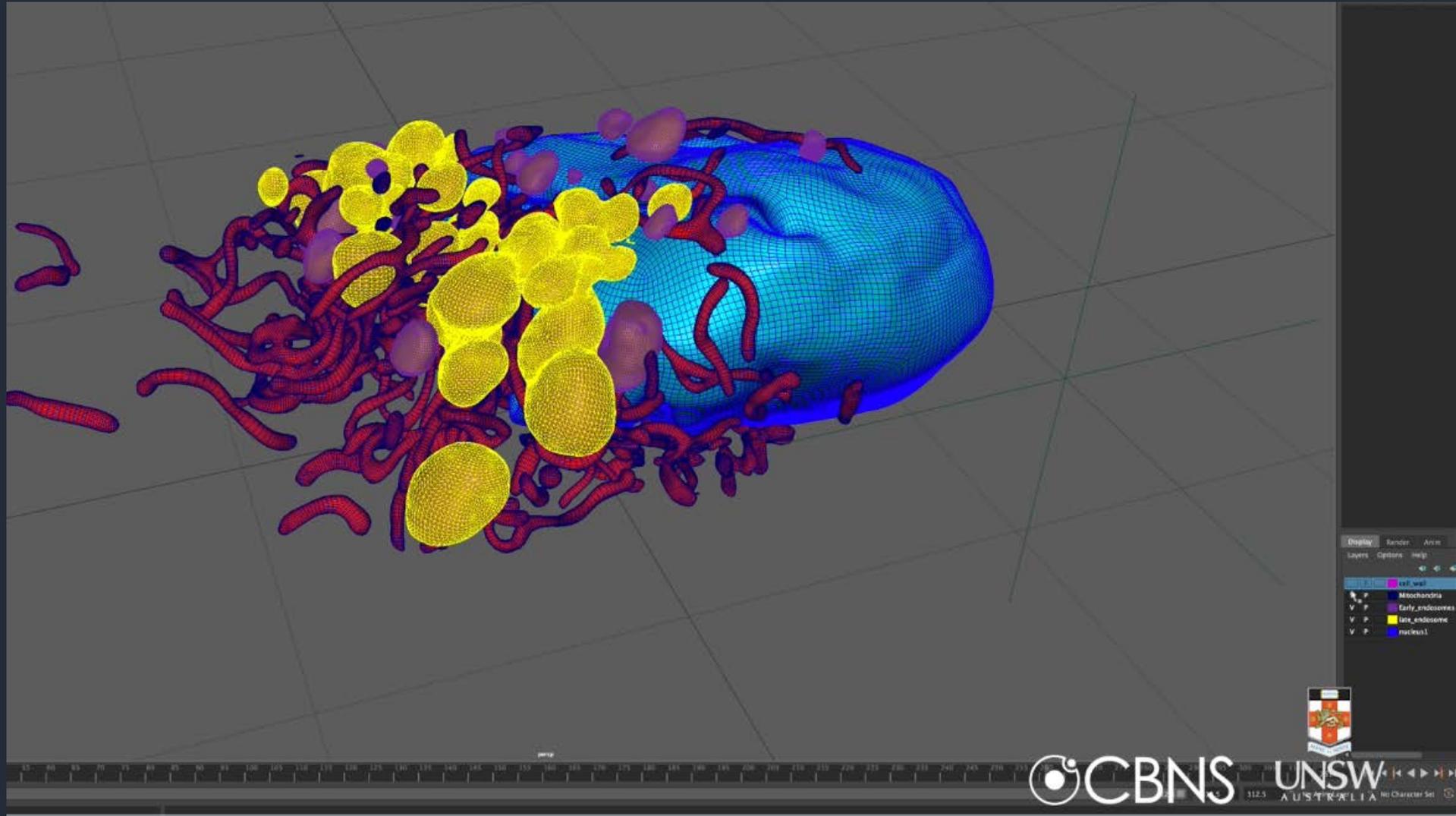




Prof Robert Parton - University of Queensland
Migratory human breast cancer Cell
MDA-MB 231 Cell



Serial Blockface scanning electron microscopes and Focused Ion Beam

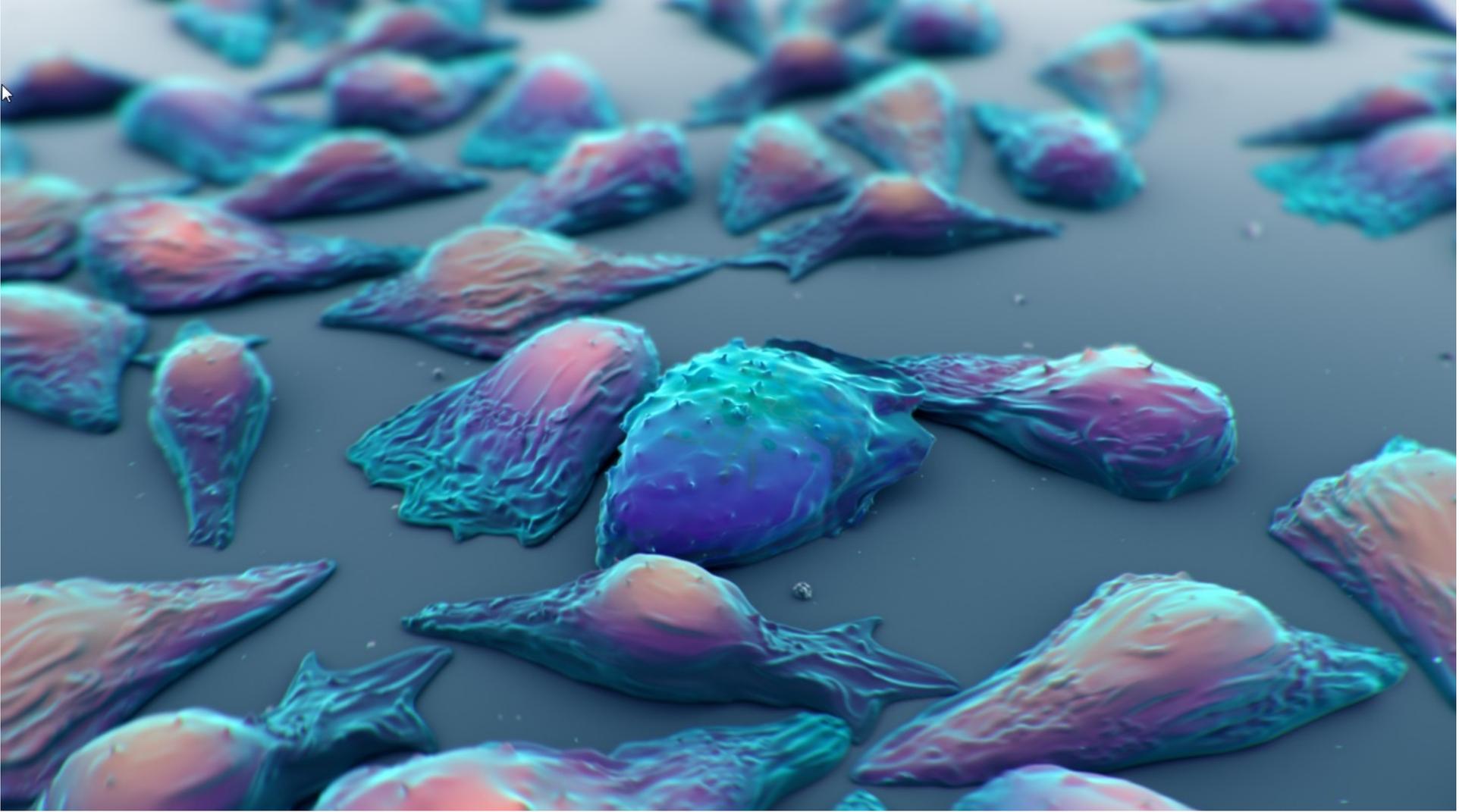


- Display Render Anim
- Layers Options Help
- cell_wall
- Mitochondria
- Early_endosome
- late_endosome
- nucleus1

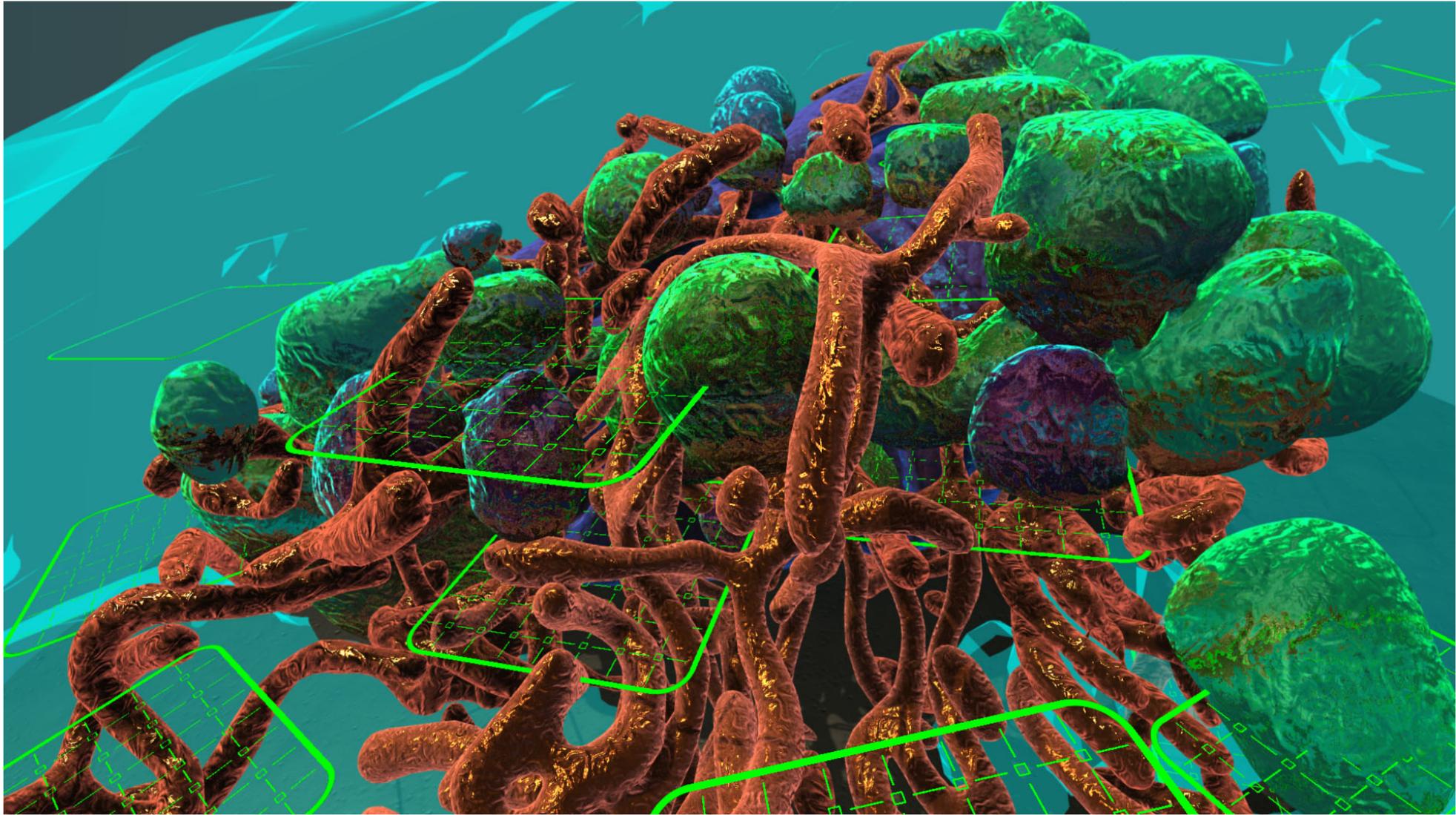


CBNS UNSW AUSTRALIA









New Scientist

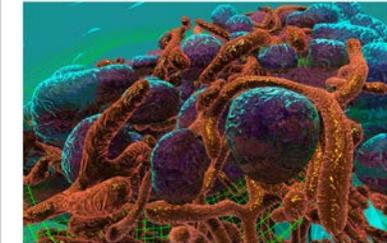
HOME NEWS TECHNOLOGY SPACE PHYSICS HEALTH EARTH HUMANS LIFE TOPICS



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TECHNOLOGY NEWS 1 July 2016

Virtual reality lets you stroll around a breast cancer cell



A new view of cancer
by K.G. Orphanides and John Bailey from the 3D Visualisation Aesthetics Lab, UNSW Australia

ABC Radio TV Shop News Sport Local Children Science Environment more Topics help Keywords ABC Search

catalyst

Tuesdays 8pm, ABC Search Catalyst Find Share

HOME ARCHIVE BY DATE BY TOPIC A TO Z VIDEO NEWS IN SCIENCE SPECIAL EDITIONS ABOUT CONTACT

Tuesday, 16 August 2016

FANTASTIC JOURNEY



We've sent astronauts into outer space, but travelling to the inner space of the human body still remains the stuff of science fiction – or does it? A unique collaboration between art and science is now taking scientists from ABC Centre for Big Name Science and stroke patients on an inner space journey into the human body for an interactive experience that will foster research and education.

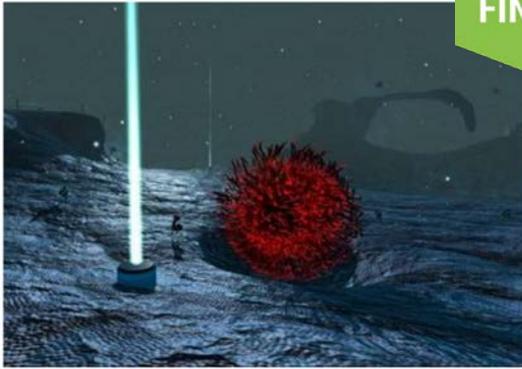
TRANSCRIPT OTHER 3D VISUALISATION A WEBSITE

WIRED Technology Science Culture Video Reviews



Origami meat robot can rescue rubbish from your stomach

By K.G. ORPHANIDES



Credit: John McGhee

The bacteria used in the experiment move in the direction of a magnetic field, while a sensor measuring oxygen concentration enables them to reach and remain in the tumour's active regions. By exposing them to a computer-

Awards 2016

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Accept tap-and-go payments today.

Virtual reality trip inside cancer cells can help design better chemotherapy drugs

Marcus Strom

Accept tap-and-go payments today.

HUFFPOST AUSTRALIA

Google's Finally Made A VR Headset: We'd...

The Down Low On Checking Your Breasts...

Dr John McGhee
UNSW's 3D Visualisation Aesthetics Lab



ARC Centre of Excellence in

CONVERGENT
BIO-NANO SCIENCE
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