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Full CV and publications - PHOEBE ELIZABETH BARNARD, PhD

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Synopsis -

I'm a highly motivated global change ecologist, ecosystems and biodiversity scientist, sustainability strategist, collaborative leader, science professor and environmental futurist. I'm chief executive officer of the new Stable Planet Alliance, and Affiliate Full Professor at University of Washington's Center for Environmental Politics and Interdisciplinary Arts and Sciences. I'm also Research Associate of two institutes at the University of Cape Town: the African Climate and Development Initiative and Centre of Excellence at the FitzPatrick Institute (African Ornithology).

I've had a lively and impactful 34 years working globally and in southern Africa, in academia, government, nonprofits, international organizations and initiatives, and national research institutes, most often in leadership roles. Passionate about biodiversity and climate change, I operate almost equally comfortably at two levels, planetary and local - with science and society, justice and leadership, courage and choice as lenses.

Globally, I ran the science and technology program of the Global Invasive Species Programme, represented Namibia as lead negotiator for the UN Convention on Biological Diversity for eight years, aligned work programs of the UNFCCC, UNCCD, UNCBD, Convention on Migratory Species and Ramsar Convention. I was a global board and exco member for the Millennium Ecosystem Assessment, the most influential global assessment to this day of ecosystems' status, trends, and ability to support human economies, livelihoods, health and wellbeing.

In southern Africa, I was the South African National Biodiversity Institute's Lead Scientist for Climate Change BioAdaptation and Head of Biodiversity Futures (the latter one of numerous programs I've founded and led). From 2013-2016 I was also President of BirdLife South Africa. Earlier, I founded and led Namibia's first national programs on biodiversity and climate change for 10 years after Independence, to implement its progressive Constitution on sustainable land use, agriculture and national development.

On science: my main interest is the spatial and temporal responses of biodiversity and ecosystems to global change. From 2008-2016, I ran an international research team jointly between an academic institute and a government funded science-policy institute, to understand the vulnerability and adaptation of endemic species and ecosystems to complex global changes, collaborating with palaeoecologists, modellers, geneticists, and statistical ecologists.

On society: my main interests are in envisaging and enabling societal and environmental futures through transformative policy and behavioral change, and in bringing about (peaceful) tipping points for a new economy and sustainable society. Science is a key element in the sustainability transition ahead, but only really quite a small one. Far greater elements are economics, human needs and wants, perception, emotion, faith and how ordinary people make decisions in complex situations. To understand these issues in Africa, I used systems analysis, horizon scanning, trends analysis, early warning systems, citizen science, leadership studies, and complex models.

My work blends strategic planning, leadership, research, teaching, publication, writing, editing, public speaking, mentorship and citizen science. I've taught young scientists and implementers spatial ecology, biodiversity conservation, land use planning, climate change, environmental policy, conflict resolution, and leadership. I've been fortunate to work with some of the best minds on the planet, and hope a few of their ideas and skills rubbed off. At home and outdoors, I'm a loving parent/stepparent, wife (to filmmaker John Bowey), climber of active volcanoes, mediocre mountaineer, haphazard trail runner, community volunteer, and film co-producer. I love good music, eclectic and diverse people, beauty and diversity in nature, and yummy vegan cuisine.

BACKGROUND and CONTACTS

Birth: 10 June 1961, Massachusetts, USA

Residence: Citizen of USA, permanent resident of Namibia and South Africa

Permanent base: Mount Vernon, Washington State, USA

Tel +1 360 914 2307 (USA mobile)

phoebe.barnard@stableplanetalliance.org (professional email)

phoebebarnard2018@gmail.com (personal email)

CURRENT POSITIONS

August 2021- Stable Planet Alliance: Chief Executive Officer. I'm founding lead of this exciting new global alliance, bringing together dynamic and respected global and national organizations to 'bend the curve on population and hyperconsumption' in the contexts of planetary boundaries, justice, and

collaborative feminine leadership.

July 2020 - University of Washington, Seattle: Affiliate Professor, Center for Environmental Politics (conservation biology, environmental futures). An unsalaried position at full professorial level.

March 2017 - University of Washington, Bothell: Affiliate Professor, Interdisciplinary Arts & Sciences (conservation biology, environmental futures). An unsalaried position at full professorial level.

2013 - Univ of Cape Town, African Climate and Development Initiative: Honorary Research Associate.

I collaborate with ACDI on environmental futures, and co-supervised 'biodiversity futures' MSc and PhD students, Beth Mackay and Lavinia Perumal, with ACDI Director/UCT Pro Vice Chancellor Prof Mark New and IIASA colleagues Matthias Jonas and Wei Liu. This is an unsalaried position.

2005 - University of Cape Town (UCT), DST/NRF Centre of Excellence at the FitzPatrick Institute of African Ornithology: Honorary Research Associate. In 2008-2016 I led an international research program on climate change vulnerability and adaptation of fynbos endemic birds, and from 2011-2016 an international program on climate migration. From 2007-2012 I coordinated the climate change and conservation module of UCT's highly regarded MSc Course in Conservation Biology, and thereafter contributed annually as a guest lecturer on climate vulnerability and adaptation, national and global public policy in biodiversity and climate, conservation leadership, negotiation skills and conflict resolution. I still co-supervise postdocs and students. An unsalaried position.

EARLIER PROFESSIONAL APPOINTMENTS

Oct 2018 –21 Conservation Biology Institute: Chief Scientific and Policy Officer. My role within CBI's leadership team strategically advanced and elevated its scientific, policy and comms work in the climate risk and resilience, ecosystem, energy, infrastructure, biodiversity, fire and urban design spaces. I also adapted a successful model of evidence-based biodiversity decision-support from southern Africa to pilot as a broad regional Cascadia bioregional coalition of agency, university, citizen science, nonprofit and corporate partners.

June-Sept 2018 Center for Large Landscape Conservation: Senior Science-Policy Consultant. I worked to advance the global and regional ecological connectivity policy work of the IUCN World Commission on Protected Areas' Connectivity Conservation Specialist Group, which the CLLC chairs. I helped establish a Marine Connectivity Working Group and advanced a global investment policy review of linear transportation infrastructure for the Transport Working Group. This was a half-time position, funded by the Packard Foundation.

2017-2018 Pacific Biodiversity Institute (PBI): Executive Director. I was the second director of this thinly-resourced nonprofit, from Jan 2017-Mar 2018. With PBI's board, after superhuman fundraising efforts with my staff against challenging odds, in 2018 I dissolved PBI and transitioned its programs/ staff to stronger organizations, for better conservation impact.

2005-2016 South African National Biodiversity Institute (SANBI):

Principal (2005-14) & Lead Scientist (2014-16), Climate Change Adaptation, and founding Program Head (2015-2016), Biodiversity Futures, Kirstenbosch Research Centre. This was an exciting post at an internationally respected institute. As Lead Scientist, I did national and institutional strategic planning for biodiversity futures and climate vulnerability science in biodiversity. I worked especially on global change futures, climate vulnerability of endemic species, and the roles of research, citizen science and partnerships in collaborative science/policy early warning systems for species conservation.

Our biodiversity futures work explicitly confronted the large-scale, societal curve balls of technology, infrastructure, public policy and governance which increasingly undermine our conventional efforts to conserve species and ecosystems. From late 2015 through 2016, I put together a research team to work with systems analysis and modelling partners at IIASA and the universities of Stellenbosch, Boston, Maine, Queensland and Cambridge to tackle emerging issues and model plausible global, African and South African futures. I also restructured SANBI's approach to climate change bioadaptation research and integrated its climate change work across this national institute.

I also led a joint SANBI/University of Cape Town research team on bird vulnerability to climate and land use change (biogeography, palaeoenvironments, fire, invasion biology). This team included academics, postdocs, PhD and MSc students (see COLLABORATIONS). I developed and implemented research programs, media outreach and fundraising. Our research strongly supported policy and planning needs, focused on vulnerability and adaptation of African biodiversity to rapidly changing landscapes, and drew on citizen science projects which I helped launch and fund. I've also coordinated numerous technical, scientific and policy fora on global change, including the international scientific program of South Africa's National Climate Change Conference in 2005, opened by the Deputy President. I've been very involved in pan-African capacity building, mentorship and media.

2016 Stellenbosch Business School, Institute for Futures Research: Honorary Research Associate. I initiated this new collaboration to enable stronger dialogue between SANBI, UCT and the IFR on environmental, policy and economic futures in Africa.

> South African National Biodiversity Institute (SANBI): Scientific & technological coordinator, Global Invasive Species Program Secretariat. This 18-month contract brought me to South Africa to lead the science aspects of the Global Invasive Species Program, a partnership between the IUCN, The Nature Conservancy and CABI. I directed GISP's strategic science work, produced 6 regional workshop reports and a synthesis, and contributed to GISP's work with the Convention on Biological Diversity and the Global Strategy for Plant Conservation.

> Ministry of Environment and Tourism, Directorate of Environmental Affairs: Founding National Coordinator, Namibian National Biodiversity Program. In this senior position (de facto director), I had complete autonomy and responsibility in the Namibian Government's environmental policy and planning directorate. I planned, developed and led strategic national planning, coordination, policy formulation, analysis and drafting; I chaired the National Biodiversity Task Force and 4 of its 18 working groups. I coordinated, co-drafted/ co-edited Namibia's national biodiversity strategy and action plan, biodiversity country study and scientific outputs; developed, implemented and oversaw research and conservation projects; organized and facilitated workshops; mentored and supervised professional and administrative staff, trainees and consultants; built teams of biodiversity scientists, economists, lawyers and resource managers; drafted and submitted successful proposals; provided technical and policy advice to senior national politicians; and was Namibia's lead and co-negotiator at the UN Convention on Biological Diversity (national focal point, 1997-2002), Southern African Development Community, and other fora.

IUCN Botswana: Technical advisor, biodiversity strategic planning (18 months). I advised a national consultancy team contracted via IUCN by the National Conservation Strategy Agency on the review of Botswana's national biodiversity strategy and action plan, country study and information clearing-house mechanism.

2003-2005

1994-2003

2002-04

2001	Ministry of Environment and Tourism, Directorate of Environmental Affairs: Founding National Coordinator, Namibian National Climate Change Program. At the same time as my responsibilities above, running the National Biodiversity Program, I established the Namibian Committee on Climate Change and a public forum, set up a national program and governance in the Directorate of Environmental Affairs, and ran it for just under a year.
1996	Land Use Planning Training Program / DANCED, Namibia: Lecturer <u>Course taught:</u> Sustainable land use planning (one week) to Namibian land-use planners.
1995, 2014	Tropical Biology Association, Cambridge, UK: Course coordinator & lecturer. I coordinated and/or lectured on postgraduate tropical ecology and conservation biology courses (one month, Uganda and Tanzania) for African and European postgraduate biologists from 12 nations.
1993-94	Zoology Department, Uppsala University, Sweden: Doctoral researcher . I wrote publications and a PhD thesis from my work on ornamented African passerine birds with collaborators from Oxford & Cambridge Universities on a Fulbright scholarship, and completed exams and coursework.
1993	Zoology Department, Trondheim University, Norway: Guest lecturer (1 week) <u>Course taught</u> : Advanced sexual selection, to Norwegian MSc students
1993	Forestry Training Program / FINNIDA, Namibia: Guest lecturer (3 days) <u>Course taught:</u> Sustainable resource management to Namibian foresters
1989-91	Department of Zoology, University of Namibia: Lecturer (2.5 years) Courses taught: Evolution, biogeography and speciation; coevolution; life-history strategies; population ecology; conservation biology; integrated pest management; community ecology; human ecology; ornithology; ichthyology; arthropod reproduction & development; scientific method & statistics. Ran a numeracy component of a university bridging year for teachers; very involved in transformative committee work.
1989	Department of Zoology, University of Namibia: Guest lecturer (2 months) <u>Courses taught</u> : Conservation biology, human ecology
1987-88	Department of Zoology, Univ of the Witwatersrand, Junior lecturer <u>Courses taught</u> : Conservation biology and resource politics (founded the course)
1987	University of the Witwatersrand: Histology lab demonstrator (8 weeks), undergrad med students

PROFESSIONAL MENTORING - YOUNG AFRICAN SCIENTISTS 2005-present

1985-87

The nurturing and inspiration of young scientists has been deeply important to me since my first job at a small African university, University of Namibia, where some students struggle against long odds to get to university from humble rural beginnings. Women especially often suffer repeated obstacles – financial, cultural, health - to their quest for education.

University of the Witwatersrand: Ecology field lecturer (week-long trips), undergrad students

Postdoctoral fellows, PhD students, MSc students, BSc (Hons) students supervised through the South African National Biodiversity Institute (SANBI) & University of Cape Town (UCT), University of Stellenbosch (SU) or University of Kwazulu-Natal (UKZN):

Postdoctoral fellows:	Dr Clelia Sirami	(2007-10)
	Dr Alan T.K. Lee	(2011-16)
	Dr Samuel Temidayo Osinubi	(2014-20) - all UCT
PhD students:	Daniël Cloete	(2015-22, UCT)
	Lavinia Perumal	(2016-20, UCT)
MSc student:	Fleming Campbell	(2016-22, UCT)
Past PhD students:	Sebataolo Rahlao	(2005-10, SU)

Thabiso Mokotjomela (for first year 2007, SU)

Zingfa Wala (for first two years 2011-12, UCT)

Sally Hofmeyr (2008-12, UCT) Anina Heystek Coetzee (2013-16, SU)

Mukundi Mukundamago (2016, studies truncated)

Pfananani Ramulifho (2016-18, UKZN, affiliated student)
Loïc Chalmandrier (2008-09, Ecole Normale Superieure)

Anina Heystek (2011-12, SU)
Beth Mackay (2013-14, UCT)
Anina Heystek (2011, SU)

Lara Croxford (2011, SU) Will Wyness (2011, UCT).

OTHER MENTORING AND LEADERSHIP TRAINING

Past MSc students:

Past Hons students:

2020-22 **Mentor, American Society of Adaptation Professionals (ASAP)**, a lively North American organization and program linking younger mentees with more seasoned professionals working in climate adaptation, risk, resilience, ecosystems, migration, infrastructure and JEDI values.

2020 **Session coordinator, Leadership Skagit**, a county program for transformative JEDI leadership. I focused on Envision Skagit 2060, an excellent scenario exercise which nonetheless failed – why?

2019-22 Mentor, Coalition Wild, IUCN's global mentorship network on biodiversity & protected areas.

2018-2020 Staff mentor, Conservation Biology Institute

2013-15 **Initiator and mentor** of **South African National Biodiversity Institute's (SANBI)** Climate Change Science Journalism Internship Program

I developed **Global Invasive Species Program's international internship-mentorship program** concept to pair late-career or retired mentors with young professionals to transfer invasive species management or policy skills, approaches and wisdom. It could not be funded, but was later applied in 2010 within a related South African national program.

- 2005-16 Was an informal mentor for younger colleagues, South African National Biodiversity Institute.
- 2008-14 **Panellist or examiner** for the following proposal and/or thesis defences:
 - PhD students Amrei von Häse and Mao Angua Amis (UCT, 2008)
 - MSc student Marius Kieck (2009, Stellenbosch)
 - MSc student Phineas Sadondo (2014, UCT)
 - MSc students Emmanuel Nwankwo, Olayinka Daodu, Braimoh Bukola, Olumoh Abdulrahman, Kongvong Shedrach, Agbo Boniface, Andong Felix and Benedictus Freeman (2014, University of Jos, AP Leventis Ornithological Research Institute).
- 2005 I informally mentor other PhD, MSc, Honours students and young professionals: Stephen Awoyemi, Dr Abidemi Islamiat Raji, Dr Folaranmi Babalola, Dr Sebataolo Rahlao, Zuziwe Nyareli, Joyce Katjirua, Dr Karine Payet, Morgan Commins, Dr Krista Oswald, Jennifer Angoh, Josheena Naggea, Dr Kristina Bartowitz, Lucila Castro, Onajite Henrietta Abigail Okagbare, Alex Basaraba, Dr Fezile Mtsetfwa, Isabela Schultz...
- Society for Conservation Biology (Africa Section) 2004-2015 I was co-founder of the pan-African 'Young Women Conservation Biologists' working group which supports and networks women conservation biologists in their careers. As the committee developed, I handed chairmanship to co-chairs in Cameroon, Nigeria and Tanzania, and mentored young early-career women and students via email, helping shape ideas, and profiling up-and-coming conservation biologists in the Africa section newsletter. Until 2015 I chaired the Africa Section YWCB's Awards Panel, which since 2007 made non-monetary awards to outstanding candidates. I help students to write scientific papers and proposals, and to remain focused and passionate in difficult conditions. I've also been on the Africa Section's Mentoring Program Advisory Committee.

- 1995, 2014 **Tropical Biology Association (TBA)** Organized and ran month-long TBA courses in 1995 (Uganda) and was one of four core teachers in 2014 (Tanzania). TBA's programs twin 12 African and 12 European postgraduates to learn conservation biology, evolution and ecology, global change biology and detailed field research skills. I mentor young graduates on an ongoing basis.
- 1994-2003 **Namibian National Biodiversity Program** Nurtured young colleagues in on-the-job training for fieldwork, strategic planning and the UN: biodiversity inventory, bird ringing, policy analysis, career development, international political negotiations!
- 1989-91 **University of Namibia 1989-1991** Got involved in several committees and initiatives to improve the teaching/learning environment, introducing regular student course evaluations of lecturers and devoting much time to helping students think and write independently.
- 1988-89 **University of the Witwatersrand 1988-89** I set up and ran its first Conservation Biology course for 2 years, investing much time to help students write and think independently and accurately.

COLLABORATIONS

- 2020-21 American Society of Adaptation Professionals, Brendle Group, Climate Resilience Consulting,
 Parametrix, Kleinfelder, and state and federal agencies building teams for accelerating
 collaborative action in the climate adaptation space, including climate in-migration preparedness.
- Environmental and Biodiversity Futures International Institute for Applied Systems Analysis
 (IIASA), Universities of Stellenbosch, Cape Town, Cambridge and Boston for the Biodiversity
 Futures Program I established at SANBI, I initiated research partnerships with three research groups
 (ASA, RISK and ESM) at IIASA; with Centre for Complex Systems in Transition and Business School
 (Institute for Futures Research) at University of Stellenbosch; with African Climate and Development
 Initiative at the University of Cape Town; with global conservation horizon-scan team at University of
 Cambridge; and with Frederick S. Pardee Center for Study of the Longer-Range Future at Boston
 University. The work initially focused on applying modelling and systems analysis tools to biodiversity
 loss and ecosystem service and function change as a result of large infrastructure developments in
 Africa and South Africa due to foreign direct investments, e.g. Belt and Road Initiative.
- Universities of Durham, Cambridge, Queensland, Magallanes, North Texas, Cape Town, Wildlife Conservation Society and Australian Dept of Environment I led and fundraised for the Gondwana Edges Project, a now-dormant three-year interdisciplinary research collaboration on vulnerability of terrestrial endemic species at the continental margins of Africa, South America, Australia and New Zealand, using topographic, microclimatic and coupled oceanic-atmosphere-land circulation models. My team consisted of senior and young up-and-coming specialists in the fields of global change biology, conservation planning, policy and implementation, microclimate modelling, population and community ecology, spatial statistics and oceanography. The project was launched at the Southern Connection Congress 2016 in Punta Arenas, Chile, but was not funded before I returned to the USA.
- University of Durham, University of Cambridge, University of Cape Town Climate change and bird vulnerability In 2008 I initiated this highly productive collaboration with Professors Brian Huntley (Durham) and Rhys Green (Cambridge) which used climate envelope modelling and palaeoecological modelling approaches to understand spatial and temporal bird vulnerability in southern Africa, especially in the fynbos biodiversity hotspot. It was funded by the Royal Society and Leverhulme Foundation (UK), with minor support from the South African National Biodiversity Institute and my National Research Foundation incentive grant. Other researchers involved in this collaboration were Dr Y Collingham, Dr SG Willis, Dr D Hole and Dr O Beveridge (all Durham), Profs PG Ryan, LG Underhill and the late PAR Hockey (all UCT), and my postdoc Alan Lee. This collaboration spawned 7 papers in high-impact journals, with another in prep.
- 2011-18 University of Cape Town and partners Intra-African bird migration genetics, ecology, and vulnerability to climate and land use change I initiated this collaboration on migration with the late Prof Phil Hockey, which gained significant momentum at the Pan-African Ornithological Conference in 2012, where I met Dr Samuel ("Dayo") Osinubi. After Phil Hockey's death in 2013, Prof Peter Ryan

and I oversaw Dayo Osinubi's postdoctoral leadership of the program. The research was done in collaboration with geneticist Desire Dalton at the National Zoological Gardens of South Africa (see https://theconversation.com/sights-are-set-on-understanding-bird-movements-across-africa-58943) and http://www.fitzpatrick.uct.ac.za/fitz/research/programmes/understanding/intra-african-bird-migration).

- University of Stellenbosch, University of Cambridge, University of Cape Town, Potsdam University, University of KwaZulu-Natal Fynbos bird pollinators, proteas and ericas I collaborated with Prof Anton Pauw (Stellenbosch) to co-supervise Anina Heystek Coetzee from BSc Hons to PhD. I also collaborated with Prof Jeremy Midgley (UCT) to co-supervise BSc Honours student William Wyness, and with Prof Frank Schurr (Potsdam) and his German colleagues and students on protea pollination. I also worked with PhD student Ross Turner (UKZN) on a novel pollinator of *Erica halicacaba*.
- 2011-16 University of Queensland climate change, resource bottlenecks and population declines In 2011, 2014 and 2015 I hosted Prof Martine Maron on her sabbatical and other research visits. This led to a paper in *Diversity and Distributions* and a symposium at the Southern Connection Congress in 2016.
- 2010-14 University of Cape Town, University of Stellenbosch, US Geological Survey (2010–14) Climate change and bird range shifts I partnered with Prof Res Altwegg (UCT) on his National Research Foundation funded, also involving Dr Birgit Erni and Prof Les Underhill (both UCT), Prof Guy Midgley (University of Stellenbosch) and Dr Jim Nichols (USGS). This collaboration led to a paper in Proceedings of the Royal Society B, and a number of PhD students and postdocs.

FELLOWSHIPS AND AWARDS

2019	Esther Forbes Award for Distinguished Professional Achievement (Bancroft School, USA) Citation: "For pursuing big-picture global and national initiatives broader than science."
2017	Affiliate Full Professorship (University of Washington) awarded by university faculty panel. University of Washington is ranked 9 th globally by the 2017 Center for World University Rankings.
2002	Distinguished Achievement Award (Society for Conservation Biology) Citation: "For her extraordinary contribution to conservation in Namibia, especially for putting science into practice"
1993-94	Fulbright Fellowship - Doctoral Grant (Fulbright Commission, USA/Sweden) For PhD studies in evolutionary biology
1991	Faculty Ad-hoc Research Grant (University of Namibia, Namibia) For preparation of a book chapter for Oxford University Press
1988	Leslie Brown Memorial Award (Raptor Research Foundation, USA) For research on the conservation and ecology of African birds of prey
1987	Postgraduate Research Bursary (RSA Foundation for Research Development) For MSc studies in behavioural ecology and evolution
1984-86	University Senior Bursary (University of the Witwatersrand, RSA) For MSc studies in behavioural ecology and evolution
1982	Research/Education Grant (Hawk Mountain Sanctuary, USA) For an institutional internship in conservation research and education
1979-80	University Scholarship (Acadia University, Canada) Partial scholarship for first undergraduate year
1979	Creative Writing / Journalism and Studio Art Awards (Bancroft School, USA)

For achievement in creative writing and fine arts (especially painting and drawing)

PUBLIC SPEAKING and LECTURING on SUSTAINABILITY and CLIMATE CHANGE

Increasingly, the urgent issues of our day compel us to move society towards a tipping point of sustainability - to try to achieve a sea change in how we all work, live and consume. With the involvement of top colleagues, I've designed and delivered courses and workshops for the public, provincial and municipal government officials, and graduate students. In addition to this list, see www.phoebebarnard.com and www.phoebebarnard.com and www.stableplanetalliance.org for some recent courses, podcasts, interviews, films and lectures.

- FutureFest (sustainability options and pathways festival) 2018: The Future Needs You: Citizen Science in a Rapidly Changing World. Public workshop, Earth Day 2018, Anacortes, Washington.
- University of Cape Town, Conservation Biology MSc course 2007-16: Climate change and conservation biology, conservation and climate policy, and conservation leadership and negotiating skills module coordinator 2007-2012, lecturer 2013-16 (12-15 graduate scientists).
- University of Cape Town, Globalization Honours course, 2009-16: Globalization, and ecosystems (c. 16 graduate students in economics, law, science and social sciences)
- University of Cape Town, EGS Climate Change Short Course, 2009-16: Climate change vulnerability and adaptation across sectors (30 mid-career professionals, all fields)
- Western Cape Dept of Environmental Affairs and Development Planning 2009: Understanding climate change risks, impacts and preparedness (c. 80 mostly senior provincial planners)
- University of Cape Town, Summer School 2008: Climate change: transforming society (c. 200 participants civil society, corporate, agricultural, educational, technology sectors)
- **Sustainability Institute 2008:** Climate change preparedness, maximizing resilience in ecosystems and biodiversity (c. 20 senior planners, Western Cape Premier's Office)
- **South African Local Government Association 2008:** Understanding climate change risks and impacts (c. 34 mostly senior municipal planners and councillors, Western Cape)

Media clips and interviews (a smattering): full list at https://www.phoebebarnard.com/videos-interviews

- Skagit Valley YMCA (Earth Day 50 public talk-turned-video during the pandemic) Our Moment in Time: Reflections on Earth Day in the time of COVID-19. 12-min video, Mount Vernon, Washington: https://www.youtube.com/watch?v=wxD7i6H3Lho (2020)
- Social change for sustainability panel discussion of Franny Armstrong's film, The Age of Stupid: https://www.youtube.com/watch?v=Mx5srn8Skfo (2010)
- **On Homeward Bound**, the global science women's leadership initiative, of which I was an inaugural Antarctic voyage member: https://www.youtube.com/watch?v=oNqxpvDWZcc (2015)
- Film interviews for fynbos conservation projects by Bird Matters (2016), SANBI (2015); Lemur Productions (2013), Big Fish School of Digital Filmmaking (2013). I provided logistic/ research support for BBC (2013) and Homebrew Films (2014). I give regular national radio interviews to veteran and young reporters and commentators in South Africa.
- Media production: As part of my interest in engaging mainstream society in nature and biodiversity conservation, I'm a business partner and strategist (with my filmmaker husband John Bowey) of planetary sustainability, conservation and education storytelling work for Transmediavision USA. John and I also founded and produced Bird Matters (2015-17), an online biweekly news magazine about birding, bird photography and conservation for the general public.

INSTITUTIONAL REVIEWS and other INTERNATIONAL RECOGNITION (last decade only)

Jun-Sep 2018	IUCN Connectivity Conservation Specialist Group – with assistance of a Packard Grant to the Center for Large Landscape Conservation, I initiated a Marine Connectivity Working Group and supported the Transport Working Group of the CCSG.
Dec 2017 -	American Association for the Advancement of Science (AAAS) "SciLine" platform to link experts in scientific fields with journalists to improve media reporting – invited member
Dec 2017 -	United Nations Development Program (UNDP) "BES-Net" platform to link experts on biodiversity and ecosystem services with journalists and others – invited member
Sept 2015-19	University of Zürich, Switzerland, University Research Priority Program "Global Change and Biodiversity" (UZH-URPP-GCB) Scientific Review Panel (Prof Ghassem Asrar, former NASA Lead Scientist Administrator, and myself)
2013-18	United Nations Environment Program – World Conservation Monitoring Centre's 'African Leadership Group,' invited member, National Biodiversity Strategy & Action Plan 2.0 Project, expert advisor to African countries on second round of national strategies and action plans
Nov 2012	United Nations Environment Program horizon-scanning 2012 Foresight Report, Invited Reviewer, "21 Issues for the 21 st Century: Results of the UNEP Foresight Process on Emerging Environmental Issues."
July 2012	National Geographic Expert Review Panel, Cheetah Conservation Fund (chair Prof Tom Lovejoy)
March 2007	University of Cape Town, South Africa, Conservation Biology Masters of Science Program, Review Team (Prof David Cumming, Prof Graeme Cumming, Dr Colin Attwood, Prof Morne du Plessis, Dr Peter Ryan and myself)

OWN EDUCATION

Ph.D. degree, 1992-1994, Uppsala University, Sweden

Ornament and body size variation in some African passerine birds (ISBN 91-554-3255-7)

An experimental and correlative study of evolution, behaviour and ecology of African passerines - generated 6 refereed and several oral papers (see Publications).

Ph.D. courses: Natural selection & genetic variation; GIS & remote sensing (Nordic Council for Ecology); Biological diversity (Botanical Ecology Institute, Uppsala University)

M.Sc. degree, 1984-1989, University of the Witwatersrand, South Africa

Comparative mating systems and reproductive ecology of the African whydahs, Vidua

This was a study (awarded with distinction) of sexual selection in these brood parasitic finches, using experimentation and correlation. It generated 7 refereed and 4 unrefereed papers, and 5 oral papers for seminars or conferences (see Publications).

Masters courses: Mainframe-based statistics and operating languages (Xedit, CMS, SAS)

Postgraduate independent research, 1983-1984, Drakensberg escarpment, South Africa

The foraging ecology and energetics of three African raptors in a montane grassland

This was a 7-month independent study of foraging energetics and habitat use of three birds of prey. It generated two refereed and one unrefereed papers, and an oral paper on habitat use and fire management

at a symposium organized to assist countries in developing conservation policy. See Publications.

Undergraduate independent research, 1982, Hawk Mountain Sanctuary, USA

Population ecology and reproductive failure in American kestrels, Falco sparverius

In a four-month research and public education internship, I studied mortality in a population of American kestrels *Falco sparverius*, later leading to a refereed short chapter in an international technical book (see Publications). Academic credit (grade A) was granted by Acadia University. I was also a public environmental educator there, see Teaching Experience.

B.Sc. honours degree, 1979 – 1983, Acadia University, Canada

Foraging behaviour and energetics of northern harriers, Circus cyaneus (awarded with distinction)

This study in eastern Canada quantified the diet, behaviour and energetics of breeding harriers (birds of prey), and criticized logical weaknesses in short-term energetics studies. Together with related work, this thesis led to five refereed papers and four oral papers (see Publications).

Secondary School, 1975-1979, Scituate High School and Bancroft School

1975-76 Scituate (Massachusetts, USA) public high school 1976-79 Bancroft School (Worcester, Massachusetts, USA)

Graduated *cum laude*, highest honours in final year, prizes in writing and art, advanced university placement in biology, maths, and art. Managed waste recycling depot as a community service, was biology department lab assistant, was assistant marine biology teacher for summer field course. Intern with Regional Environmental Council, an environmental quality monitoring group.

Internet self-study and other relevant courses

2014-15	Greening the Economy: Lessons from Scandinavia https://www.coursera.org/course/greeningtheeconomy
2015	Marine and Antarctic Science https://www.open2study.com/courses/marine-and-antarctic-science
2015	Identification of Fynbos Plant Species (Kirstenbosch, Cape Town, South Africa)

EDITORIAL EXPERIENCE

2016-21	Editorial board, subject editor, <i>Ecography</i> (the Nordic Society, Oikos), latest IF = 6.00.
2006-14	Editorial board, <i>Animal Conservation</i> (Institute of Zoology, London), latest IF = 3.65.
2008-2015	Editorial board, <i>African Journal of Ecology</i> (Blackwells), latest IF = 1.436.
2013-16	Editorial board, <i>Climate Change Responses</i> (BioMedCentral, London). (Now closed for publication.)
2005-11	Editorial board, Biology Letters (The Royal Society, UK), latest IF = 3.703. Co-edited 2008 special feature of
	Biology Letters on global change and biodiversity (with Wilfried Thuiller), top download
1993-97; 2016-19	Editorial board, <i>Ostrich – Journal of African Ornithology</i> , latest IF = 1.364.
1986-88	Co-founder and copy editor, GABAR – Journal of African Raptor Biology
1996-97	Guest editor, special Namibian issue of <i>Biodiversity & Conservation</i> (vol. 7, no. 4, 1998)
1987-	Scientific referee for (alphabetical order): African Journal of Ecology, African Zoology, Animal Behaviour,
	Behavioral Ecology, Biodiversity & Conservation, Biological Conservation, Cimbebasia, Conservation
	Biology, Conservation Letters, Diversity & Distributions, Ecological Applications, Emu (CSIRO),
	Environmental Management, Environmental Research Letters, Global Change Biology, Global Ecology &
	Conservation, Ibis, International Journal of Biodiversity and Conservation, Journal of Arid Environments,
	Journal of Biogeography, Memoirs of the Geological Survey of Namibia, Nature Climate Change, Ostrich,
	Pacific Conservation Biology, Proceedings of the National Academy of Sciences USA, Proceedings of the
	Pan-African Ornithological Congress, South African Journal of Botany, South African Journal of Wildlife
	Research, South African Journal of Science, Trends in Ecology & Evolution
1984-	Editorial referee for colleagues' environment & development-related books / manuscripts
1999-02	Co-edited/authored national biodiversity strategy & action plan, <i>Biodiversity & Development in Namibia</i>
1995-98	Edited/co-authored book, Biological diversity in Namibia: a country study

MEMBERSHIP OF OTHER EXPERT COMMITTEES, PANELS AND BOARDS

2020	Alliance for a Climate Resilient Earth (ACRE), Founding Member on behalf of Conservation Biology Institute
2018	Initiated IUCN Connectivity Conservation Specialist Group's Marine Connectivity Working Group
2014,19	University of Zürich, University Research Priority Program in Global Change Biology, 2-personal panel with
	NASA/USRA administrator Dr Ghassem Asrar.
2015 -	Society for Conservation Biology, Urban Conservation Working Group
2014-	Society for Conservation Biology, Conservation Marketing and Engagement Working Group
2013-	African Leadership Group, UNEP-WCMC-IIED Program on African National Biodiversity Strategies and Action
	Plans Round 2.0
2012-	National Scientific Advisory Committee on the Convention on Migratory Species
2007-08	Provincial Climate Change Committee, Western Cape Province, South Africa
2006-	South African National Biodiversity Monitoring & Reporting Framework Advisory Team
2005-07	Scientific Program & Plenary Committees, Society for Conservation Biology 2007 Conference
2005-06	Western Cape Climate Change Reference Group (now amalgamated into provincial committee)
2004-	Society for Conservation Biology (Africa Section) Young Women Conservation Biologists (YWCB) Committee
	(chair 2004-05) and YWCB Awards Panel (chair 2007-2014)
2004-05	DST Centre for Invasives Biology Board, Stellenbosch University (declined invitation to chair)
2004-05	Working for Water Nurseries Partnership Steering Committee
2003	Global Ballast Water Management Program Regional Task Force
2002	IUCN Commission for Ecosystem Management (declined invitation to be southern African vice-chair)
2002-03	(Alternate) Benguela Current Large Marine Ecosystem Program Steering Committee
2001-03	Millennium Ecosystem Assessment - Global Scenarios and Sub-Global Working Groups
2001-03	(Founding member) Namibian Committee on Climate Change (govt); Contact Group on Climate Change (public forum)
2000-05	Millennium Ecosystem Assessment Global Board, Executive Committee (2003-05), and selection panels
2000-03	Succulent Karoo Ecosystem Planning (SKEP) Biodiversity Advisory Group
1999-03	Namibia's Program to Combat Desertification (Phase III) Steering Committee
1999-03	Southern African Botanical Diversity Network, Namibian National Working Group
1997-99	Namibian Climate Change Advisory Committee (interim)
1997-01	Benguela Current Large Marine Ecosystem Program (interim) Management Committee
1994-2003	(Founding member) Namibian National Biodiversity Task Force (and most of its 18 working groups)
1988-92	African Raptor Information Centre Advisory Board

I have also joined many ad-hoc advisory groups for project and program formulation and evaluation, and declined several others, e.g. the International Council for Science (ICSU) grants review committees (Paris, 2006).

ORGANISATION OF SCIENTIFIC CONFERENCES, SYMPOSIA, COURSES AND WORKSHOPS

In the course of my work, I have organized at least 20 national or international conferences, symposia and consortium meetings (including some very high level, opened by prime minister and a deputy president), and am adept at doing so. A full list of these meetings is available on request.

RESEARCH EXPERIENCE BY HABITAT

2004-	Montane fynbos (Southwestern Cape, South Africa)
1996-03	Succulent karoo and southern Namib desert (southwestern Namibia)
1995-	Tropical arid savanna/ Nama-Karoo with granite mountains and domes (central Namibia)
1994	Temperate open woodland (southeast Sweden)
1990-02	Hyperarid desert, coastal dunes (Sandwich Harbour, Sylvia Hill and environs, Namibia)
1990-95	Semiarid <u>Acacia</u> savanna/rocky highland plateau (Windhoek district, central Namibia)
1988-89	Subtropical marula/knobthorn lowveld savanna (Sabi Sand Reserve, South Africa)
1985-87	Subhumid <u>Acacia</u> savanna/agricultural ecotone (Springbok Flats, South Africa)
1985-87	Subtropical ephemeral floodplain (Nyl Floodplain, South Africa)
1984-86	Temperate estuary, fynbos and coastal dunes (Wilderness Lakes Area, South Africa)
1983-84	Temperate montane fire-climax <u>Themeda</u> savanna (Natal Drakensberg, South Africa)
1982	Temperate deciduous woodland/agricultural ecotone (Appalachian Mountains, USA)
1981	Temperate maritime freshwater wetland (Tantramar Marsh, Bay of Fundy, Canada)

INTERESTS

Sustainability tipping points in global society and the economy, African biogeography and conservation

biology, global and African resource politics and development, climate change, future scenarios, behavioural and evolutionary ecology, environmental & science education, tropical resource ecology, mountain & wetland ecosystems, bird ringing, environmental toxicology, volcano-climbing, trail running, sailing, long-distance cycling, mountain & rock climbing, ashtanga and kundalini yoga, skydiving, classical & folk music, vigorous debates, iconoclasts, physics, filmmaking, innovation and the history of ideas.

REFEREES – Any or all of the following could be approached for comment:

Dr Peter Johnston, Energy Research Center, Environment and Geographical Sciences, University of Cape Town, Cape Town, 7700 South Africa (colleague who asked me to teach on international undergraduate exchange course for five years). Tel. +27 21-650-2884, peter-johnston@uct.ac.za, http://www.egs.uct.ac.za/dr-peter-johnston

Dr Jim Strittholt, President and CEO, Conservation Biology Institute, 136 SW Washington Avenue, Suite 202, Corvallis, OR 97333, USA (colleague and head of institute). Tel. +1 (541) 757-0687, fax: +1 (541) 752-0518, stritt@consbio.org or info@consbio.org or <a href="mailto:info@consbio.

Dr Craig Olson, Board President: Pacific Biodiversity Institute, 96a Benson Creek Drive, Twisp, Washington 98856, USA (colleague, former board president). Tel. +1 760 518 0364 or +1 509 997 0446, craig96a@gmail.com.

Dr Diana Gale, Advisory Council member: Pacific Biodiversity Institute, Seattle, Washington, USA (colleague, advisor). Tel. +1 206 321 9422, dianagale3@gmail.com.

Prof Richard M Cowling, Research Professor: Terrestrial Ecology Research Unit and Department of Botany, University of Port Elizabeth, South Africa (colleague and friend). Tel: +27 42 298 0259; +27 41 504 2493; Fax: +27 42 298 0259 or +27 41 504 2317; email: rmc@kingsley.co.za; btarmc@upe.ac.za

Dr Walt Reid, Former Director: Millennium Ecosystem Assessment, now David and Lucile Packard Foundation (colleague). Email: wreid@packard.org, Tel. +1 650 948 7658

Prof Brian Huntley, former Chief Executive Officer, South African National Biodiversity Institute, Cape Town, South Africa (former head of institute). Tel. +27 72 428 7023. E-mail: brianjhuntley@googlemail.com

Prof Joel Berger, Wildlife Conservation Society and Colorado State University, Cox Chair of Conservation Biology (colleague and friend). jberger@wcs.org and jbergerib@gmail.com

Prof Beth Kaplin, Dept of Environmental Studies, Antioch University New England, 40 Avon Street, Keene, New Hampshire 03431, USA; also Acting Vice Dean, School of Science, College of Science & Technology, and Acting Director, Center of Excellence in Biodiversity and Natural Resource Management (https://coebiodiversity.wordpress.com), University of Rwanda, BP 512, Butare, Rwanda (colleague), tel. +250 788 664 551 or +250 739 505 545, bkaplin@antioch.edu

Dr Peter W Tarr, Executive Director: Southern African Institute for Environmental Assessment, P O Box 6322, Windhoek, Namibia (former department head). Tel: +264-61-22-0579; Fax: +264-61-25-9183; e-mail: Peter.Tarr@saiea.com

Dr Sem Taukondjo Shikongo, Director of Tourism, Ministry of Environment and Tourism, Namibia (friend, former assistant, former division head). e-mail: sts@dea.met.gov.na, <a href="mailto:sts@dea.met.gov.na"

Dr Chris Brown, former Executive Director, Namibia Nature Foundation, Box 245, Windhoek, Namibia (former department head). e-mail: cb@nnf.org.na, http://www.bmw-stiftung.de/fileadmin/user_upload/Dateien/6.CVs/Chris_Brown_CV.pdf

Prof Bob Scholes, University of the Witwatersrand, School of Animal, Plant and Environmental Sciences (colleague on global change matters and Millennium Ecosystem Assessment) bob.scholes@wits.ac.za

Prof Staffan Ulfstrand, Dept of Zoology, Uppsala University, Villavägen 9, S-752 36 Uppsala, Sweden. (PhD advisor, former departmental head) Fax: +46-18-55-9888; e-mail: staffan.ulfstrand@ebc.uu.se

Dr Robert B Payne, Museum of Zoology, University of Michigan, Ann Arbor, MI 48109, USA (MSc external referee) Fax: +1-313-763-4080; e-mail: rbpayne@umich.edu

PUBLICATIONS and SEMINARS: Phoebe Barnard

phoebe.barnard@stableplanetalliance.org (w), phoebebarnard2018@gmail.com (h)

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Scientific, technical and popular publications, national policies and strategies, and theses
 In reverse chronological order – Unpublished conference presentations are listed below.

 Blog articles at https://www.facebook.com/phoebe.barnard.169.

2023

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BARNARD P & DILLARD C. 2023. To restore nature, we must invest more in our children: Understanding the connection between women's and children's rights, family planning, and the environmental crisis. *LA Progressive*, 2 June 2023. https://www.laprogressive.com/the-environment/restore-nature. Republished by four other outlets at https://www.counterpunch.org/2023/06/02/to-restore-nature-we-must-invest-more-in-our-children/ (2 June 2023), https://www.truthdig.com/articles/what-lower-fertility-rates-mean-for-climate-change/ (5 June 2023), https://mahb.stanford.edu/library-item/to-restore-nature-we-must-invest-more-in-our-children/ (14 June 2023)

FLETCHER C, RIPPLE WJ, BARNARD P, BEAMER K, BOWEN J, COONEY M, CRIST E, FIELD C, KARL DM, KING DA, McGREGOR DP, MORA C, NEWSOME T, WILSON M. 2023 (in review). A crisis risking global stability. Currently at *Science*.

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2022

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BARNARD P. 2022. The box and the crossroads. *Imagine Magazine*, online (by invitation), 18 June 2022: https://imaginezine.com/phoebe-barnard/.

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2021

BARNARD P, MOOMAW WR, FIORAMONTI L, LAURANCE WF, MAHMOUD MI, O'SULLIVAN J, RAPLEY CG, REES WE, RHODES CJ, RIPPLE WJ, SEMILETOV IP, TALBERTH J, TUCKER C, WYSHAM D, ZIERVOGEL, G. 2021. World scientists' warnings into action, local to global. *Science Progress*, https://doi.org/10.1177/00368504211056290, 11 Nov 2021. Read and sign the paper and see summary in 15 world languages + author info at https://www.scientistswarningeurope.org.uk/signature.

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2020

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2019

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2018

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2017

BARNARD P. 2017. Climate change, biodiversity early warning systems, and Africa's future. *Africa Conservation Telegraph* 12 (1). Published January 2017 online at https://conbio.org/groups/sections/africa/act/climate-change-biodiversity-early-warning-systems-and-africas-future

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2015

BARNARD P. 2015. Lanner Falcon hunting large forest hornbills in the east Usambara Mountains, Tanzania. *Ornithological Observations* 6: 26-28. ISSN 2219-0341, http://oo.adu.org.za/content.php?id=168.

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2012

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BARNARD P & SIMMONS R. 1985. Birds of prev of Giant's Castle Game Reserve. Bokmakierie 37:104-107.

1984

BARNARD PE. 1984. Foraging energetics of breeding northern harriers: methods in estimating energy budgets. Pp. 181-182 in: Mendelsohn JM & Sapsford CW (eds.). *Proceedings of the 2nd Symposium on African Predatory Birds*. Durban: Natal Bird Club.

BARNARD PE. 1984. Prey selection and provisioning strategies by northern harriers. p. 229 in: Mendelsohn JM & Sapsford CW (eds.). *Proceedings of the 2nd Symposium on African Predatory Birds*. Durban: Natal Bird Club.

BARNARD P, ALLEN J & ALLEN JC. 1984. Adult sunbird as prey of brown-hooded kingfisher. Promerops 164:13-14.

BARNARD P & SIMMONS R. 1984. Montagu's harrier in the western Cape. *Promerops* 162:6-7.

1983

BARNARD P. 1983. Foraging behaviour and energetics of northern harriers *Circus cyaneus* (L). BSc Hons thesis, Acadia University, Wolfville, Nova Scotia, Canada. 102 pp (published as seven papers or abstracts above).

1982

BARNARD P. 1982. Breeding success and failure of the American kestrel *Falco sparverius* in Berks and Lehigh Counties, Pennsylvania. Hawk Mountain Sanctuary/ Cedar Crest College Research Summary Report 1: 34 pp (published as one book chapter above).

1981

BARNARD P & SIMMONS B. 1981. The elusive marsh hawk. *Tantramar* 1:48-49.

2. CONFERENCE PRESENTATIONS, SEMINARS & INVITED LECTURES (incomplete after 2021) In reverse chronological order

See also website on filmed interviews, expert panels, seminars and presentations: https://www.phoebebarnard.com/videos-interviews

- Biodiversity loss: the fraying tapestry of life. Invited plenary talk by North American faith community, the Community of Christ, in their Climate Colloquy series to shift the needle on our current destructive habits through understanding, dialogue, love and science. Recorded 7 Mar 2021, group conversations 14-18 Mar 2021.
- 2020 World scientists' warning of a climate emergency: interview by veteran journalist Stuart Scott. Facing Future TV, 18 Dec 2020
- 2020 Investing in nature averts a climate emergency: organized and spoke in international panel for global 8-day pre-COP26 dialogue event organized by Scientists' Warning Europe.
- World scientists' warning of a climate emergency: implementation, population and overshoot. Invited panel discussion with copanelist Dr Chris Tucker and host Dr Gary Wockner, EarthX TV, 5 Oct 2020
- 2020 Why some good ideas and processes might nonetheless fail: the case of the Envision Skagit 2060 process. Invited lecture and discussion via Zoom, to the Leadership Skagit 2020-21 mid-career professional course. Skagit County, Washington, 12 Oct 2020.
- Our moment in time: Reflections on Earth Day in the time of COVID-19. Invited community talk, Skagit County Family YMCA in honor of Earth Day 50. Due to the pandemic, this was produced as a 12-min film instead of an in-person lecture and discussion: https://www.youtube.com/watch?v=wxD7i6H3Lho. Mount Vernon, Washington, 22 April 2020.
- 2019 Cultivating champions in a fast-changing world lessons from Africa. Invited keynote plenary lecture, Storming the Sound (Northwest Aquatic and Marine Educator's Conference), La Conner, Washington, 24 January 2019.

2018 Taking charge: citizen science in the Pacific Northwest to change the world. Invited talk to Youth Earth Summit, Padilla Bay National Estuarine Research Reserve and Interpretive Center, Padilla Bay, Washington, 7 December 2018. A Cascadia biodiversity early warning system. Invited talk to University of Washington's Citizen Science Community of Practice 2018 monthly brownbag lunch meeting. Seattle, Washington, 15 November 2018. 2018 (Delivered by ST Osinubi, with D Dalton, P Barnard & P Ryan) A tale of three kings: study of the intra-African migration of the woodland kingfisher. Poster paper, International Ornithological Congress, Vancouver, Canada, August 2018. 2018 The magic and science of South Africa's fynbos biome. Invited talk to Skagit Audubon Society, Padilla Bay, 8 May 2018. 2018 The future needs you: citizen science in a rapidly changing world. Hosted and presented public workshop, FutureFest Festival, Transition Fidalgo and Friends, Anacortes, Washington, Earth Day (22 April) 2018. Early warning systems for biodiversity in Cascadia: things are changing. How do we know? What can we do? Invited talk to 2018 Sound Waters University (a large-scale public learning event), South Whidbey, Washington, 3 February 2018. Antarctica: the wild, remote, imperilled continent. Climate change, truth vs power, and the nature of leadership. Pacific 2017 Biodiversity Institute's Conservation Café 4, Anacortes Public Library, Washington, 18 December 2017. 2017 The Millennium Ecosystem Assessment and global biodiversity policy: talking points. Invited discussion session with Western Washington University undergraduate students of Dr Shawn Arellano, Bellingham, Washington, 4 December 2017. 2017 When Rome is burning: the effects of a global decline in biodiversity. Invited keynote presentation to Fidalgo Shoreline Academy, Anacortes, Washington, 21 October 2017. Early warning systems for biodiversity in Cascadia: a journey via southern Africa and Antarctica. Invited talk to Transition Fidalgo and 2017 Friends, Anacortes, Washington, 26 September 2017. 2017 (Delivered by ST Osinubi, with D Dalton, P Barnard & P Ryan) Advancing the study of intra-African bird migration: ecology, conservation and policy. European Ornithologists' Union Congress, Turku, Finland, 18-22 August 2017. 2016 A world upside down: Academic and citizen science to understand vulnerability of endemics in southern Africa. Invited lecture, United Nations Environment Program/ World Conservation Monitoring Centre, Cambridge, UK, 14 September 2016. 2016 (delivered by A Coetzee, with P Barnard & A Pauw) The importance of Proteaceae species richness in providing nectar resources. International Association of Vegetation Science, Pirenópolis, Brazil, 12-17 June 2016. (award for best PhD student oral presentation) 2016 A world upside down: Charting climate and biodiversity futures in Africa and the global South. Invited lecture, Senator George S. Mitchell Center for Sustainability Solutions, University of Maine, Orono, USA, 2 May 2016. (delivered by KN Oswald, with ATK Lee, SJ Cunningham, P Barnard & B Smit). Behavioural responses to temperature in the Cape 2016 Rockjumper (Chaetops frenatus) (poster presentation). BirdLife South Africa and FitzPatrick Institute Conference, Skukuza, South Africa, 10-11 March 2016. The Gondwana Edges Project Consortium – Vulnerability and adaptation of endemic species at continental edges. Invited seminar to 2016 field course (international biologists and Chilean foreign affairs officials), Subantarctic Biocultural Conservation Centre, Institute of Ecology and Biodiversity, University of Magallanes, Puerto Williams field centre, Chile, 17 January 2016. 2016 (delivered by P Barnard and M Maron). Resource bottlenecks exacerbate Gondwana species' vulnerability to climate change. Roundtable Workshop on Resource Bottlenecks in Climate Change (Phoebe Barnard and Martine Maron, co-convenors), Southern Connection Congress 2016, Punta Arenas, Chile, 23 January 2016. 2016 (delivered by P Barnard, with ATK Lee, SJ Cunningham, R Milne & B Smit). On the edge: long-term and large-scale data to estimate vulnerability of Africa's southernmost endemics. Symposium on Long-term Bird Studies in the Southern Hemisphere (Jaime Jiminez and Phoebe Barnard, co-convenors). Southern Connection Congress 2016, Punta Arenas, Chile, 23 January 2016. 2015 (delivered by ATK Lee, with KN Oswald, SJ Cunningham, P Barnard & B Smit). Cape Rockjumper - foraging, panting and shadeseeking behaviour reflect heat tolerance threshold. British Ornithologists' Union Conference, Leicester, UK, 31 March – 2 April 2015. (delivered by A Heystek, with A Heystek, A Pauw, T Rebelo & P Barnard) Protea nectar sources for nectarivorous birds at landscape 2015 level. South African Association of Botanists 41st Annual Conference, Venda, Limpopo, 11-15 January 2015. 2014 (delivered by and with ATK Lee) Population estimates of Fynbos birds. South African National Biodiversity Institute Science Day, Kirstenbosch, South Africa, 1-2 October 2014. 2014 (delivered by and with ATK Lee) Fynbos vs forest: which birds are better off according to the Southern African Bird Atlas Projects? Fynbos Forum, August 2014. 2014 (delivered by ATK Lee, with R Milne, S Cunningham and B Smit) Between a rock and a hot place: implications of climate change for fynbos endemic birds. International Ornithological Congress, Tokyo, Japan, September 2014. Tracking species in space and time: Africa's fabulous citizen science biodiversity database projects. Tropical Biology Association field 2014 course, Amani, Tanzania, 19 August 2014.

- 2014 Climate change and African biodiversity – introduction to current and future impacts. Tropical Biology Association field course. Amani, Tanzania, 14 August 2014. 2014 Climate change and conservation triage. Tropical Biology Association field course, Amani, Tanzania, 10 August 2014. 2014 Austin Roberts Memorial Medal Award Citation for Professor John Ledger. BirdLife South Africa 2014 Annual General Meeting, Mont-aux-Sources, South Africa, 15 March 2014. 2014 Gill Memorial Medal Citation for Professor A.J.F.K. Craig. BirdLife South Africa 2014 Annual General Meeting, Mont-aux-Sources, South Africa, 15 March 2014. 2014 Conservation triage: tough choices in bird conservation. President's Address, BirdLife South Africa 2014 Annual General Meeting, Mont-aux-Sources, South Africa, 15 March 2014. 2014 Global change challenges for the fynbos endemics: seeing endemic species through to the next century. Invited lecture, Learning About Birds (LAB): BirdLife South Africa/ FitzPatrick Institute science conference, Mont-aux-Sources, South Africa, 15 March 2014. 2014 Climate change: conserving species and their habitats through the next century. Invited lecture, Learning About Birds (LAB): BirdLife South Africa/ FitzPatrick Institute science conference, Mont-aux-Sources, South Africa, 13 March 2014. 2014 Tracking environmental change with birds and bird habitats – fynbos endemic vulnerability to climate and land use change. Invited lecture to West Coast Bird Club, Langebaanweg, South Africa, 28 February 2014. 2013 (with ATK Lee) Between a rock and a hot place: Fynbos endemic birds are highly vulnerable to extinction under projected climate change scenarios. Fynbos Forum, Cape Town, 8 October 2013. 2012 (with B Huntley and ATK Lee) Hotspots in hotter times: current and future impacts of likely future climate and global change on fynbos endemics. 13th Pan-African Ornithological Congress, Arusha, Tanzania, 14-21 October 2012. 2012 (with B Huntley and GF Midgley) Potential impact of past and projected future climatic changes on birds of southern African hotspots. 13th Pan-African Ornithological Congress, Arusha, Tanzania, 14-21 October 2012. 2012 (with M Maron) When crunch time comes: resource bottlenecks and climate change impacts on southern African and Australian birds. 13th Pan-African Ornithological Congress, Arusha, Tanzania, 14-21 October 2012. (with SD Hofmeyr, LG Underhill, R Altwegg, K Broms and D Young) Using citizen science to document a species decline: the southern 2012 black korhaan Afrotis afra. . 13th Pan-African Ornithological Congress, Arusha, Tanzania, 14-21 October 2012. (poster) 2012 Building an early warning system for monitoring biodiversity under climate change. SANBI Biodiversity Monitoring Workshop, Kirstenbosch, South Africa, 17-18 May 2012. 2012 (with 10 coauthors) Climate and land use change in the world of fynbos endemics – how much threat, how much opportunity? Keynote speech, Frontiers in South African Ornithology. Port Elizabeth, South Africa, 15-16 March 2012 (cancelled due to family crisis). 2012 (with 10 coauthors). Climate and land use change in the world of fynbos endemics – threat and opportunity. Poster presentation, Fynbos Forum 2012, Cape St Francis, South Africa, 16-20 July 2012. 2012 (with C Madden) Crows and craftiness: are Pied Crows a threat to our biodiversity? Public talk to BirdLife Overberg, Hermanus, South Africa, 12 November 2012. (with RM Wanless, M Brooke, K Camphuysen, T Dunne, PG Ryan, ML Tasker, LG Underhill & A Webb) Surveys of seabirds at sea: 2010 harnessing platforms of opportunity with a flexible, effort-based count methodology and an open-access, online database. Special poster session 1: Seabird Informatics, databases and long-term monitoring. World Seabird Conference, contribution PI-176, August 2010, Vancouver, Canada. http://www.worldseabirdconference.com/wp-content/uploads/2013/11/Full Abstracts P1.pdf. 2010 (with LG Underhill, GF Midgley) Building an integrated early warning system for biodiversity under rapid environmental change. Plenary address, Biodiversity Information Management Forum, SANBI, Cape Town, 22 September 2010. 2008 Building an early warning system for biodiversity under climate change in southern Africa – modeling and policy translation lessons from plant and bird data. Plenary address, 6th Annual Global Biodiversity Information Facility Science Symposium, Arusha, Tanzania, 6 November 2008. 2008 (delivered by SJ Rahlao, with Milton SJ and Esler KJ) Performance of invasive alien fountain grass (Pennisetum setaceum) along a climatic gradient through three South African biomes. Oral presentation, 10th International Conference on the Ecology and Management of Alien Plant Invasions (EMAPi10), Stellenbosch, South Africa, 23-27 August 2008. 2008 (delivered by SJ Rahlao, with SJ Milton, KJ Esler and BW van Wilgen) Effects of invasion of fire-free arid shrublands by a firepromoting invasive alien fountaingrass (Pennisetum setaceum) in South Africa. Oral presentation, Fynbos and Arid-Zone Combined Forum "Interfaces", Oudtshoorn, South Africa, 3-7 August 2008.
 - (with GF Midgley, BS Kgope & KB Mantlana) Global change challenges for biodiversity in the 21st century: practical tools for planning, policy and management. Workshop at the Society for Conservation Biology 21st Annual Conference, Port Elizabeth, South Africa, 1 July 2007.

2007

2007 (with S Rahlao, K Esler & S Milton) Corridor interchange and fountain grass (Pennisetum setaceum) success in South Africa. PhD student poster at the Society for Conservation Biology 21st Annual Conference, Port Elizabeth, South Africa, 1-5 July 2007. 2007 Tracking environmental change through birds and bird habitats - bird clubs as first-rate spy agencies. Worcester Bird Club, 4 April 2007 Biodiversity and ecosystems in the big picture – why we need them now more than ever. Conservation International Partner Skills Development Course, 12 February 2007. 2007 Birds and environmental change in southern Africa – bird clubs as spy agencies. West Coast Bird Club, 27 January 2007. 2006 Tracking environmental change through birds and bird habitats – a look at the Birds & Environmental Change Partnership. Cape Bird Club, Cape Town, 9 November 2006. 2006 (with R Altwegg, W Thuiller, R Dean & R Simmons) Integrating demography in bioclimatic models. Birds and Climate Change Brainstorm, South African National Biodiversity Institute, Cape Town, 18-19 September 2006. 2006 Tracking environmental change with birds and bird habitats: South Africa's Birds and Environmental Change Partnership Program. Avian Demography Unit, University of Cape Town, 22 June 2006. 2006 (with R Simmons) Birds and bird habitats in Africa under environmental change: How are they faring? How can we understand, track, and predict change? Conservation Biology Discussion Group, Percy FitzPatrick Institute of African Ornithology, University of Cape Town, 13 June 2006. 2006 (delivered by SJ Rahlao, with KJ Esler & SJ Milton) Current and future vulnerability of South African ecosystems to perennial grass invasion – a case of fountaingrass (Pennisetum setaceum). Kimberley Biodiversity Symposium, Rooifontein, Kimberley, South Africa, 6 September 2006. 2006 (delivered by SJ Rahlao, with KJ Esler & SJ Milton) Global change and invasive alien perennial grasses in southern Africa – a case of fountaingrass (Pennisetum setaceum). Twentieth National Congress of the Southern African Weed Science Society, Bela Bela, South Africa, 16-19 July 2006. (Award for Best Student Presentation) 2006 SANBI's Birds and Environmental Change Partnership Program: a fast track to the NBI-SANBI transition. Kirstenbosch Research Centre Annual 'Show & Tell' Research Conference, Cape Town, 8 May 2006. 2005 (with R Simmons, GF Midgley & W Thuiller) Climate change vulnerability of southern African birds. Research Poster, National Climate Change Conference, Midrand, Gauteng, 17-20 October 2005. (with GF Midgley, W Thuiller & G Hughes) Climate change impacts in the arid zone of southern Africa: emerging perspectives and 2005 projections. Arid Zone Ecology Forum 2005, Barrydale, South Africa, 13 September 2005. (with GF Midgley) Global change, biodiversity, ecosystems and society in Africa (GCBESA): Ecosystem, species and livelihood impacts 2005 of global environmental change – policy & conservation management implications. KITE Research Planning Meeting, University of York, UK, 4-5 August 2005. 2005 Global change, ecosystems, biodiversity and society in Africa (GCBESA): potential funding from other (non-EU) sources. KITE Research Planning Meeting, University of York, UK, 4-5 August 2005. 2005 Environmental change, globalization, and pathways of species invasion. Global Invasive Species Program/ Climate Change Research Group lecture to University of Cape Town Conservation Biology Masters Course students, Cape Town, South Africa, 1 June 2005. 2005 Invasive species and global environmental change – the 'lethal cocktail' for biodiversity. Best Practices Workshop: the development of Biodiversity Act Regulations for alien and invasive species in South Africa. Cape Town, South Africa, 24 May 2005. 2005 Global change and the Millennium Ecosystem Assessment – fact, fiction and the future. Kirstenbosch Research Centre Seminar Series, South African National Biodiversity Institute, Cape Town, South Africa, 6 May 2005. 2005 Global environmental change and the future of African conservation biology. Invited lecture (shortlisted candidate interviewed for the Pola Pasvolsky Chair in African Conservation Biology), University of Cape Town, 28 Feb 2005. (with M Botha) Namibian Important Plant Areas: Management, legal and financial options. Namibian National Important 2004 Plant Areas Workshop, Southern African Botanical Diversity Network (SABONET), Windhoek, Namibia, 1-2 December 2004. 2004 (with L Jackson) Invasive species – a global issue, with global solutions. In Subtheme Invasive alien species – coping with aliens. Biodiversity Loss and Species Extinctions: Managing Risk in a Changing World, a Global Synthesis Workshop convened at the IUCN World Conservation Forum, Bangkok, Thailand, 18-20 November 2004. 2004 Environmental change, globalization, and pathways of species invasion. Global Invasive Species Program lecture to University of Cape Town Conservation Biology Masters Course students, Cape Town, South Africa, June 2004. The Global Invasive Species Program and the Global Taxonomy Initiative. 4th Global Taxonomy Initiative Coordination 2004 Mechanism, Oaxaca, Mexico, 1 May 2004.

2003 (with S Shikongo) National Biodiversity Program – a brief overview. Joint senior level planning workshop of national biodiversity and desertification programs, Windhoek, Namibia, Oct 2003. 2003 (with S Milton, symposium co-convenor) Rangelands as dynamic systems: Biodiversity conservation in rangelands – why and how? International Rangeland Congress, Durban, South Africa, 24 July-1 August 2003. 2003 (with S Shikongo, N Kisting, J Katjirua, and L Britz) Namibia's biodiversity strategy - links to community action and CBNRM. Namibia Nature Foundation and Africa Resources Trust field visit briefing presentation for SADC participants, Windhoek, Namibia, 7 July 2003 (with G Simeon) Namibia - Ballast water management status. Regional Ballast Water Management Task Force, Saldanha Bay, South Africa, 17-18 March 2003. (with R Simmons, K Roberts, M Seely, L Nakanuku, H Kolberg, & CJ Hay) An integrated framework for wetland health monitoring in 2002 dryland Namibia. International Conference on Environmental Monitoring of Tropical and Subtropical Wetlands, Maun, Botswana, 4-7 December 2002. 2002 Predicting environmental change in southern Africa – long-term observatories for biodiversity loss, climate change and degradation. Society for Conservation Biology Annual Meeting, Canterbury, UK (Distinguished Service Awardee research talk), 17 July 2002. 2002 The Erongo Mountains as an environmental observatory. Environmental Observatories Network of Namibia meeting, Brakwater, Namibia. 21 June 2002. 2002 (with J Henschel) Monitoring, predicting and adapting to environmental change. Environmental Monitoring and Indicators Network II, Midgard, Namibia, 13 June 2002. 2002 (with J Henschel & R Simmons) An environmental observatory in the Erongo Mountain Nature Conservancy. Annual General Meeting of the Erongo Mountain Nature Conservancy, Omaruru, Namibia. 2002 (with KJ Esler) Mountains in arid landscapes - the role of isolated mountains in sustainable rangeland management in the arid west of southern Africa. Policymakers' briefing session, Desertification 2002 Conference, Cape Town, South Africa. 2002 (with ST Shikongo, D Duthie and M Kandawa-Schulz) Namibia's biodiversity enabling activities. UNEP/GEF Seminar on Biodiversity Enabling Activities, Sixth Conference of the Parties to the Convention on Biological Diversity, The Hague, Netherlands (delivered by E. Thomas). (with ST Shikongo) Biodiversity and development: Namibia's ten-year strategic plan of action for sustainable development through 2002 biodiversity conservation, 2001-2010. Briefing for Ministry of Environment and Tourism Technical Committee on Natural Resources, Windhoek, Namibia, 2 April 2002. 2001 (with ST Shikongo) Implementing Namibia's Biodiversity Strategy and Action Plan – land use, management, tenure and environmental sustainability. National Design Workshop, Biodiversity, Land Use and Land Tenure Project, Ministry of Environment and Tourism and Ministry of Lands, Resettlement and Rehabilitation, Windhoek, Namibia, Sept 2001. 2001 Feeding time at the zoo: meeting different user needs for environmental datasets. BIOTA (Biodiversity Transect Analysis in Africa) Methodology Workshop, Geographic Institute, Bonn, Germany, Dec 2001. 2001 SABSP - Southern African Biodiversity Support Program. Namibia's National Workshop on the SABSP, Windhoek, Namibia, 3 Dec 2001 (with CR Margules and DP Faith) Conservation planning in the real world of land reform, politics, dust and flies. ZSAA Annual Meeting, Symposium on Conservation Planning, Port Elizabeth, RSA. 2001 BIOTA Southern Africa and the Namibian National Biodiversity Program - or, 101 ways to cooperate and communicate without really trying. BIOTA (Biodiversity Transect Analysis in Africa) Namibian Workshop, Windhoek. 2001 Coastal and Marine Biodiversity Conservation and Management Program (CMBCMP) and the Namibian National Biodiversity Strategy, National Workshop on the CMBCMP, Swakopmund, Namibia, (with S Liyanarchi and L Emerton) Symposium: Agricultural biodiversity as economic capital: Agricultural biodiversity and sustainable 2000 livelihoods – the case of dryland ecosystems. 15th Global Biodiversity Forum, Nairobi, Kenya. 2000 (with R Mpande) Symposium: Social capital and institutions: Agricultural biodiversity and sustainable livelihoods - the case of dryland ecosystems. 15th Global Biodiversity Forum, Nairobi, Kenya. 1998 (with M Petrie) Symposium: Sexual selection. 22nd International Ornithological Congress, Durban, South Africa. (with P Torrekens and J Zeidler and others) Linking desertification and biodiversity – a strategic perspective. Global Biodiversity 1998 Forum 12, December 1998, Dakar, Senegal. 1997 Biological diversity in Namibia: what the future may bring. University of Namibia Faculty of Science Seminar Series (1997:4), Windhoek.

1996 (with M Griffin) Namibian National Biodiversity Program: recent activities and analytical results. Ministry of Environment & Tourism Annual Meeting, Windhoek. Biodiversity conservation and evolutionary ecology – wherever the twain shall meet in Namibia. ZSSA Annual Meeting: Integrating 1996 Zoology - Subdisciplines and the Subcontinent. 8-12 July 1996, University of Pretoria, RSA. 1995 (with M Griffin) Biological diversity in Namibia: activities and priorities of the Namibian National Biodiversity Program. Ministry of Environment & Tourism Annual Meeting, Windhoek. 1994 (with A Robertson, R Simmons, CJ Brown & A Jarvis) Endemism hotspots and the Pleistocene refuge model: an odd case from arid Africa. Poster, Jacques Monod Conference on Evolutionary and Ecological Processes Underlying Biodiversity, Aussois, France. 1994 The Metropolitan Open Space System (MOSS) Concept for Namibia. Public lecture proposing a greenbelt urban environmental planning program in Windhoek, and initiating the Namibian Greenspace Project. The Forum, Windhoek. 1993 Bird breeding strategies in unpredictable arid environments. Wildlife Society of Namibia, Windhoek. 1993 Social costs and benefits of ornament growth for whydah males. (1) Annual 1993 Revolution, Animal Ecology Section, Zoology Department, Uppsala University, Sweden. (2) Sexual selection graduate course, Zoology Department, Trondheim University, 1993 (with EJ Oakes) Fluctuating asymmetry and mate choice in paradise whydahs: an experimental manipulation. (1) Evolution Seminar, Animal Ecology Section, Uppsala University, Sweden. (2) Sexual selection graduate course, Zoology Department, Trondheim 1993 Sperm supply, female reproductive constraints, and mating systems. (1) Departmental Seminar, Animal Ecology Section, Uppsala University. (2) Sexual selection graduate course, Trondheim University. 1992 Growth of sexual ornaments and dominance in promiscuous finches. (1) Symposium of the Ethology Group of Southern Africa, Golden Gate Highlands National Park, RSA. (2) Second Annual Evolutionary Ecology Meeting, Windhoek, Namibia. (3) 4th International Society of Behavioral Ecology Congress, Princeton University, USA, as poster presentation. 1990 Correlates of male mating success in pin-tailed and shaft-tailed whydahs. Symposium of the Ethology Group of Southern Africa, Stellenbosch, RSA. 1990 The mating games that whydahs play. Namibian Bird Club, Windhoek. 1989 Badges of fertility and sexual selection in some promiscuous birds. University of Namibia, Faculty of Science Research Committee Seminar, Windhoek, Namibia. Male sexual competence and female competition for fertilizations in a promiscuous brood parasite. Symposium, Ethology Group of 1988 Southern Africa, Pretoria, RSA. 1987 Sexual selection in a promiscuous parasite: is it really tail length that titillates? University of the Witwatersrand, Zoology Departmental Seminar, Johannesburg, RSA. 1987 Controlled burning in an afromontane savanna, and its effects on raptor foraging patterns. Symposium on Raptor Habitat Analysis and Census Techniques, III World Conference on Birds of Prey, Eilat, Israel. Plumage ornamentation and sexual display intensity in the parasitic shaft-tailed whydah: implications for mate choice theory. Univ 1987 of Pretoria Zoology Seminar, Pretoria, RSA. 1986 (with R Simmons) Marsh harriers in Canada and South Africa. Lecture to Northern Transvaal Ornithological Society, Pretoria, RSA. 1983 Foraging energetics of breeding northern harriers: methods in estimating energy budgets. 2nd Symposium on African Predatory Birds, Golden Gate Highlands Natl. Park. RSA. 1983 Prey selection and provisioning strategies by northern harriers. 2nd Symposium on African Predatory Birds, Golden Gate Highlands Natl. Park. RSA. (with R Simmons) Polygyny and foraging energetics of northern harriers. University of Natal, Zoology Departmental Seminar, 1983 Pietermaritzburg, RSA.