Academic Colloquium
Technology and Society: including the social in science, technology and innovation
Prof. Gillian Marcelle
Associate Professor: Strategy and Innovation
Wits Business School
gillian.marcelle@wits.ac.za
Outline

- Objectives and Purpose of the Colloquium & Research Programme
- Wits as a strategic partner
- Conceptual Clarity?
  - Concepts, terms, purposes and perspectives
- Implications
  - Scope of research agenda
  - Intention(s)
  - Implications for methods, practices
- Suggested Approach
- Research Agenda
- Background material on SA policy context
Part One

OBJECTIVES OF THE COLLOQUIUM
Objectives of the Colloquium

• Provide an opportunity for exploration of the growth of interest in innovation for social purpose and what might be done to introduce more social considerations into examining innovation dynamics and outcomes

• Explore concepts and terminology including social innovation, inclusive innovation, reverse innovation and community innovation

• Challenges and opportunities inherent in interdisciplinary cooperation

• Define research projects that can provide platforms for cooperation

• Consider national and international academic research in the field and hear reflections from emerging practice
Overall Objective

• Begin to define and design a ‘social in innovation’ research agenda and identify research questions and projects which can be carried out under this agenda with, but not limited to, through support from the Technology and Society, NRF grant under the HSDD Grand Challenge
Outputs, Activities and Outcomes

Postgraduate students trained and research active
Colloquia, seminars, workshops
Research projects
Working papers
Journal articles
Essays, opinion articles in newspapers
Policy briefs, practice notes
Books
Online discussion forums, blogs, networks

Improved and changed mindsets, theoretical understandings, empirical findings which leads to expanded viewpoints and practices and ..... over time better development outcomes
Colloquium part of a whole

- Wits active in the innovation field as a change agent...shaping a research agenda....contributing to and influencing policy and practice and making interventions into the politics of knowledge production and shaping development outcomes

- Supported by a three year research grant Human and Social Development Dynamics Grand Challenge (HSDD) for a project on improved alignment between technology and society
Modes of engagement

The outcomes are produced in many modes and provides a body of knowledge and practice that informs the innovative capacity of policy makers, South African and African business firms and communities through insights generated by

- Teaching
- Research
- Networking and engagement
Teaching

Masters Programme in Innovation Studies

• Specialized postgraduate Master of Management in Innovation Studies began in Feb 2011.
• Next intake in 2013
• An interdisciplinary programme that engages with how innovation impacts on economic growth and development and seeks to analyse how these impact on the achievement of broad social goals more generally.
• Aimed at contribution to the creation of a new generation of policy makers, scholars and business leaders
• The Programme is directed by Professor Gillian Marcelle and includes colleagues from Wits, SA universities and across the world.
Unique Offering

- Combines policy and management with a developing country focus
- First of its kind in the world
- World-class faculty
- Academically rigorous and specialised
- Affordable and flexible pricing approx (R100,000) payable over two years for full time candidates
Network & Engagement

- Presentations drawn from institutions in 12 different countries. 26 academic papers presented, 7 keynote papers and presentations and over 15 roundtable presentations

- Keynote presenters included Professors Calestous Juma, Carlota Perez, Mamphela Ramphele, Judith Sutz, Anil Gupta, Derek Keats and Raphael Kaplinsky.

- Provided an exceptional platform for the exchange of knowledge and ideas among academics, policy makers and the business community.

- Over 125 registered participants over three days

- Public lecture by Professor Anil Gupta

- Special issue of the journal: International Journal of Technological Learning, Innovation and Development (IJTLID). and working papers published at www.wits.ac.za/managinginnovation

- Conference website and portal for participants and other interested parties to access the information of the symposium long after it had completed http://innovationsymposium.wits.ac.za

- Substantive media coverage of the event, a clear indicator of the importance of the topic and interrelated topics to Innovation and Development in the 21st Century
Research Agenda and Outputs

• Edited special issues of International Journal of Technological Learning, Innovation and Development (IJTLID)

• Journal articles

• Conference proceedings from IFD symposium

• Conference papers presented at ISPIM, New York and Hamburg Kellogg School of Management Global KIN forum; Aalto University, Helsinki, Harvard University

• Working papers published at www.wits.ac.za/managinginnovation

• Teaching case studies

• Innovation for sustainability
• Building an innovation ecosystem in South Africa
• Reducing policy fragmentation and misalignment in innovation policy
• Innovation strategies for biotech, electronic engineering and automotive firms
• R&D tax incentives
• Organisational learning and innovation
• Spatial dimensions of innovation
• Firm-level knowledge acquisition strategies
• Innovation policies for renewable energy
• Innovation in the bio-based economy
• Innovation and development surges
• Knowledge economy indicators and measurement
• Understanding Invisible innovation
SMI Research Group

- Intellectually rigorous and thought provoking internal seminars

- The seminar series has played a pivotal role in investing in a new and growing innovation community both at Wits and elsewhere. There were six internal seminars during 2010 and three in 2011 and most were co-hosted with a range of other players or institutions.

- One of most well attended seminars was on the topic of the FIFA World Cup and was titled: ‘FIFA World Cup 2010: What Does It Mean for South Africa’s Innovation and Capacity Building?’. This was a jointly hosted event with the Joburg Centre for Software Engineering.
Innovation@Wits

• Hosting pre-eminent scholars
  – Martin Bell
  – Carlota Perez
  – Anil Gupta

• Stimulating partnerships
  – UCT TuT University of Pretoria
  – Sussex  MIT Harvard Cambridge Brazilian Mexican and Indian universities and research centres

• Encouraging emerging researchers
  – Post doc fellowships
  – Masters and PhD dissertations
Wits as a strategic partner

- Wits through WBS has effectively established a platform and position of leadership in scholarship in innovation studies (policy and management) which is a specialization of growing interest and importance.
- The Wits approach proceeds from an original standpoint that develops critical engagement and focuses on all actors: business firms, public policy institutions, individual innovators and the community.
- Reinforces the concept of considering firms and other organisations to be active rather than passive agents and questions the common assumption that their innovation processes take place in response to signals originating from public sector institutions.
Part 2

CONCEPTUAL CLARITY?
Foundational Issues

• Biases in innovation
• Innovation and mindset
• The cultural, psychological and societal dimensions of innovation need attention
• Development outcomes will not be automatic
Biases

- Techno centric conceptions of social and institutional change
- Novelty
- High science and technology content
- Lone hero and mythical figure
- De-emphasis on ethical dimensions
- Insistence on standard metrics
Innovation matters!

• Developing countries all face the challenge of competing effectively with more advanced economies in a globalised marketplace. Hence developing countries – perhaps even more than industrialized nations - need sound national innovation strategies to stimulate economic growth and development

• Developing countries and more particularly those on the African continent often lack significant innovation capacity particularly in formulating and implementing innovation policies to guide and steer the development agenda

• Developing country firms tackle innovation through learning and capability building
Development Approaches

• **Mainstream views**
  – Neoliberal approach/Trickle down

• **Alternative models**
  – Focus on rights and capabilities (Sen)
  – Quality of life (Human Dev report, Seers)
  – Human economy (Keith Hart)
  – Marxist critique of capitalist development

• **Post-growth development models**
  – Focus on environmental stewardship
  – Decoupling growth and development
  – Focus on earth keeping and behaviour change to support adaptation and mitigation
  – Triple crisis approaches
Innovation defined

- A process of generating, acquiring and applying knowledge for economically and socially beneficial purposes
Technological Futures

“We are now challenged by all four economic futures”

Copyright: Neville Comins

Courtesy of Dr A P Botha and Mr J Manchu (InnovationLab)
Innovation for Development

Source: CeSTII and Marcelle 2011, based on the ‘Modern Coupling Model of Innovation’ by Rothwell, (1994) International Marketing Review, Vol. 11 No. 1, 1994, Figure 3 page 10
Part 3

TOWARDS A RESEARCH AGENDA
Critical Knowledge Development

- Innovation and job creation
- Innovation landscape/ecosystem
- Community innovators and the psychological and anthropological issues involved in their emergence
- Knowledge acquisition strategies of organisations

- University and industry interaction
- Measurable indicators of success
  - Benchmarks
  - Targets
  - Milestones
Important Areas of Insufficient Knowledge

– What are the potential benefits and possible negative effects of innovation?
– Under what conditions do societal benefits exceed private benefits?
– What is the relationship between innovation and economic growth?
– What is the relationship between innovation and job creation?
– What are the mechanisms by which innovation activity leads to societal changes and are these always beneficial?
– How do various social actors including business, civil society, government at all levels stimulate these mechanisms to perform better?
– What are the appropriate measures of success?
– What is the baseline?
Background material

SOUTH AFRICAN POLICY ENVIRONMENT FOR INNOVATION
South African Context

• Well established national innovation system approach, currently being reviewed by Minister of Science and Technology
• New planning architecture including entities such as the National Planning Commission
• New Growth Path
• IPAP 2
• Gauteng Growth and Development plan
Gauteng Innovation Strategy aims to: accelerate innovation in all its forms, in order to bolster and support the broader strategic objectives of sustainable social and economic development, and sustainable employment.
Focus: Strengths

• Very clear and presents a strong, simple understandable case for innovation
• Politically sophisticated
• Makes an important distinction between national vs regional
• Opt for indirect means to operationalise policy
• Inclusivity in particular for small business firms and community level innovators as active participants
• Recognition that commercialisation and awareness raising are critical components
Strengths (2)

- Anticipates the role of the province in consolidating & distributing knowledge
- Recognises the role of different actors in the innovation system and their interactions
- Link to broad socio-economic concerns such as environmental change and sustainability
- Recommends designing challenges directed at specific problems
- Recommendation of linking to Black Economic Empowerment compliance
- Recommendation of an Expert Panel on innovation
Major challenges

- Insufficient focus and lack of prioritisation
- Possible fragmentation
- Difficult to manage link across all the national and provincial initiatives
- Some fads have crept in
  - Assumption that South Africa has the capacity for open innovation or using e-mediated tools for problem solving without addressing supply challenges
  - Inadequate attention to Intellectual Property management protection as central
  - Fascination with social networking tools without addressing basic access and connectivity issues at community level
Major challenge (2)

• Does not proceed from an understanding of the nature and structure of social and economic activities in Gauteng
• Needs to place much greater emphasis on evidence based support for the claims and assertions
• Need for empirical data to develop and establish nature of relationships and conceptual frameworks involved in the strategy and to be made explicit
Recommendations

INSIGHTS FOR POLICY AND PRACTICE
Key understanding of microfactors

• Innovation proceeds from multiple motivations

• Innovation is not = R&D

• Innovation requires investment, takes place over time through an uneven process involving risk and uncertainty

• Innovation does not guarantee competitive success or social benefit automatically

• Innovative organisations have people who are confident, free to experiment and have their learning supported

• Innovative organisations have processes for integrating learning across all functions and for aligned learning with overall organisational strategy.
Effectiveness in innovation

- **Invest** in knowledge including technological hardware, technical personnel, training, skills development and other learning routines.
- Implement **specific management routines** to support learning and knowledge acquisition
  - Specialist roles for innovation management
  - Supportive Culture
  - Formal Scan and Search
- **Manage** **boundary relationships with the innovation system and suppliers of knowledge**
Recent Recommendations

• Treat *development* outcomes as non automatic and design checks and balances in STI programming (similar to environmental and gender audits)

• Undertake a baseline survey of the DST budget wrt to development priorities (jobs, inequality and poverty) and develop development related criteria and indicators for monitoring and evaluation

• Remove the public sector, science-centric bias in STI programming and the command and control style

• Focus more on facilitating the innovation performers firms, communities, and individuals

• Focus directly on setting innovation challenges in areas such as water management, energy security, affordable housing, improved healthcare systems and reliable transportation that have impactful effects on quality of life
For follow up and further elaboration
Professor Gillian Marcelle
www.wits.ac.za/managinginnovation

THANK YOU