



DST-NRF Centre of Excellence
“Birds as Keys to Biodiversity Conservation”
FitzPatrick Institute of African Ornithology, UCT

ANNUAL REPORT 2018

Reporting Period
1 January - 31 December 2018

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CoE Identification

Name of Director	: Prof. Peter Ryan
Name of CoE	: DST-NRF Centre of Excellence at the FitzPatrick Institute of African Ornithology
Abbreviated CoE name	: FitzPatrick Institute CoE
Host Institution	: University of Cape Town
Date completed	: 15 February 2019

EXECUTIVE SUMMARY

1. Funding of the CoE for 2018

DST-NRF CoE funding for 2018	:	R 7 161 899
Carry forward from 2017	:	R 915 981
Interest earned during 2017	:	R 1 756
UCT URC support for Hotbirds project in 2018	:	R 376 000*
Funding from other sources for the CoE in 2018	:	R 16 276 063**
Total funding	:	R 24 731 699

* UCT's direct contribution to the CoE: 5.25% of R7 161 899

** funding from sources other than the DST-NRF or UCT URC 'hotbirds' grants (Table 15)

2. Summary of progress against Five Key Performance Areas

(i) Research

The CoE supported 32 research projects during 2018 including a new project on micro-plastics pollution. The CoE had another good year with 152 papers published in peer-reviewed journals during 2018, including 44 in journals with an impact factor rating ≥ 3.5 , of which 16 were in journals with a rating ≥ 5 . CoE staff and students received various awards for research outputs and were invited to give keynote presentations at international and local scientific conferences.

(ii) Education and Training

A total of 63 postgraduate students (22 PhD, 39 MSc and two BSc Hons) registered at South African universities (24% black and 56% women) were supported by the CoE during 2018. Of the 43 South African students, eight were 'Black', two 'Coloured' and none 'Indian', accumulatively 30%. Twenty-one students graduated during 2018 (4 PhD, 2 MSc by dissertation, 13 MSc Conservation Biology and 2 BSc Honours). Eight post-doctoral fellows were supported by the CoE during 2018. CoE students and post-docs received five presentation awards at conferences during 2018.

(iii) Information Brokerage

CoE members published 58 semi-popular articles, one book and four chapters in semi-technical books during 2018. CoE members attended 16 international and nine local conferences and presented over 50 seminars and illustrated talks at universities, bird clubs and membership-based societies during 2018. The CoE and BirdLife SA co-hosted the fourth biennial conference *Learn About Birds (LAB)* at Club Mykonos, Langebaan, during March 2018, which was attended by more than 300 delegates and was regarded as a great success, particularly for young scientists.

(iv) Networking

The CoE continued a broad range of close collaborative working relationships with at least 100 scientific peers and a variety of conservation NGOs and governmental organisations both nationally and internationally. The CoE continues to build much-needed African capacity in the broad arena of biodiversity conservation and has research projects in seven other African countries.

(v) Service rendering

The CoE actively advised NGOs, government departments and industry on a variety of research and applied conservation topics. CoE members served on 30 journal editorial boards, 76 membership fora and advisory services, and reviewed 122 papers for 67 peer-reviewed journals during 2018.

Summary of FitzPatrick Institute CoE 2018 achievements against SLA 6 targets

SLA Output	SLA target	Achieved
Number of students	≥ 30	63
Women students	≥ 50%	56%
Black students*	≥ 30%	24%
Average duration of MSc degrees	≤ 2 yrs	2,1
Average duration of PhD degrees	≤ 4 yrs	5,3
Average duration upgraded PhDs	≤ 5 yrs	N/A for 2018
Number of Post-docs	≥ 6	8
Number of peer-reviewed papers	≥ 60	152
Papers with IF ≥ 3.5	≥ 15	43
Papers with IF ≥ 5	≥ 5	16
Joint venture training	≥ 2	2

*15 black students = 50% of the SLA student number target

3. Red Flags/concerns for the future of the CoE

The DST sent a letter to UCT on 6 April 2018 confirming that the current CoE grant will terminate at the end of 2019. Quotes from the letter with reference to current student enrolment and support beyond 2019: “This will not affect the intake of postgraduate students and research projects for the next two years” (2018 & 2019). Furthermore, “students enrolled during this time will be supported to the end of their studies in alignment with the relevant NRF regulations”. However, some unclear issues remain: What does student support beyond 2019 mean – bursary plus running costs? What does student support “in alignment with the relevant NRF regulations” mean with regards to bursary levels? How does beyond 2019 affect the four staff members which are supported by the grant? Will there still be conference attendance cost support for students and academic staff? What about academic staff running costs, e.g. for project supervision activities?

4. General Comments

Following the commitment from the NRF in 2012 that the CoE will receive support for a third phase (2015-2019) with a minimum expectation of the same level of funding during 2015, a strategic plan and a sixth service level agreement (SLA 6) for 2015-2019 were drafted and approved by the CoE Steering Committee on 19 November 2014. The UCT Research Contracts Office also signed a renewed Memorandum of Agreement (MoA) between the NRF and UCT for 2015-2019, and renewed CoE collaboration MoAs with the University of Pretoria and the Nelson Mandela University. A collaborative partnership with the University of Limpopo resulted in a MoA being formalised during November 2017. This annual report represents the fourth year of SLA 6 and the renewed MoA between the NRF and UCT.

PROGRESS REPORT

1. Scientific Research

Objective

The CoE research strategy is aligned to a medium-term goal of producing world-class research outputs measured as the number of papers published in international peer-reviewed journals with high scientific impact-factor ratings. To meet this goal the CoE SLA 6 has a target of publishing ≥ 60 peer-reviewed publications each year with an average of ≥ 15 papers with an impact rating ≥ 3.5 of which 5 should have an impact factor ≥ 5 each year during 2015–2019.

Progress

The CoE supported 32 research projects during 2018 including one new project. The new project on plastic pollution, led by Prof. Peter Ryan, entailed (*inter alia*) bulk sampling surface ocean water, which highlighted the widespread occurrence of microfibrils (presumably mainly from washing machine effluent) throughout the oceans. MSc student Eleanor Weideman has also been sampling several major rivers in South Africa to assess the importance of the region as a source for marine microplastics. Other facets of the project use birds to track changes in plastics floating at the sea surface, as well as surveys to assess the spatial and temporal patterns in microplastics around the South African coast over the last two decades. The CoE supports research projects in seven other African countries.

The CoE had an excellent year of scientific research publication output with 152 papers carrying the CoE address published in peer-reviewed journals during 2018 (Appendix 1); 44 in journals with impact factors ≥ 3.5 , including 16 in journals with impact factors ≥ 5 (Fig. 1).

FitzPatrick Institute CoE publications in peer-reviewed journals 2001–2018

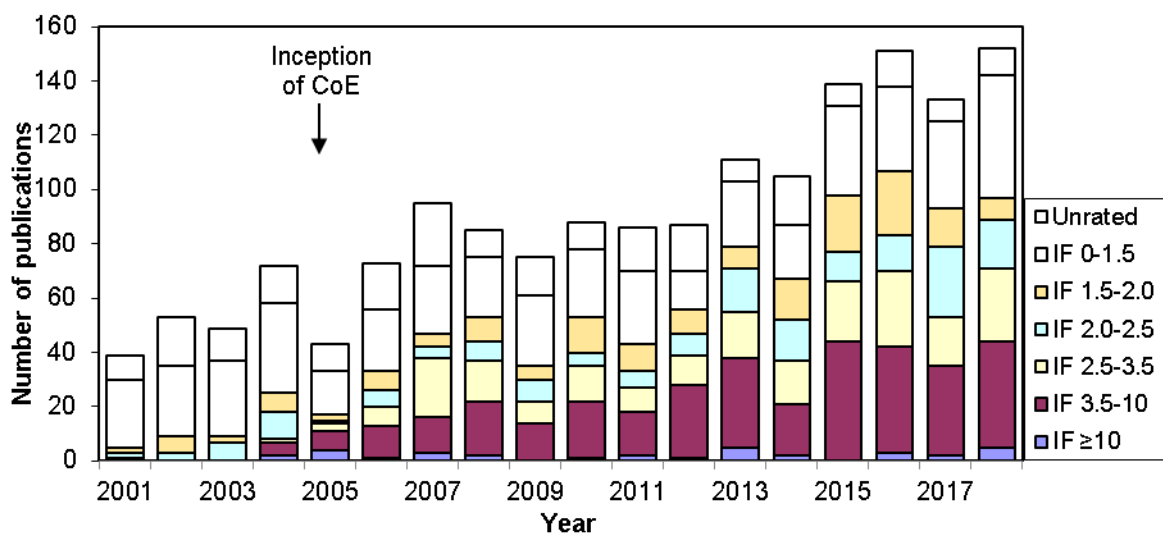


Figure 1. Trends in the number and quality of CoE publications (measured by journal 'Impact Factors' IF) before and after the establishment of the Centre of Excellence.

In April 2018, the Editor of *Ibis* (Vol. 160 Issue 2) selected the Jess Shaw et al. paper titled “High power line collision mortality of threatened bustards at a regional scale in the Karoo, South Africa” amongst the top of six papers highlighting avian science.

Prof. Claire Spottiswoode gave the Zoological Society of London 2018 Stamford Raffles Lecture in London in June 2018. The title of the talk was ‘Collaborators and con-artists: coevolution as an engine of biodiversity’. Peter Ryan gave one of ten plenary lectures at the 27th International Ornithological Congress, the world’s oldest and most prestigious ornithological conference, in Vancouver in August 2018.

CoE core team member Dr Pierre Pistorius received the Nelson Mandela University Researcher of the Year award for 2018.

Post-doc Petra Sumasgutner received a L’Oréal UNESCO Women in Science award in October 2018. She was accompanied by Post-doc Megan Murgatroyd and field assistant Shane McPherson on a trip to Mongolia to sample Golden Eagles *Aquila chrysaetos* to fill a data gap on their genetic diversity. The team worked closely with the Kazakh Eagle Hunters and were able to gather over 100 Golden Eagle feather samples in the month that they were in Mongolia. Their host Taurekol introduced them to Kazakh culture and eagle hunter families. Traditionally Golden Eagles are either taken from a nest or are trapped as passage birds in their first year and are released back into the wild after several hunting seasons.

Awards received at conferences during 2018

At the 4th Learn About Birds conference held at Langebaan during March 2018, Amanda Bourne took the top presentation award and Andrew de Blocq claimed the runner-run award for the five-minute speed talks. Abilgail Ramudzuli, now a Fitz CoE MSc student, took second place for the full presentations for her talk on her BSc Honours project with A/Prof. Derek Engelbrecht at the University of Limpopo.

Post-doc Anina Coetzee received an Honorable Mention (2nd place) for Best Young Scientist Oral Presentation at the International Association of Vegetation Science Symposium (IAVS) held in Bozeman, USA during July 2018.

PhD students Anthony Lowney and Christiaan Brink were awarded the best oral presentation and runner-up oral presentation of 19 oral presentations at the 2018 UCT Department of Biological Sciences Postgraduate Research Day in December 2018.

2. Education and Training

Objective

The short-term objective, as outlined in the SLA 6, is for the CoE to support (at least partially) an average of ≥30 postgraduate students and six Post-doctoral Fellows each year during 2015-2019. A further target is for ‘Black’ students to comprise ≥30% and women students to comprise ≥50% of the students supported by the CoE over this period. A medium- to long-term objective is to continue to build a vibrant research environment that instils a rigorous hypothetico-deductive approach to problem solving among the postgraduate student body.

Progress

Twenty-two PhD, 39 MSc and two BSc Hons students (total = 63) registered at South African universities were supported at least in part by the CoE during 2018 (Tables 1 & 8). Of these, 15 (24%) were 'Black' and 35 (56%) were women (Tables 9 & 10). Of the 43 South African students, eight were 'Black', two 'Coloured' and none 'Indian', accumulatively 30%. Regarding the nationality of the students, 43 (68%) were South African, 3 (5%) were from other SADC countries, 1 (2%) was from the rest of Africa and 16 (25%) were from the rest of the world (Table 11). The excess of international students (target 4%), which reduces the proportion of South African students (target 87%), largely results from the international student component of the Conservation Biology (CB) MSc classes. One of the recognized strengths of the CB course is the diversity of student backgrounds. None of the international CB students were awarded bursary support from the CoE.

Twenty-one students graduated during 2018: 4 PhD, 2 MSc by dissertation, 13 MSc Conservation Biology and 2 BSc Honours. Rebecca Garbett (UCT) and Ryan O'Connor, Darren Pietersen and Michelle Thompson (all U. Pta) were awarded their PhD, Christopher Jones (UCT) and Danielle van den Heever (NMU) were awarded their MSc by dissertation, Rio Button, Sarah Catto, Syndey Davis, Shannon Dubay, Olli Hyvärinen, Caitlin Kelly, Leungo Leepile, Colleen Lindberg, Phoebe Mottram, Oyena Masiko, Franck Mavinga, David van Beuningen and Tapiwa Zimunya were awarded their MSc in Conservation Biology (all UCT), and Natasha Shilubane and Oliver Hartley (both NMU) completed their BSc Hons.

Eight Post-docs were supported by the CoE during 2018 (Tables 1 & 6). Recent CoE PhD graduate and Post-doc Chevonne Reynolds was appointed to a lectureship position at the University of the Witwatersrand in January 2018 and a new research collaborative partnership has been established with her as a Research Associate of the CoE.

Table 1. Number of CoE Post-docs and students supported during 2005–2018

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
P-doc	6	9	8	9	12	11	12	13	12	15	8	9	9	8
PhD	8	13	18	19	15	18	21	19	21	23	20	27	25	22
MSc	8	6	5	7	6	7	6	13	19	20	21	15	18	15
CB	11	14	12	11	11	12	13	15	13	13	13	14	13	13
CB ₂	15	11	14	12	11	11	12	12	15	13	13	12	14	11
Hons	0	9	6	8	2	2	7	1	0	3	1	3	2	2
Tot – CB₂	33	51	49	54	46	50	59	61	65	74	63	68	67	60
Tot +CB₂	48	62	63	66	57	61	71	73	80	87	76	80	81	71

2005 = start of CoE; MSc CB₂ = second year of a CB class cohort

The MSc Conservation Biology Course has continued to build much-needed capacity within and outside of South Africa in the broad area of biodiversity conservation, with the graduation of students from SA (x4), Botswana, Congo, Finland, UK, USA (x4) and Zimbabwe, and the enrolment of students from SA (x10), Austria and USA during 2018.

Eight students participated on a certification course in September 2018 to fulfil the requirement that researchers working with wild birds are certified by a vet before they can legally take blood samples from their study species (or have a vet present when they do it). The UCT Animal Ethics Committee (AEC) is keen to ensure that UCT is compliant with these rules.

PhD student Jessleena Suri participated in one of three 2018 global Pint of Science events held at the UCT Club during May 2018, which was the first such event hosted by UCT. Her talk was on “Ornithology in the city”. Pint of Science brings brilliant young scientists to your local pub to discuss their latest research findings.

Post-docs Diana Bolopo and Anina Coetzee were awarded Claude Leon scholarships.

3. Information Brokerage

Objective

Medium- to long-term objectives are to: (1) make a sustained contribution to the semi-popular literature aimed at popularizing science in the fields of conservation biology in general and ornithology in particular; (2) provide expert views on relevant matters for newspaper and magazine articles; and (3) contribute to books of a semi-technical nature. The CoE also has a SLA 6 target to organize at least one local conference during this stage (2015–2019).

Progress

The transfer of the Animal Demography Unit (ADU) databases to the CoE in January 2018 has significantly increased the information brokerage capacity of the institute. The information systems specialists Dr Rene Navarro and Michael Brooks have been transferred to the CoE thanks to funding from the Department of Environmental Affairs, routed through SANBI. This ensures that the diverse range of web-based databases developed over the last two decades by the ADU will remain freely available to users across the world until at least the end of 2020. The Southern African Bird Atlas Project (SABAP2) and other citizen observer projects provide a wealth of data on the occurrence of species over the southern African sub-region. These data are useful to answer large-scale research questions and to analyse trends in the distribution of species over time and space. In December 2018, BirdMAP was launched at the Durban meeting of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). This project aims to extend the SABAP model across Africa and is already supporting national atlas projects in Kenya and Nigeria.

The FIAO has also taken over the management of the South African Bird Ringing scheme (SAFRING), which services bird ringing throughout Africa, providing a key service for research and conservation agencies. SAFRING is led by Dr Robert Thomson and managed by the Niven Librarian, Susan Mvungi, assisted by an NRF intern.

CoE members published 58 semi-popular articles, one book and four chapters in semi-technical books during 2018 (Appendix 1). Regular research activities were posted on the FIAO website, Facebook, Twitter and on an Instagram account started during May 2018.

At least 50 public talks and outreach activities were given by CoE members to partner organisations and interested parties, such as the Sasol Birds and Birding Fair, various government and non-governmental organisations, environmental action groups, conservancies, bird clubs and other membership-based societies during 2018.

Print media exposure included regular features in *African Birdlife*, *Wild* magazine, *SANParks Times*, *Safari News* and the *Bulletin of the African Bird Club* (Appendix 1). Print media features in the UK and USA included placements in *The Economist*, *The Daily Mail*, *The Telegraph*, *International Business Times*, *Cosmos Magazine*, *Audubon Magazine* and *Living Bird*. Various radio interviews also were conducted, including on Cape Talk Radio, Radio 702, OFM Radio, two BBC national radio stations (including BBC Radio 4, part of the “Natural Histories” series), German and Canadian national radio, the Hectic Nine-9 live television show for the youth on SABC2, 50/50 on SABC3, as well as the BBC World Series.

CoE staff and students attended and presented their research findings at 16 international and nine local conferences during 2018 (Table 2), at which they received four oral presentation awards and one poster presentation award.

Table 2. Conferences attended by CoE staff and students during 2018

Society for Integrative and Comparative Biology Conference (SICB) (Jan; San Francisco, USA) Ryan O'Connor
South African Association of Botanists Conference (SAAB) (Jan; Pretoria, SA) Claire Spottiswoode, Anina Coetzee
National Geographic Okavango Wilderness Project Science Symposium (Jan; Newlands, SA) Rob Little, Leepile Leungo, Phoebe Mottram, Sanjo Rose
British Ornithologists Union Conference (BOU) (March; Nottingham, UK) Arjun Amar
6th International Marine Debris conference (March; San Diego, USA) Peter Ryan
19th Student Conference on Conservation Science (March; University of Cambridge, UK) Rio Button, Wesley Gush, Laurie Johnson, Oyena Masiko
4th Learn About Birds Conference (March; Langebaan, SA) Arjun Amar, Susie Cunningham, Rob Little, Andrew McKechnie, Pierre Pistorius, Robert Thomson, Diana Bolopo, Petra Sumasgutner, Amanda Bourne, Luke McClean, Carina Nebel, Nick Pattinson, Kim Stevens, Carla du Toit, Alexis Osborne, Abigail Ramudzuli, Tegan Carpenter-Kling (NMU), Danielle van den Heever (NMU), Makabongwe Siggala (NMU), Ilana Engelbrecht (NMU), Shannon Conradie (UPta), Celiwe Ngcamphalala (UPta)
12th International Conference on Language Evolution (April; Torun, Poland) Amanda Ridley
Southern Ground Hornbill Biodiversity Management Plan Workshop (May; National Zoological Gardens, SA) Rob Little, Kyle Middleton
2nd meeting, 3rd phase UN's (GESAMP) Working Group 40 (June; Bangkok) Peter Ryan
5th International Marine Conservation Congress (June; Kutching, Malaysia) Lorien Pichegru
International Association of Vegetation Science Symposium (IAVS) (July; Bozeman, USA) Claire Spottiswoode, Anina Coetzee
International Society of Behavioural Ecology Conference (ISBE) (Aug; Minneapolis, USA) Andrew McKechnie, Amanda Ridley, Claire Spottiswoode, Diana Bolopo, Amanda Bourne, Luke McClean
South African National Antarctic Programme (SANAP) Symposium (Aug; Hermanus, SA)

Peter Ryan, Stefan Schoombie
27th International Ornithological Congress (Aug; Vancouver, Canada) Peter Ryan, Andrew McKechnie, Arjun Amar, Susie Cunningham, Robert Thomson, Diana Bolopo, Petra Sumasgutner, Megan Murgatroyd, Dayo Osinubi, Amanda Bourne, Ryno Kemp, Anthony Lowney, Nick Pattinson, Ryan O'Connor, Sekgwari Malematja, Matthew Noakes, Carla du Toit, Kailen Padayachee, Miqkayla Stofberg
International (FILAMO) Movement Ecology of Marine Organisms Workshop (Sept; UCT, SA) Pierre Pistorius, Stefan Schoombie
Urban Biodiversity and Food Security URBIO 2018 (Sept; Cape Town, SA) Jessleena Suri
Cape Fur Seal Management Workshop (Oct; Swakopmund, Namibia) Pierre Pistorius
9th Oppenheimer De Beers Group Research Conference (Oct; Jhb, SA) Andrew McKechnie, Robert Thomson, Rita Covas, Anthony Lowney
STINT-NRF Workshop (Oct; De Hoop Nature Reserve, SA) Arjun Amar, Petra Sumasgutner, Susie Cunningham, Carina Nebel, Edmund Rodseth, Christiaan Brink, Miqkayla Stofberg, Sarah Catto, Samantha Kirves
Raptor Research Foundation International Conference (Nov; Skukuza KNP, SA) Arjun Amar, Robert Thomson, Megan Murgatroyd, Petra Sumasgutner, Carina Nebel, Christiaan Brink, Anthony Lowney
9th National Zoological Gardens of South Africa Research Symposium (Nov; Pretoria; SA) Dayo Osinubi, Ditiro Moloto, Abigail Ramudzuli
Annual Meeting of the Australian and New Zealand Society for Comparative Physiology and Biochemistry (ANZSCP) (Dec; Melbourne, Australia) Andrew McKechnie
1st African Bioacoustics Community Conference (Dec; Cape Town, SA) Rita Covas, Claire Doutrelant, Kyle Middleton, Emmanuel Adekola
DST Global Change Conference (Dec; Polokwane, SA) Jessleena Suri

Six staff, 10 students and post-doctoral fellows presented their research outputs at the 27th International Ornithological Congress (IOC) held in Vancouver, Canada, during August 2018, which attracted 1 700 delegates from around the world. Peter Ryan gave one of only 10 plenary talks on 'Seabird Conservation – a Southern Hemisphere Perspective', which attracted considerable media attention. Arjun Amar and Petra Sumasgutner presented in their symposium on 'Human–raptor Interactions: from Conservation Priorities to Conflict Mitigation'; Susie Cunningham contributed to one titled 'Towards a Mechanistic Understanding of Avian Responses to Climate Change'; Robert Thomson highlighted how birds can share nests in a session on 'The Form and Function of Birds' Nests'; Megan Murgatroyd talked about senescence in raptors in the symposium 'Population and Individual Ecology: Population Dynamics'; and CoE core team member Andrew McKechnie highlighted the challenges of keeping cool in a symposium on 'Avian Energetics in a Changing World' and served as a member of the IOC Scientific Programme Committee. Several students gave speed talks to accompany their poster presentations.

The CoE and BirdLife South Africa co-hosted the fourth biennial conference *Learn About Birds (LAB)* at Club Mykonos, Langebaan during March 2018. The conference was attended by over 300 delegates and was regarded as a great success, particularly for young scientists. Six CoE staff members and 18 CoE students attended the conference. This event satisfies the SLA 6 target of organizing at least one local conference during this CoE stage.

During 2018 the UCT Science Faculty developed an enhanced facility for the exposure of research publication press releases. Two professional science writers have been commissioned to service academic staff by helping to draft press releases on the

acceptance of a scientific paper by a journal. The Science Faculty Communications Office then assists with the external distribution of the press releases. While the Science Faculty and UCT Communications Office have good exposure to domestic South African media, a new process is in place to send press releases to an online science news service called EurekaAlert which greatly increases take-up of research news and gets exposure in international outlets such as *The New York Times* and *The Washington Post*.

The CoE offered eight articles about research which would have significant impacts on civil society for the NRF Research Review of “impactful” research projects funded by the NRF in 2017 and 2018 of which three were selected for inclusion. The selected projects were developing bird friendly beaches, humans and wild birds collaborate to hunt for honey, and safeguarding the ocean from plastic waste.

Dr Susie Cunningham gave a presentation titled ‘Impacts of climate change on desert birds’ to guides at Tswalu Kalahari Reserve during October 2018 so they can pass on information about climate change impacts on birds to reserve guests. She also gave an invited seminar titled ‘The costs of keeping cool: Behaviour & the Hot Birds Research Project’ at the University of Pretoria during March 2018.

Prof. Peter Ryan was invited by the Royal Society of South Africa and the Academy of Science of South Africa to give a public lecture titled ‘Seabirds: Their Biology and Conservation’ at the South African Astronomical Observatory (SAAO) Auditorium, Observatory, Cape Town on 20 June 2018. His talk gave insights into the fascinating world of seabirds and explained how their conservative life histories exacerbate the many threats they face. He also focused on seabird-fishery interactions and the threats posed by land-based predators at their breeding islands and presented an overview of the plastic pollution problem in the oceans. In March, Peter also gave two presentations at the 6th International Marine Debris conference in San Diego and attended the inaugural meeting of the SCOR Working Group on Plastics in the Oceans, of which he is a full member.

Prof. Claire Spottiswoode gave the Stamford Raffles Lecture at the Zoological Society of London in June 2018 as well as seminars at the University of Lausanne, Switzerland (April); EO Wilson Laboratory of Biodiversity, Gorongosa National Park, Mozambique (October); and at the University of Roehampton, London (November). She also gave a number of public outreach talks to schools and other interested citizen organisations in Zambia and Mozambique.

The CoE contributed research activity articles to the second issue (2018) of UCT’s new research magazine *Umthombo* with articles about Antarctica on page two and about declining birds of prey populations in Botswana on page 14. Articles about CoE activities also regularly featured in the UCT Science Faculty research newsletter *Science Matters* during 2018.

A research press release titled ‘Small plastic pollution on South African beaches comes from local sources’ based on a recent paper published in *Environmental Pollution* by Peter Ryan *et al.* was posted on the Fitz CoE Facebook and released by the UCT Communications Office on 26 February 2018.

A research blog by Jessica Shaw released by the British Ornithologists’ Union about her paper published in *Ibis* titled ‘High power line collision mortality of threatened bustards at a regional scale in the Karoo, South Africa’ was posted on the Fitz CoE Facebook and

released by the UCT Communications Office during March 2018. It was also featured on UCT's research highlights and news site.

A research press release by the University of British Columbia on a paper published in the *Journal of Animal Ecology* titled 'Individual dispersal delays in a cooperative breeder: Ecological constraints, the benefits of philopatry and the social queue for dominance' by Martha Nelson-Flower et al. was posted on the Fitz CoE Facebook and released by the UCT Communications Office on 22 March 2018.

A research paper by Arjun Amar and PhD student Beckie Garbett on birds of prey fast disappearing from one of Africa's last great wilderness areas in Botswana was featured as a Global Source of Science News EurekaAlert titled 'Scientists stunned by decline of birds during epic Southern African road trip' on 6 June 2018.

PhD student Amanda Bourne's research was featured as a British Ornithologists' Union Blog titled 'Sex can't help you when it's hot (High temperatures suppress growth equally in male and female Southern Pied Babbler nestlings)' in November 2018.

A paper on the origins of the Inaccessible Island Rail with Peter Ryan and Martim Melo as authors published in the journal *Molecular Phylogenetics and Evolution* attained the highest ever Altmetric score for that journal and received substantial exposure in over 100 media outlets and in 19 languages around the world (<http://www.stervander.com/outreach/media-coverage/>) as well as being covered by Cape Talk radio on 8 November 2018.

Eleanor Weideman and Veronica Perold gave a talk at the Star of the Sea Convent School in St James, where they highlighted the environmental effects of plastic pollution to learners from grades 1–7. Eleanor also presented talks to the West Coast Club and Stanford Bird Clubs using her research to illustrate how much and what types of plastic pollution are being released and what affect it is having on the environment.

Dr Rob Little regularly assisted the 50I50 television wildlife show team with the identification of birds and comments on bird behaviour and provided similar information to the general public for queries attracted by the Fitz website. He also authored a book titled *Birding in South Africa's National Parks* which was published by Jacana Media in June 2018. He was interviewed live on Cape Talk Radio on 31 August 2018 and a feature article promoting the book and birding in SA's national parks appeared in the Summer 2018/2019 issue of *WILD* magazine.

Dr Rob Little submitted a CoE research report for inclusion in the UCT Research Council 2018 report on research, which is published for the university Senate Executive Committee (SEC), Senate and Council

4. Networking

Objective

Medium- to long-term objectives are to: (1) establish a wide range of key collaborative associations with scientific peers and peer research groups, both locally and abroad; (2) establish partnerships with conservation organisations and NGOs; and (3) establish strong relationships with business organisations with either direct or indirect interests in the fields of conservation biology and ornithology.

Progress

The CoE continued its involvement with networking interactions between institutions directly or loosely collaborating with the CoE (Table 3). Primary collaboration continued with Prof. Andrew McKechnie at the University of Pretoria, Drs Pierre Pistorius and Lorien Pichegru at the Nelson Mandela University, Dr Ben Smit at Rhodes University and with A/Prof. Derek Engelbrecht at the University of Limpopo. New research collaboration is with Dr Chevonne Reynolds at the University of the Witwatersrand. Secondary collaboration will continue with the molecular laboratories of A/Prof. Rauri Bowie at the University of California, Berkeley and Prof. Paulette Bloomer at the University of Pretoria (Table 4).

Close collaborative working relationships with other scientific peers exists both nationally and internationally (Tables 3 & 7). Additional emphasis has been placed on working with historically black universities in South Africa and African universities, e.g. the University of Limpopo, Fort Hare University, Tshwane University of Technology and the Universities of Zimbabwe and Zambia. The eight Post-doctoral Fellows at the CoE during 2018 came from six different foreign countries.

Prof. Peter Ryan and Dr Pierre Pistorius have significant ongoing collaborative relationships with the South African National Antarctic Programme (SANAP) and are co-investigators on SANAP projects with Dr Azwianewi Makhado (DEA), Dr Maëlle Connan (NMU), and Dr Pete le Roux (U. Pta). Prof. Ryan also has close links to the Royal Society for the Protection of Birds (RSPB) and the British Antarctic Survey mainly through research at Tristan da Cunha and Gough Island. In November 2018 he and PhD student Ben Dilley spent a week training personnel from Tristan's Conservation Department on Inaccessible Island.

Dr Lorien Pichegru continues as a member of a Penguin Task Team organized by the Department of Agriculture, Forestry and Fisheries' Pelagic Working Group to address conservation issues relating to fishery closures around African Penguin colonies in Algoa Bay. More recently she has started working with the African Marine Waste Network to tackle marine litter in the Algoa Bay region. Peter Ryan continues his close collaboration with Dr Stefano Aliani and his PhD student Giuseppe Suaria from CNR-ISMAR, the Institute of Marine Sciences in La Spezia, Italy, studying the distribution and abundance of floating plastic items at sea. In 2018, they were successful in securing a research project on the Greenland Circumnavigation Expedition (GLACE), which will take place in 2019.

Prof. Claire Spottiswoode maintained her affiliation with co-funding from the University of Cambridge, UK. Her ongoing research work in Zambia has led to a formal MoU between UCT and the Cambridge and Copperbelt Universities, with Dr Lackson Chama as the contact person in Zambia. She also has strong links with the Niassa Carnivore Project in Niassa Province, Mozambique, for her ongoing research on honeyguide-human interactions. She is investigating the mechanistic basis of egg coloration in honeyguides in collaboration with physicist Dr Silvia Vignolini from Cambridge. Her research on the maintenance of evolutionary processes in plant-animal interactions is done in collaboration with Dr Colleen Seymour at SANBI, Dr Rebecca Karanja from Jomo Kenyatta University, Kenya, and Silvia Vignolini. Claire continues to collaborate closely with evolutionary geneticist Prof. Michael Sorenson at Boston University, USA, and has current collaborations with Dr Mary Caswell Stoddard (Princeton University, USA), Prof. Mark Hauber (University of Illinois, USA), Dr Steve Portugal (Royall Holloway, University of London, UK), Dr David Labonte (Imperial College, University of London, UK) and Dr Violaine Llaurens (Muséum national d'Histoire naturelle, Paris, France).

A/Prof. Arjun Amar collaborated regularly with Prof. Steve Redpath from the University of Aberdeen, Scotland, regarding research into human-wildlife conflict and related issues. In collaboration with Dr Christopher Briggs in the United States, Arjun's raptor research team are using MORPHIC which they developed during 2016 to describe the distribution of morphs of Swainson's Hawks *Buteo swainsoni* across North America. In another collaboration led by Dr Chiara Morosinotto, University of Turku, including the research group of Prof. Jon Brommer and Dr Patrik Karell in Finland, Drs Rui Lourenço in Portugal and Priv-Doc Anita Gamauf in Austria, Arjun's team are using MORPHIC to describe the distribution of Tawny Owl *Strix aluco* morphs across Europe in relation to climate, habitat, anthropogenic impact and diet. Within the scope of the STINT-NRF bi-lateral research project, Arjun's team held a joint workshop before the European Ornithologists' Union conference during August 2017 at the University Turku, Finland. Main collaborators at the workshop from Lund University were Drs Caroline Isaksson, Arne Hegemann, Hannah Watson and Johan Nilsson. Additional collaborations were continued with Dr Anita Gamauf from the National History Museum Vienna, Austria, and Dr Erkki Korpimäki from Turku University, Finland.

A/Prof. Arjun Amar and Post-doc Megan Murgatroyd continued to collaborate with Dr Andrew Jenkins of Avisense Consulting to GPS tag Verreaux's Eagles at a wind farm development site in the Karoo. In partnership with the Avisense field team, six Verreaux's Eagles have been equipped with high-resolution GPS tags from the University of Amsterdam Bird Tracking System yielding fine-scale tracking data. These data are being used to build a collision risk model for the species, which will be invaluable for informing Environmental Impact Assessments for future proposed wind farm sites. Dr Murgatroyd applied this collision risk model for Verreaux's Eagles to a wind development site at Victoria West and three potential wind farm sites (working with Avisense consulting and Mainstream Renewables), which assisted the development planning and the technique was made available nationally in 2018. In a related project, Peter Ryan worked with Robin Colyn, Sam Ralston and Hanneline Smit-Robinson from BirdLife South Africa to measure flight heights of displaying Red Larks, a localized, vulnerable species potentially at risk from wind farm developments. This study was made possible thanks to a generous donation from Mainstream Renewables.

A/Prof. Arjun Amar, Dr Susie Cunningham and Post-doc Petra Sumasgutner organized a STINT-NRF urban ecology project workshop at De Hoop Nature Reserve during October 2018, which was attended by nine CoE staff and students and seven staff and students from Lund University, Sweden. The key objectives were to update all attendees on recent progress relating directly to the project and to other relevant studies; encourage and facilitate interactions between project teams, including sharing of knowledge and experience; plan the final stages of the STINT-NRF project, including the laboratory work and field experiments; finalise a review/perspective paper and work towards delivering that goal; gain experience from participation in an international workshop, and to decide on the scope for future collaboration after the closing of the current STINT-NRF project in February 2020.

Post-doc Petra Sumasgutner also was an organizer for a symposium on '*Urban birds*' and was a workshop facilitator for '*Techniques for handling, marking, and blood sampling raptors after capture*' at the Raptor Research Foundation Annual Conference held during November 2018 at Skukuza Camp, Kruger National Park.

Dr Robert Thomson collaborates with Dr Jukka Forsman from the University of Oulu, Finland and Dr Tomas Grimm from Palacky University, Czech Republic, investigating

front-line defences in host-brood parasite systems using Common Cuckoo *Cuculus canorus* parasitism of cavity nesting Common Redstarts *Phoenicurus phoenicurus*. He also works with Dr Andrea Santangeli from the University of Helsinki, Finland, to reconcile farmers with vulture conservation in southern Africa. This project forms a broad collaboration of NGOs in southern Africa involved with vulture conservation: VulPro, EWT, BildLife SA, Vultures Namibia and Raptors Botswana.

Dr Susie Cunningham is leading a research team investigating the comparative anatomy of ibis bill-tip organs using histological and micro-CT scanning techniques to understand bill-tip organ morphology and the structure of bill-tip organ mechanoreceptors. Collaborators on this project are Dr Isabel Castro (Massey University, New Zealand), A/Prof. Jeremy Corfield (Salisbury University, New Zealand), Prof. Anusuya Chinsamy-Turan (BioSci UCT) and Morea Petersen (HUB histology lab, Groote Schuur campus UCT). She has also been approached by Dr Steve Portugal (Royal Holloway – University of London) and Dr Alex Bond (RSPB) for a collaboration to understand bill-tip structure in petrels and albatrosses.

The collaboration between Prof. Andrew McKechnie and Dr Blair Wolf, University of New Mexico (UNM), has secured a significant grant from the US National Science Foundation for joint research which started in 2015 between the FIAO CoE and UNM focussing on the 'Hot Birds' project. Prof. McKechnie's new MSc student, Mpho Malematja, has developed a project in collaboration with Prof. Bill Karasov (University of Wisconsin, USA) that will explore digestive flexibility in White-browed Sparrow-weavers *Plocepasser mahali*.

Dr Martha Nelson-Flower, a former Post-doc at the FIAO CoE, now associated with the University of British Columbia, Canada, continued her collaboration on Southern Pied Babbler *Turdoides bicolor* research with A/Prof. Mandy Ridley at the University of Western Australia looking at aspects of dispersal, kin selection and nepotism.

A MoU remained active for 2018 between the Mabula Ground-Hornbill Project (MGHP) and the FIAO CoE. Dr Rob Little is Vice-Chairman of the MGHP Advisory Board and continued to contribute to the activities of the national Southern Ground-Hornbill Working Group.

Dr Rob Little and MSc student Kyle Middleton participated in developing a Biodiversity Management Plan (BMP) for the Southern Ground-Hornbill *Bucorvus leadbeateri* with the Department of Environmental Affairs (DEA), relevant provincial conservation agencies and other stakeholders during May 2018 which will be implemented in collaboration with the DEA and SANBI.

Prominent research and conservation partners who visited the CoE during 2018

Dr Sam Ivande from the A.P. Leventis Ornithological Research Institute (APLORI) at the University of Jos, Nigeria, and Project Manager of the Nigerian Bird Atlas Project (NiBAP) visited the CoE to collaborate on the Intra-African Migratory Bird project and gave a presentation titled 'Citizen Science in Nigeria: a by-product of the Nigerian Bird Atlas Project' on 21 February 2018.

Dr John Van Thuyne from the Faculty of Geosciences, University of Lausanne, Switzerland, visited the CoE and gave a presentation titled 'Research opportunities at the new Vanthuyne Ridge Research Centre, Botswana' on 27 March 2018.

Sadia McInnes, Graduate Admissions Coordinator at the Faculty of Graduate Studies and Research, University of Regina, Canada, visited the CoE on 18 May 2018 to pursue collaboration between their Faculty members and graduate students and staff members and graduate students of the CoE.

Dr Juan Perez Garcia from the University of Lleida, Spain, visited the CoE and gave a presentation titled 'Use of raptors as indicator species for the management of wildlife-energy infrastructure conflicts' on 17 October 2018.

Dr Juan Diego Ibanez-Alamo from the University of Groningen, Netherlands, visited the CoE to collaborate with Dr Robert Thomson and gave a presentation titled 'From communities to individuals: Urban-associated changes in birds' on 31 October 2018.

Emeritus Prof. of Wildlife Biology David Bird and former Director of the Avian Science and Conservation Centre at McGill University visited the CoE and gave a talk titled 'Drones as a tool for bird study: An invaluable technology or just a new form of disturbance?' on 9 November 2018.

Dr Todd Katzner from the USA Geological Survey Office visited the CoE and gave a presentation titled 'Ecological correlates of Golden Eagle flight behaviour inform risk from wind energy development' on 21 November 2018.

Table 3. Collaborators involved with the CoE

Title	Name	Country	Institution	Gender	Race	% time in CoE
South Africa						
Prof.	Res Altwegg	SA	UCT	M	W	5
Ms	Andrea Angel	SA	BirdLife SA	F	W	20
Dr	Mark Brown	SA	NVT/UKZN	M	W	10
Dr	Maëlle Connan	SA	NMU	F	W	10
Dr	Dave Glassom	SA	UKZN	M	W	10
Prof.	Raymond Jansen	SA	Tshwane U Tech	M	W	1
Dr	Lucy Kemp	SA	MGHP	F	W	20
Dr	Ian Little	SA	EWT	M	W	5
Dr	Amanda Lombard	SA	NMU	F	W	5
Dr	Guy Midgley	SA	U Stellenbosch	M	W	2
Dr	Chevonne Reynolds	SA	WITS	F	W	10
Dr	Colleen Seymour	SA	SANBI	F	B	5
Dr	Hanneline Smit-Robinson	SA	BirdLife SA	F	W	2
Dr	Andrew Tucker	SA	CS Vet Consultancy	M	W	5
Dr	Ross Wanless	SA	BirdLife SA	M	W	20
Ms	Kerri Wolter	SA	VulPro	F	W	20
Africa						
Dr	Colleen Begg	Mozambique	Niassa Carnivores	F	W	2
Dr	Jackson Chama	Zambia	Copperbelt U	M	B	2
Dr	Christine Dranzoa	Uganda	Makerere U	F	B	1
Dr	Rebecca Karanja	Kenya	Jomo Kenyatta U	F	W	2
Prof.	Cwbisile Magagula	Swaziland	U Swaziland	F	B	5
Mr	Innocent Magunje	Zimbabwe	BirdLife Zimbabwe	M	B	10
Mr	Fadzai Matsvimbo	Zimbabwe	BirdLife Zimbabwe	F	B	30
Prof.	Ara Monadjem	Swaziland	U Swaziland	M	W	5
Asia, Australia & New Zealand						
Prof.	Jeremy Corfield	New Zealand	Salisbury U	F	W	2
Prof.	Isabel Castro	New Zealand	Massey U	F	W	2
Dr	Janet Gardner	Australia	Australian National U	F	W	5
Dr	Nicola Mitchell	Australia	U Western Australia	F	W	10

Prof.	Bruce Robertson	New Zealand	Otago	M	W	1
Prof.	Hideshige Takada	Japan	Tokyo Agric U	M	W	2
Dr	Alan Tennyson	New Zealand	Te Papa	M	W	1
Europe & UK						
Dr	Stefano Aliani	Italy	CNR-ISMAR	M	W	5
Dr	Per Alstrom	Sweden	Uppsala U	M	W	5
Dr	Beatriz Arroyo	Spain	IREC, Ciudad Real	F	W	10
Prof.	Andrew Balmford	UK	U Cambridge	M	W	1
Dr	Alex Bond	UK	RSPB	M	W	5
Dr	Marta Cuellar Cerda	Spain	CreSa U Barcelona	F	W	5
Dr	Richard Cuthbert	UK	Wildlands Trust	M	W	2
Dr	Dan Chamberlain	Italy	U Turin	M	W	5
Dr	Claire Doutrelant	France	CNRS Montpellier	F	W	5
Prof.	Nicholas Davies	UK	Cambridge	M	W	1
Dr	Gareth Dyke	Ireland	UC Dublin	M	W	1
Prof.	Jon Fjeldsa	Denmark	U Copenhagen	M	W	1
Dr	Jukka Forsman	Finland	U Oulu	M	W	2
Dr	Jérôme Fuchs	France	Natural History Mus.	M	W	5
Dr	Anita Gamauf	Austria	Nat Hist Mus. Vienna	F	W	10
Dr	David Grémillet	France	CNRS Montpellier	M	W	20
Dr	Michael Griesser	Switzerland	U Zurich	M	W	3
Dr	Tomas Grimm	Czech Rep.	Palacky U	M	W	5
Dr	Jacob Gonzalez-Solis	Spain	U Barcelona	M	W	5
Dr	Steffen Hahn	Switzerland	Swiss Ornith. Inst.	M	W	5
Dr	Bengt Hansson	Sweden	Lund U	M	W	10
Prof.	Ben Hatchwell	UK	U Sheffield	M	W	3
Dr	Arne Hegemann	Sweden	Lund U	M	W	5
Dr	Nicholas Horrocks	UK	U Cambridge	M	W	10
Dr	Hugo Mathe Hubert	Switzerland	EAWAG Zurich	M	W	5
Dr	Caroline Isaksson	Sweden	Lund U	F	W	5
Dr	Gabriel Jamie	UK	U Cambridge	F	B	10
Dr	Felix Liechti	Switzerland	Swiss Ornith.I Inst	M	W	5
Dr	Anoushka Kinahan	Ireland	Frankfurt Zoo Soc	F	W	1
Dr	Erkki Korpimäki	Finland	Turku U	M	W	10
Prof.	Luc Lens	Belgium	U Ghent	M	W	1
Dr	Violaine Llaurens	France	Mus. d'Histoire Nat.	F	W	5
Dr	Rowan Martin	UK	World Parrot Trust	M	W	10
Dr	Chiara Morosinotto	Finland	U Turku	F	W	10
Dr	Francois Mougeot	Spain	IREC, Ciudad Real	M	W	20
Dr	Johan Nilsson	Sweden	Lund U.	M	W	5
Dr	Veli-Matti Pakanen	Finland	U Oulu	M	W	10
Dr	Mathieu Paquet	UK	U Edinburg	M	W	5
Dr	Richard Phillips	UK	Br Antarctic Survey	M	W	2
Dr	Steve Portugal	UK	Royal Holloway	M	W	2
Prof.	Petra Quillfeldt	Germany	U Giessen	F	W	1
Prof.	Andy Radford	UK	U Bristol	M	W	5
Dr	Nichola Raihani	UK	IOZ, London	F	W	5
Prof.	Steve Redpath	UK	Aberdeen U	M	W	10
Dr	Angela Ribiero	Denmark	U Copenhagen	F	W	10
Dr	Yan Ropert-Coudert	France	CNRS Chize	M	W	5
Dr	Andrea Santangeli	Finland	U Helsinki	M	W	2
Dr	Marjorie Sorenson	UK	U Cambridge	F	W	1
Dr	Martin Stevens	UK	U Exeter	M	W	2
Prof.	Cedric Suer	France	U Strasbourg	M	W	5
Dr	Jakub Szymkowiak	Poland	Adam Mickiewicz U	M	W	10
Dr	Alex Thornton	UK	U Exeter	M	F	5
Dr	Rose Thorogood	Finland	U Helsinki	F	W	5
Dr	Rene van Dijk	UK	U Sheffield	F	W	5
Dr	Silvia Vignolini	UK	U Cambridge	F	W	5
Dr	Henri Weimerskirch	France	CNRS Chize	M	W	5
Dr	Stephen Willis	UK	Durham	M	W	2
Dr	Hannah Watson	Sweden	Lund U.	F	W	5
Prof.	Rory Wilson	UK	Swansea U	M	W	2

USA & Canada

Prof.	Mark Brigham	Canada	U Regina	M	W	5
Dr	Theresa Burg	Canada	U Lethbridge	F	W	1
Dr	Tom Flower	Canada	Simon Fraser U	M	W	5
Dr	Alex Gerson	USA	U Massachussetts	M	W	5
Dr	Robert Hackett	USA	Chicago Mus	F	W	1
Prof.	Bill Karasov	USA	U Wisconsin	M	W	5
Prof.	Martinez del Rio	USA	U Wyoming	M	W	1
Dr	Mark Mainwaring	USA	U Montana	M	W	2
Dr	Martha Nelson-Flower	Canada	U British Columbia	F	W	5
Prof.	Michael Sorenson	USA	Boston U	M	W	2
Dr	Mary Stoddard	USA	Princeton U	F	W	10
Prof.	Gary Voelker	USA	Texas A&M U	M	W	1
Dr	Blair Wolf	USA	U New Mexico	M	W	5
Dr	Brian Wood	USA	U California	M	W	10

5. Service rendering

Objective

A medium- to long-term objective is to establish formal contact with a range of conservation agencies and other relevant government bodies, such as the Department of Environmental Affairs and the Department of Agriculture, Forestry & Fisheries, to ensure the expertise of the CoE is used to address practical research and information needs. CoE members will continue to render their services to the broader scientific community and the general public.

Progress

Links continue to be serviced with a diversity of conservation agencies, NGOs, government departments and industry partners. These include the Department of Environmental Affairs (DEA), Department of Agriculture, Forestry & Fisheries (DAFF), the South African National Biodiversity Institute (SANBI), SANParks, IUCN, Conservation International, Fauna & Flora International, the Royal Society for the Protection of Birds (RSPB), BirdLife South Africa & Zimbabwe, the World Parrot Trust, the Endangered Wildlife Trust, the Namibian Ministry of the Environment, the Wildlife Conservation Society, the Nature Conservation Corporation and the South African Deep Sea Trawling Industry Association.

CoE members served on the editorial boards of 30 scientific journals, and as members of 76 relevant membership and advisory fora. They also served the broader scientific community by participating on scientific steering committees and working groups, and by reviewing project proposals for science funding agencies and 122 papers for 67 peer-reviewed international and local journals during 2018 (see below).

Members of the CoE continued to offer technical advice on biodiversity conservation measures to a wide range of governmental departments, conservation implementing agencies and other industry players (e.g. Plastics SA and the South African wind energy sector). This advice is offered directly to policy makers in para-statals (SANBI, SANParks, CapeNature, Ezemvelo KwaZulu-Natal Wildlife) and government departments (e.g. drafting NEMBA regulations and permitting guidelines for the DEA, contributing to fishery management working groups for the DAFF, reviewing best-practice guidelines for managing the wind and solar energy industry for DEA, etc.). Service rendering is not confined to South Africa with inputs being given to neighbouring countries including the UK

(for Tristan da Cunha and Gough Island), international agreements (e.g. CCAMLR, CMS, ACAP and RFMOs), as well as collaboration with the Namibian Ministry of the Environment, the Botswana Department of Wildlife and National Parks, and the Marine Stewardship Council for regional fisheries. The CoE also works with partner NGOs such as the BirdLife network (including BirdLife Botswana, South Africa, Zimbabwe), Conservation International, the Endangered Wildlife Trust (EWT), Fauna & Flora International, the IUCN, Nature Conservation Corporation, the Royal Society for the Protection of Birds, the World Conservation Society (WCS) and the World Parrot Trust to effect changes in the biodiversity conservation arena and related industries.

Prof. Peter Ryan is on the editorial Board of *Bird Conservation International* and is an editorial assistant for *Antarctic Science*. He is the South African representative on ACAP's Taxonomy Working Group, a member of the IMAF Working Group of CCAMLR, the South Atlantic Island Plant Specialist Group, the UN's GESAMP Working Group 40, and is a core member of the SCOR Working Group on Floating Marine Debris (Flotsam). Prof. Ryan was an invited delegate at the second meeting of the third phase of the UN's Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Working Group 40: harmonising monitoring & assessment of plastics & microplastics held at the UN compound in Bangkok during June 2018. The group worked on completing a draft of a report to advise how to sample plastic pollution in marine ecosystems.

Prof. Claire Spottiswoode presented a MSc module on research design and proposal writing for Mozambican students at the Edward O. Wilson Biodiversity Laboratory, Gorongosa National Park, Mozambique. This is a joint initiative between Lúrio University, Zambezi University and the Manica Higher Polytechnic Institute, all in Mozambique.

Dr Robert Thomson reviewed a project proposal for the Natural Environment Research Council (NERC) in the UK, reviewed the African Journal of Ornithology *Ostrich* for the Academy of Science of South Africa (ASSAf), and reviewed a research application for the African-German Network of Excellence in Science. He also examined a PhD thesis for the University of Grenada, Spain, a PhD upgrade proposal for the University of Stellenbosch and a MSc thesis for the University of Kwazulu-Natal during 2018.

Prof. Andrew McKechnie served on the ethics and scientific committees of the National Zoological Gardens and chaired the ethics committee of BirdLife South Africa. Peter Ryan and Andrew McKechnie are also scientific advisors for the BirdLife magazine *African Birdlife*.

Dr Pierre Pistorius was an invited scientist to a workshop on Cape Fur Seal management hosted by the Namibian Ministry of Fisheries and Marine Resources held in Swakopmund, Namibia during October 2018 and was a guest lecturer at an international (FILAMO) workshop on movement ecology of marine organisms held at UCT during September 2018. He is also an external examiner for an undergraduate course at the Walter Sisulu University and has been appointed to the Nelson Mandela University Animal Research Ethics Committee.

At the Indian Oceans Tuna Commission (IOTC) working party on ecosystems bycatch held during September 2016 in the Seychelles, recommendations emanating from the research work of former PhD student Dom Rollinson were put forward to change IOTC regulations with regards to line-weighting of longline branch-lines to reduce seabird bycatch. Dom's study was conducted in collaboration with scientists from the National Institute of Fishery Science, Republic of Korea, with whom he drafted a paper that will to be published soon.

Their recommendations were assessed by the IOTC Scientific Committee during December 2016, before being introduced into IOTC legislation during 2017.

Dr Lorien Pichegru is Chairperson of the Algoa Bay Hope Spot steering committee, driving the Hope Spot initiative for Mission Blue and the Sustainable Seas Trust in Algoa Bay. She facilitates monthly public talks about local and international environmental issues (such as municipal development including climate change, river flows and pollution, shark ecology and the shark cage diving debate, rehabilitation of marine wildlife, and combating plastic pollution in Port Elizabeth), fund raises for marine education initiatives, such as Marine Week in Port Elizabeth, and co-ordinates environmental projects, such as monthly beach clean-ups, alien clearing, setting waste recycling plans for the squid fishing industry and implementing a waste management plan for Nelson Mandela University. She is also Vice-chairperson of the Algoa Bay branch of the Wildlife and Environment Society of South Africa (WESSA), and a member of the Advisory Panel of the African Marine Waste Action Network.

Ongoing research by Lorien and her team on the foraging behaviour of African Penguins *Spheniscus demersus* in Algoa Bay since 2008 and during the experimental purse-seine fishing exclusion has shown the impact of the competition with industrial fisheries on seabirds for the first time and the benefit of closing small areas to fishing. The results are used by the Island Closure Task Team of the Small Pelagic Scientific Working Group, from the Department of Agriculture, Forestry and Fisheries, to assess the use of fishing exclusion around penguin colonies to increase penguin numbers. South African National Parks henceforth extended the Greater Addo Marine Protected Area in Algoa Bay to include the foraging habitat of African Penguins around St Croix Island, the world largest African Penguin colony.

Following his research on a novel and inexpensive method to quantify relative fish abundance using recreational fish-finders for his PhD, post-doc Alistair McInnes designed and analysed small pelagic fish surveys in Plettenberg Bay to assess the suitability of pelagic habitat for an artificial African Penguin breeding colony. The study commissioned by BirdLife South Africa was to establish if this site is suitable for breeding African Penguins. Alistair is also working to develop a real-time index of small pelagic fish abundance, as perceived by African Penguins, to better help manage the highly variable fishery for small pelagic fish such as sardines and anchovies.

Dr Rob Simmons completed a final draft of the Black Harrier guidelines for mitigating impacts at wind farms in Africa for BirdLife South Africa. These will guide developers and specialists in alleviating impacts and understanding the fatal interactions between harriers and wind farms.

Dr Martim Melo coordinates the Biodiversity TwinLab between CIBIO (Research Center in Biodiversity and Genetic Resources from the University of Porto, Portugal) and the Zoological Museum and Herbarium of Lubango (Angola). This initiative will establish a network of TwinLabs in South Africa, Namibia, Zimbabwe and Mozambique. The main goal is capacity building in biodiversity conservation in the Portuguese speaking countries particularly Angolan TwinLab, since that country has a stark contrast between the rich biodiversity and the threats it faces, and the almost absence of a researchers, technicians and managers. Most of the capacity building is based on research projects with integrated MSc and PhD students. The intention is that within 10-15 years, English will no longer be an obstacle and the Portuguese-speaking countries will be more integrated at the international level. Dr Melo also contributes to capacity building of members of a

conservation NGO in São Tomé and Príncipe that supports the implementation of the BirdLife International and BirdLife Africa action plans for threatened species in those countries.

PhD student Selena Flores has facilitated training of the SANParks Coast Care team on how to be aware while cleaning up beaches in shorebird breeding areas, including spotting incubating/brooding adult shorebirds, nests, and behavioural indicators that chicks or nests are nearby. From results of her PhD research on White-fronted Plover *Charadrius marginatus* responses to disturbance, in conjunction with local research supervisor Dr Mark Brown and other coastal bird research with the associated NGO the Nature's Valley Trust, beaches in the greater Plettenberg Bay region have been re-zoned with regards to dog access. Initial recommendation maps were requested by the Bitou Municipality, with implementation of new regulations including new and additional signage, enforcement logistics and a social media campaign.

Post-doc Dayo Osinubi has supported the MSc Conservation Biology programme at the AP Leventis Ornithological Research Institute (APLORI) in Nigeria by teaching courses in behavioural ecology, field techniques, and writing and presentation skills, as well as supervising a MSc student's research project. His services on the African-Eurasian Migratory Landbirds Working Group led to the adoption of the Abuja Declaration on Sustainable Land Use for People and Biodiversity in West Africa.

Post-doc Susan Miller contributed a chapter on "Reintroduction, reinforcement and genetic remedy of lion populations" to *Guidelines for the Conservation of Lions in Africa* (GCLA), compiled by IUCN/SSC Cat Specialist Group who were commissioned by the CITES and CMS Secretariats to develop the guidelines. The final document will be presented at the CITES CoP18 in Colombo, Sri Lanka in May 2019.

PhD student Christiaan Brink collated, updated and verified vulture supplementary feeding station records from three organisations (VulPro, EWT, Ezemvelo KZN Wildlife) into a national database during 2018.

PhD student Jesslina Suri is the Chairman of the UCT Birding Club, four other CoE students are committee members and a further 15 CoE staff and students are members, all playing a significant role in supporting the club.

Gonzalo Aguilar, Rene Navarro and Michael Brooks assisted the South African National Parks by spending a week at Malgas Island in Langebaan during December 2018 where they intervened when Great White Pelicans *Pelecanus onocrotalus* approached the island to prey on the eggs and nestlings of gannets and cormorants and recorded nest predation events by Kelp Gulls *Larus dominicanus*.

Dr Rob Little assisted SANBI and the Centre for Invasion Biology (CIB) during early 2018 with avian inputs to the National Status Report on Biological Invasions as required by regulations under the National Environmental Management: Biodiversity Act (NEM:BA, Act 10 of 2004). Inputs included; (i) an estimate of the stage of invasion according to the scheme proposed by Blackburn et al. 2011, (ii) the extent of occurrence of each species, for example the number of quarter-degree squares occupied, and (iii) an estimate of each species impact status according to defined categories (minimal, minor, moderate, major, massive). Dr Little also gave relevant research programme inputs to the Department of Environmental Affairs report on the implementation of Agreement on the Conservation of

African-Eurasian Migratory Waterbirds (AEWA) for the period 2015-2017 during the first half of 2018.

Dr Rob Little drafted a gamebird hunting position statement for BirdLife South Africa and also continued to participate on the Ford Wildlife Foundation (FWF) advisory panel to assist the FWF with the placement of loan vehicles in support of conservation projects.

Positions on Editorial Boards, Councils, Advisory/Steering Committees during 2018

Editorial Boards

- *Acta Ethologica* (Associate Editor; Covas)
- *African Journal of Ecology* (International Review Panel; Barnard)
- *African Journal of Marine Science* (Editorial Advisory Board; Pistorius)
- *African Journal of Wildlife Research* (Associate Editor; Cumming, Miller)
- *Animal Conservation* (Associate Editor; Barnard)
- *Antarctic Science* (Associate Editor; Ryan)
- *Behavioral Ecology* (Editor; Ridley)
- *Biodiversity Observations* (Editor; Navarro; Associate Editor; Thomson)
- *Biology Letters* (Associate Editors; Cunningham, Spottiswoode)
- *Bird Conservation International* (Associate Editor; Ryan)
- *BMC Climate Change Responses* (Associate Editor; Barnard, McKechnie)
- *BMC Evolutionary Biology* (Editorial Board; Bowie)
- *Diversity and Distributions* (Associate Editor; Cumming)
- *Ecology & Society* (Associate Editor; Cumming)
- *Emu – Austral Ornithology* (Associate Editor; McKechnie)
- *Frontiers in Ecology and the Environment* (Editorial Board; Ridley)
- *Frontiers in Ecology and Evolution* (Reviews Editor; Covas)
- *Frontiers in Marine Science* (Review editor; Pichegru, Pistorius)
- *Ibis* (Editor; Bowie, Associate Editor; Amar, Pichegru, Sumasgutner, Wanless)
- *International Scholarly Research Notices ISRN Ecology* (Editor; Ridley)
- *International Scholarly Research Notices ISRN Zoology* (Associate Editor; Pistorius)
- *Journal of Comparative Physiology B* (Editorial Board; McKechnie)
- *Landscape Ecology* (Editorial Board; Cumming)
- *National Geographic News Watch* (Contributing Editor; Boyes)
- *Marine and Freshwater Behaviour and Physiology* (Associate Editor; Pistorius)
- *Ornis Fennica* (Associate Editor; Thomson)
- *Ostrich* (Editor-in-Chief; Lee; Associate Editor; Jones, Little, Osinubi, Ridley; Guest Editor; Cunningham; Book Review Editor; Mvungi)
- *Peer J* (Editorial Board; Ridley)
- *Philosophical Transactions of the Royal Society B* (Guest Editor; Spottiswoode)

Membership & Advisory services

- ACAP Taxonomy Working Group (Ryan)
- African-Eurasian Migratory Landbirds Working Group (Osinubi)
- *Africa Geographic* (Director; Boyes)
- African Biosphere Reserves Project Advisory Committee (Member Osinubi)
- *African Birdlife* (Scientific Advisors; McKechnie, Ryan)
- African Penguin Population Reinforcement Working Group (Pichegru, Pistorius)

- African Penguin Habitat Working Group (Pichegru)
- African Seabird Group (Cook, Pistorius, Pichegru, Ryan, Steinfurth, Wanless)
- African Marine Waste Action Network (Advisory Panel; Pichegru, Ryan)
- American Ornithological Society (Bowie, Cunningham, du Toit, McKechnie, Melo, Sumasgutner)
- American Ornithologists' Union (du Toit)
- Association for the Study of Animal Behaviour (Covas, Flower)
- Association for Tropical Biology & Conservation (Lee)
- Bayworld Museum Board of Trustees (Pistorius)
- BirdLife Portugal (Melo)
- BirdLife South Africa Conservation Advisory Committee (Members; Ryan, Thomson)
- BirdLife South Africa Ethics Committee (McKechnie)
- British Ecological Society (Boyes, Johnson, Flores, Flower, Moloto, Nelson-Flower, Ridley, Sumasgutner)
- British Ornithologists' Union (Council; Amar, Bowie; Members; Cunningham, Spottiswoode, Sumasgutner)
- Cambridge Philosophical Society (Ridley)
- Earthworks (Co-Chair: Flower)
- Eastern Cape Forest Management and Research Committee (Boyes)
- Ecological Society of America (Cunningham)
- Endangered Wildlife Trust Birds of Prey Programme Advisory Committee (Amar)
- Endangered Wildlife Trust Threatened Grassland Species Programme Advisory Group (Little, McKechnie)
- European Ornithologists Union (Council Member: Sumasgutner; Members: Amar, Bolopo, Brink, Murgatroyd, Thomson)
- European Society of Evolutionary Biology (Covas, Melo)
- Expert Group on Birds and Marine Mammals of the Scientific Committee for Antarctic Research (Cook, Ryan)
- Fellow of Magdalene College, Cambridge (Spottiswoode)
- Ford Wildlife Foundation Advisory Board (Little)
- Forest & Bird Society (Cunningham)
- Galapagos Conservation Trust (Ambassador; Steinfurth)
- German Ornithologists' Society (Member; Sumasgutner)
- International Association of Vegetation Science (Coetzee)
- International Bio-logging Society (Cook, Pistorius)
- International Ornithology Council Taxonomy Advisory Committee (Bowie, Ryan)
- International Ornithologists' Union (du Toit)
- International Parrot Research Group (Africa Coordinators; Boyes, Martin)
- International Society for Behavioural Ecology ISBE (Executive Council; Ridley, Spottiswoode; Members: Covas, Flower, Nelson-Flower)
- IUCN Red List of Threatened Species (Cook)
- IUCN SSC Galliform Specialist Group (Little)
- Lion Management Forum of South Africa (Trustee; Miller)
- Mabula Ground-Hornbill Project Advisory Board (Vice Chairman; Little)
- Migrant Landbird Study Group (Osinubi)
- National Geographic Society (Boyes)
- National Zoological Gardens Research Ethics & Scientific Committee (McKechnie)
- Nelson Mandela University Animal Research Ethics Committee (Pistorius)
- Pan-African Ornithological Congress Committee (Amar, Osinubi)
- Raptor Research Foundation (Amar, Sumasgutner)

- Red Data Book Revision Steering Group (Amar, Wanless)
- Resilience Alliance (Cumming)
- Southern African Bird Ringing unit (SAFRING) (Coordinator; Thomson)
- SCOR working group on monitoring plastics at sea (Core member; Ryan)
- Seabird Scientific Working Group – Department of Environmental Affairs (Pichegru, Pistorius)
- Society for Conservation Biology (Barnard, Cumming, Melo, Pichegru)
- Society for Integrative and Comparative Biology (McKechnie)
- Society for Systematic Biology (Bowie)
- Society for the Study of Evolution (Bowie, Melo)
- South African Association of Botanists (Coetzee)
- South African Biosystematics Initiative Steering Committee (Bloomer)
- South African Bird Atlas Project 2 Steering Committee (Chair; Ryan; Members; Brooks, Thomson)
- South African Young Academy of Science (Founder member; McKechnie)
- Southern African Bird List Committee (Bowie, Ryan)
- Southern African Society for Systematic Biology (President; Bloomer)
- Southern African Wildlife Management Association (Carstens, Little, Maciejewski, Miller)
- Southern Ground-Hornbill Working Group (Little, Middleton)
- Sustainable Seas Trust (Chairperson Algoa Bay Hope Spot committee; Pichegru)
- Tristan's Biodiversity Advisory Group (Ryan, Wanless)
- UCT Birding Club (Chairman; Suri; Members; 19 staff & students)
- UN GESAMP Working Group 40 – phase 3: 2017-2018 Harmonising methods for monitoring and assessment of marine plastics and microplastics (Ryan)
- Wild Bird Trust (Trustees; Boyes, Little)
- Wildlife and Environment Society of South Africa (Vice Chair Algoa Bay branch; Pichegru)
- WI-IUCN SSC Cormorant Specialist Group (Cook)
- World Parrot Trust (Africa Director; Boyes)
- World Seabird Union (Africa representatives; Pichegru, Wanless; Member; Cook)
- Zoological Society of Southern Africa (Members; Cunningham, du Toit, Little, McKechnie, Pistorius, Sumasgutner)

Manuscripts reviewed for scientific journals during 2018

African Journal of Ecology (1 Lee, 1 Martin, 1 Simmons)
African Journal of Wildlife Research (1 Miller)
African Zoology (1 Lee)
American Naturalist (1 Covas, 1 Ridley)
Animal Behaviour (1 Flower, 3 Ridley)
Animal Conservation (1 McKechnie)
Anthropocene (1 Ryan)
Aquatic Conservation (1 Ryan)
Ardea (1 Simmons)
Auk (1 Bolopo, 1 Pistorius)
Avian Research (1 Sumasgutner)
Behavioural Ecology (1 Flower, 1 Pichegru, 1 Spottiswoode)
Behavioural Ecology and Sociobiology (1 Ridley)
Birdlife Conservation International (1 Lee, 1 McKechnie, 1 Simmons)
Bird Study (1 Amar, 1 Sumasgutner)

Biological Conservation (2 Joseph, 1 Martin, 1 Miller, 1 Pichegru)
Biology Letters (1 Amar, 1 Flower)
Canadian Journal of Zoology (1 McKechnie)
Climate Change Responses (1 Cunningham, 1 Martin)
Conservation Genetics Resources (1 Miller)
Current Biology (1 Ridley)
Current Zoology (1 Sumasgutner)
Ecology (1 Joseph, 1 Thomson)
Ecology & Evolution (1 Coetzee)
Ecosphere (1 Joseph)
Ecosystems (1 Joseph)
Environment Research (1 Ryan)
Environment Research Letters (1 Ryan)
Evolution Letters (1 Spottiswoode)
Frontiers in Ecology and Evolution (3 Ridley)
Functional Ecology (1 McKechnie)
Global Change Biology (1 Joseph)
Indago (1 Thomson)
Ibis (1 Cunningham, 1 Ryan, 1 Simmons, 8 Sumasgutner, 1 Thomson)
International Journal of Environment & Public Health (1 Ryan)
Journal of Animal Ecology (2 Ridley)
Journal of Avian Biology (1 Ryan, 1 Thomson)
Journal of Biogeography (1 Joseph)
Journal of Comparative Physiology B (2 McKechnie)
Journal of Ecology (1 Joseph)
Journal of Thermal Biology (1 McKechnie)
Journal of Tropical Ecology (1 McKechnie)
Journal of Vegetation Science (2 Joseph)
Journal of Zoology, London (2 McKechnie)
Land Degradation and Development (1 Joseph)
Marine Biology (1 Pistorius)
Marine Ecology Progress Series (2 Pistorius, 1 Schoombie)
Marine & Freshwater Behaviour & Physiology (1 Pistorius)
Marine Pollution Bulletin (3 Ryan)
Nature Communications (1 Covas, 1 McKechnie)
Oikos (2 Covas)
Ostrich (1 Covas, 1 Cunningham, 3 Little, 2 Osinubi)
Peerage of Science (1 Murgatroyd)
Philosophical Transactions of the Royal Society B (1 Ridley)
Physiology and Behaviour (1 McKechnie)
PLoS ONE (2 Miller, 1 Sumasgutner)
Polar Biology (1 Pistorius)
Proceedings of the Royal Society of London B (1 Covas, 1 McKechnie, 3 Ridley)
Scopus (1 Little)
Seabird (1 Schoombie)
Slovak Raptor Journal (1 Suri)
South African Journal of Range Science (1 Simmons)
Trends in Ecology and Evolution (2 Ridley)
Urban Ecosystems (2 Sumasgutner)
Wader Study (1 Osinubi)
Wildlife Research (1 Cunningham)
Wilson Journal of Ornithology (1 Ryan)

HUMAN RESOURCES

Dr Arjun Amar was promoted to Associate Professor in January 2018.
The following people worked within or were students at the CoE during 2018:

Table 4. Core FitzPatrick Institute CoE team members for 2018

Title	Name	Citizen	Institution	Gender	Race	% time in CoE
Dr	Jaqueline Bishop	SA	UCT	F	W	10
Prof.	Paulette Bloomer	SA	U Pretoria	F	W	10
Dr	Susan Cunningham	NZ	UCT	F	W	100
Dr	Lorien Pichegru	France	NMU	F	W	50
Dr	Chevonne Reynolds	SA	WITS	F	W	20
Prof.	Claire Spottiswoode	SA	UCT/U Cambridge	F	W	66
A/Prof.	Arjun Amar	UK	UCT	M	W	100
A/Prof.	Rauri Bowie	SA	U Cal. Berkeley	M	W	10
A/Prof.	Derek Engelbrecht	SA	U Limpopo	M	W	10
Prof.	Andrew McKechnie	SA	U Pretoria	M	W	30
Dr	Pierre Pistorius	SA	NMU	M	W	40
Prof.	Peter Ryan	SA	UCT	M	W	100
Dr	Ben Smit	SA	NMU	M	W	20
Dr	Robert Thomson	SA	UCT	M	W	100

Table 5. Administrative and support staff at the CoE for 2018

Title	Name	Position	Gender	Race
Ms	Anthea Links	SAP Administrator	F	B
Ms*	Phelisa Hans	Library Assistant	F	B
Ms*	Carmen Smith	CoE Senior Secretary	F	B
Ms	Susan Mvungi ⁺	Niven Librarian	F	B
Ms	Hilary Buchanan	Admin Assistant	F	W
Mr	Gonzalo Aguilar	Principal Technical Officer	M	W
Dr*	Rob Little	CoE Manager	M	W

* CoE funded

⁺Ms Mvungi resigned at the end of 2018 to take up a position at UCT's Graduate School of Business

Table 6. FitzPatrick Institute CoE Post-doctoral Fellows for 2018

Title	Name	Citizen	Gender	Race	NRF CoE support	
					Bursary	Running
Dr	Diana Bolopo	Spain	F	W	Yes	Yes
Dr	Anina Coetzee	SA	F	W	Yes	Yes
Dr	Megan Murgatroyd	UK	F	W	Yes	Yes
Dr	Susan Miller	SA	F	W	No	No
Dr	Margaux Rat *	France	F	W	Yes	Yes
Dr	Petra Sumasgutner	Austria	F	W	No	Yes
Dr	Dayo Osinubi	Nigeria	M	B	Yes	Yes
Dr	Alistair McInnes	SA	M	W	No	Yes

* January – March 2018

Table 7. Honorary Professors and Research Associates for 2018

Title	Name	Citizen	Institution	Gender	Race	% time in CoE
Prof.	Phoebe Barnard *	UK	U Washington	F	W	10
Dr	Rita Covas *	Portugal	CEFE-CNRS	F	W	60
Dr	Claire Doutrelant	France	CEFE-CNRS	F	W	30
Dr	Genevieve Jones	SA	BirdLife SA	F	W	10
Dr	Kristi Maciejewski *	SA	OTS	F	W	20
Dr	Colleen Seymour	SA	SANBI	F	W	10
Prof.	Sue Milton	SA	Renu Karoo	F	W	10
Dr	Jessica Shaw	UK	Scottish Natural Heritage	F	W	10
Dr	Antje Steinfurth	Germany	RSPB U Cambridge	F	W	50
Dr	Jane Turpie	SA	Anchor Consulting	F	W	10
A/Prof.	Mandy Ridley *	New Zealand	U Western Australia	F	W	50
Dr	Lizanne Roxburgh	SA	EWT	F	W	10
Ms	Jessie Walton	SA	Freelance	F	W	10
Dr	Azwianewi Makhado *	SA	Marine & Coastal Mgmt	M	B	10
Dr	Steve Boyes	SA	Wild Bird Trust	M	W	30
Dr	Callan Cohen	SA	Birding Africa	M	W	20
Dr	Tim Cook	France	Diderot Education, France	M	W	10
Prof.	Graeme Cumming *	SA	James Cook U, Australia	M	W	10
Prof.	David Cumming *	Zimbabwe	U Zimbabwe	M	W	20
Dr	Richard Dean	SA	Renu Karoo	M	W	10
Dr	Tom Flower *	UK	U St Andrews, Canada	M	W	20
Dr	David Grémillet *	France	CNRS	M	W	20
Dr	Andrew Jenkins	SA	Avisense	M	W	20
Dr	Grant Joseph	SA	Freelance	M	W	10
Dr	Alan Lee	SA	Blue Hill Nature Reserve	M	W	10
Dr	Ian Little	SA	EWT	M	W	20
Dr	Rowan Martin	UK	World Parrot Trust	M	W	10
Dr	Yan Rupert-Coudert	France	French Polar Institute IPEV	M	W	20
Dr	Martim de Melo	Portugal	CIBIO	M	W	10
Dr	Antoni Milewski	Australia	Murdoch U, Australia	M	W	20
Mr	Michael Mills	SA	Angola Country Program	M	W	20
Prof.	Stephen Redpath *	UK	U Aberdeen	M	W	10
Dr	Richard Sherley	UK	U Exeter	M	W	10
Dr	Rob Simmons *	UK	UCT	M	W	40
Dr	Ross Wanless *	SA	BirdLife SA	M	W	30

* Official UCT Honorary Professor, Honorary Research Associate or Honorary Research Affiliate

Table 8. FIAO CoE postgraduate students registered for, or graduating in, 2018

* = thesis students who graduated during 2018

** = MSc CB course students who graduated during 2018

Name	Citizen	Univ.	Gender	Race	Degree	1 st year	NRF CoE support	
							Bursary	Running
Bourne, Amanda	SA	UCT	F	W	PhD	2016	No	Yes
Carpenter-Kling, Tegan	SA	NMU	F	W	PhD	2017	Yes	Yes
du Toit, Carla (upgrade)	SA	UCT	F	W	PhD	2017	No	Yes
Flores, Selena (upgrade)	USA	UCT	F	W	PhD	2015	Yes	Yes
Garbett, Rebecca *	UK	UCT	F	W	PhD	2015	No	No
Nebel, Carina	Austria	UCT	F	W	PhD	2017	Yes	Yes
Stevens, Kim (upgrade)	SA	UCT	F	W	PhD	2016	Yes	No
Traisnel, Gwendoline	France	NMU	F	W	PhD	2016	Yes	Yes
Thompson, Michelle *	SA	U. Pta	F	W	PhD	2014	Yes	No
Adekola, Emmanuel	Nigeria	UCT	M	B	PhD	2018	No	No
Brink, Christiaan	SA	UCT	M	W	PhD	2017	Yes	Yes
Cloete, Daniël	SA	UCT	M	W	PhD	2016	No	No
Dilley, Ben	SA	UCT	M	W	PhD	2015	Yes	No
Lowney, Anthony	UK	UCT	M	W	PhD	2015	Yes	Yes

McClellan, Luke (upgrade)	UK	UCT	M	W	PhD	2016	No	Yes
Murphy, Ben	Germany	UCT	M	W	PhD	2018	Yes	Yes
Noakes, Matthew	SA	U. Pta	M	W	PhD	2015	Yes	Yes
O'Connor, Ryan *	USA	U. Pta	M	W	PhD	2013	No	No
Pattinson, Nicholas	SA	UCT	M	W	PhD	2018	Yes	Yes
Pietersen, Darren *	SA	U. Pta	M	W	PhD	2013	No	No
Rodseth, Edmund (upgrade)	SA	UCT	M	W	PhD	2015	No	Yes
Schoombie, Stefan	SA	UCT	M	W	PhD	2017	Yes	Yes
Davis, Sydney **	USA	UCT	F	B	MSc CB	2017	No	No
Malematja, Mpho	SA	U. Pta	F	B	MSc	2017	Yes	Yes
Masiko, Oyena **	SA	UCT	F	B	MSc CB	2017	No	No
Moloto, Ditiro	SA	UCT	F	B	MSc	2016	Yes	Yes
Ncube, Thinabakho	SA	UCT	F	B	MSc CB	2018	No	No
Ramudzuli, Abigail	SA	UCT	F	B	MSc	2018	Yes	Yes
Stofberg, Miqkayla	SA	UCT	F	B-C	MSc	2018	Yes	Yes
Button, Rio **	SA	UCT	F	W	MSc CB	2017	No	No
Catto, Sarah **	SA	UCT	F	W	MSc CB	2017	No	No
Dubay, Shannon **	USA	UCT	F	W	MSc CB	2017	No	No
Engelbrecht, Ilana	SA	NMU	F	W	MSc	2017	Yes	Yes
Grey, Kerry-Ann	SA	UCT	F	W	MSc CB	2018	No	No
Hoffenberg, Amy	SA	UCT	F	W	MSc CB	2018	No	No
Hörbst, Sandra	Austria	UCT	F	W	MSc CB	2018	No	No
Johnson, Laurie	SA	UCT	F	W	MSc	2016	Yes	No
Kelly, Caitlin **	USA	UCT	F	W	MSc CB	2017	No	No
Lindberg, Colleen **	USA	UCT	F	W	MSc CB	2017	No	No
Mottram, Phoebe **	UK	UCT	F	W	MSc CB	2017	No	No
Muller, Rebecca	SA	UCT	F	W	MSc CB	2018	No	Yes
Schroeder, Michelle	USA	UCT	F	W	MSc CB	2018	No	No
Steyn, Clara	SA	UCT	F	W	MSc CB	2018	No	No
van den Heever, Danielle *	SA	NMU	F	W	MSc	2016	Yes	No
van der Merwe, Rona	SA	UCT	F	W	MSc	2017	Yes	Yes
Venter, Olivia	SA	UCT	F	W	MSc CB	2018	No	No
Weideman, Eleanor	SA	UCT	F	W	MSc	2018	No	Yes
Leepile, Leungo **	Botswana	UCT	M	B	MSc CB	2017	No	No
Mabaso, Xolani	SA	UCT	M	B	MSc CB	2018	No	No
Mavinga, Franck **	Congo	UCT	M	B	MSc CB	2017	No	No
Osborne, Alexis	SA	UCT	M	B-C	MSc	2017	Yes	Yes
Siggala, Makabongwe	SA	NMU	M	B	MSc	2017	Yes	Yes
Zimunya, Tapiwa **	Zimbabwe	UCT	M	B	MSc CB	2017	No	No
Fleming, Campbell	SA	UCT	M	W	MSc	2016	Yes	Yes
Hyvärinen, Olli **	Finland	UCT	M	W	MSc CB	2017	No	No
Jones, Christopher *	SA	UCT	M	W	MSc	2017	Yes	No
Kemp, Ryno	SA	U. Pta	M	W	MSc	2017	Yes	Yes
Middleton, Kyle	SA	UCT	M	W	MSc	2017	Yes	Yes
van Beuningen, David **	SA	UCT	M	W	MSc CB	2017	No	No
van der Merwe, Daryl	SA	UCT	M	W	MSc CB	2018	No	No
Weiss, Joshua	SA	UCT	M	W	MSc CB	2018	No	No
Shilubane, Natasha *	SA	NMU	F	B	Hons	2018	Yes	Yes
Hartley, Oliver *	SA	NMU	M	W	Hons	2018	Yes	Yes

Table 9. CoE Post-doctoral Fellow and student demographics in 2018

	'Black'			'White'			Total
	Female	Male	Total	Female	Male	Total	
P-doc		1	1	6	1	7	8
PhD		1	1	9	12	21	22
MSc	7	6	13	18	8	26	39
BSc H	1		1		1	1	2
Total	8	8	16	33	22	55	71

Table 10. Proportion of 'Black' students supported by the CoE during 2005-2018

	Year													
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number students	52	53	54	45	45	50	59	60	68	73	68	71	72	63
Black students	15	11	13	13	18	15	15	11	8	7	8	13	14	15
Proportion Black (%)	29	21	24	29	40	30	25	18	12	10	12	18	19	24

Table 11: Places of origin of CoE students supported in 2018

NRF Targets	Number students supported	%
SA	43	68
SADC*	3	5
African	1	2
Other	16	25
Total	63	100

*Southern African Development Community countries excluding South Africa (= Angola, Botswana, Congo (DRC), Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe)

Table 12. Research assistants for 2018

Title	Name	Citizenship	Gender	Race	Based at
Ms	Doreen Chaussadas	France	F	W	UCT
Mrs	Christie Craig	SA	F	W	UCT
Ms	Paige Ezzey	SA	F	W	UCT
Ms	Carrie Hickman	UK	F	W	UCT
Dr	Sally Hofmeyr	SA	F	W	UCT
Ms	Leigh Kelly	SA	F	W	UCT
Ms	Femke Kiggen	Netherlands	F	W	NMU
Ms	Samantha Kirves	Germany	F	W	UCT
Ms	Rita Leal	Portugal	F	W	UCT
Ms	Lesedi Moagi	SA	F	B	UCT
Dr	Nola Parsons	SA	F	W	SANCCOB
Ms	Vonica Perold	SA	F	W	UCT
Ms	Natasha Pindral	SA	F	W	UCT
Ms	Sanjo Rose	SA	F	W	UCT
Ms	Vhuawelo Simba	SA	F	B	UCT
Ms	Jessleena Suri	India	F	B	UCT
Ms	Terriann Thavar	SA	F	B	UCT
Mr	Silky Hamama	Zambia	M	B	UCT
Mr	Leungo Leepile	Botswana	M	B	UCT
Dr	Shane McPherson	New Zealand	M	W	UCT
Mr	Serge Monezero	DRC	M	B	UCT
Mr	Clement Motau	SA	M	B	UCT
Mr	Collins Moya	Zambia	M	B	UCT
Mr	Adrien Pajot	France	M	W	UCT
Mr	Nicolas Suarez	Argentina	M	W	NMU
Mr	Zingfa Wala	Nigeria	M	B	UCT
Mr	Kyle Walker	SA	M	W	UCT

FINANCES

The distribution of funding across the two focal research areas during 2018 and co-funding from other sources

Table 13 reflects the total funding (R23 271 063) for the 31 CoE projects during 2018, according to the approved and amended 2018 CoE budget and additional funds sourced elsewhere (Table 15). Table 14 reflects the overall distribution of funds across the two focal research areas during 2018. Research conducted by the CoE which is not funded at least in part by the CoE and UCT remuneration of FIAO CoE staff are excluded from Tables 13 & 14.

Table 13. Distribution of 2018 research funds according to the source of funds

	DST-NRF		Other sources	
	Bursary	Running	Bursary	Running
	3 295 000	3 400 000	4 575 887	12 000 176
	52%	48%	55%	45%
Sub total		6 695 000*		16 576 063
Proportion		29%		71%

*the corporate operations funds reflected in the 2017 CoE budget are excluded from the DST-NRF grant here

Table 14. Distribution of 2018 research funds according to the fund source and the focal research areas: understanding (1) and maintaining biodiversity (2)

Fund source	Research area*	1	2	Proportion within source
DST-NRF	1	1 676 000		7%
	2		5 019 000	22%
Other funds	1	6 359 530		27%
	2		10 216 533	44%
Total		8 035 530	15 235 533	
Proportion within research area		35%	65%	100%

*1 = understanding biodiversity; 2 = maintaining biodiversity

Comments on the distribution of CoE and other funds during 2018:

The DST-NRF research grant was a little less than one third of the total funds available for the CoE research projects. The proportional distribution of research area funding strongly favours conservation science (maintaining biodiversity), thus satisfying the recommendations of the 2009 review panel.

Table 15. Funds secured from other sources for 2018 CoE projects

Bursaries		Running costs		Total	
1*	2*	1*	2		
		351 530		351 530	Local Public R1 808 055
	60 000		108 000	168 000	NRF STINT Swedish bilateral
			140 000	140 000	NRF CSUR Cunningham
80 000	180 000		20 000	280 000	NRF SARChI McKechnie
	150 000		236 000	386 000	NRF Incentive + Innovation
			457 525	457 525	NRF unrated researchers
		1 300 000		1 300 000	NRF SANAP/DEA
					SANBI
			300 000	300 000	Local Private R2 791 000
200 000		50 000		250 000	ABAX Foundation
80 000	550 000		45 000	675 000	Clancey bequest
			20 000	20 000	Claude Leon Foundation
			264 000	264 000	Gordon Sprigg Scholarship
	240 000			240 000	Hans Hoheisen Charitable Trust
			6 000	6 000	Harry Crossley Foundation
			300 000	300 000	Klaserie Game Reserve
			25 000	25 000	Mainstream Renewables
	80 000			80 000	Tswalu Foundation
120 000		15 000		135 000	NMU Research Theme Grant
			376 000	376 000	UCT CoE Paleosciences
			80 000	80 000	UCT URC CoE grant
	40 000			40 000	UCT Launching Grant
					U Pretoria
	1 529 887		3 569 736	5 099 623	International Public R7 828 623
		16 000		16 000	European Research Council
		1 530 000		1 530 000	Academy of Finland
		1 105 000		1 105 000	ANR (France)
	78 000			78 000	IF (FCT, Portugal)
					French Embassy
			1 086 385	1 086 385	International Private R2 693 385
			25 000	25 000	ACE Foundation
			180 000	180 000	AZA -SAFE
		216 000		216 000	British Ecological Society
756 000		108 000		864 000	BBSRC Fellowship, Cambridge
			70 000	70 000	Leverhulme Trust
432 000				432 000	Natural England
					Newton Trust, U. Cambridge
1 668 000	2 907 887	4 691 530	7 308 646	16 576 063	

*1 = understanding biodiversity; 2 = maintaining biodiversity

DST-NRF CoE
Birds as Keys to Biodiversity Conservation at the Percy FitzPatrick Institute
CASH FLOW ANALYSIS FOR THE 2018 FINANCIAL YEAR

DESCRIPTION	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	TOTAL	Annual Budget	VARIANCE
NRF		3 580 950					3 580 950						7 161 899	7 161 899	0
Interest	1 756												1 756	1 756	0
Other (c/f from 2017)	915 981												915 981	915 981	0
TOTAL INCOME	917 737	3 580 950					3 580 950						8 079 636	8 079 636	0
Salaries	-135 084	-150 056	-154 767	-159 703	-176 610	-161 307	-162 879	-48 182	-103 111	-119 567	-118 980	-112 822	-1 603 068	1 410 400	-192 668
Student costs	-1 742 105	-30 000	-112 500	-80 000		-600 035		-62 500		-112 500			-2 739 640	3 295 000	555 360
Conferences		-2 382	-65 305	-30 886	-21 448	-83 161	-62 560	-102 704	-10 718	-14 607	-46 969	-6 700	-447 440	459 000	11 560
Equipment						-15 994							-15 994	0	-15 994
Running	-68 180	-242 276	-177 402	-108 572	-109 860	-240 867	-237 983	-252 762	-103 656	-251 665	-553 032	-328 203	-2 674 457	2 646 600	-27 857
TOTAL EXPENSES	-1 945 369	-424 714	-509 974	-379 161	-307 918	-1 101 364	-463 422	-466 148	-217 485	-498 339	-718 981	-447 725	-7 480 599	7 811 000	330 401
NET OUTCOME PROFIT/LOSS	-1 027 632	2 128 603	1 618 629	1 239 468	931 550	-169 814	2 947 714	2 481 566	2 264 081	1 765 743	1 046 761	599 037	599 037		

Notes:

- 1 Balance brought forward matches previous year's Financial Statement
- 2 Shows actual expenditure only (excluding commitments) for all months
- 3 Reflects the entire costs of the CoE including satellite campuses
- 4 Regards income as positive cash flow and expenditure as negative cash flow

Audited Income and expenditure for 2018

A copy of the 2018 Income and Expenditure Statements shown below in Table 16 is attached to the *Ernst & Young* Audit Report.

The audit pack was submitted to the UCT Finance Office on 7 February 2019. Relatively few queries were raised during the audit process and the report was clean with regards to compliance. Furthermore, those queries listed were of little material significance and were clarified to the auditor's satisfaction.

Table 16. FitzPatrick Institute CoE Financial Statement for January to December 2018

	Operating Fund	Invested Fund	All Funds	
Brought forward from 2017		-915 581.26	-24 022.57	-939 603.83
Income		-7 161 899.00	-1 828.00	-7 163 727.00
NRF income	-7 161 899.00			
Other income				
Investment income		-1 828.00		
Net transfer value		0.00	-0.00	-
CR transfer	-0.00		-0.00	
DR transfer	0.00			
Expenditure		7 561 455.62		
Salaries total	1 603 123.88			
Bursaries	2 735 550.00			
Conferences	394 858.51			
Equipment				
Running costs	2 827 923.23			
Carry forward to 2019		-516 024.64	-25 850.57	-541 875.21
Reconciliation:				
SAP balance @ 31/12/2018		-356 338.27		
Advances in hand		-159 686.37		
		-516 024.64		

Notes:

- 1) No non-specific transfers to other collaborators were made in 2018.
- 2) All funds carried forward to 2019 include advances in hand.
- 3) Both funds reconcile to SAP.

Appendix 1: FitzPatrick Institute CoE publications for 2018

Scientific papers published (152)

Papers in SCI-ranked journals (142)

IF score = Thomson Scientific Impact Factor score (2016, 2-year impact factor)

Published hard-copy journals (121):

- Abdu, S., McKechnie, A.E., Lee, A.T.K. and Cunningham, S.J. 2018. Can providing shade at water points help Kalahari birds beat the heat? *Journal of Arid Environments* 152: 21-27. <http://dx.doi.org/10.1016/j.jaridenv.2018.01.018> IF 1.835
- Amar, A. and Cloete, D. 2018. Quantifying the decline of the Martial Eagle *Polemaetus belliscosus* in South Africa. *Bird Conservation International* 28: 363-374. <http://dx.doi.org/10.1017/S0959270917000314> IF 1.088
- Amélineau, F., Fort, J., Mathewson, P.D., Speirs, D.C., Courbin, N., Perret, S., Porter, W.P., Wilson, R.J. and Grémillet, D. 2018. Energyscapes and prey fields shape a North Atlantic seabird wintering hotspot under climate change. *Royal Society Open Science* 5: 171883. <http://dx.doi.org/10.1098/rsos.171883> IF 2.243
- Bernardino, J., Bevanger, K., Barrientos, R., Dwyer, J.K., Marques, A.T., Martins, R.C., Shaw, J.M., Silva, J.P. and Moreira, F. 2018. Bird collisions with power lines: state of the art and priority areas for research. *Biological Conservation* 222: 1-13. <http://dx.doi.org/10.1016/j.biocon.2018.02.029> IF 4.022
- Booth, J.M., Steinfurth, A., Fusi, M., Cuthbert, R.J. and McQuaid, C.D. 2018. Foraging plasticity of breeding Northern Rockhopper Penguins, *Eudyptes moseleyi*, in response to changing energy requirements. *Polar Biology* 41: 1815-1826. <http://dx.doi.org/10.1007/s00300-018-2321-6> IF 1.949
- Brooke, M.d.L., Bonnaud, E., Dilley, B.J., Flint, E.N., Holmes, N.D., Jones, H.P., Provost, P., Rocamora, G., Ryan, P.G., Surman, C. and Buxton, R.T. 2018. Seabird population changes following mammal eradications on islands. *Animal Conservation* 21: 3-12. <http://dx.doi.org/10.1111/acv.12344> IF 2.835
- Brooke, M.d.L., Bonnaud, E., Dilley, B.J., Flint, E.N., Holmes, N.D., Jones, H.P., Provost, P., Rocamora, G., Ryan, P.G., Surman, C. and Buxton, R.T. 2018. Enhancing the value of future island eradications needs improved understanding of past outcomes. *Animal Conservation* 21: 19-20. <http://dx.doi.org/10.1111/acv.12398> IF 2.835
- Cherel, Y., Barbraud, C., Lahournat, M., Jaeger, A., Jaquemet, S., Wanless, R.M., Phillips, R.A., Thompson, D.R. and Bustamante, P. 2018. Accumulate or eliminate? Seasonal mercury dynamics in albatrosses, the most contaminated family of birds. *Environmental Pollution* 241: 124-135. <http://dx.doi.org/10.1016/j.envpol.2018.05.048> IF 5.099
- Clements, H.S. and Cumming, G.S. 2018. Traps and transformations influencing the financial viability of tourism on private-land conservation areas. *Conservation Biology* 32: 424-436. <http://dx.doi.org/10.1111/cobi.12999> IF 4.842
- Coetzee, A., Barnard, P. and Pauw, A. 2018. Urban nectarivorous bird communities in Cape Town, South Africa, are structured by ecological generalization and resource distribution. *Journal of Avian Biology* 49: e01526. <http://dx.doi.org/10.1111/jav.01526> IF 2.228

- Courbin, N., Besnard, A., Péron, C., Saraux, C., Fort, J., Perret, S., Tornos, J. and Grémillet, D. 2018. Short-term prey field liability constrains individual specialization in resource selection and foraging site fidelity in a marine predator. *Ecology Letters* 21: 1043-1054. <http://dx.doi.org/10.1111/ele.12970> IF 9.449
- Craig, C.A., Thomson, R.L. and Santangeli, A. 2018. Communal farmers of Namibia appreciate vultures and the ecosystem services they provide. *Ostrich* 89: 211-220. <http://dx.doi.org/10.2989/00306525.2018.1435566> IF 0.833
- Crawford, R.J.M., Makhado, A.B. and Oosthuizen, W.H. 2018. Bottom-up and top-down control of the Benguela ecosystem's seabirds. *Journal of Marine Systems* 188: 133-141. <http://dx.doi.org/10.1016/j.jmarsys.2017.04.004> IF 2.174
- Cristofari, R., Liu, X., Bonadonna, F., Cherel, Y., Pistorius, P., Le Maho, Y., Raybaud, V., Stenseth, N.C., Le Bohec, C. and Trucchi, E. 2018. Climate-driven range shifts of the king penguin in a fragmented ecosystem. *Nature Climate Change* 8: 245-251. <http://dx.doi.org/10.1038/s41558-018-0084-2> IF 19.304
- Cunningham, S. 2018. Birds of the arid zones: living life on the edge. *Ostrich* 89: 297-298. <http://dx.doi.org/10.2989/00306525.2018.1560179> IF 0.833
- Da Costa Lopes, D., Martin, R.O., Indjai, B., Monteiro, H., Henriques, M., Regalla, A. and Catry, P. 2018. Food diversity of Timneh parrots (*Psittacus timneh*) in the Bijagós archipelago, Guinea-Bissau. *African Journal of Ecology*. <http://dx.doi.org/10.1111/aje.12544> IF 0.69
- Dean, W.R.J., Seymour, C.L. and Joseph, G.S. 2018. Linear structures in the Karoo, South Africa, and their impacts on biota. *African Journal of Range and Forage Science* 35: 223-232. <http://dx.doi.org/10.2989/10220119.2018.1514530> IF 0.961
- Dean, W.R.J. and Milton, S.J. 2018. Ants (Formicidae) as food for birds in southern Africa: opportunism or survival? *Ostrich* 89: 1-4. <http://dx.doi.org/10.2989/00306525.2017.1382017> IF 0.833
- Dean, W.R.J. and Milton, S.J. 2018. The dispersal and spread of invasive alien *Myrtillocactus geometrizans* in the southern Karoo, South Africa. *South African Journal of Botany* 121: 210-215. <http://dx.doi.org/10.1016/j.sajb.2018.11.005> IF 1.427
- Dilley, B.J., Schoombie, S., Stevens, K., Davies, D., Perold, V., Osborne, A., Schoombie, J., Brink, C.W., Carpenter-Kling, T. and Ryan, P.G. 2018. Mouse predation affects breeding success of burrow-nesting petrels at sub-Antarctic Marion Island. *Antarctic Science* 30: 93-104. <http://dx.doi.org/10.1017/S0954102017000487> IF 1.461
- Djukic, I., Kepfer-Rojas, S., Schmidt, I.K., Larsen, K.S., Beier, C., Berg, B., Verheyen, K., Caliman, A., Paquette, A., Gutiérrez-Girón, A., Valdecantos, A., Petraglia, A., Alexander, H., Augustaitis, A., Saillard, A., Fernández, A.C.R., Sousa, A.I., Lillebø, A.I., Gripp, A.d.R., Francez, A.-J., Fischer, A., Bohner, A., Malyshev, A., Andrić, A., Smith, A., Stanisci, A., Seres, A., Schmidt, A., Avila, A., Probst, A., Ouin, A., Khuroo, A.A., Verstraeten, A., Stefanski, A., Gaxiola, A., Muys, B., Bosman, B., Ahrends, B., Parker, B., Sattler, B., Berg, B., Yang, B., Juráni, B., Erschbamer, B., Ortiz, C.E.R., Christiansen, C.T., Adair, E.C., Meredieu, C., Mony, C., Nock, C.A., Chen, C.-L., Wang, C.-P., Baum, C., Rixen, C., Delire, C., Piscart, C., Andrews, C., Beier, C., Rebmann, C., Branquinho, C., Polyanskaya, D., Delgado, D.F., Wundram, D., Radeideh, D., Ordóñez-Regil, E., Crawford, E., Preda, E., Tropina, E., Groner, E., Lucot, E., Hornung, E., Gacia, E., Lévesque, E., Benedito, E., Davydov, E.A., Ampoorter, E., Bolzan, F.P., Varela, F., Kristöfel, F., Maestre, F., Maunoury-Danger, F., Hofhansl, F., Kitz, F., Sutter, F., Cuesta, F., Lobo, F.d.A., de Souza, F.L., Berninger, F., Zehetner, F., Wohlfahrt, G., Vourlitis, G., Carreño-Rocabado, G., Arena, G., Pinha, G.D., González, G., Canut, G., Lee, H., Verbeeck, H., Auge, H., Pauli, H., Nacro, H.B., Bahamonde, H., Feldhaar, H., Jäger, H., Serrano, H.C., Verheyden, H., Bruelheide, H., Meesenburg, H.,

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Fogell, D.J., Martin, R.O., Bunbury, N., Lawson, B., Sells, J., McKeand, A.M., Tatayah, V., Trung, C.T. and Groombridge, J.J. 2018. Trade and conservation implications of new beak and feather disease virus detection in native and introduced parrots. *Conservation Biology* 32: 1325-1335. <http://dx.doi.org/10.1111/cobi.13214> IF 4.842

Forsman, J.T., Seppänen, J.-T., Mönkkönen, M., Thomson, R.L., Kivelä, S.M., Krams, I. and Loukola, O.J. 2018. Is it interspecific information use or aggression between putative competitors that steers the selection of nest-site characteristics? A reply to Slagsvold and Wiebe. *Journal of Avian Biology* 49: e01558. <http://dx.doi.org/10.1111/jav.01558> IF 2.228

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- Fuchs, J., de Swardt, D.H., Oatley, G., Fjeldså, J. and Bowie, R.C.K. 2018. Habitat-driven diversification, hybridization and cryptic diversity in the Fork-tailed Drongo (Passeriformes: Dicruridae: *Dicrurus adsimilis*). *Zoologica Scripta* 47: 266-284. <http://dx.doi.org/10.1111/zsc.1227> IF 2.837
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