

# Curriculum Vitae – Steven L Chown

## 1. PERSONAL DETAILS

Full name	Steven Loudon Chown
Business address	Securing Antarctica's Environmental Future School of Biological Sciences Faculty of Science Monash University Victoria 3800 Australia Tel: + 61 3 9905 0097 E-mail: <a href="mailto:steven.chown@monash.edu">steven.chown@monash.edu</a>
Home pages	<a href="http://www.chownlab.com">www.chownlab.com</a> <a href="https://research.monash.edu/en/persons/steven-chown">https://research.monash.edu/en/persons/steven-chown</a> <a href="http://www.arcsaef.com">www.arcsaef.com</a>
Citizenship	Australian; South African

## 2. EDUCATION

- Matriculation (1981) with Academic Honours at Christian Brothers College, Pretoria, South Africa.
- B.Sc. Entomology & Zoology, *cum laude* (1985/09/06) University of Pretoria, South Africa.
- B.Sc. Hons. Entomology, *cum laude* (1986/09/04) University of Pretoria, South Africa.
- Ph.D. (7 December 1989), University of Pretoria, South Africa.
- Post-doctoral experience  
**G. Kuschel**, DSIR New Zealand, 1992; **W. Block**, British Antarctic Survey, 1993/4.
- High Potentials Leadership Program, Harvard Business School Executive Education, 2012.

## 3. EMPLOYMENT

- April 2020 on: Director, Securing Antarctica's Environmental Future, An Australian Research Council Special Research Initiative; Professor, School of Biological Sciences, Monash University.
- August 2017 to April 2020: Professor, School of Biological Sciences, Monash University, Australia.
- January 2013 to July 2017: Professor and Head, School of Biological Sciences, Monash University, Australia.

- July 2012 to December 2012: Professor and incoming Head, School of Biological Sciences, Monash University, Australia.
- July 2004 to June 2012: Director, DST-NRF Centre of Excellence for Invasion Biology, and Professor, Dept. Botany and Zoology, Stellenbosch University, South Africa.
- Oct. 2001 to June 2004: Professor, Dept. Zoology, Stellenbosch University, South Africa.
- 1997 to Sept. 2001: Professor, Dept. Zoology and Entomology, University of Pretoria, South Africa.
- 1994 to 1996: Associate Professor, Dept. Zoology and Entomology, University of Pretoria, South Africa.
- 1992 to 1993: Senior Lecturer, Dept. Entomology, University of Pretoria, South Africa.
- 1989 to 1991: Lecturer, Dept. Entomology, University of Pretoria, South Africa.
- 1986 to 1989: Biologist, South African Department of Environment Affairs, Marion Island Entomological Programme.
- Nov 1983 to May 1984: Assistant biologist, South African Department of Transport, Marion Island Entomological Programme.

#### 4. RECOGNITION AND AWARDS

- Medal of the 30<sup>th</sup> Anniversary of the Madrid Protocol, awarded by the French Republic, 2021.
- Fellow of the Australian Academy of Science, Elected 2021.
- International Honorary Member, American Academy of Arts and Sciences, Elected 2020.
- Scientific Committee on Antarctic Research, Medal for Excellence in Antarctic Research, 2014.
- Inaugural awardee, Tinker-Muse Prize for Science and Policy in Antarctica, 2009.
- Rector's Award for Excellence in Research, Stellenbosch University, 2003, 2009.
- Zoological Society of Southern Africa Gold Medal, 2009.
- Bill Venter/Altron Literary Award for the most outstanding natural science text by a South African over a period of four years: Chown & Nicolson *Insect Physiological Ecology* (OUP, Oxford), 2009.
- University of Pretoria Commemorative Research Medal *Honouring our Leading Minds (1908-2008)*, 2008.
- Fellow of the Royal Society of South Africa, Elected 2006.

- IHDP/IGBP/WCRP System for Analysis, Research and Training, Young Scientists Award, 2000.
- British Association Medal of the South African Association for the Advancement of Science, 1999.
- South African Antarctic Gold Medal, 1997.
- Commonwealth Staff Development Fellowship for study in the United Kingdom, 1996/7.
- Faculty of Science, University of Pretoria, Young Researcher of the Year, 1992.

## 5. LEADERSHIP

- Director, Securing Antarctica's Environmental Future Program - an Australian Research Council Special Research Initiative in Excellence in Antarctic Science. Budget of AU\$46 Million over seven years involving 30 institutions and a range of scientific and professional staff. I have been responsible for leading the bid, establishing the program, and overseeing all aspects of delivery.
- President, Scientific Committee on Antarctic Research (SCAR, [www.scar.org](http://www.scar.org)) (2016-2021). SCAR is headquartered in Cambridge UK, has 45 country members, nine International Science Council Union members and an affiliated membership of thousands of individual scientists. It is the premier interdisciplinary body facilitating science in, from and about Antarctica and the Southern Ocean, and provides evidence-based policy advice to the Antarctic Treaty System and to other decision-making bodies, such as those of the United Nations. During my term, the Secretariat was revitalized, three new strategic, integrated Scientific Research Programs set in motion, and the organization's reputation as a leading provider of evidence-based advice about the Antarctic and Southern Ocean substantially extended.
- Head of School, Biological Sciences, Monash University, Australia (2013-2017). Budget of *ca.* AU\$ 35-50 Million p.a. with *ca.* 50 academic and 50 professional staff. I was responsible for setting a new strategy for the School, restructuring its operations and personnel, and substantially improving internal processes such as OHS and animal ethics. I oversaw the appointment of 16 new academic staff, an investment of *ca.* AU\$ 50 Million in the School, and a considerable rise in Excellence in Research for Australia Scores for the areas over which the School has most influence.
- Director, DST-NRF Centre of Excellence for Invasion Biology, Stellenbosch University, South Africa, with a budget of *ca.* ZAR 14 Million p.a., and involving *ca.* 20 core and 17 affiliated staff members (2004-2012). I led the bid, established the Centre, developed its research and engagement strategies, and grew it into an entity doubling its research agency income annually and making internationally leading contributions to the field along with providing advice to government at all levels.
- Chair of the Australian Academy of Science's National Committee for Antarctic Research (2015-2020), responsible for Australian Antarctic science coordination and integration with international priorities, along with facilitating relationships with the Australian Antarctic Division. As an Australian Antarctic Science Council member, I

helped develop Australia's new Antarctic Science Strategy (currently under consideration by the Minister).

- Chief Shore-based Scientist and/or leader of Antarctic Field Expeditions: 1996, 1997, 1999, 2001, 2002, 2004, 2008 (2), 2009, 2011, 2016.
- Laboratory head for own research group involving 10+ graduate students, post-doctoral researchers and professional staff at any given time.

## **6. BOARDS AND MAJOR COMMITTEES**

- Australian Antarctic Science Council Member (2018-2020).
- International Science Panel, New Zealand Antarctic Science Platform (2018 onwards).
- President, Scientific Committee on Antarctic Research (2016-2021).
- Australian Delegate to SCAR (2016-2021).
- Board Member, New Zealand Antarctic Research Institute (2016).
- External Expert Advisory Board member, EU-Polarnet (2016-2018).
- Selection Committee Member – Tinker-Muse Prize for Science and Policy in Antarctica (2015-2016).
- Chair, Australian Academy of Science National Committee for Antarctic Research (2014-2020).
- Chief Officer, SCAR Antarctic Treaty System Standing Committee (2006-2014).
- South African Delegate to SCAR (2004-2006, 2010).
- Chair, South African National Committee for SCAR (2004-2007; 2010-2012).
- Member, Task Team for development of regulations for alien species under the South African Biodiversity Act (10 of 2004) (2004-2012).
- Controlling Board Member, South African National Biodiversity Institute (2004-2006).
- South African ICSU Committee (2003-2005).
- Chief Officer, SCAR Life Sciences Standing Scientific Group (2002-2004).
- British Antarctic Survey Integrated Program Review Committee (2001-2005).
- South African Alternate Delegate to SCAR (1998-2001).
- First Chair of the Prince Edward Islands Management Committee (1996-1998).

## 7. PUBLICATIONS

Total of > 440 research papers, 35 editorials/commentaries, 34 book chapters, 2 science books, 4 popular books, > 30 formal advisory reports, > 10 popular articles.

### Listing

<https://scholar.google.com.au/citations?user=1YGR9dsAAAAJ&hl=en>

**Clarivate Highly Cited Author (cross-field) 2018, 2019, 2020**

### International collaborations

<https://research.monash.edu/en/persons/steven-chown/network-map/>

### Key contributions

- Baird, H.P., Shin, S., Oberprieler, R.G., Hullé, M., Vernon, P., Moon, K.L., Adams, R.H., McKenna, D.D. & **Chown, S.L.** 2021. Fifty million years of beetle evolution along the Antarctic Polar Front. *Proceedings of the National Academy of Sciences of the U.S.A.* **118**, e2017384118.
- Leihiy, R.I., Coetzee, B.W.T., Morgan, F., Raymond, B., Shaw, J.D., Terauds, A., Bastmeijer, K. & **Chown, S.L.** 2020. Antarctica's wilderness fails to capture continent's biodiversity. *Nature* **583**, 567-571.
- Hindell, M.A., Reisinger, R.R., Ropert-Coudert, Y., Hückstädt, L.A., Trathan, P.N., Bornemann, H. Charrassin, J.-B., **Chown, S.L.**...Raymond, B. 2020. Tracking of marine predators to protect Southern Ocean ecosystems. *Nature* **580**, 87-92.
- Janion-Scheepers, C., Phillips, L., Sgrò, C.M., Duffy, G.A., Hallas, R. & **Chown, S.L.** 2018. Basal resistance enhances warming tolerance of alien over indigenous species across latitude. *Proceedings of the National Academy of Sciences of the U.S.A.* **115**, 145-150.
- Rintoul, S.R., **Chown, S.L.**, DeConto, R.M., England, M.H., Fricker, H., Masson-Delmotte, V., Naish, T.R., Siegert, M.J. & Xavier, J.C. 2018. Choosing the future of Antarctica. *Nature* **558**, 233-241.
- **Chown, S.L.**, Brooks, C.M., ... McGeoch, M.A. 2017. Antarctica and the Strategic Plan for Biodiversity. *PLoS Biology* **15**, e2001656.
- **Chown, S.L.**, Clarke, A., Fraser, C.I., Cary, S.C., Moon, K.L. & McGeoch, M.A. 2015. The changing form of Antarctic biodiversity. *Nature* **522**, 431-438.
- **Chown, S.L.**, et al. 2012. Continent-wide risk assessment for the establishment of nonindigenous species in Antarctica. *Proceedings of the National Academy of Sciences of the U.S.A.* **109**, 4938-4943.
- **Chown, S.L.**, et al. 2012. Challenges to the future conservation of the Antarctic. *Science* **337**, 158-159.
- **Chown, S.L.** & Gaston, K.J. 2008. Macrophysiology for a changing world. *Proceedings of the Royal Society B* **275**, 1469-1478.

- **Chown, S.L.** & Nicolson, S.W. 2004. *Insect Physiological Ecology. Mechanisms and Patterns*. Oxford University Press, Oxford. ISBN 0198515480, 0198515499.
- Van Jaarsveld, A.S., Freitag, S., **Chown, S.L.**, Muller, C., Koch, S., Hull, H., Bellamy, C., Krüger, M., Endrödy-Younga, S., Mansell, M.W. & Scholtz, C.H. 1998. Biodiversity assessment and conservation strategies. *Science* **279**, 2106-2108.

## 8. PLENARY AND KEYNOTE ADDRESSES

More than 30 plenary/keynote addresses and > 100 invited talks. Highlights include:

- Foundation Day plenary address to the National Centre for Ocean and Polar Research, India, April 2021.
- Opening scientific address to the inaugural international Antarctic Parliamentarians Assembly, London, UK, December 2019, arranged by James Gray MP, House of Commons.
- The SCAR Lecture at Antarctic Treaty Consultative Meeting XLII, Prague, Czech Republic, July 2019.
- Closing Plenary Speaker. IX Latin American Antarctic Science Congress, Punta Arenas, Chile, October 2017.
- Closing Address to HSH Prince Albert II of Monaco and senior members of the Monaco government at 'The Monaco Assessment of Antarctic Conservation', Monaco, June 2015.
- Closing Plenary Speaker. American Physiological Society Intersociety Meeting, Comparative Approaches to Grand Challenges in Physiology, San Diego, US, October 2014.
- Opening Plenary Speaker. Fourth International Polar Year, Oslo Science Conference, Norway, June 2010. The audience included HSH Prince Albert II of Monaco and HRH Crown Prince Haakon of Norway.

## 9. GRADUATE STUDENT TRAINING

**Completions:** 31 Masters by Research (South African system), 32 Ph.D. students.

**Current:** 2 Ph.D. students.

## 10. EDITORIAL DUTIES

**Editor:** *Functional Ecology* (2001-2005).

**Previous editorial boards:** *African Entomology*, *Austral Entomology*, *Diversity and Distributions*, *Functional Ecology*, *Polar Biology*, *Proceedings of the Royal Society B*, *The American Naturalist*, *Zoological Journal of the Linnean Society*.

**Current editorial boards:** *Antarctic Science*, *Biological Reviews*, *BMC Ecology (Advisory)*, *Current Opinion in Insect Science*, *F1000Prime Faculty Member*

## 11. EXTERNAL GRANT INCOME

**Total in awards:** *ca.* US\$ 70 million.

### **Awarding agencies (as Primary CI or Co-CI)**

- Australian Research Council.
- Australian National Health and Medical Research Council.
- Australian Antarctic Science Program.
- Darwin Initiative of the UK.
- National Geographic Society.
- South African National Research Foundation.
- South African National Antarctic Program.
- Swiss Polar Institute/Ferring Pharmaceuticals.
- USAID.
- USA National Institutes of Health.
- The Wellcome Trust.
- Worldwide Fund for Nature.

## 12. ADVISORY ACTIVITIES

### **International**

- Scientific Committee on Antarctic Research Head of Delegation to the Annual Antarctic Treaty Consultative Meeting (2017-2020).
- Scientific Committee on Antarctic Research Representative to the Committee for Environmental Protection of the Antarctic Treaty (2006-2014).
- Overseas Bursary Panel of the British Ecological Society (2007-2009).
- Member of the International Polar Year Programme Planning Group (2007/8).
- Regular activities: Appointments reviews for institutions; grant reviews for international agencies; fellowship adjudications (Royal Society, Royal Society of New Zealand, MacArthur Foundation); manuscript reviews including regularly for *Nature*, *Science*, *PNAS*.

### **National**

- Co-developer, as member of the Australian Antarctic Science Council, of the Australian Antarctic Science Strategy, 2020.
- Witness on behalf of the Australian Academy of Science to the *Joint Standing Committee on the National Capital and External Territories Inquiry into Australia's Antarctic Territory*, 2017.
- Witness on behalf of the Australian Academy of Science to the *Senate Foreign Affairs, Defence and Trade References Committee Inquiry into Australia's Future Activities and Responsibilities in the Southern Ocean and Antarctic Waters*, 2014.
- *Science Capability Review, South African National Antarctic Programme*. Advice (prepared with J.H. de Beer) to the Department of Environmental Affairs and Tourism

and the National Research Foundation, for justification of a new Antarctic research vessel, 2007. Vessel (*SA Agulhas II*) delivered in 2012.

- Respondent to the South African National Biodiversity Institute at the *African National Congress Select Committee on the Environment*, 2006.
- *Antarctic Research Strategy for South Africa. A Discussion Document*. Report prepared for the South African Department of Science and Technology (with A.D.M. Walker & H. Frimmel). Adopted as basis for the 2004-2012 National Antarctic Strategy.
- Regular activities: Appointments panels for major positions at universities and government agencies; university reviews; funding agency grant award committees; institutional committees on research strategy and on organisational implementation (such as promotions and OHS).

### 13. COMMUNICATIONS CAPABILITY

Examples of interactions with the media and presentations to different audiences are available at:

- <https://theconversation.com/humans-are-encroaching-on-antarcticas-last-wild-places-threatening-its-fragile-biodiversity-142648>
- [https://www.radionz.co.nz/audio/player?audio\\_id=2498160](https://www.radionz.co.nz/audio/player?audio_id=2498160)
- [https://youtu.be/t\\_a27VgFs1g](https://youtu.be/t_a27VgFs1g)
- <https://www.nature.com/nature/podcast/index-2015-06-25.html>
- [https://www.abc.net.au/news/2016-04-19/monash-uni-leading-expedition-to-examine-antarctica-wildlife/7337774?WT.mc\\_id=Innovation\\_Radio-TheWorldToday|AntarcticaExpedition\\_FBP|abc](https://www.abc.net.au/news/2016-04-19/monash-uni-leading-expedition-to-examine-antarctica-wildlife/7337774?WT.mc_id=Innovation_Radio-TheWorldToday|AntarcticaExpedition_FBP|abc)
- <https://theconversation.com/debris-from-the-2011-tsunami-carried-hundreds-of-species-across-the-pacific-ocean-84773>
- <https://youtu.be/sRC6AEX3Jkk>