

PROFILE



**DST-NRF CENTRE OF EXCELLENCE
FOR INVASION BIOLOGY**

**HEADQUARTERED AT
STELLENBOSCH UNIVERSITY
SOUTH AFRICA**



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1. Overview

The C-I-B is an inter-institutional Centre of Excellence established within the DST-NRF Centres of Excellence Programme, and co-funded principally by the South African Department of Science and Technology (DST), through the National Research Foundation (NRF), and Stellenbosch University (SU). The C-I-B was established in 2004 with the mandate to conduct R&D and training in biodiversity science especially as it applies to understanding the impacts of, and managing and preventing biological invasions.

VISION

The *raison d'être* of the C-I-B is to provide the scientific understanding required to reduce the rate and impacts of biological invasions in a manner that will improve the quality of life of all South Africans.

MISSION

The mission of the C-I-B is to:

- undertake research and education in biodiversity and ecosystem functioning, including investigations of the changes in biological diversity that are a consequence of biological invasions, the consequences for ecosystem functioning of these invasions and their remediation, and the longer-term effects of invasions on ecosystem services under a climate of environmental and land-use change;
- remain at the forefront of research regarding biological invasions, biodiversity and ecosystem functioning by pursuing research excellence, interdisciplinarity, and by encouraging local, regional and international exchanges;
- enhance its national and international standing by means of: 1. a coordinated programme of innovative research, the products of which will be broadly disseminated in the international literature; 2. graduates who are sought after for their knowledge, creative, critical thinking, and for their expertise; 3. a well-supported core and associated staff who are respected and trusted by their peers, clients, and community;
- remain relevant to the needs of the community, focusing on South Africa in the context of trends shaping Africa and the global community.

2. Research Partners, Management and Location

The C-I-B's management team and administrative hub are based in Stellenbosch, while the core research team of nineteen senior researchers and their associated postdoctoral researchers and graduate students is distributed between six higher education institutions and parastatal R&D organisations in South Africa. Biographic profiles and research specialities of core research personnel can be found at www.sun.ac.za/cib. These personnel are: Steven Chown (Ph.D., Director); Dave Richardson (Ph.D., Deputy Director: Science Strategy); Sarah Davies (M.Sc., Deputy Director: Operations); Christian Chimimba (Ph.D. – U.P.); Susana Clusella-Trullas (Ph.D. – S.U.); Karen Esler (Ph.D. – S.U.); Stefan Foord (Ph.D. – UniVen); Charles Griffiths (Ph.D. – U.C.T.); Cang Hui (Ph.D. – S.U.); Bettine Jansen van Vuuren (Ph.D. – S.U.); Steven Johnson (Ph.D. – U.KZN.); Melodie McGeoch (Ph.D. – SANParks); Augustine Niba (Ph.D. – W.S.U.); Heidi Prozesky (D. Phil. – S.U.); Victor Rambau (Ph.D. – S.U.); Michael Samways (Ph.D. – S.U.); Michael Somers (Ph.D. – U.P.); Brian van Wilgen (Ph.D. – CSIR); Berndt Janse van Rensburg (Ph.D. – U.P.); John Wilson (Ph.D. – S.U.); Theresa Wossler (Ph.D. – S.U.).

The expertise of the core team covers a wide range of fields including bioindication, community ecology, environmental management and planning, evolutionary physiology, invasion ecology, landscape ecology, macroecology, marine ecology, molecular cytogenetics, phylogeography, pollination biology, population

biology, sociology, spatial ecology, rehabilitation, resource economics, systematics, and vegetation dynamics.

Specific research and training topics covered by the C-I-B include long-term impacts of invasions, determinants of invasion success, impact and risk assessment, interactions between biological invasions and climate change, modelling of invasion success and spread and the efficacy of biocontrol agents, the determinants of species abundance and distribution, the consequences for ecosystem functioning of invasions and the removal of invasive species, and the social consequences of invasions. C-I-B researchers have experience in environments ranging from sub-tropical to temperate and arid Africa, tropical to sub-Antarctic islands, central America, Australia, and the Antarctic, and from terrestrial to freshwater and marine biomes.

3. C-I-B Hub and Partner Facilities

Stellenbosch University is the host institution for the C-I-B hub and provides the following facilities:

Human Resources: Direct: Besides the key academic and management personnel, the C-I-B is supported by four technical staff, a database manager, four personnel concerned with outreach, and two administrative staff. Indirect: The C-I-B draws in various ways on the human resources that are contained within a large, modern University.

Physical Resources: Fifteen large offices, a display area, seminar room, storage facility and large laboratory in the C-I-B hub complex; access to lecture rooms, laboratory facilities, post-graduate offices and kitchen facilities in the Department of Botany and Zoology to which the C-I-B is affiliated; central University information technology infrastructure (LAN).

Academic and Administrative Resources: Library resources in the form of books, journals and electronic media; central analytical facilities; a language centre providing tuition in scientific writing; academic marketing resources provided routinely by student recruitment services; research support via the Research Development Offices; student administration; international student liaison; financial and human resources administration.

Partner Institutions

The Universities of Cape Town, KwaZulu-Natal, Pretoria and Venda, Walter Sisulu University, as well as the Council for Scientific and Industrial Research (CSIR), and South African National Parks are hosts to one or more core team members and/or students of the C-I-B. The C-I-B also supports students at several other tertiary institutions across South Africa. The structure of these institutions and the support they provide to core team members is set out on the institutional home pages which can be accessed via www.sun.ac.za/cib.

4. Research and Training Experience

The C-I-B is a highly respected R&D organization, and its staff have published their work in a wide variety of sources including internationally acclaimed journals such as *Nature*, *Science*, *PNAS*, *Proceedings of the Royal Society B*, *Trends in Ecology & Evolution*, *American Naturalist*, *Biological Reviews*, and *Ecology Letters*. The R&D standing of the C-I-B researchers is further reflected in their editorial positions at several leading international journals, and participation in international science organizations at an executive level, such as in the IUCN-SSC, and the Scientific Committee on Antarctic Research. The C-I-B has played a major role in providing scientific expertise in the process of drafting various regulations, has drafted the Environmental Management Plan for the sub-Antarctic Prince Edward Islands, and has assisted the Global Invasive Species Programme in identifying the way forward for the development of IAS indicators for the Global 2010 biodiversity targets.

The C-I-B staff and its partners draw on many years collective experience of training at the post-doctoral, graduate and undergraduate levels. They are all members of or affiliated with accredited South African training institutions. In addition, several of the members have been involved or are currently involved in

regional training programmes. The C-I-B staff has also been involved with a variety of community-based outreach programmes spanning several levels of work from extension regarding particular problems in biodiversity conservation, to teacher in-service training and learner education at the secondary level.

5. C-I-B Partnerships

The C-I-B has a wide range of international collaborations and formal partnerships with R&D and training institutions. These span many countries and a range of organizations from government agencies to University Departments. Memoranda of Understanding have been signed with the Working for Water Programme, the University of Sheffield (U.K.), University of Tennessee (U.S.A.), Pontificia Universidad Católica de Chile, South African National Parks, South African Institute for Aquatic Biodiversity, Iziko Museums of Cape Town and the Western Cape Nature Conservation Board (CapeNature).

6. Additional Information and Contact Details

Further information on the C-I-B and its partners is available on the C-I-B home page, which can be found at: www.sun.ac.za/cib

The C-I-B can be contacted at:

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