What is eResearch?

Emerging Researcher Seminar

Thursday 20 June 2019

UCT eResearch
ACCELERATING RESEARCH

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UCT eResearch

UCT eResearch

The world of research is changing

Researchers rely much more on ICT as a component of their research, whether it is management of data or the software and tools for undertaking their research, or in collaboration and finding collaborators.

Pace and scale increasing

- Technology is accelerating the pace and scale of research
- Large-scale data requires more structured data management approach

Storage, data management and tools

New tools and methodologies

- New and more powerful instruments
- Digital recognition of text, speech and imagery
- Crowdsourcing and citizen science

Expert guidance on leveraging new approaches

Internationalisation

- Research funding/ status is increasingly based on strong international collaborations
- New funding instruments to address Global Challenges
- Research is conducted in international infrastructures

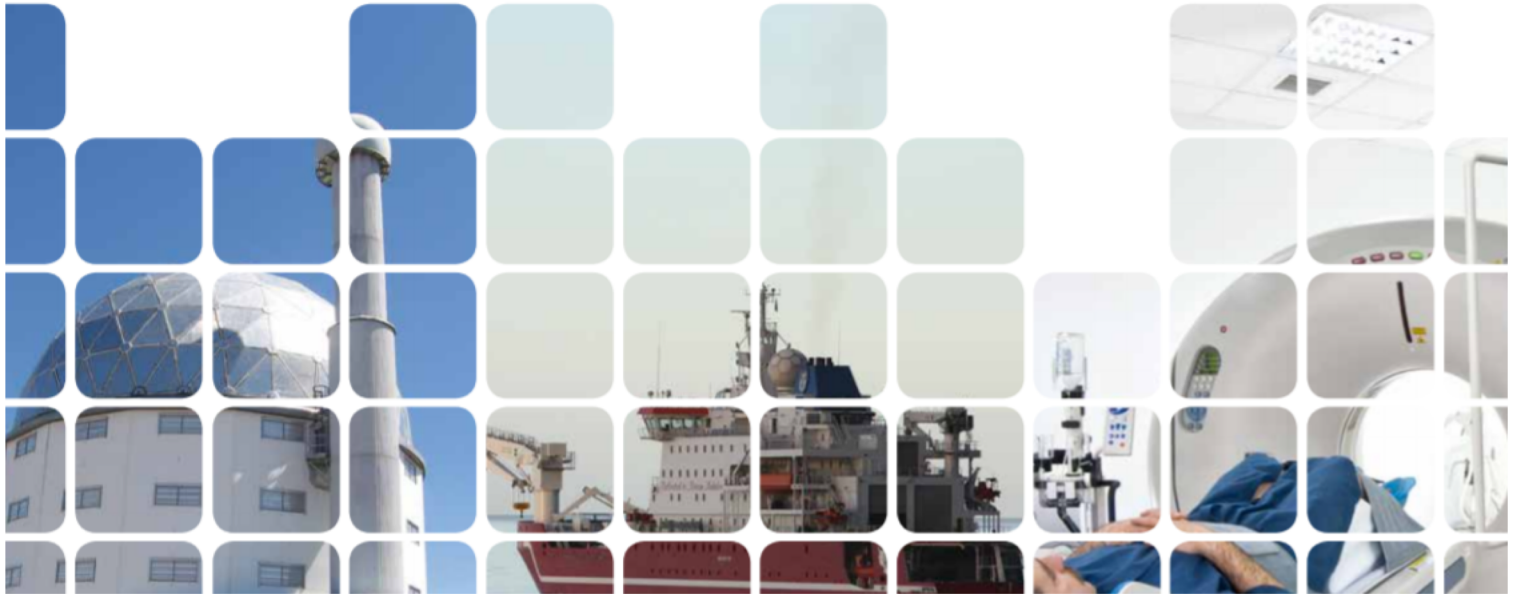
Capability to establish and support collaborations

KEY CHANGES

IMPLICATIONS

SOUTH AFRICAN | RESEARCH INFRASTRUCTURE ROADMAP

FIRST EDITION



https://www.gov.za/sites/default/files/sa%20research%20infrastructure%20road%20mapa.pdf

Table 2: Selected SARIR RIs based on meta-design reports

Scientific domain	Identified research infrastructure
Humans and society	South African network of health and demographic surveillance sites
	National centre for digital language resources
Health, biological and food security	Distributed platform for "omics" research
	Biobanks
	Nuclear medicine research facility
Earth and environment	South African marine and Antarctic research facility
	Biogeochemistry research infrastructure platform
	Expanded national terrestrial environmental observation network
	Shallow marine and coastal research infrastructure
	Natural sciences collection facility
Materials and manufacturing	Nano-micro manufacturing facility
	Materials characterisation facility
Energy	Solar research facility

https://ec.europa.eu/research/infrastructures/pdf/esfri_brochure_0113.pdf

Why eReseach?

JOHNS HOPKINS INSTITUTE FOR DATA-INTENSIVE ENGINEERING & SCIENCE

MONASH University eResearch Centre

SDSC SAN DIEGO SUPERCOMPUTER CENTER

SWITCH

eRESEARCHSA

Oxford e-Research Centre

Research Revolution

Pace and scale increasing

New tools and methodologies

Internationalisation

e-Science

KING'S College LONDON

NeSI New Zealand eScience Infrastructure

SURF

evl electronic visualization laboratory

THE UNIVERSITY OF AUCKLAND MAIDMENT THEATRE

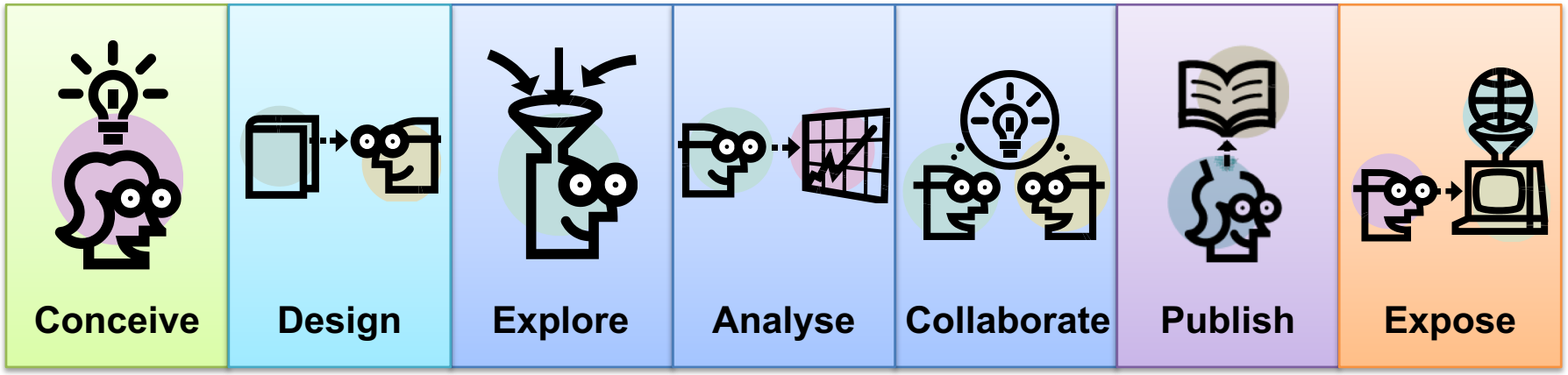
UNIVERSITY OF CAPE TOWN IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Partnering with Researchers to Accelerate Discovery

UCT eResearch

Delivering efficiencies that save researchers time and money

Each researcher has a workflow for their research lifecycle. eResearch explores the question of how we can strengthen that research workflow (or 'pipeline') using the latest tools, technologies and approaches.



Strengthen the workflow

More thinking time

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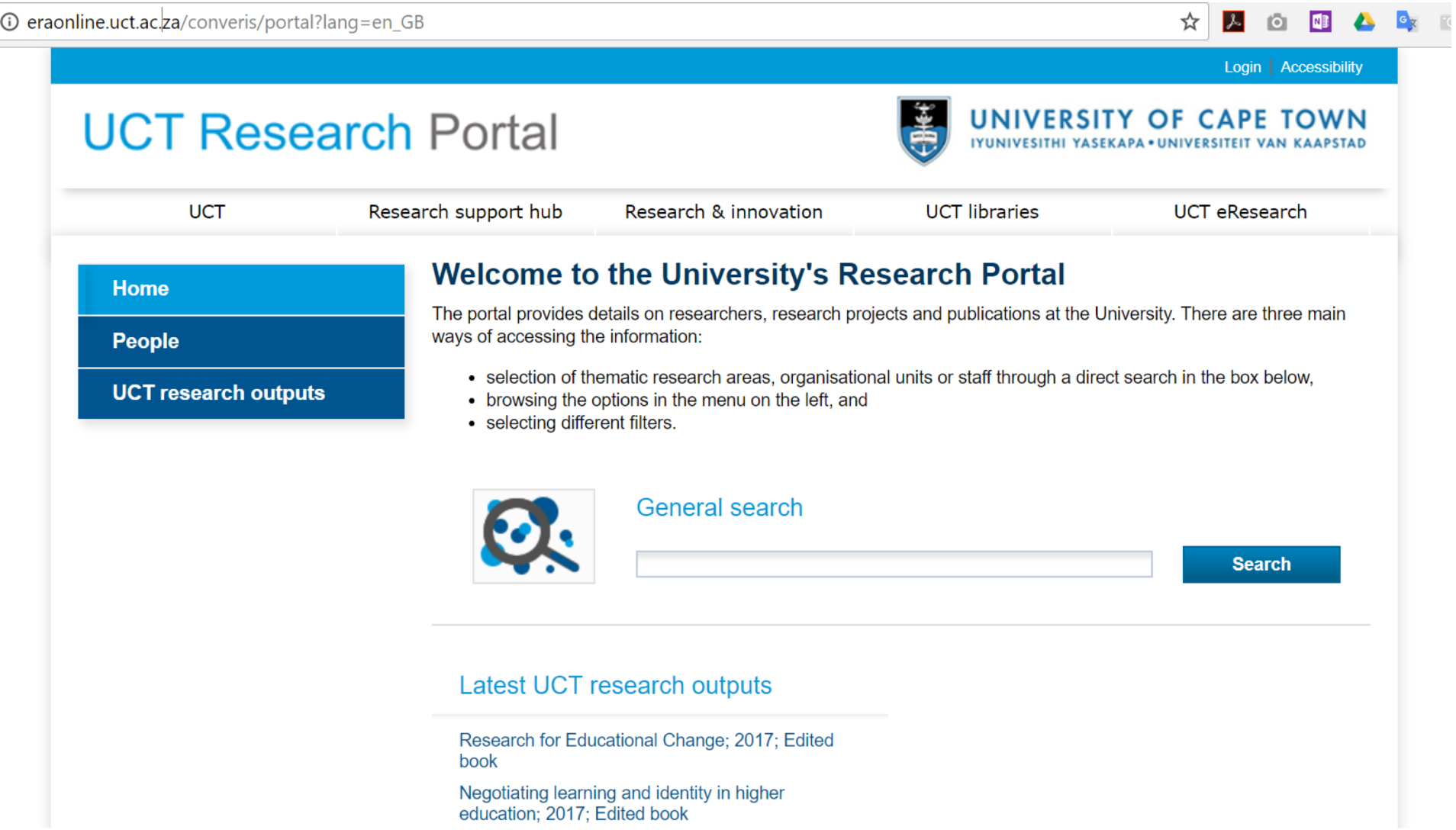
- **Plan:** If you know at the planning stage of your research what your technical needs are going to be, then you can be sure to be prepared for them when they arise later on. We work with researchers at the planning and grant-writing stage to help allocate budget for the data challenges ahead.
- **Acquire:** As a researcher, your next step is to get the data. This often requires the use of complex tools and software, which collect raw data that then need to be stored and managed. We assist with setting up the necessary software and databases to ensure that data are captured and stored effectively.
- **Access & collaborate:** Research projects today often include a team of researchers scattered geographically who need access to the same data at the same time. We assist with creating shared data stores, dataset transfers, file sharing and other facilities or software required for effective collaboration.
- **Analyse:** You have the data: now you need to find out what it means. We offer and support a range of options for data analysis, including high-performance computing facilities, cloud-based software and virtual machines or laboratories.
- **Comprehend:** Our brains process complex information better when it's visual. We offer visualisation facilities to assist researchers to visualise their research data sets in an immersive space.
- **Manage & archive:** Data needs to be findable, accessible, interoperable and reusable (FAIR). We support the management and archiving of data to ensure your research data meets these FAIR guiding principles.
- **Publish & reuse:** For maximum impact, both research outputs and research data should be publicly available on an open-access platform. We support open-access publishing of research outputs, including publications and data.



https://eraonline.uct.ac.za/converis

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for assistance with your research IT requirements

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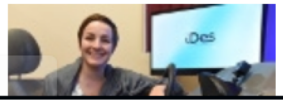
1 2 3 4

Monday, 19 February 2018



Fostering collaboration for road safety
In 2016, South Africa saw its highest number of road deaths in 10 years. Just over 14 000 people died on

Tweets by @UCT_eResearc

UCT eResearch
@UCT_eResearch
Get to grips with the General Data

http://www.eresearch.uct.ac.za

UCT eResearch

Why eResearch?

To accelerate outputs and competitiveness in support of UCT's research agenda

What does eResearch do?

Partner with researchers to find and build solutions for technological and data management challenges

What is the difference between eResearch and ICTS?

ICTS focuses on enterprise services such as email and security. eResearch only supports research functions and relies on ICTS for infrastructure

What is the role of the Libraries and the Research Office?

The libraries are involved in research data management planning and advice and the research office is responsible for advocacy and outreach

How do I get hold of eResearch?

eresearch@uct.ac.za or **http://www.eresearch.uct.ac.za/**

What do eResearch services cost?

Our cost model is available on the website at:
http://www.eresearch.uct.ac.za/billing-model

Can staff and students both make use of eResearch services?

Absolutely, if you are a researcher you can work with eResearch

Who typically makes use of eResearch, and how?

Generally it is principal investigators who approach us but often it's their students too

Do you work with individual researchers or only communities?

We prefer to work with communities of researchers because in this way our efforts have the greatest impact for the least cost

Do you work with Humanities and Social Sciences, or only with Sciences?

We are happy to assist any researcher