

# The practice of research and publication in the South African context



**Valerie Mizrahi**



**UCT Libraries Research Week  
12 May 2014**

# Caveats

## Probable bias

- The views expressed are those of a research scientist (turned administrator) with experience in the chemical, biological & health sciences

## Statistically meaningless

- Sample size  $(n) = 1$

# Outline

- The importance of research and publication from an institutional perspective
- Factors influencing the practice of research and publication in the South African context
- Changes in practice & their impact – a personal perspective



# The importance of research & publication from an institutional (UCT) perspective



# An aspirational goal

***“If we want independent thought and leadership and a capacity to determine what is best for us, then we not only need researchers and research institutions, but they need to be on a par with the global North”***

Dr. Max Price, UCT, 30 June 2013



# University Rankings

- Times Higher Education (THE) ranking system
  - International Outlook – People, Research (7.5%)
  - Research – Volume, Income, Reputation (30%)
  - Citations – Research Influence (30%)
  - Industry Income – Innovation (2.5%)
  - Teaching – the Learning Environment (30%)



# University Rankings

- Times Higher Education (THE) ranking system
  - International Outlook – People, **Research** (7.5%)
  - **Research** – Volume, Income, Reputation (30%)
  - Citations – **Research** Influence (30%)
  - Industry Income – Innovation (2.5%)
  - Teaching – the Learning Environment (30%)
- **Strongly influenced by research profile**

**Whether we like them or not, rankings  
are here to stay**



# Where is UCT situated in the world rankings?

## THE World University rankings for 2013-14

- #126 Overall
- #53 in Clinical, Preclinical & Health
- #1 in Africa and #3 in BRICS & emerging economies

## Scores

- |                         |      |
|-------------------------|------|
| – Overall               | 50.5 |
| – Teaching              | 26.3 |
| – International Outlook | 77.2 |
| – Industry income       | 85.6 |
| – Research              | 31.0 |
| – Citations             | 84.6 |





# **Factors influencing the practice of research & publication in the South African context**



# The South African context

- DHET's Research Outputs Accreditation system rewards HEIs on the basis of graduated MSc and PhD students and accredited publication outputs
- Accreditation is critically important for QC within the NSI
- The reward system has driven an increase in publication outputs from SA institutions
- However....
  - No consideration is given to the quality of outputs (postgraduates *or* publications)
  - Penalises collaboration (especially international)
  - Open to abuse as a numbers game (“salami science”)



# The South African context

- Research is the vehicle for training postgraduate students and postdoctoral fellows
- Universities are under pressure to increase postgraduate student & publication outputs
- Supervisory capacity is being stretched
- The transactional & regulatory environment is increasingly complex, further eroding an academic's time to read and think
- Hyper-competition



# The South African context

- **The principles which regulate the publishing of research findings or ideas are potentially undermined by some of these developments**
- Recognised as a growing problem elsewhere, *e.g.*, in the US biomedical research enterprise
  - Alberts, B. *et al.* Rescuing US biomedical research from its systemic flaws. *PNAS* 2014
  - Collins, F. & Taback, L. Policy: NIH plans to enhance reproducibility. *Nature* 2014



# Evaluating how we evaluate

- How well are our evaluation systems for publications, research grants, [*postgraduate supervision*] & promotions working?
- Are they producing and rewarding the best possible research [*and trainees*], and meeting the needs of young researchers, the institution [*and its many stakeholders*]?

Vale, R. Evaluating how we evaluate. *Mol. Biol. Cell* 2012; 23:3285



# **Changes in the practice of research & publication and their impact**

## **A personal perspective**



# Changes in practice & their impact: a personal perspective

- Collaboration & teamwork
- Internationalisation
- The demonstration of relevance & impact (“translational” research)
- Bibliometrics, open access and the information tsunami



# Collaboration & teamwork

## Advantages & benefits

- Improves the quality and impact of research and its outputs
- Offers the potential to tackle “big” problems

## Challenges

- High transaction cost (financial, communication, time)
- Increasingly complex as one moves from uni- → multi- → inter- → trans-disciplinary research
- Reduces one’s “specific activity” (publications/per unit cost or time)
- Attribution of credit can be complex and must be agreed up-front (first or last authorship)
- Particularly challenging for emerging researchers
- At odds with the recognition and reward system in academia which is grounded on *individual* achievement





# Internationalisation

## Advantages & benefits

- Improves quality
- Gives greater visibility
- Enriches the postgraduate training experience
- Builds confidence
- Networking

## Challenges

- Power (im)balance; ownership
- Different value systems



# The demonstration of relevance & impact

- The need to align with national priorities
- Pressure to focus on translation of research findings into an instrument(s) of societal value, (real or perceived) e.g., policy, practice, law, products, processes
- A global phenomenon, not unique to SA
- Long-term implications for the fundamental (“blue skies”) research enterprise?



# Bibliometrics, open access & the information tsunami

**Funders demand measurables on the impact of their spending**

**Metrics mania – citation rates, journal impact factors, *h*-index, *g*-index, *i-10* index, altmetrics.....**

*“Reducing performance to a few numbers makes sense for a baseball pitcher or hockey goalie, but not for a scientist.”*

*“But perhaps the most destructive result of any automated scoring of a researcher’s quality is the ‘me-too science’ that it encourages”*

# Bibliometrics, open access & the information tsunami

- Staying abreast with the literature is imperative, but increasingly difficult
- What constitutes “essential reading” in one’s own field?
  - The rise of reviews, commentaries, “News & Views”
- Data mining tools offer enormous opportunity to generate new ideas & hypotheses by automating the access, distillation and synthesis of data from seemingly disparate fields



