



Call for applications: PhD bursary for 2021

Social-ecological regime shifts in the Anthropocene

Deadline for applications: 3 July 2020

Project background

We live in a new planetary era – the Anthropocene - where human activities have become a major driver of ecosystem dynamics at local to global scales. There is growing evidence that the risk of transgressing tipping points that could trigger catastrophic environmental and societal regime shifts, such as the collapse of important fisheries or collapse of the Greenland ice sheet, are increasing. Such regime shifts threaten the supply of essential ecosystem services on which human societies depend - including provisioning (e.g. crops), regulating (e.g. flood regulation), and cultural (e.g. recreation) services - and can have major impacts on economies, security and health. Better understanding of the potential risks and consequences of regime shifts has been identified as one of five grand challenges for Earth system and sustainability science, and an urgent priority in informing policies to advance sustainable development and build resilience to unexpected changes.

The South African Research Chair (SARChI) in Social-Ecological Systems and Resilience, held by Prof Reinette (Oonsie) Biggs aims to contribute theory, methods and understanding that can help address this challenge by improving our capacity to assess risks and build resilience to high-impact regime shifts that may jeopardize ecosystem services and human well-being. This thematic area of work under the Chair builds on the Regime Shifts Database initiative (www.regimeshifts.org) that is being conducted in collaboration with the Stockholm Resilience Centre in Sweden, and has provided a platform for several student projects and internships. The core goals of the initiative are to provide a synthesis of regime shifts that have occurred in different social-ecological systems, their drivers and consequences for ecosystem services and human well-being, and identify potential strategies for building resilience to undesirable shifts or encouraging transformations to more desirable regimes. A new strand of work is to explore the historical trajectories of interlinked economic, ecological and social regime shifts, and how a shift in one of these dimensions often triggers further regime shifts in other dimensions. This focus links to work on telecoupling led by Dr Odirilwe Selomane at CST.

Centre for Complex Systems in Transition, Stellenbosch University

The Centre for Complex Systems in Transition (CST, <http://www.sun.ac.za/cst>) builds on a strong history of transdisciplinary research and complexity studies at Stellenbosch University, providing a vibrant hub for solution-oriented, transdisciplinary, sustainability science that hosts leading scientists and students from diverse disciplinary backgrounds in an interactive 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 linked to the Seeds of Good Anthropocenes initiative, who have a keen interest in sustainability and sustainability transitions, 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, resilience and risk, complexity thinking, and sustainability transformations. A variety of potential topics could be pursued, relating to one or more of the following:

Supervisors will include Prof Reinette (Oonsie) Biggs, and one or more CST researchers, depending on the topic. Degrees will generally be registered within the School for Public Leadership 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, topped up to the following values:
PhD full-time over 3 years: R 138,000 pa (R 11,500 per month)
Tuition and reasonable running and travel expenses will also be covered.
Successful completion and defense of a research proposal within the first year will be a pre-requisite for continuing with the PhD.

Requirements

Potential PhD candidates should have completed a Masters degree or equivalent. 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

This is the first year of implementation of the NRF's new Postgraduate Funding Policy, and all students should apply directly at: <https://nrfs submission.nrf.ac.za> by **3 July 2020**. It is essential to link your application to Prof Biggs' SARCHI Chair funding using the ID: **SARCI150210113970**.

Guidelines for applications are available at:

<https://www.nrf.ac.za/sites/default/files/NRF%20Postgraduate%20Scholarships%202021%20Frequently%20Asked%20Questions.pdf>

In addition, we request all interested candidates to email the following documents to cstenquiries@sun.ac.za by **5 July 2020** with the subject line "**PhD application: Regime Shifts**":

- a motivation letter (detailing your previous experience, your general area of interest, as well as an outline of potential research topics of interest),
- 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).

Any enquiries can be directed to cstenquiries@sun.ac.za. Please use the subject line "**Enquiry: PhD in Regime Shifts**".