



## Call for applications: Masters bursary for 2022

### Patterns in prosperity, equality, and ecological integrity in southern Africa

**Deadline for applications: 02 June 2021**

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#### Project background

It is becoming increasingly apparent that a fundamental reorganization of our societies is necessary to achieve a just society for all, while maintaining the environmental conditions that underlie human prosperity. The three inter-related goals of reducing socio-economic inequalities, tackling poverty, and protecting our biosphere therefore lie at the core of sustainable development.

The question is whether these three goals are simultaneously attainable at different scales, or whether there are common trade-offs that prevent a city, region, or country from achieving prosperity, equality, and ecological integrity. For example, cities tend to have an ecological footprint or impact that is far greater than their area, i.e. cities require food and other resources from rural areas to sustain their populations, which may lead to environmental degradation and biodiversity loss. Cities are also often highly unequal societies. A city may therefore be a prosperous place with relatively high average income and well-being (in terms of health, education, and other indicators), but low levels of equality and ecological integrity. On the other hand, the ecological impact of a city may even out at the level of a country, meaning ecological integrity is safeguarded at the national scale, but national-level prosperity and inequality may be low. Key questions are therefore: What are the patterns in prosperity, equality, and ecological integrity across a region or country? How do they change across scales? And what are plausible ways to minimize trade-offs to achieve prosperous, equitable, and sustainable futures?

Exploring patterns in prosperity, equity, and ecological integrity is particularly pertinent in southern Africa, a region characterized by some of the world's highest levels of poverty, socio-economic inequality, and biodiversity. Much research has focused on the connections between prosperity and environmental degradation (usually in the context of either poverty or overconsumption, e.g. Wackernagel et al. 2021<sup>1</sup>), but less is known about the relationship between inequality and environmental impacts (Hamann et al. 2018<sup>2</sup>). The nexus of prosperity, equity, and the environment is similarly understudied, and it is often simply assumed that these goals inevitably cohere. This knowledge gap is being addressed by a project titled "Inequality and the Biosphere: Achieving the Sustainable Development Goals in an Unequal World", funded by the Swedish Research Council for Sustainable Development (Formas). Understanding the patterns of prosperity, equity, and ecological integrity at different scales is a key component of untangling the trade-offs and synergies that may hinder or enhance the achievement of more positive social-ecological futures in the southern African region.

Prof Reinette (Oonsie) Biggs, who holds the DST/NRF South African Research Chair (SARChI) in Social-Ecological Systems and Resilience, and a team of researchers at the Centre for Sustainability Transitions including Dr Maike Hamann, an ecosystem services and equity specialist, are interested to explore the trade-offs and synergies in Sustainable Development Goals in southern Africa using publicly available data.

#### Centre for Sustainability Transitions, Stellenbosch University

The Centre for Sustainability Transitions (CST, <http://www.sun.ac.za/cst>) builds on a strong history of transdisciplinary research and complexity studies at Stellenbosch University, providing a vibrant research hub for solution-oriented sustainability science that hosts leading scientists and students from diverse disciplinary backgrounds in a state-of-the-art research centre. The primary objective of the CST is to provide transformational knowledge on the dynamics of multi-scale social-ecological change, and strategic insights into

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<sup>1</sup> Wackernagel et al. 2021. The importance of resource security for poverty eradication. *Nature Sustainability* <https://doi.org/10.1038/s41893-021-00708-4>

<sup>2</sup> Hamann et al. 2018. Inequality and the biosphere. *Annual Review of Environment and Resources* 43: 61-83.

the new modes of research and governance that can bring about a just transition to a more equitable and sustainable society, in southern Africa and globally.

### **Call for applications**

We seek motivated individuals interested to pursue a Masters degree linked to exploring patterns in prosperity, equity, and ecological integrity in southern Africa, who have a keen interest in sustainability, an interest and ability to integrate across the social and natural sciences, and who enjoy collaboration and working in teams. Interested individuals should have a strong academic track-record, participate in the events and activities of the CST, and be interested in developing a career around topics such as social-ecological systems, complexity thinking, equity and justice, biodiversity and ecosystem services, well-being indicators, and sustainability transformations. A variety of topics could be pursued, relating to one or more of the following:

- Identifying and collecting relevant data on a range of sustainability and well-being indicators for the southern African region
- Analyzing data on prosperity, equity, and ecological integrity at different scales
- Exploring the existence of trade-offs or synergies between different goals
- Assessing ways to minimize trade-offs and enhance synergies

Supervisors will include Dr Maïke Hamann and Prof Reinette (Oonsie) Biggs. Studies will generally be registered as part of the CST's MPhil in Sustainable Development in the Faculty of Economic and Management Sciences at Stellenbosch University, but other options can be considered.

### **Funding**

Bursaries will be funded from the DST/NRF SARChI chair held by Prof Biggs. The NRF minimum academic requirement for Masters funding is 65% average for the preceding Honours degree. Applicants for Masters funding must be 30 years of age or younger in the year of application.

Successful applicants will be funded either at Full Cost Study (FCS) or Partial Cost of Study (PCS). The FCS funding will be awarded to South African citizens and permanent residents only, who are either financially needy (i.e., those whose combined household family income is less or equal to R350 000 per annum), living with a disability, or exceptional academic achievers. PCS funding will be awarded to 5% of international students including South African citizens and permanent residents who could not be funded under FCS but meet other minimum requirements for the NRF scholarship funding criteria.

Subject to availability of funds, CST aims to top-up NRF funding to R 120 000 pa (R 10,000 per month) for Masters students. Tuition and reasonable running and travel expenses will also be covered where possible.

### **Requirements**

All students applying for a Masters degree should have completed an Honours or four-year undergraduate degree or equivalent to be eligible. Prior experience with GIS and/or working with large datasets is a distinct advantage, as is familiarity with statistical analysis and programs such as R. All candidates should show evidence of strong scholarly performance.

Based on the National Research Foundation's funding guidelines, strong preference will be given to South African nationals and under-represented groups.

### **To apply**

Applications will follow a 2-step process:

#### **Step 1. Apply to CST**

All interested candidates should first apply to the CST by emailing the following documents to [cstenquiries@sun.ac.za](mailto:cstenquiries@sun.ac.za) by **2 June 2021** with the subject line "**Masters application: Patterns in southern Africa**":

- a motivation letter (detailing your previous academic and work experience, and how your experiences and skills speak to the proposed research topic, as well as your specific interests with regard to the proposed project),

- a detailed CV that includes your academic record, previous work experience, any scientific publications on which you have been an author, and the names of at least two academic referees,
- transcripts of academic qualifications,
- at least one example of recent written work (e.g. a paper, report, thesis chapter).

***Step 2. Apply to NRF***

Suitable candidates will then be instructed to apply on the NRF system by **17 June 2021**, and link their application to Prof Biggs' SARChI Chair. Instructions on this process will be communicated to successful applicants in step 1.

***Please note that funding will only be awarded to candidates selected and approved by the NRF.***

**Enquiries**

Enquiries can be directed to [cstenquiries@sun.ac.za](mailto:cstenquiries@sun.ac.za). Please use the subject line "**Enquiry: Masters on Patterns in southern Africa**", as enquiries about multiple adverts are being directed to this address.