



Call for applications: PhD/Masters bursary for 2023

Achieving the SDGs: Trade-offs and synergies

Deadline for applications: 23 June 2022

Project background

In 2015, the world committed to creating a just, peaceful and sustainable future by adopting the UN Sustainable Development Goals (SDGs). The 17 goals, to be achieved by 2030, span all major social and environmental challenges. Although they reflect an ambitiously comprehensive agenda of transformation, the number and nature of the goals also leave them susceptible to potential interactions: An improvement in one SDG can enhance, but also undermine another goal, thereby hindering their collective achievement. It is therefore crucial to assess trade-offs and synergies between SDGs, particularly between those aiming to reduce poverty and societal inequalities, and those focused on protecting natural resources and advancing climate action.

Despite the centrality of these goals to our collective future ambitions, interactions between goals have been largely underexplored. How are we to achieve more equitable, prosperous, and just societies, while safeguarding the marine and terrestrial ecosystems that form the foundations of our well-being? This key question drives a large research 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), and implemented by a consortium of researchers from around the world, including Dr Maike Hamann at the Centre for Sustainability Transitions at Stellenbosch University. This project draws heavily on an interdisciplinary paper that outlines interactions and feedbacks between multiple dimensions of inequality and environmental change (Hamann et al. 2018¹). One of the project’s key aims is to advance our understanding of both the patterns and processes that underlie trade-offs and synergies between SDGs across different scales.

Dr Hamann and a team of researchers at the Centre for Sustainability Transitions, including Prof Reinette (Oonsie) Biggs, who holds the DST/NRF South African Research Chair (SARChI) in Social-Ecological Systems and Resilience, are interested to explore trade-offs and synergies in SDGs at various scales, using both quantitative and qualitative research approaches. These may include GIS analyses based on global datasets, and/or qualitative assessments of people’s perceptions of the SDGs, either through interviews, narrative analysis, or tools such as Q-methodology.

Centre for Sustainability Transitions (CST), 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 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 PhD or Masters linked to the “Inequality and the Biosphere” project. These individuals should have a keen interest in sustainability science, an ability to integrate across the social and natural sciences, and enjoy collaboration and working in teams. The candidate will be expected to be based at the CST during their studies. Candidates 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 sustainability transformations, equity and justice, social-ecological systems, resilience, complexity thinking,

¹ Hamann et al. 2018. Inequality and the biosphere. *Annual Review of Environment and Resources* 43: 61-83.

as well as biodiversity and human well-being indicators. A variety of potential 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 Africa and the world
- Analyzing quantitative patterns of prosperity, equity, and ecological integrity at different scales (e.g. local, national, regional)
- Investigating the existence of trade-offs or synergies between different goals based on spatial analyses and/or other kinds of pattern analyses
- Assessing expert perceptions on key trade-offs and synergies and the processes that underlie them, as well as ways to minimize trade-offs and enhance synergies
- Using futures methods to explore more sustainable and just social-ecological pathways towards achieving the SDGs, highlighting potential mechanisms that reduce trade-offs and enhance synergies between goals.

The study will be grounded in the African context, and links to a number of ongoing projects at the CST (e.g. the Global Resilience Partnership's Southern African Resilience Academy). Supervisors will include Dr Hamann, Prof Biggs, and one or more CST researchers, depending on the specific focal areas of the project. Studies will generally be registered within the CST's PhD or MPhil in Sustainable Development in the Faculty of Economic and Management Sciences, 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 PhD funding is 65% average for the preceding Masters degree. Applicants for doctoral funding must be 32 years of age or younger in the year of application. The NRF minimum academic requirement for first-time master's funding is a minimum average of 65% for all subjects at the honours level OR a minimum average of 65% for all subjects of a postgraduate diploma OR a minimum average of 65% for all final year subjects of a four-year degree. Applicants for master's 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 for living costs for PhD students to R 138,000 pa (R 11,500 per month), and for Masters students to R 120,000 pa (R 10,000 per month) for full-time studies. Tuition and reasonable running and travel expenses will also be covered where possible. Successful completion and defense of a research proposal within the first year will be a pre-requisite for continuing with a PhD.

Requirements

Potential PhD candidates should have completed a Masters degree or equivalent. Potential students applying for a Masters degree should have completed an Honours or four-year undergraduate degree or equivalent to be eligible. In either case, 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. Alternatively, strong qualitative skills will be considered advantageous. All candidates should show evidence of excellent 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 cst-enquiries@sun.ac.za by **23 June 2022** with the subject line "**PhD/Masters application: SDG trade-offs and synergies**":

- a motivation letter (detailing whether you are interested to pursue a PhD or Masters, your previous academic and work experience, how your experiences and skills speak to the proposed research project, as well as your specific interests with regard to the topics mentioned – or a different topic you might envision under the 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 **8 July 2022**, 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. Please use the subject line “**Enquiry: PhD/Masters SDG trade-offs and synergies**”, as enquiries about multiple adverts are being directed to this address.