

# The Australian Science, Technology and Research Assessment (ASTRA)

Workshop on Empirical Foundations of Science & Innovation Policy

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FACULTY OF  
BUSINESS &  
ECONOMICS



MELBOURNE INSTITUTE®  
of Applied Economic and Social Research

# Background

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- Like other countries, no systematic analysis of science investments in Australia
- ASTRA Feasibility Study commissioned in 2012
- Based on data from UniMelb and ANU
- Report delivered in early 2013
- Main findings
  - Grants-researcher(s)-publications link is possible
  - Links to HR and finance records are feasible
  - Workforce reports on jobs supported
  - Substantial latent demand (in university and govt)

# Data Infrastructure

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- Elements of the data infrastructure:
  - Grants (ARC, NH&MRC plus others)
    - Source of funds (private, govt, philanthropic, international)
    - Type of funds (fellowships, project, program, translation, infrastructure)
  - Research team (chief investigator and collaborators)
    - Domestic and international
    - Postdocs and research assistants
  - Outputs of the project
    - Publications, future grants, patent applications
  - Workforce implications: number/location of jobs

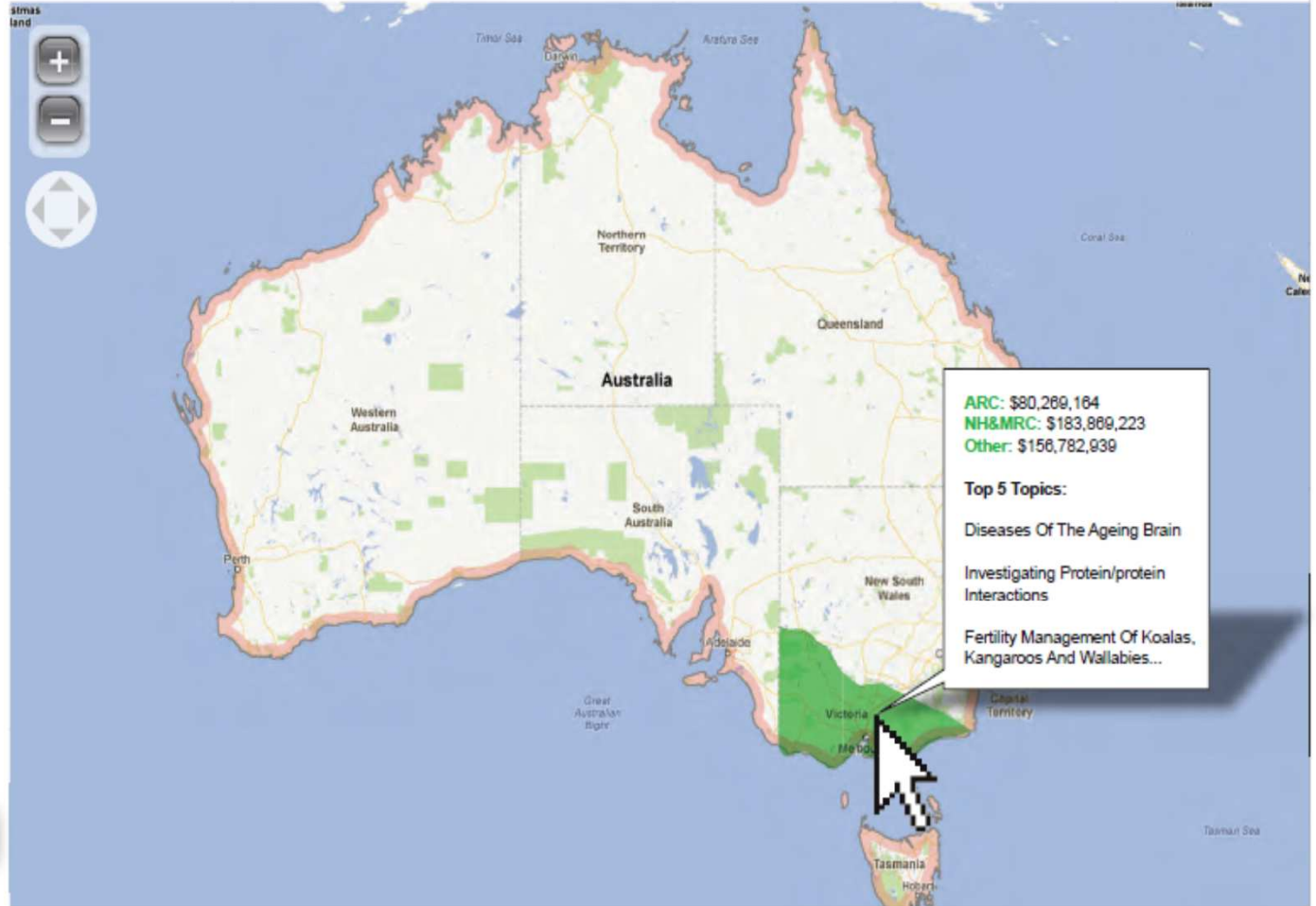
Institution

Grant Scheme

Topics FOR SEO

- Select all
- 1 Diseases Of The Ageing Brain
- 2 Investigating Protein/protein Interactions
- 3 Fertility Management Of Koalas, Kangaroos And Wallabies
- 4 Innovative Dairy Products
- 5 Nanotechnology
- 6 Towards Sustainable Regional Institutions
- 7 Gravitational Lensing Studies Of Quasars
- 8 Mira Widefield Array: A New Low

◀ 2007 2008 2009 2010 2011 2012 ▶



- Institution
- Grant Scheme
- Topics FOR SEO

- Select All
- 01 Mathematical Sciences
- 02 Physical Sciences
  - 0201 Astronomical and Space Sciences
  - 0202 Atomic, Molecular, Nuclear, Particle and Plasma Physics
  - 0203 Classical Physics
  - 0204 Condensed Matter Physics
  - 0205 Optical Physics
  - 0206 Quantum Physics
  - 0299 Other Physical Sciences
- 03 Chemical Sciences
- 04 Earth Sciences
- 05 Environmental Sciences
- 06 Biological Sciences
- 07 Agricultural And Veterinary Sciences
- 08 Information And Computing Sciences
- 09 Engineering

- 2007 2008 2009 2010 2011 2012

- INCOME**
- JOBS
- NETWORKS



Uni Melb

ARC Linkage

Topics FOR SEO

Select all

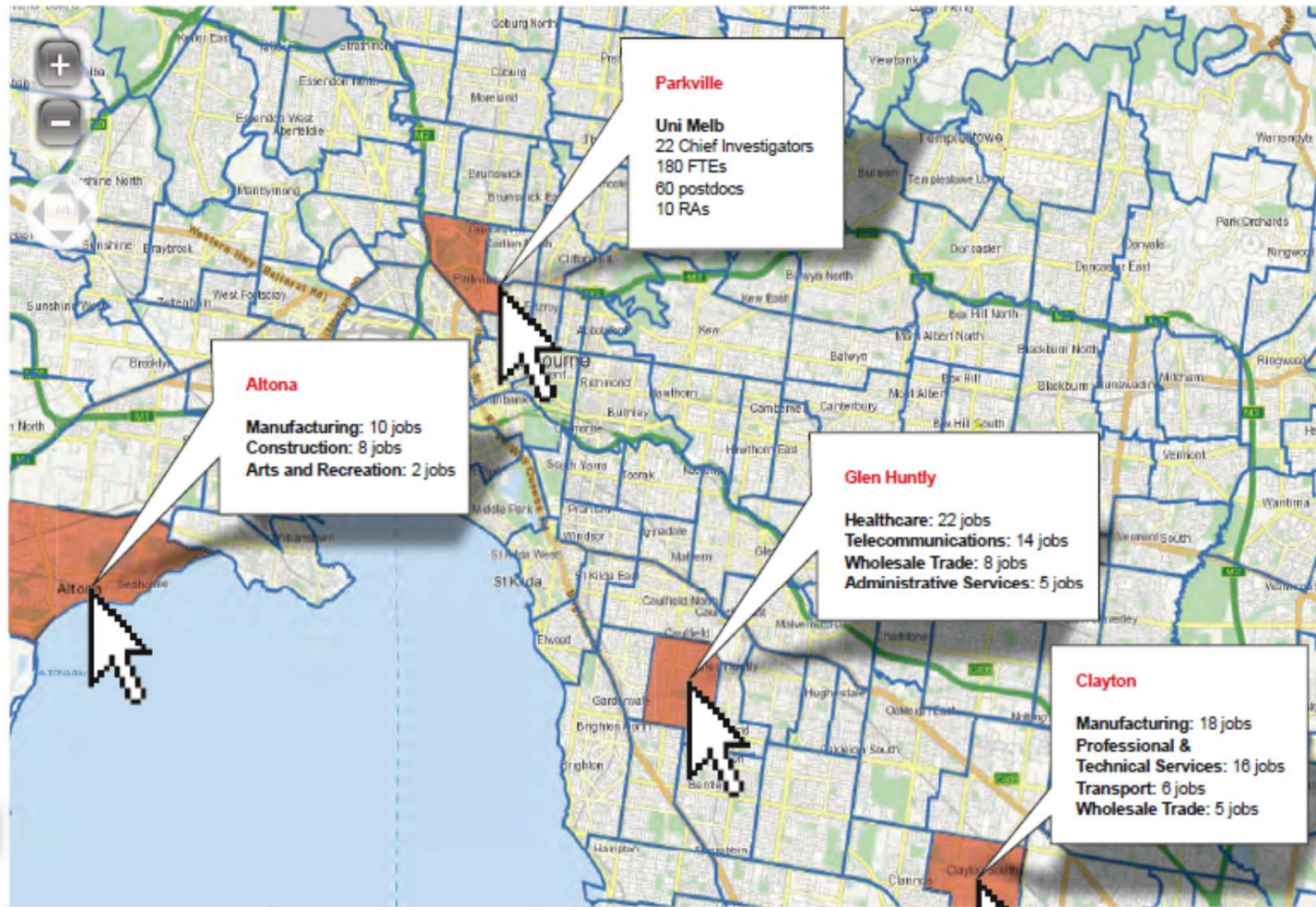
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2007 2008 2009 2010 2011 2012

INCOME

JOBS

NETWORKS



# Seeing Stars

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- Government policies to attract and retain research ‘superstars’ e.g. ARC Laureates
- Objective: direct/indirect impact of ‘stars’
- From our data, we can observe:
  - Fellowship applications (successful/not)
  - Demographics (PhD year, position, gender, field)
  - Internal/external co-authors
  - Number and quality of publications
  - Number of PhD students
- Set up as a panel and model effects of stars

# Next Steps/Challenges

- Complete 'seeing stars' paper: present at AAAS Conference, Chicago in 2014
- Continue pursuit of ASTRA funding
  - Linkage infrastructure grants
  - Direct government funding
  - University support to build on feasibility study
- Roll out to other universities in 2014-
- Interest from Go8 universities, CSIRO and technology universities
- Change of Government in Australia