



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

ANNUAL REPORT 2014

Reporting Period
1 January - 31 December 2014

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CoE Identification

Name of Director	: Prof. Peter Ryan
Name of CoE	: DST-NRF Centre of Excellence at the Percy FitzPatrick Institute of African Ornithology
Abbreviated CoE name	: PFIAO CoE
Host Institution	: University of Cape Town
Date completed	: 17 March 2015

EXECUTIVE SUMMARY

1. Funding of the CoE for 2014

DST-NRF CoE funding for 2014	:	6 186 718
Carry forward from 2013	:	595 539
Interest earned during 2013	:	919
UCT support for the Pazvolski Chair in 2014	:	0*
UCT URC support for Hotbirds project in 2014	:	305 000*
Funding from other sources for the CoE in 2014	:	8 175 500**
Total funding	:	R 15 263 676

* represents UCT's contribution to the CoE R305 000 of R6 186 718 = 5%

** funding from sources, other than the DST-NRF or UCT URC 'hotbirds' grants, for projects conducted by the CoE (see Finances Section pages 29 - 32)

2. Summary of progress against Five Key Performance Areas

(i) Research

One hundred and five papers were published in peer-reviewed journals during 2014, 21 in journals with an impact factor rating ≥ 3.5 , six in journals with a rating ≥ 5 and two in journals with a rating ≥ 10 . The proportion of peer-reviewed papers published according to the focal research areas is; understanding biodiversity = 56, and maintaining biodiversity = 49.

(ii) Education and Training

Seventy three post-graduate students (23 PhD, 47 MSc and 3 BSc Hons) registered at South African institutions (10% black and 53% women) were supported by the CoE during 2014. Twenty seven students (5 PhD, 6 MSc by dissertation, 13 MSc Conservation Biology and 3 BSc Hons) graduated during 2014. Fifteen Post-doctoral Fellows were supported by the CoE during 2014. Collaboration with A/Prof. Derek Engelbrecht at the University of Limpopo resulted in three students visiting the CoE for three weeks during June and July 2014 as interns.

(iii) Information Brokerage

Seventy semi-popular articles and three chapter contributions to semi-technical books were published during 2014. CoE members attended 14 international and 14 local conferences, and presented over 50 seminars and illustrated talks at numerous universities, bird clubs and membership-based societies during 2014. The PFIAO CoE and BirdLife South Africa co-hosted a conference *Learn About Birds (LAB)* at the Mont Aux Sources Hotel, KZN Drakensberg, during March 2014. The conference was attended by 160 delegates and was regarded as a great success, particularly for young scientists.

(iv) Networking

A broad range of close collaborative working relationships with scientific peers and a variety of conservation NGOs and governmental organisations exists both nationally and internationally. The CoE continues to build much-needed African capacity in the broad arena of biodiversity conservation.

(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 23 journal editorial boards, 58 membership fora and advisory services, and reviewed 120 papers for 61 peer-reviewed journals during 2014.

3. Gender and equity impacts of research

A proactive policy on recruiting women maintained a 53% representation of women in the postgraduate student body for 2014. Research project activities are increasingly addressing gender-related issues and community inclusion in the field. CoE projects continued to generate work opportunities related to research activities for adjacent previously disadvantaged community members, with 148 full-time or part-time jobs, mostly filled by women, active during 2013. This included 25 full-time and 77 part-time jobs in South Africa, 12 full-time and 40 part-time jobs in Zambia and four part-time jobs in Angola.

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

After decades with little change to the academic capacity of the institute, various changes have taken place in the past two years that could affect the research output in the near future. Prof. Phil Hockey sadly passed away in January 2013; Peter Ryan was appointed as the Director of the PFIAO/CoE in March 2014, but his post linked to running the conservation biology MSc course has been frozen, effectively reducing the Fitz's academic supervision capacity by 20%. Tim Crowe retired at the end of 2013 and that post will be filled by Dr Robert Thomson who will start at the CoE in August 2015. At the end of 2014, Prof. Graeme Cumming announced his plans to leave UCT for a position in Australia, creating yet another post to be filled. To offset these losses, a contract lecturer post was created with UCT and CoE support to run UCT's component of the hot birds programme as well as to assist with the CB course from 2015. Dr Susie Cunningham was appointed at the end of 2014 for three years, but with an expectation that the position will continue for the duration of the CoE.

5. General Comments

Following the positive news 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 2014, 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 has also drafted 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 Metropolitan University. There are also developments towards creating a collaborative partnership with Limpopo University.

PROGRESS REPORT

1. Scientific Research

Objective

The research strategy of the CoE 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 5 has a target of publishing ≥ 60 peer-reviewed publications per 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 2012-2014.

Progress

One hundred and five papers carrying the CoE address were published in peer-reviewed journals during 2014 (Appendix 1). Twenty-one of these papers were in journals with impact factors ≥ 3.5 , six were in journals with impact factors ≥ 5 , and two in journals with a rating ≥ 10 (Fig. 1). The proportion of peer-reviewed papers published according to the focal research areas is; understanding biodiversity = 56, and maintaining biodiversity = 49.

FitzPatrick Institute publications in peer-reviewed journals, 2000-2014

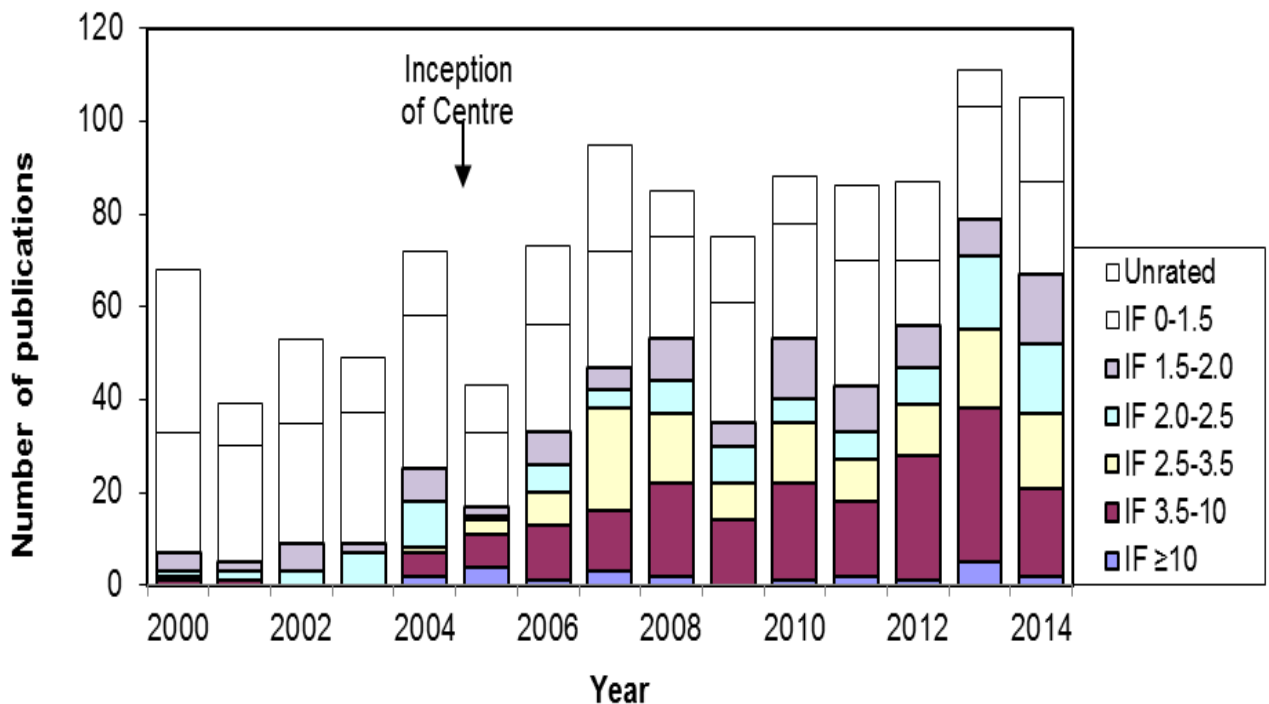


Figure 1. Trends in the number and quality of CoE publications (measured by journal 'Impact Factors' IF) before and after the establishment of the Centre of Excellence. To place this in perspective, only five life-sciences journals worldwide (including Science and Nature) have impact factors > 10

The most cited FitzPatrick Institute papers, analyzed using the *Web of Science*, are presented in Appendix 2.

FitzPatrick Institute impact of publications: citations per paper

In March 2014 the CoE Board requested an analysis of the number of citations garnered by CoE papers relative to the impact factors (IF) of journals in which they were published. This proved to be a taxing exercise; there are 2-year and 5-year IFs, which record the mean number of citations per paper 2 and 5 years after publication, respectively. The fact that journal IFs change annually, coupled with the lag time in particularly 5-year IFs, we struggled to arrive at a direct comparison. To focus on the impact of CoE status, we compared papers from two five-year periods: before the Fitz CoE (2000-04) and the first five years following its establishment (2005-09). We could not control for duration of exposure because there has been a trend towards increasing numbers of citations (and hence IF) over time, so all citations up to April 2014 were included.

The pre-CoE five-year period saw 189 papers published in journals with an average IF of 2.36 (SD 3.47) garner an average of 22.9 ± 45.2 citations per paper (Fig. 2). The number of citations per year for these papers was 2.3, in line with the journal IFs.

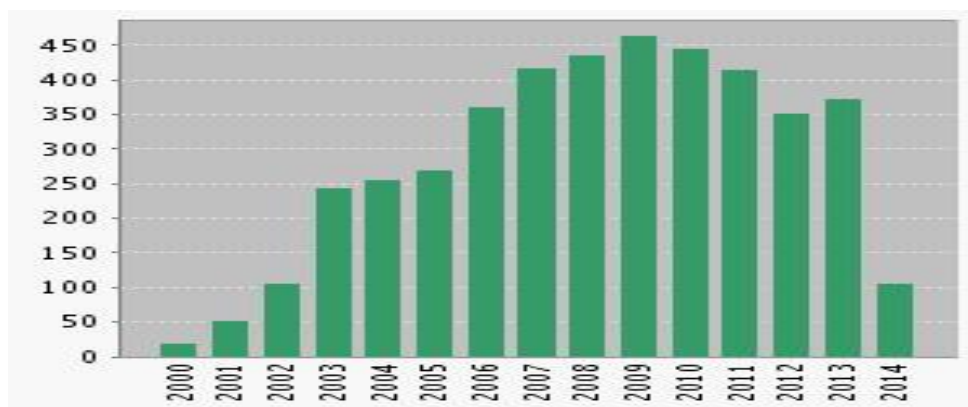


Figure 2. The number of citations per year up to April 2014 for the 189 FitzPatrick Institute papers published from 2000-04

In the first five years of the CoE, the 314 papers published appeared in journals with an average IF of 3.28 (SD 4.35). These papers have attracted an average of 19.5 ± 41.9 citations per paper (Fig. 3), at an average rate of 4.6 citations per paper per year, double that of the pre-CoE papers, and 50% above the average journal IF score.

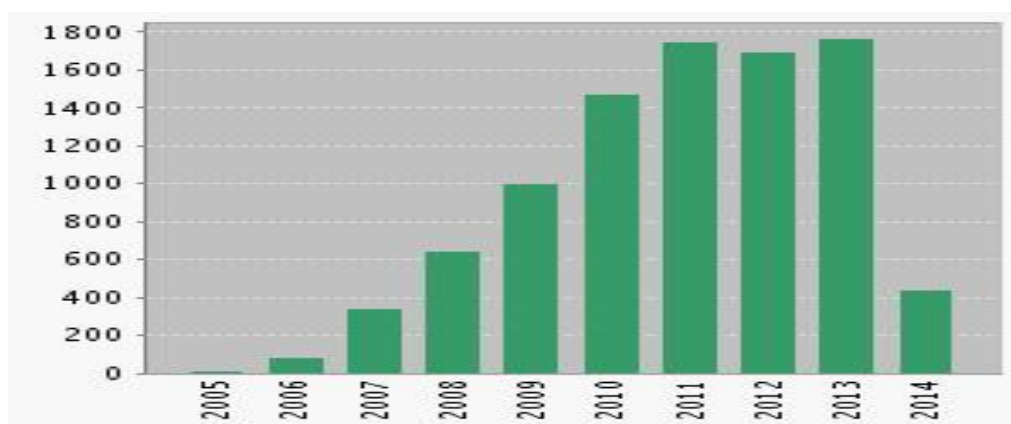


Figure 3. The number of citations per year up to April 2014 for the 314 FitzPatrick Institute papers published during 2005-09

Given the complexities of temporal changes in citation rates and lags between publication and citations, perhaps the best metric is the number of citations per paper at the peak period for citations. The peak for the 2005-09 papers may not have been reached yet, but even so the CoE papers have had twice the number of citations per year compared to papers published in the five years prior to the establishment of the CoE. This differential might be inflated by the overall growth in number of citations over time, but it still indicates an increase in paper impact and 'quality' as well as quantity since the recognition of the CoE.

Another indication of paper quality is provided by Google Scholar Metrics (released 26 June 2014: http://scholar.google.com/citations?view_op=top_venues&hl=en&vq=bio). These metrics are based on citations to articles indexed since mid-June 2013 that were published between 2009 and 2013.

The top papers in the bird sub-category of Life & Earth Sciences are those published in *Ibis* and the top two papers relate to birds in urban landscapes. The fourth highest cited paper is by Prof. Graham Martin, father of Fitz Post-doc Rowan Martin, and relates to Jess Shaw's PhD research on the Ludwig Bustard: GR Martin 2011. Understanding bird collisions with man-made objects: a sensory ecology approach *Ibis* 153: 239-254.

CoE affiliate Claire Spottiswoode is one of the collaborating authors on the 5th highest cited paper: JA Tobias, N Seddon, CN Spottiswoode, JD Pilgrim, et al. 2010. Quantitative criteria for species delimitation. *Ibis* 152: 724-746.

Within this sub-category *Ostrich* is 20th in the top 20 bird journals and the PFIPO CoE has the top two cited papers for the period:

PAR Hockey, GF Midgley 2009. Avian range changes and climate change: a cautionary tale from the Cape Peninsula. *Ostrich* 80: 29-34.

JM Shaw, AR Jenkins, PG Ryan, JJ Smallie 2010. A preliminary survey of avian mortality on power lines in the Overberg, South Africa. *Ostrich* 81: 109-113.

To use the Google Scholar link, click on Life Sciences & Earth Sciences in the menu on the left of the screen, click on subcategories and select the category you are interested in. To see the top cited papers click on the H5-index number to the right of the journal name.

Awards received at conferences during 2014

Two CoE PhD students, Margaux Rat and Tanja van de Ven, received the best oral presentations award at the CoE and BirdLife South Africa co-hosted conference Learn About Birds (LAB) held at the Mont Aux Sources Hotel, KZN Drakensberg, during March 2014.

The 15th Southern African Marine Sciences Symposium (SAMSS) held in Stellenbosch during July 2014 saw three awards given to PFIPO CoE members. Research Associate Dr Lorien Pichegru received a South African Network for Coastal and Oceanic Research (SANCOR) Emerging Scientist award to acknowledge her as a new generation scientist and to encourage research excellence in science in the marine and coastal environment (SMCE). Lorien has established an international profile and made a positive impact on science in the marine and coastal environment in South Africa through her many scientific publications, students supervised and papers reviewed. MSc student Davide Gaglio was runner up for the best student oral presentation for his talk "Linking the foraging ecology and population dynamics of Swift Terns to the availability of forage fish" and MSc student Noelle Tubbs

received runner up for the best poster in the student competition at the conference, for her poster titled "Heat Stress in African Penguins in the face of Climate Change".

Niven Librarian Margaret Koopman's poster *I don't use metadata: data management and archiving initiatives in the Biological Sciences Department, University of Cape Town* received the Highly Recommended award at the LISC conference during November 2014. The poster was based on Margaret's interviews with BioSci personnel, and forms part of her MSc project.

Pretoria University hot birds student Matthew Noakes was awarded the best student presentation at the Australian and New Zealand Society for Comparative Physiology and Biochemistry conference (ANZSCBP) held in Armidale, Australia during December 2014.

2. Education and Training

Objective

The short-term objective, as outlined in the SLA 5, is for the CoE to support (at least partially) an average of at least 30 postgraduate students and 6 Post-doctoral Fellows per year during 2012-2014. A further target is for black students to comprise $\geq 30\%$ 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 three PhD, 47 MSc and three BSc Honours students (total = 73) registered at South African institutions were supported directly or indirectly by the CoE during 2014 (Tables 1 & 6). Seven (10%) of these students were black, and 39 (53%) were women (Table 9). Forty six (63%) of the students were South African, but there were only three black South African students.

Twenty-seven students graduated during 2014 (5 PhD, 6 MSc by dissertation, 13 MSc Conservation Biology and 3 BSc Honours). In June 2014, Potiphar Kaliba, Ben Smit and Tshifhiwa Mandiwana-Neudani were awarded their PhDs, and Wesley Bell, Phil Massie, Robyn Milne, Frances Morling, Phenias Sadondo and Tabitha Stokes were awarded MScs in Conservation Biology. In December 2014, Sonja Kruger, Lisa Nupen received PhDs, Philna Botha, David Green (NMMU), John Heydinger, Corlia Meyer, Dane Paijmans and Gavin Richworth (NMMU) obtained MScs by dissertation, and Jordan-Laine Calder, Greg Campbell, Nadia De Souza, Kirsten Gallaher, Rukaya Johaadien, Elliot Kinsey and Zanne Labuschagne received MScs in Conservation Biology. Jonathan Botha, Vincent Naude and Nick Pattinson graduated with BSc Hons based in part on projects undertaken through the centre of excellence.

Fifteen Post-doctoral Fellows were supported by the CoE during 2014 (Table 4). Six Post-docs (Steve Boyes, Alta de Vos, Tom Flower, Ralf Mullers, Martha Nelson-Flower and Tim Reid) completed their term while four new Post-docs (Sophie Lardy, Matthieu Paquet, Antje Steinfurth and Petra Sumasgutner) joined the CoE during 2014.

New efforts were made to work with and engage students at HDIs. Initial contacts with the universities of Fort Hare and Zululand were not particularly successful. However, collaboration with A/Prof. Derek Engelbrecht at the Department of Biodiversity, University of Limpopo resulted in three students (Deo Masotla MSc, Elle Musekwa BSc Honours and Ditiro Moloto BSc third year) visiting the CoE for three weeks during June and July 2014 as interns. The selection process conducted at the University of Limpopo included asking third year students to write a motivational letter as to why they should be selected to go and then interviews of a short list of four students. A/Prof. Engelbrecht reported as follows on the student visit: "They certainly gained valuable academic and research experience and exposure, and I believe our department will benefit in the long run. The students said that the journal club is a must. I asked them to initiate it and it sounds like the first discussion will be next Friday. They also realised the importance and value of mentoring. All in all, I think it was an invaluable experience for them, with some very nice spin-offs for our department. I asked them to prepare a talk about their experiences which they will present to our Biodiversity Society". Ditiro Moloto has gone on to register for BSc Hons and will spend time in Cape

Town in 2015 as she is conducting her research project in collaboration with Prof. Peter Ryan.

Table 1. Summary statistics for student numbers 2004 – 2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Post-doc	0	6	9	8	9	12	11	12	13	12	15
PhD	6	8	13	18	19	15	18	21	19	21	23
MSc	5	8	6	5	7	6	7	6	13	19	20
MSc CB	15	11	14	12	11	11	12	13	15	13	13
MSc CB ₂	13	15	11	14	12	11	11	12	12	15	14
Tot – CB₂	26	33	42	43	46	44	48	52	60	65	71
Tot +CB₂	39	48	53	57	58	55	59	64	72	80	85

2004 = prior to CoE

CB₂ = second year of a CB class cohort

The 2014 Science Faculty PhD Medal was awarded to Alex Thompson for his thesis on the social behaviour of Southern Pied Babblers.

Post-docs Alan Lee, Kristine Maciejewski, Ralf Mullers, Petra Sumasgutner and Eleonore Hellard attended a post-doc supervision training workshop at Stellenbosch University during May and June 2014.

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 5 target to organized at least one local conference during this stage (2012-2014).

Progress

Seventy semi-popular articles and three chapter contributions to semi-technical books were published during 2014 (Appendix 1). Rob Little and Peter Ryan also contributed 112 species accounts for a book titled *The Ultimate Companion for Birding in Southern Africa* which was published in two volumes in April 2014. Peter Ryan was one of the content editors for this book.

At least 50 public talks and outreach activities were done by CoE members to partner organisations and interested parties, such as the Sasol Birds and Birding Fair, various NGOs, Environmental Action Groups, Conservancies, Bird Clubs and other membership-based societies during 2014. Various radio interviews also were conducted, including on Cape Talk Radio, Radio 702, OFM Radio, two BBC national radio stations, German and Canadian national radio, the Hectic Nine-9 live television show for the youth on SABC2, 50/50 on SABC3 and Dutch national TV.

CoE staff and students attended 14 international and 14 local conferences during 2014 (see Outputs section), at which CoE staff and students received four oral presentation and two poster presentation awards. Susie Cunningham and Rowan Martin ran a symposium at the ISBE conference in New York, USA, during August 2014. The symposium was well attended by a good mix of speakers, who covered a variety of aspects of behaviour (breeding systems, sociality, dominance, phenology) from a range of environments (hot arid, montane, and coastal). In general, the symposium was a good forum to expose hypotheses about possible heat stress on behavioural ecology and to instill this in the broader thinking of behavioural ecologists.

The CoE and BirdLife South Africa co-hosted a conference *Learn About Birds (LAB)* at the Mont Aux Sources Hotel, KZN Drakensberg, during March 2014. The conference was attended by 160 delegates and was regarded as a great success, particularly for young scientists. Eight CoE staff members and research associates and 13 CoE students attended the conference. This event satisfies the SLA 5 target of organizing at least one local conference during this CoE stage. The LAB conference will be repeated biennially in the future.

Conferences attended during 2014: Meeting (month, place), people who attended

Southern African Program on Ecosystem Change and Society (Jan; Grahamstown, SA) Graeme Cumming
TED Conference (March; Vancouver, Canada) Steve Boyes
Learn About Birds (LAB) Conference (March; Mont Aux Sources, SA) 8 staff & HRAs & 14 students
Savanna Science Network Meeting (SSNM) (March; Skukuza, SA) Arjun Amar, Rowen van Eeden
British Ornithologist Union (BOU) annual conference (April; Leicester, UK) Arjun Amar
Resilience Alliance Science Conference (May; Montpellier, France) Graeme Cumming, Alta de Vos, Judith Ament, Julia Baum, Hayley Clements, Eleonore Hellard, John Heydinger, Dominic Henry, Kristi Maciejewski, Chevonne Reynolds
Southern Ground-Hornbill Action Group (May; Mabula, SA) Rob Little, Lisa Nupen, Kate Carstens
Southern Ground-Hornbill Science Colloquim (May; Mabula, SA) Rob Little, Lisa Nupen, Kate Carstens
EWT Birds of Prey Conference (May; Etosha, Namibia) Arjun Amar, Rowen van Eeden
Animal movement ecology workshop (June; Mossel Bay, SA) Tim Reid, Alistair McInnes, Stephan Schoombie, Kim Stevens
SA National Antarctic Programme workshop (June; Grahamstown, SA) Peter Ryan, Pierre Pistorius
Southern African Marine Science Symposium (July; Stellenbosh, SA) Davide Gaglio, Alistair McInnes, Dominic Rollinson
15th Southern African Marine Sciences Symposium (SAMSS) (July; Stellenbosch, SA) Pierre Pistorius, Lorien Pichegru, Antje Steinfurth, Lisa Nupen, Alistair McInness, Dominic Rollinson, Davide Gaglio, Jenny Roberts, Stefan Schoombie, Noelle Tubbs
Social Evolution Workshop (July; Arolla, Switzerland) Marguax Rat
15th International Society for Behavioral Ecology Congress (ISBE) (July/Aug; New York, USA) Susie Cunningham, Claire Spottiswoode, Rita Covas, Matthieu Paquet, Tom Flower, Marguax Rat, Tanja van de Ven
Fynbos Forum (Aug; Knysna, SA) Phoebe Barnard, Alan Lee
Ecological Society of America (ESA) (Aug; Sacramento, California, USA) Dominic Henry
International Ornithological Congress (IOC) (Aug; Tokyo, Japan) Arjun Amar, Phoebe Barnard, Andrew McKechnie, Alan Lee
Animal Behaviour Society (ABS) (Aug; Princeton University, New Jersey, USA) Tom Flower
International Marine Conservation Congress (IMCC) (Aug; Glasgow, Scotland) Davide Gaglio, Noelle Tubbs
Royal Society Theo Murphy International Scientific Conference (Sept; Buckinghamshire, UK) Susie Cunningham
5th International Bio-Logging Science Symposium (BLS5) (Sept; Strasbourg, France) Pierre Pistorius, Lorien Pichegru, Antje Steinfurth, Alistair McInness, Otto Whitehead
Physiology and Pharmacology of Temperature (PPTR) (Sept; Skukuza, SA) Andrew McKechnie, Ben Smit
SANBI Biodiversity Science Symposium (Oct; SANBI, Cape Town, SA) Alan Lee, Rukaya Johaadien
4th Diamond Route Research Conference (Oct; Jhb, SA) Andrew McKechnie
IUCN World Parks Congress (Nov; Sydney, Australia) Graeme Cumming
2014 Symposium of Contemporary Conservation Practice (Nov; Howick, SA) Sonja Kruger
Australian and New Zealand Society for Comparative Physiology and Biochemistry (ANZSCBP) (Dec; Armidale, Australia) Andrew McKechnie, Ryan O'Connor, Matthew Noakes

Conservation Biology MSc student, Jenna Bowker, was awarded a place at the Geo for Good User Summit held in California, USA, during 21-24 October 2014. This hands-on training workshop at the Google headquarters was intended for mapping and technology specialists or people currently working on mapping projects.

Fitz Advisory Board member, Ms Harriet Nimmo was instrumental in arranging for Dr Jane Goodall, world-renowned British primatologist, ethologist, anthropologist, and United Nations Messenger of Peace, to present a Vice-Chancellors' open lecture titled 'The Life and Times of Dr Jane Goodall – in celebration of her 80th year' on 6 February 2014 at the Baxter Theatre.

UCT celebrates Africa Day on 25 May each year, which is an opportunity to highlight our role and contribution to higher education and development in South Africa and the rest of Africa. The week long Africa Exhibition from 20–24 May 2014 aimed to highlight academic research and capacity building endeavours, collaborations and links UCT staff members have forged with continental universities, and the contribution made to the generation of Africa knowledge. The CoE presented a stand with posters and pamphlets that reflected our activities, origins of African students and impact in Africa.

The CoE also contributed three sections to the UCT 2013 Research Report (pages 81, 84 & 150; published during 2014) and the UCT Institutional Planning Department published a section on the outreach activities of the CoE in the 2013 UCT Social Responsiveness Report (page 73) with a particular focus on teaching the general public about university activities.

Over the years, the annual UCT Social Responsiveness Report profiled research forms of engagement to showcase innovative and multiple ways in which academics were drawing on their scholarly expertise and engaging with external constituencies to grapple with the socio-economic challenges of a developing country. In May 2013, the University's Social Responsiveness Committee decided to make teaching forms of engaged scholarship the focus of the 2013 SR Report. With this decision, the Committee recognised that teaching forms of engaged scholarship do not have the same status at UCT as research forms. The Committee also hoped that by increasing the visibility of this dimension of university work and by sharing information about innovative practices, the report would contribute to elevating the status of teaching and strengthening teaching forms of engagement with external non-academic constituencies. Against this background, a Social Responsiveness Symposium, held on 24 February 2014, profiled innovative practices in teaching forms of engaged scholarship. The presenters reflected on their work in a way that highlighted the engagement component therein. Dr Little gave a presentation at the symposium titled 'Engagement with external (non-academic) constituencies in the development and dissemination of popular educational materials, drawing on the experiences of the Percy Fitzpatrick Institute'. The 2013 SR Report was also launched at the event.

Following the presentation at the UCT Social Responsiveness Symposium the Vice-Chancellor invited Dr Little to give a presentation at a 'Captains of Industry - corporate CEO's dinner held at his house, Glenara, on 20 May 2014.

The UCT Communication and Marketing Department (CMD) prepared a series of faculty supplements to go out with UCT *Monday Monthly*, and the Science supplement was published in the August 2014 issue. According to the three themes; Marine Biology and the Southern Oceans, African Climate and Development and Biodiversity and the Cape Floristic Region strategic impact areas, six PFIAO CoE projects, namely The Cape Parrots, Benguela seabird ecology and conservation, Southern Ocean seabirds, Seabird bycatch, the Hot Birds

and the Climate change and fynbos birds projects were selected and appeared in the UCT *Monday Monthly*. The projects were also reflected as a mapping presentation of our research online with the information stored at pinpoints on Google maps that reflect as pop-up screens with a brief description of the research.

The Cape Parrot project received well-deserved attention when it took first prize in the 'Biodiversity Stewardship' category at the *Mail & Guardian's* Greening the Future Awards on 24 June 2014. Furthermore, a comprehensive Cape Parrot project documentary: http://tv-download.dw.de/Events/mp4/globalideas_en/globalideas_en20141124_suedafrika_lang_sd.mp4 was aired on German TV and in 14 other countries during late 2014 and will also be aired in South Africa in early 2015.

The CoE funded a SANBI CareTakers documentary film project which promotes story-telling as a tool for understanding nature and the inspired people who take care of it. The film *Stepping Stones*, presents City of Cape Town conservation manager, Bongani Mnisi, telling of his collaboration with school gardening projects aimed at creating corridors for the movement of bird species across the densely populated Cape Flats. Its broader aim is to feed the discourse that informs how we perceive, plan and act for securing a sustainable planet and a healthy society. In mid-June 2014, in the wake of World Environment Day, and mindful of Cape Town's role as World Design Capital for 2014, CareTakers hosted an event that provided opportunity to join the debate around issues relating to nature in an urban context. Discussion was guided by a panel of lead thinkers engaged in the field.

With a contact and introduction by PFIAO Advisory Board member Harriet Nimmo, the CoE facilitated the hosting of the Wild Shots wildlife photographic event at UCT on 15 November 2014. Wild Shots features high-profile speakers presenting their latest nature photographic work and aims to promote a greater public appreciation of biodiversity and the conservation of nature in Africa.

John Yeld published an article titled 'Black Harrier's secret journey' in the *Sunday Argus* on 19 January 2014.

MSc student Amanda Kyne participated in an hour-long live television discussion show on 'the science of flight and how birds are adapted for it' for Hectic Nine-9, SABC2's flagship youth show on 19 March 2014.

The Cape Parrot project, Blue Swallow and Sociable Weaver projects received extensive coverage during the South African nature television show 50/50 (SABC3) on 2 February, 26 May and 7 December 2014, respectively.

The penguin research team in Algoa Bay received significant coverage during the M-Net Carte Blanch show on 18 May 2014.

Rowen van Eeden's PhD research on Martial Eagles in the Kruger National Park was presented as a National Geographic Explorer Moment of the Week titled Eagle Investigation during August 2014 – see http://www.nationalgeographic.com/explorers/explorer-moment-of-week/#/emow-rowen-van-eeden-hawk-900_81904_990x742.jpg. The project also published a comprehensive article and was featured on the cover of the summer 2014/2015 issue of the *Wild Card Magazine*.

The British Ornithologists' Union blog has been running for two years and Arjun Amar's blog titled 'Hen Harriers: going, going ..' posted in their News, Raptors, Science, Upland birds section on 6 August 2014 claimed first place in the top ten most read blogs just three weeks later, on 28 August – see http://www.bou.org.uk/about-the-bou/recent_news/

Tom Flower's drongo mimicry research was filmed by Oxford Scientific Films during March 2014 for a TV documentary 'Family Matters' for BBC1 (UK) and by the NHK (Japanese public broadcasting) during August 2014 for a TV documentary 'The legend of Darwin: the Fork-tailed Drongo'.

John Yeld published an article titled 'Birds on Gough Island under threat from mice' in the *Cape Argus* on 20 October 2014.

Following a review paper of the impacts of corvids on bird productivity and abundance by Christine Madden, Beatriz Arroyo and Arjun Amar published in *Ibis* during 2014, there was significant exposure in the European media and an article titled "Crows' Bad Reputation Is Put to the Test" in *The New York Times* on 22 December 2014.

In general, CoE staff and students are entering the age of media interaction with regards to their research outputs. An example of the significant information brokerage achieved can be seen from the coverage achieved following a paper estimating the amount of litter floating in the sea, which included FitzPatrick Institute data from the Southern Ocean and Bay of Bengal, which resulted widespread news coverage:

Time: <http://time.com/3628392/microbead-ban-states/>

Plastics Today: <http://www.plasticstoday.com/articles/More-than-5-trillion-pieces-of-plastic-floating-in-the-worlds-oceans-141210>

Plastics News: <http://www.plasticsnews.com/article/20141210/BLOG01/141219980/study-estimates-269000-tons-of-plastic-in-world-s-oceans>

Huffington Post: http://www.huffingtonpost.com/belinda-waymouth/ocean-plastic-pollution_b_6295084.html

Grist: <http://grist.org/news/heres-all-the-plastic-in-the-ocean-measured-in-whales/>

Take Part: <http://www.takepart.com/article/2014/12/10/worlds-ocean-plastic-pollution-problem-just-got-bigger--lot-bigger>

New York Times update: <http://www.nytimes.com/2014/12/11/science/new-research-quantifies-the-oceans-plastic-problem.html>

Austria - <http://science.orf.at/stories/1750581/>

NYT: <http://nyti.ms/1z7nB2B>

Washington Post: <http://wapo.st/1qwxHJP>

LiveScience: <http://www.livescience.com/49084-ocean-plastic-weight-estimate.html>

Smithsonian: <http://bit.ly/1z7nXX2>

Reuters: <http://uk.reuters.com/article/2014/12/10/science-plastic-idUKL1N0TS1I220141210>
<http://www.nature.com/news/fate-of-ocean-plastic-remains-a-mystery-1.16508>

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. Primary collaboration continued with the molecular laboratories of A/Prof. Rauri Bowie at the University of California, Berkeley and Prof. Paulette Bloomer at the University of Pretoria, with Prof. Andrew McKechnie also at the University of Pretoria and with Dr Pierre Pistorius at the Nelson Mandela Metropolitan University.

Close collaborative working relationships with scientific peers now exist both nationally and internationally (Table 2). Additional emphasis has been placed on working with historically black universities in South Africa and African universities, e.g. University of Limpopo, Fort Hare University, Tshwane University of Technology and the Universities of Zimbabwe and Zambia. Eleven of the 15 Post-doctoral Fellows came from nine different foreign countries.

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 (x8), UK, Canada, Kenya, Tanzania and Zimbabwe, and the enrolment of students from SA (x6), USA, UK (x3), Chile, Columbia, Botswana and Nigeria during 2014.

Prominent research and conservation partners who visited the CoE during 2014:

Dr Jane Goodall visited UCT as a guest of the CoE and presented a Vice-Chancellor's Open lecture titled "The Life and Times of Dr Jane Goodall - in celebration of her 80th year" on 6 February 2014.

Prof. Rory Wilson, Head of Department at Swansea University, UK, who is the recipient of multiple awards for his work using a unique blend of multi-disciplinary science to develop ingenious ways to track wild animals and record their behaviour without directly observing them so as to unravel their remote lifestyles presented a talk titled 'In search of a new animal movement framework based on energy' on 23 May 2014.

Dr Lackson Chama from the Copperbelt University, Department of Zoology and Aquatic Sciences, Kitwe, Zambia, who is collaborating with CoE members on research in Zambia visited the CoE and gave a talk titled 'Fruit chemical composition rather than plant morphology drives avian frugivore richness and their fruit off-take across similar fleshy fruiting tree species in human dominated habitats' on 1 September 2014.

Prof. Marcel Visser, Professor of Seasonal Timing of Behaviour at Groningen University and Professor of Ecological Genetics at Wageningen University based as Head of the Department of Animal Ecology at the Netherlands Institute of Ecology (NIOO-KNAW) visited the CoE during November and December 2014 and gave a seminar titled 'Ornithological

research at the Netherlands Institute of Ecology, with an emphasis on seasonal timing' on 27 November.

Table 2. Collaborators during 2014

Title	Surname	Citizenship	Institution	Gender	Race	% time in CoE
Prof	Altweg	Swiss	UCT	M	W	5
Dr	Arriero	Spain	U Montana	F	W	5
Dr	Barnard	USA	SANBI	F	W	10
Dr	Bates	USA	Chicago Mus	M	W	1
Dr	Bodin	Sweden	U Stockholm	M	W	5
Dr	Bond	Canada/UK	RSPB	M	W	5
Dr	Boyes	SA	Wild Bird Trust	M	W	50
Dr	Chama	Zambia	Copperbelt U, Zambia	M	B	10
Dr	Cillingham	UK	Durham	F	W	1
Dr	Covas	Portugal	CEFE-CNRS, France	F	W	80
Dr	Croxall	UK	BirdLife International	M	W	1
Prof.	Cumming	Zimbabwe	U Zimbabwe	M	W	20
Dr	Cuthbert	UK	WCS, New Guinea	M	W	2
Dr	Dale	UK	Max Planck Inst	M	W	20
Prof	Davies	UK	Cambridge	M	W	1
Dr	de Melo	Portugal	CIBIO	M	W	10
Dr	Doutrelant	France	CEFE-CNRS, France	F	W	30
Dr	Dranzoa	Uganda	Makerere U	F	B	1
Prof	Engelbrecht	SA	U Limpopo	M	W	5
Prof	Fjeldsa	Denmark	U Copenhagen	M	W	1
Dr	Grémillet	France	CNRS	M	W	20
Dr	Hackett	USA	Chicago Mus	F	W	1
Dr	Hatchwell	UK	U Sheffield	M	W	1
Prof	Huntley	UK	Durham	M	W	2
Dr	Jansen	SA	Tshwane U Tech	M	W	1
Dr	Jenkins	SA	UCT	M	W	20
Dr	Jetz	USA	Princeton U	M	W	1
Dr	Kato	Japan	CNRS	F	W	2
Dr	Kinahan	Ireland	Frankfurt Zoo Soc	F	W	1
Dr	Lens	Belgium	U Ghent	M	W	1
Dr	Little	SA	EWT	M	W	10
Mr	Magunje	Zimbabwe	BirdLife Zim	M	B	10
Prof	Martinez del Rio	USA	U Wyoming	M	W	1
Mr	Matsvimbo	Zimbabwe	BirdLife Zim	F	B	20
Dr	Midgley	SA	U Stellenbosch	M	W	2
Dr	Milewski	Australia	Murdoch U, Australia	M	W	20
Dr	Mitchell	Australia	U Western Australia	F	W	10
Dr	Phillips	UK	Br Antarctic Survey	M	W	2
Dr	Pichegru	France	NMMU	F	W	50
Dr	Quillfeldt	German	U Giessen	F	W	1
Dr	Radford	UK	U Bristol	M	W	5
Dr	Raihani	UK	IOZ, London	F	W	5
Prof	Redpath	UK	Aberdeen U	M	W	10
Mr	Reid	Zambia	African Parks	M	W	5
Dr	Ridley	New Zealand	Macquarie U, Australia	F	W	50
Dr	Robertson	New Zealand	Otago	M	W	1
Dr	Ropert-Coudert	France	CNRS	M	W	5
Dr	Roxburgh	SA	EWT	F	W	10
Dr	Simmons	UK	UCT	M	W	40
Dr	Smit-Robinson	SA	BLSA	F	W	2
Prof	Sorenson	USA	Boston U	M	W	2
Dr	Spottiswoode	SA	U Cambridge, UK	F	W	30
Dr	Stevens	UK	U Cambridge	M	W	2
Dr	Tennyson	New Zealand	Te Papa	M	W	1
Prof	Voelker	USA	U Memphis	M	W	1
Dr	Wanless	SA	BirdLife SA	M	W	40
Dr	Willis	UK	Durham	M	W	2
Dr	Wolf	USA	U New Mexico	M	W	5
Dr	Woodborne	SA	CSIR	M	W	2

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 23 scientific journals, on 58 membership and advisory services, and reviewed 120 papers for 61 peer-reviewed journals during 2014 (see below). Dr Little was invited to act as Associate Editor for the journal *Ostrich* for a special issue in memory of Prof. Phil Hockey which will be published in 2015.

Prof. Peter Ryan, Dr Rob Little and Dr Steve Boyes gave input to the drafting of the Department of Environmental Affairs Norms and Standards for avian invasive species (NEMBA) and for the Avian Associations. Prof. Andrew McKechnie also acted as an expert reviewer for the South African National Standard SANS 10386 The care and use of animals for scientific research, Annex C (Birds).

Members of the Fitz CoE Algoa Bay penguin research team have been monitoring the foraging behaviour of African Penguins in Algoa Bay since 2008 where experimental purse-seine fishing exclusion has shown the impact of the competition with industrial fisheries on seabirds for the first time and the benefits of closing small areas to fishing. The results were used by the Island Closure Task Team, of the Small Pelagic Scientific Working Group, from the Department of Agriculture, Forestry and Fisheries and South African National Parks to increase the extent of their Marine Protected Area permanent no-take zone for purse-seine fishing in Algoa Bay to include the foraging habitat of African Penguins from St Croix Island, the world's largest African Penguin colony. This MPA was officially declared in 2014. Alistair McInness participated in the Island Closure Task Team (under the Department of Forestry and Fisheries) during 2014 to assess impacts of purse-seine fishing activities on the African Penguin population. Lorien Pichegru was appointed as the Chairperson of the Algoa Bay Hope Spot steering committee during 2014, driving the Hope Spot initiative for Mission Blue and the Sustainable Seas Trust in Algoa Bay. She has also been mentoring a learner from the Quest School and a participant in a marine guiding course.

Concurrent with the start of the closure project, an Island Closure Task Team (ICTT) was formed and Lorien Pichegru became an invited member. The role of the ICTT, which operates under the auspices of the Small Pelagic Scientific Working Group (SWG-PEL) of the Department of Agriculture Forestry and Fisheries, is to advise the Pelagic Scientific

Working Group on the merits of closures to purse-seine fishing of all or part of the areas around certain penguin breeding colonies. The Scientific Working Group in turn is a non-statutory body created and appointed by the Chief Director: Fisheries Research & Development to advise the incumbent on scientific matters, generate advice to support decision-making in the public interest using available scientific data and scholarly research, principally data and methodologies of the natural, social, economic and related sciences, and analyses thereof. The feasibility study reached its final year in 2014 and the outcome of the study was presented to the International Stock Assessment Review Panel meeting in December 2014 (DAFF 2014). The SWG-PEL met on 18 December 2014 and will base its management recommendation to the Chief Director on the Panel's final report.

A workshop held at Arniston, Western Cape, in October 2010 initiated the development of a Biodiversity Management Plan for the African Penguin (BMP-AP), in terms of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004), a vision and desired state for African Penguin conservation was debated and agreed upon by the workshop participants. In 2013, the South African government adopted the African Penguin Biodiversity Management Plan (AP-BMP) (DEA 2013). The aim of the AP-BMP is "to halt the decline of the African Penguin population in South Africa within two years of the implementation of the management plan and thereafter achieve a population growth which will result in a down listing of the species in terms of its status in the IUCN Red List of Threatened Species". Various actions to improve the conservation status of the African Penguin are listed in the plan, and it is hoped that by acting in concert they may achieve the aim of the plan.

Peter Ryan is a member of the UNEP's GESAMP Working Group 40 on the impacts of microplastic debris in the oceans, and during 2014 reviewed a section on plastics in the Transboundary Waters Assessment Programme – Open Ocean Assessment (UNEP).

The Cape Parrot project has on the request of the Office of the President and in partnership with the DAFF established the Eastern Cape Forest Management and Research Committee to better co-ordinate forest research and link findings to relevant forest managers. Through this, the project has played a fundamental role in the:

- Establishment of three new forest reserves covering over 5,500 hectares in the Amathole Region (Eastern Cape) in partnership with the DAFF.
- Reduction of the *Afrocarpus falcatus* yellowwood harvesting quota for the Eastern Cape in partnership with DAFF.
- Derivation of terms of reference and job description for a new position at the IUCN that deals with Social and environmental Impact Assessments (SEIAs) for large "greenfield" mining developments in Africa.
- Temporary moratorium on the importation of African Grey parrots from the Democratic Republic of Congo.
- Provision of technical support to the Botswana World Heritage Committee in hosting the UNESCO Site Selection Committee responsible for listing the Okavango Delta as a World Heritage Site.

Research on the Afromontane forests of Angola is being used to support and guide Angola's Ministry of the Environment to develop a conservation strategy for this endangered habitat, including choosing and designing appropriate protected areas.

The CoE Ground-Hornbill Research Project continued to investigate the status and positioning of overhead electrical transformer boxes in the Associated Private Nature Reserves (APNR) to determine possible threats to ground-hornbills and raptors perching on these structures. Priority transformers have been selected in areas that are within 3 km to

active nests. This project is in collaboration with the Endangered Wildlife Trust's Wildlife & Energy Programme (WEP), Eskom and the Mabula Ground-Hornbill Project. Also within this partnership, the project provides second-hatched chicks for the Ground-Hornbill Action Group's captive-breeding and wild-release programs. Furthermore, Research Assistant Kate Carstens gave project reports to the APNR Joint Committee at three meetings during 2014.

A Biodiversity Management Plan for the Bearded Vulture, facilitated and edited by PhD student Sonja Krüger, was gazetted for public comment during 2013. Our research on the impacts of the planned windfarms in Lesotho on Bearded Vultures have been instrumental in BirdLife SA and EKZN Wildlife's advocacy work to mitigate the harmful effects of these developments. Sonja also presented vulture identification and monitoring methods training courses for Ezemevelo KZN Wildlife staff during 2013 and 2014.

Post-doc Ralf Mullers presented a Management Plan for the conservation of the Shoebill in the Bangweulu Wetlands to the Board of the Zambian Wildlife Authority and the Bangweulu Wetlands Management Board in March 2014. The management strategies proposed in the plan, including law enforcement, environmental education and sustainable tourism, are being implemented to protect Shoebills in the Bangweulu Wetlands and to increase revenue from marketing the shoebill population for tourism purposes. He also contributed to compiling other Zambian contributions to the Single Species Action Plan for Shoebills by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), an international program to formulate conservation strategies for Shoebills throughout their distributional range states.

Rob Little lead the goose management on golf courses in the Western Cape project and a management plan for the control of Egyptian Geese on the Steenberg Golf Estate compiled in partnership with the NCC Environmental Services was presented to the estate management during May 2014.

Positions on Editorial Boards, Councils, Advisory/Steering Committees during 2014

Editorial Boards

- *Acta Ethologica* (Associate Editor; Covas)
- *African Journal of Ecology* (International Review Panel; Barnard)
- *African Journal of Marine Science* (Editorial Advisory Board; Pistorius)
- *Animal Conservation* (Associate Editor; Barnard)
- *Antarctic Science* (Associate Editor; Ryan)
- *Biology Letters* (Editorial Board; Spottiswoode)
- *Bird Conservation International* (Associate Editor; Ryan)
- *Bird Study* (Associate Editor; Amar)
- *BMC Climate Change Responses* (Associate Editor; McKechnie)
- *BMC Evolutionary Biology* (Editorial Board; Bowie)
- *Climate Change Responses* (Editorial Board; Barnard, McKechnie)
- *Diversity and Distributions* (Associate Editor; Cumming)
- *Ecology & Society* (Associate Editor; Cumming)
- *Emu – Austral Ornithology* (Associate Editor; McKechnie)
- *Frontiers in Marine Science* (Review editor; Pichegru)
- *Ibis* (Editor; Bowie, Associate Editor; Amar, Pichegru, Wanless)
- *International Scholarly Research Notices ISRN Ecology* (Editor; Ridley)
- *International Scholarly Research Notices ISRN Zoology* (Associate Editor; Pistorius)

- *Journal of Comparative Physiology B* (Associate Editor; McKechnie)
- *Landscape Ecology* (Editorial Board; Cumming)
- *National Geographic News Watch* (Contributing Editor; Boyes)
- *Ostrich – Journal of African Ornithology* (Associate Editors; Bowie, Little, McKechnie, Ridley; Book Review Editor; Koopman)
- *South African Journal of Wildlife Research* (Associate Editor; Cumming)

Membership & Advisory services

- ACAP Taxonomy Working Group (Ryan)
- Association for Tropical Biology & Conservation (Lee)
- Association for the Study of Animal Behaviour (Flower)
- *Africa Geographic* (Director; Boyes)
- *African Birdlife* (Scientific Advisors; McKechnie, Ryan)
- African Seabird Group (Pistorius, Pichegru, Steinfurth, Ryan, Wanless)
- American Ornithologists' Union (Bowie, McKechnie)
- American Physiological Society (McKechnie)
- Association for the Study of Animal Behaviour (Flower)
- Bearded Vulture Task Force of the Birds of Prey Programme of EWT (Chairman- Krüger)
- BirdLife South Africa Council (President; Barnard)
- BirdLife South Africa Conservation Advisory Committee (Chair; Barnard, Member; Ryan)
- British Ecological Society (Boyes, Flower, Nelson-Flower, Ridley, Tubbs)
- British Ornithologists' Union (Council; Bowie, Spottiswoode; Member; Cunningham, Lee)
- Cambridge Philosophical Society (Ridley)
- Cooper Ornithological Society (Bowie, McKechnie)
- Eastern Cape Forest Management and Research Committee (Boyes)
- Ecological Society of America (Cumming, Tubbs)
- Endangered Wildlife Trust Birds of Prey Programme Advisory Committee (Amar, van Eeden)
- Endangered Wildlife Trust Threatened Grassland Species Programme Advisory Group (Little, McKechnie)
- Faculty Member, 'Faculty of 1000'. See <http://f1000.com/> (Cumming)
- Ford Wildlife Foundation Advisory Board (Little)
- Forest & Bird Society (Cunningham)
- Galapagos Conservation Trust (Ambassador; Steinfurth)
- Google Earth Outreach Trainer Network (De Vos)
- International Ornithologists' Union (Fellow; Crowe)
- International Parrot Research Group (Africa Coordinators; Boyes, Martin)
- International Society for Behavioural Ecology (Flower, Nelson-Flower, Ridley, Spottiswoode, Thompson)
- IUCN Vulture Specialist Group (Krüger)
- IUCN Red List of Threatened Species (Cook)
- Mabula Ground-Hornbill Project Advisory Board (Vice Chairman; Little)
- National Geographic Society (Boyes)
- National Zoological Gardens Research Ethics & Scientific Committee (McKechnie)
- Raptor Research Foundation (Amar)
- Red Data Book Revision Steering Group (Chair: Barnard, Member; Amar)
- Resilience Alliance (Cumming)

- RNSC-SNAAS (Reseau National des Systemes Complexes-Social Network Analysis in Animal Societies) (Rat)
- SAFRING Steering Committee (Barnard)
- Society for Conservation Biology (Barnard, Cumming, Pichegru, Tubbs)
- Society for Integrative and Comparative Biology (McKechnie)
- Society for Systematic Biology (Bowie)
- Society for the Study of Evolution (Bowie)
- South African Biosystematics Initiative Steering Committee (Bloomer)
- South African Bird Atlas Project 2 Steering Committee (Chair; Barnard)
- South African National Standard SANS 10386 The care and use of animals for scientific research, Annex C (Birds) (Expert reviewer; McKechnie)
- 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 (Little)
- Southern Ground-Hornbill Action Group (Carstens, Little)
- Sustainable Seas Trust (Chairperson Algoa Bay Hope Spot committee; Pichegru)
- Tristan's Biodiversity Advisory Group (Ryan)
- Wild Bird Trust (Trustees; Boyes, Little)
- Wildlife and Environment Society of South Africa (Committee member; Pichegru)
- World Parrot Trust (Africa Director; Boyes)
- World Bird List Committee (Bowie, Ryan)
- World Seabird Union (Africa representative; Pichegru, Wanless)
- Zoological Society of Southern Africa (Members; Cunningham, Krüger, Little, McKechnie, Pistorius)

Manuscripts reviewed for scientific journals during 2014

Acta Ethologica (1 Cunningham, 1 Rat)
Acta Zoologica (1 Cunningham)
African Journal of Marine Science (1 Ryan)
African Zoology (1 Spottiswoode)
Ambio (1 Cumming)
American Naturalist (1 Spottiswoode)
Anatomical Record (1 Cunningham)
Animal Behaviour (2 Covas, 2 Flower, 1 Paquet, 1 Ridley, 1 Spottiswoode)
Antarctic Science (1 Ryan)
Auk (1 Ridley)
Basic & Applied Ecology (1 Cumming)
Behavioural Ecology (1 Flower, 4 Ridley, 1 Spottiswoode)
Behavioural Ecology & Sociobiology (1 Flower, 1 Paquet)
Biological Conservation (2 Steinfurth)
Biology Letters (1 Ridley)
Biological Reviews (1 McKechnie)
Biotropica (1 Ridley)
Bird Conservation International (1 Ryan)
Bird Study (1 Pistorius)
Bulletin of the African Bird Club (1 Ryan)
EarthsFuture (1 Ryan)
Ecology (1 Pichegru, 1 Ryan, 1 Spottiswoode)
Ecology Letters (1 McKechnie)

Ecology & Society (1 Cumming, 1 Henry)
Emu (1 Cunningham, 2 Ridley, 1 Ryan)
Entomological Science (1 Reynolds)
Evolution (1 Spottiswoode)
Functional Ecology (1 McKechnie)
Global Change Biology (1 Cunningham, 1 McKechnie)
Ibis (1 Pistorius)
Journal of Animal Ecology (1 Covas)
Journal of Avian Biology (1 Flower)
Journal of Comparative Physiology B (1 McKechnie)
Journal of Experimental Biology (1 McKechnie)
Journal of Evolutionary Biology (1 McKechnie)
Journal of Field Ornithology (1 Carstens, 1 Lee)
Journal of Ornithology (1 Flower, 1 McKechnie, 1 Paquet, 1 Spottiswoode)
Journal of Photobiology (1 McKechnie)
Journal of Marine Science (1 Mullers)
Journal of Raptor Research (1 Amar)
Journal of Sea Research (1 McInnes)
Journal of Zoology, London (1 McKechnie)
Marine Biology (1 Pichegru, 1 Steinfurth)
Marine Ecology Progress Series (1 Pichegru, 1 Pistorius)
Marine Pollution Bulletin (1 Ryan)
Methods in Ecology and Evolution (1 Cumming)
Nature Communications (1 Ryan)
Naturwissenschaften (1 Cumming, 1 Flower)
Ostrich (1 Covas, 1 Cunningham, 1 Flower, 1 Henry, 2 Little, 1 McKechnie, 1 McInnes, 1 Pichegru, 1 Pistorius, 1 Reid, 1 Ridley, 2 Ryan, 1 Simmons, 2 Smit, 2 Spottiswoode)
Physiological and Biochemical Zoology (2 McKechnie)
PLoS One (1 Amar, 1 Covas, 1 Cumming, 1 Cunningham, 1 Paquet, 1 Ridley, 1 Ryan)
Polar Biology (1 Pistorius, 1 Ryan)
Proceedings of the National Academy of Sciences (PNAS) (1 Flower)
Proceedings of the Royal Society of London B (1 Covas, 1 Flower, 1 Ridley, 1 Spottiswoode)
South African Journal of Wildlife Research (2 Little)
Systems (1 McKechnie)
Trends in Parasitology (1 Hellard)
Waterbirds (1 Ryan)
Wetlands (1 Ryan)
Wilson Bulletin (1 Ryan)
Zoological Journal of the Linnean Society (1 Cunningham, 1 Flower)

6. Gender and equity impacts of research

Objective

A medium- to long-term objective is to ensure that gender and equity issues are considered in all aspects of the CoE's work, with the goal of maintaining an equal representation of men and women within the CoE in the long term.

Progress

The CoE continues to be guided by a proactive recruitment policy to attract female postgraduates to ensure gender parity in the CoE student body. This policy has been successful, with 55% of Post-docs and postgraduate students supported by the CoE in 2014 being women (Table 9). The academic and support staff gender profile of the CoE has remained at 47% female (Tables 3 & 8).

Post-doctoral Fellow Antje Steinfurth and others published a letter in *Nature* arguing that the field of conservation is currently facing two significant issues: a clash of core values, and persistent gender and cultural bias. The letter addressed both issues by raising the voices of women and men from around the world in support of a "unified and diverse conservation ethic" that "recognizes and accepts all values of nature from intrinsic to instrumental" and can align with "the values of the many audiences we need to engage" (Tallis et al. 2014 *Nature* 11/2014; 515: 27-28).

CoE research projects continued to generate work opportunities related to research activities for adjacent previously disadvantaged community members, with 143 full-time or part-time jobs, mostly filled by women, active during 2014. This included 25 full-time and 60 part-time jobs in South Africa, 14 full-time and 40 part-time jobs in Zambia, and four part-time jobs in Angola.

The Cape Parrot Project in the Amatole Mountains of the Eastern Cape has injected much-needed investment into a poorly managed, community-run indigenous tree nursery previously funded by the Danish government. Teams of local women are trained and supervised by our Community Liaison Officer (jointly employed by the Fitz CoE and BirdLife SA) to plant saplings in designated forest patches. The project has also taken over the management of a pecan nut orchard in the grounds of the University of Fort Hare near Alice, where Cape Parrots feed for more than four months of the year. We have contracted women from the local community to gather the pecan nuts, de-shuck and package them. Revenue from this small business is shared between the women and the management of the pecan orchard. In addition, the project has initiated the Green Campus Initiative at Fort Hare by planting indigenous trees (wild olives & wild plums) with the Student Representative council and the International Leadership Council hosted by Fort Hare.

PhD student Dominic Rollinson works with the BirdLife South Africa, Seabird Division designing tori bird scaring lines to minimize seabird bycatch by longline and trawl vessels. These lines are made by the Ocean View Association for People with Disabilities, which has created the opportunity for 10 disadvantaged Coloured people in the Oceanview community, Kommetjie, 5 males and 5 females, to create a micro-industry to make BSLs. Dominic facilitates the making and delivery of the lines to the various fishing companies. A large proportion of the profits from each line produced are given to the Ocean View center which is used to help improve the center and for community upliftment. This is the fifth year of the programme and some of the team are ex-fishermen and now regard this as an alternative livelihood.

As in previous years, the brood parasite project in Zambia run by Research Associate Claire Spottiswoode has provided a much needed source of cash income to 40 part-time, including several women, and 2 full-time research assistants, mostly otherwise unemployed farm labourers. Claire is also a Mentor for the British Ecological Society's mentorship scheme for women in ecology.

Outcomes from the Shoebill project in Zambia have initiated the implementation of a community based nest protection program, employing 12 local (seasonal) fishermen that were offered employment as Shoebill nest guards for the duration of the 2014 breeding season. Furthermore, Post-doc Ralf Mullers trained various Bangweulu Wetlands scouts, guides and community members on the technicalities of Shoebill conservation and their interactions with tourists. Similarly, the Martial Eagle project employed two SanParks game guards from the Kruger National Park to assist with the fieldwork for 40 days during 2014.

The surrounding communities of Table Mountain National Park have been involved in the Fynbos Endemic Birds Vulnerability Programme as informants and citizen science observers during 2014. This programme also employs as a field assistant a rare-sarcoma patient who is a skilled field ornithologist and trainee bird ringer. The eastern field site of the programme, Blue Hill Escape Nature Reserve, employs five disenfranchised members of the Uniondale community each month during 2014 to clear alien vegetation as part of a job creation scheme. A project initiated in 2013 with the City of Cape Town's Biodiversity Network (Bongani Mnisi) and selected underprivileged Cape Flats schools to establish a climate change adaptation / restoration project to increase connectivity for aerial pollinators across the Cape Flats and within the Cape Peninsula was continued during 2014. The CoE also contributed funds to a film on this project which was produced during 2014.

The Fitz CoE Algoa Bay research team has been training formerly disadvantaged rangers from SANParks to collect penguin data on Bird Island in the Eastern Cape.

The project at Mount Moco in Angola has employed, on a part-time basis, four young men from the Kanjonde community to run a nursery with forest species that are used to expand the remaining forest fragments. The project is also promoting Mount Moco as a tourist destination, increasing the work opportunities for the local guides.

The Fork-tailed Drongo project employed three South African research assistants from the coloured community at Van Zylsrus, Northern Cape during Oct-Nov 2014, training them in field data collection techniques.

PhD student Chevonne Reynolds acted as a mentor for the NRF 100Up Mentor Programme, which is a Cape Flats school mentorship programme, where she presented a weekend bird course as a potential introduction to UCT science studies.

The CoE Ground-Hornbill Project facilitated a four-day education workshop for 280 underprivileged children aged between 4 and 16 years from the local community during June 2014. One activity involved taking the children on a game drive in the Klaserie Private Nature Reserve, which for many was their first game drive experience.

HUMAN RESOURCES

Prof. Peter Ryan was appointed as the Director of the PFIAO/CoE during 2014, but his previous post was frozen, effectively leaving the CoE with one academic post less, a 20% reduction in academic supervision capacity. Tim Crowe retired at the end of 2013 and that post will be filled by Dr Robert Thomson in August 2015. Dr Susie Cunningham has been appointed with UCT and CoE support for a contract lecturer post initially for three years, but with the intention to extend her position for the duration of the CoE.

Chris Tobler (Principal Technical Officer) retired on 30 December 2014 and has been partially replaced by Gonzalo Aguilar, who has taken over the technical aspects of the portfolio. Anthea Links has taken on additional financial management responsibilities and her post has been upgraded accordingly.

Further staff changes will occur following the resignation of Margaret Koopman (Niven Librarian) from 31 January 2015 and the resignation of Prof. Graeme Cumming (Pazvolsky Chair in Conservation Biology) from 30 June 2015. Fortunately both posts have been approved for advertisement, and bridging funding has been supplied by the Science Faculty to maintain basic services in the Niven Library until the post is filled. Phelisa Hans is doing an excellent job as acting librarian.

The following people worked within the CoE during 2014:

Table 3. Core CoE team members for 2014

Title	Name	Citizen	Institution	Gender	Race	H-index*		% time working in CoE
						ISI	Google Scholar	
Prof.	Paulette Bloomer	SA	U. Pretoria	F	W	15	21	10
Dr	Jacqueline Bishop	SA	UCT	F	W	6	8	5
Dr	Arjun Amar	UK	UCT	M	W	13	18	100
A/Prof.	Rauri Bowie	SA	U.Cal. Berk	M	W	22	28	20
Prof.	Graeme Cumming	SA	UCT	M	W	28	36	100
Dr	Pierre Pistorius	SA	NMMU	M	W	14	17	30
Prof.	Andrew McKechnie	SA	U. Pretoria	M	W	13	21	40
Prof.	Peter Ryan	SA	UCT	M	W	34	42	100

* H-index scores as calculated on 15 January 2015

Table 4. Post-doctoral Fellows for 2014

Title	Name	Citizen	Gender	Race	CoE support level	
					Bursary	Running
Dr	Susie Cunningham	New Zealand	F	W	No	Yes
Dr	Eleonore Hellard	France	F	W	No	Yes
Dr	Sophie Lardy	France	F	W	No	No
Dr	Kristine Maciejewski	SA	F	W	Yes	No
Dr	Martha Nelson-Flower	Canada	F	W	Yes	Yes
Dr	Antje Steinfurth	Germany	F	W	No	No
Dr	Petra Sumasgutner	Austria	F	W	Yes	Yes
Dr	Alta de Vos	SA	F	W	Yes	No
Dr	Guin Wogan	USA	F	W	No	No
Dr	Matthieu Paquet	France	M	W	Yes	No
Dr	Steve Boyes	SA	M	W	No	No
Dr	Tom Flower	UK	M	W	No	Yes
Dr	Alan Lee	SA	M	W	Yes	Yes
Dr	Ralf Mullers	Netherlands	M	W	Yes	Yes
Dr	Tim Reid	Australia	M	W	Yes	No

Table 5. Honorary Professors & Research Associates for 2014

Title	Name	Citizen	Institution	Gender	Race	% time in CoE
Dr	Phoebe Barnard *	UK	SANBI	F	W	10
Dr	Rita Covas	Portugal	CEFE-CNRS, France	F	W	80
Dr	Claire Doutrelant	France	CEFE-CNRS	F	W	30
Dr	Lorien Pichegru *	France	UCT	F	W	100
Dr	Mandy Ridley *	New Zealand	Macquarie U, Aus.	F	W	50
Dr	Lizanne Roxburgh	SA	EWT	F	W	10
Dr	Claire Spottiswoode	SA	U Cambridge, UK	F	W	30
Dr	Steve Boyes	SA	Wild Bird Trust	M	W	50
Prof.	David Cumming *	Zimbabwe	U Zimbabwe	M	W	20
Dr	David Gremilet *	France	CNRS	M	W	20
Dr	Andrew Jenkins	SA	UCT	M	W	20
Dr	Ian Little	SA	EWT	M	W	20
Dr	Martim de Melo	Portugal	CIBIO	M	W	10
Dr	Anthoni Milewski	Australia	Murdoch U, Aus.	M	W	20
Dr	Rob Simmons *	UK	UCT	M	W	40
Dr	Ross Wanless *	SA	BirdLife SA	M	W	40

* Official UCT Honorary Professor or Honorary Research Associate

Table 6. Students registered or graduated in 2014 (includes 2013-2014 CB MSc cohort)
 (* = thesis students who graduated during 2014; ** = CB MSc students who graduated during 2014)

Name	Citizen	Univ.	Gender	Race	Degree	1 st year	CoE support level	
							Bursary	Running
Mandiwana-Neudani, Tshifiwa *	SA	UCT	F	B	PhD	2004	No	No
Ryklief, Rabia	SA	NMMU	F	B	PhD	2014	No	Yes
Baum, Julia	Germany	UCT	F	W	PhD	2012	No	Yes
Carstens, Kate	SA	UCT	F	W	PhD	2014	No	No
Clements, Hayley	SA	UCT	F	W	PhD	2014	No	No
Garcia-Heras, Sophie	France	UCT	F	W	PhD	2013	Yes	Yes
Kruger, Sonja *	SA	UCT	F	W	PhD	2011	No	Yes
Nupen, Lisa *	SA	UCT	F	W	PhD	2008	No	No
Rat, Margaux	France	UCT	F	W	PhD	2012	Yes	Yes
Reynolds, Chevonne	SA	UCT	F	W	PhD	2012	No	Yes
Thompson, Michelle	SA	U. Pta	F	W	PhD	2014	Yes	No
van de Ven, Tanja	Netherland	UCT	F	W	PhD	2012	No	Yes
Kaliba, Potiphar *	Malawi	UCT	M	B	PhD	2007	No	No
Davies, Owen	SA	UCT	M	W	PhD	2008	No	No
Henry, Dominic	SA	UCT	M	W	PhD	2012	Yes	Yes
McInnes, Alistair	SA	UCT	M	W	PhD	2012	Yes	Yes
O'Connor, Ryan	USA	U. Pta	M	W	PhD	2013	No	Yes
Pietersen, Darren	SA	U. Pta	M	W	PhD	2013	Yes	Yes
Rollinson, Dominic	SA	UCT	M	W	PhD	2013	Yes	Yes
Smit, Ben *	SA	U. Pta	M	W	PhD	2009	No	No
Tate, Gareth	SA	UCT	M	W	PhD	2014	Yes	Yes
van Eeden, Rowen	SA	UCT	M	W	PhD	2013	Yes	Yes
Whitehead, Otto	SA	UCT	M	W	PhD	2014	Yes	Yes
Abdu, Salamatu	Nigeria	UCT	F	B	MSc CB	2014	No	No
Johaadien, Rukaya **	SA	UCT	F	B	MSc CB	2013	No	No
Motlogelwa, Binah	Botswana	UCT	F	B	MSc CB	2014	No	No
Berndt, Jessie	SA	UCT	F	W	MSc	2013	No	Yes
Botha, Philna *	SA	UCT	F	W	MSc	2013	No	No
Bowker, Jenna	SA	UCT	F	W	MSc CB	2014	No	No
Calder, Jordan **	SA	UCT	F	W	MSc CB	2013	Yes	No
Carpenter-King, Tegan	SA	NMMU	F	W	MSc	2014	Yes	Yes

Cronin, Kate	SA	UCT	F	W	MSc CB	2014	No	No
De Souza, Nadia **	Kenya	UCT	F	W	MSc CB	2013	No	No
Ebrey, Rhian (withdrew)	UK	UCT	F	W	MSc CB	2014	No	No
Espinaze, Marcela	Chile	UCT	F	W	MSc CB	2014	No	No
Fazey, Francesca	SA	UCT	F	W	MSc CB	2014	No	No
Gallaher, Kirsten **	SA	UCT	F	W	MSc CB	2013	No	No
Kyne, Amanda	USA	UCT	F	W	MSc	2014	Yes	No
Labuschagne, Zanne **	SA	UCT	F	W	MSc CB	2013	No	No
Le Roux, Liesl	SA	UCT	F	W	MSc CB	2014	No	No
Meyer, Corlia *	SA	UCT	F	W	MSc	2013	No	No
Milne, Robyn **	SA	UCT	F	W	MSc CB	2013	No	No
Morling, Frances **	SA	UCT	F	W	MSc CB	2013	No	No
Roberts, Jenny	Namibia	UCT	F	W	MSc	2014	No	No
Russo, Allie	USA	UCT	F	W	MSc CB	2014	No	No
Stokes, Tabitha **	UK	UCT	F	W	MSc CB	2013	No	No
Stevens, Kim	SA	UCT	F	W	MSc	2014	Yes	No
Tubbs, Noelle	USA	UCT	F	W	MSc	2013	Yes	Yes
Whitfield, Maxine	SA	U. Pta	F	W	MSc	2012	Yes	No
Witteveen, Minke	SA	UCT	F	W	MSc	2013	No	No
Sadondo, Phenias **	Zim	UCT	M	B	MSc CB	2013	Yes	No
Atkins, Alex	UK	UCT	M	W	MSc CB	2014	No	No
Baigrie, Bruce	SA	UCT	M	W	MSc CB	2014	No	No
Bell, Wesley **	SA	UCT	M	W	MSc CB	2013	No	No
Campbell, Greg **	Canada	UCT	M	W	MSc CB	2013	No	No
Dickens, John	SA	UCT	M	W	MSc CB	2014	No	No
Gaglio, Davide	Italy	UCT	M	W	MSc	2013	Yes	Yes
Green, David *	SA	NMMU	M	W	MSc	2012	No	No
Gwynn, Lisle	UK	UCT	M	W	MSc	2011	No	No
Heydinger, John *	USA	UCT	M	W	MSc	2012	Yes	Yes
Kinsey, Elliot **	Tanzania	UCT	M	W	MSc CB	2013	No	No
Massie, Phil **	SA	UCT	M	W	MSc CB	2013	No	No
Millan, Juan	Columbia	UCT	M	W	MSc CB	2014	No	No
Noakes, Matthew	SA	UP	M	W	MSc	2013	No	Yes
Pajmans, Dane *	SA	UCT	M	W	MSc	2012	Yes	No
Pallett, John	Namibia	UCT	M	W	MSc	2013	No	No
Rishworth, Gavin *	SA	NMMU	M	W	MSc	2012	No	No
Sands, Dara	UK	UCT	M	W	MSc CB	2014	No	No
Schoombie, Stefan	SA	UCT	M	W	MSc	2014	Yes	No
Zoghby, Blair	SA	UCT	M	W	MSc	2012	No	No
Botha, Jonathan *	SA	NMMU	M	W	Hons	2014	No	Yes
Naude, Vincent *	Namibia	UCT	M	W	Hons	2014	No	Yes
Pattinson, Nick *	SA	U. Pta	M	W	Hons	2014	No	No

Table 7. Research assistants for 2014

Title	Name	Citizenship	Gender	Race	Based at
Ms	Cara Daneel	SA	F	B	UCT
Mr	Gregory Matumi	Zimbabwe	M	B	UCT
Mr	David Nkosi	SA	M	B	UCT
Ms	Jo-Anne Bentley	SA	F	W	UCT
Ms	Kate Carstens	SA	F	W	UCT
Ms	Carla Du Toit	SA	F	W	UCT
Ms	Samantha Harebottle	SA	F	W	UCT
Ms	Anne Koeslag	SA	F	W	UCT
Ms	Gabi Leighton	SA	F	W	UCT
Ms	Michelle Malan	SA	F	W	UCT
Ms	Imke Meyer	SA	F	W	UCT
Ms	Christine Moore	Canada	F	W	UCT
Ms	Frances Morling	SA	F	W	UCT
Ms	Sanjo Rose	SA	F	W	UCT
Mr	Thomas Birch	SA	M	W	UCT
Mr	Cassie Carstens	SA	M	W	UCT
Dr	Timothee Cook	France	M	W	UCT
Mr	Mark Cowen	SA	M	W	UCT
Dr	Steven Evans	SA	M	W	UCT
Dr	Jerome Fuchs	France	M	W	U Cal
Mr	Alistair Fyfe	SA	M	W	UCT
Mr	Graeme Gerhardt	SA	M	W	UCT
Mr	Craig Haley	SA	M	W	UCT
Dr	Rene van Dijk	UK	M	W	UCT
Mr	Robert Williamson	SA	M	W	UCT

Table 8. Administrative and Support Staff for 2014

Title	Name	Position	Based at	Gender	Race
Ms	Phelisa Hans	Library Assistant	UCT	F	B
Mrs	Tania Jansen	Snr Secretary	UCT	F	B
Mrs	Anthea Links	SAP Administrator	UCT	F	B
Mrs	Hilary Buchanan	Administrator	UCT	F	W
Mrs	Margaret Koopman	Librarian	UCT	F	W
Dr	Rob Little	CoE Manager	UCT	M	W
Mr	Chris Tobler	Snr technical officer	UCT	M	W

Table 9: Table of CoE Post-doctoral Fellow and Student demographics in 2014

These figures include CoE-supported students at collaborating institutions.

	Black			White			Total
	Female	Male	total	Female	Male	total	
P-doc				9	6	15	15
PhD	2	1	3	10	10	20	23
MSc	3	1	4	24	19	43	47
BSc H					3	3	3
Total	5	2	7	43	38	81	88

FINANCES

Audited Income and expenditure

A copy of the 2014 Income and Expenditure Statement shown below in Table 13 is attached to the *Ernst & Young* Audit Report.

In general, there were fewer than normal queries posed or listed in the audit process and report regarding compliance, and those listed were of little material significance and were clarified to the auditor's satisfaction.

Co-funding from other sources, and the distribution of funding across the three focal research areas during 2013

Table 10 reflects the total funding (R14 748 500) for the 29 CoE projects during 2014, according to the approved 2014 CoE budget and additional funds sourced elsewhere (Table 12). Table 11 reflects the overall distribution of funds across the three focal research areas during 2014. Research conducted by the PFAO which is not funded at least in part by the CoE, and UCT remuneration of Fitz/CoE staff, are excluded from Tables 10 & 11.

Table 10. Distribution of 2014 research funds according to the source of funds

	DST-NRF		Other sources	
	bursary	running	bursary	running
	2,705,000	3,368,000	1,743,000	6,932,500
Sub total		6,073,000		8,675,500
Proportion		41%		59%

Table 11. Distribution of 2014 research funds according to the fund source and the focal research areas

Fund source	Research area	1	2	3	% within source
DST-NRF	1	736,000	1,439,000	3,898,000	12%
	2				24%
	3		64%		
Other funds	1	483,000	520,000	7,672,500	6%
	2				6%
	3		88%		
Total		1,219,000	1,959,000	11,570,500	
% within research area		8%	13%	79%	

1 = characterising biodiversity; 2 = evolutionary ecology; 3 = maintaining biodiversity

Comments on the distribution of CoE and other funds during 2014:

1. The research funds granted by the DST-NRF were less than half of the total funds available within the CoE.
2. The proportional distribution of research area funding from CoE funds is at variance with one-third funding per research area, with the overall variance in favour of conservation science (maintaining biodiversity), thus satisfying the recommendations of the 2009 review panel. However, it is also evident that sourcing external funds for research on characterising biodiversity and evolutionary ecology is becoming more difficult.

Table 12. Funds secured from other sources for the 2014 CoE projects

Bursaries			Running costs			
1*	2*	3*	1	2	3	
					100 000	100 000 African Parks Trust
					20 000	20 000 Ezemvelo KZN Wildlife
					50 000	50 000 Endangered Wildlife Trust
					240 000	240 000 Maluti Drk Transfrnt Project
					75 000	75 000 Natural Research Ltd.
					395 000	395 000 Christiansen Foundation
					30 000	30 000 General donations
63 000			200 000			263 000 UP SA/Sweden bilateral
140 000						140 000 NSF
80 000						80 000 Clancey bequest
		200 000			800 000	1 000 000 J.S. McDonnell Foundation
				50 000		50 000 NSTF Kambhule Award
				40 000		40 000 Protea (France-SA) grant
					15 000	15 000 UCT URC
		60 000			10 000	70 000 NRF CPRR
					660 000	660 000 NSF
		500 000				500 000 UCT URC Hot Birds
					75 000	75 000 U. Pretoria
					14 500	14 500 Royal Society
					60 000	60 000 Ezemvelo KZN Wildlife
					48 000	48 000 EWT
					20 000	20 000 TUT
		80 000			500 000	580 000 Roelof v/d Merwe Trust
		100 000			108 000	208 000 NRF Seachange
					450 000	450 000 NRF - SANAP
					650 000	650 000 DEA - SANAP
					190 000	190 000 OTEP/RSPB
					150 000	150 000 BLI Albatross Task Force
	130 000					130 000 U. Western Australia
				100 000		100 000 Australian Research Council
				200 000		200 000 Marie Curie FP7 EU grant
		100 000				100 000 SANBI
		160 000			145 000	305 000 ABAX Foundation
		130 000			172 000	302 000 DOW Chemicals
					850 000	850 000 Conservation International
					250 000	250 000 Private donor
					200 000	200 000 National Geo Cons Trust
					65 000	65 000 Wild Bird Trust
283 000	130 000	1 330 000	200 000	390 000	6 342 500	8 675 500

*1 = characterizing biodiversity

*2 = evolutionary biology

*3 = maintaining biodiversity

DST-NRF CoE
Birds as Keys to Biodiversity Conservation at the Percy FitzPatrick Institute
CASH FLOW ANALYSIS FOR THE 2014 FINANCIAL YEAR

DESCRIPTION	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	TOTAL	Annual Budget	VARIANCE
NRF		3 093 359		3 093 359									6 186 718	6 186 718	0
Interest	919												919	919	0
Other (incl. c/f from 2013)	595 539												595 539	595 539	0
TOTAL INCOME	596 458	3 093 359	0	3 093 359	0	0	0	0	0	0	0	0	6 783 176	6 783 176	0
Salaries	-63 461	-74 824	-73 417	-72 166	-73 057	-69 649	-85 337	-77 662	-68 162	-71 437	-74 351	-64 424	-867 947	845 000	-22 947
Student costs	-1 054 846	-35 567		-70 000	-93 333	-835 365	-80 000		59 078			46 850	-2 063 183	2 705 000	641 817
Conferences (incl. Travel)	-55 198	-11 381	692	-157 523	-34 076	-103 901	-31 770	-5 630	-24 912	-57 683	-33 510	-36 308	-551 201	456 000	-95 201
Equipment													0	0	0
Running	-112 251	-165 028	-187 780	-104 761	-214 152	-201 752	-125 930	-196 598	-196 034	-229 332	-254 456	-577 522	-2 565 595	2 067 000	-498 595
TOTAL EXPENSES	-1 285 756	-286 801	-260 505	-404 450	-414 618	-1 210 666	-323 037	-279 889	-230 030	-358 452	-362 317	-631 405	-6 047 926	6 073 000	25 074
NET OUTCOME PROFIT/LOSS	-689 298	2 117 260	1 856 755	4 545 664	4 131 046	2 920 380	2 597 343	2 317 454	2 087 424	1 728 971	1 366 654	735 249	735 249		

Notes:

- 1 Balance brought fwd matches prev. yr 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
- 5 Emailed to AZondi@nrf.ac.za not later than 15 days after the month end

Table 13. Fitztitute CoE Financial Statement, January to December 2014

	Operating	Fund	Invested	Fund	All Funds
Brought forward from 2013		-588 609.93		-14 912.13	-603 521.99
Income		-6 186 718.00		-3 293.72	-6 190 011.72
NRF income	-6 186 718.00				
Other income	-37 701.06				
Investment income			-3 293.72		
Net transfer value		0.00		-0.00	-
CR transfer	-0.00		-0.00		
DR transfer	0.00				
Expenditure		5 992 187.73			
Salaries total	867 947.34				
Bursaries	2 063 183.00				
Conferences	530 819.90				
Equipment					
Running costs	2 530 237.49				
Carry forward to 2015		-783 140.13		-18 205.85	-801 345.98
Reconciliation:					
SAP balance @ 31/12/2014		-692 590.75			
Advances in hand		-153 549.38			
		-783 140.13			

Notes:

- 1) No non-specific transfers to other collaborators were made in 2014.
- 2) All funds carried forward to 2015 include advances in hand.

Appendix 1: PFIPO CoE Publications for 2014

Papers in SCI-ranked journals (87)

IF score = Thomson Scientific Impact Factor score

Understanding biodiversity (47):

Amar, A., Koeslag, A., Malan, G., Brown, M. & Wrexford, E. 2014. Clinal variation in the morph ratio of Black Sparrowhawks *Accipiter melanoleucus* in South Africa and its correlation with environmental variables. *Ibis* 156: 627-638. <http://dx.doi.org/10.1111/ibi.12157>

IF 1.861

Amélineau, F., Péron, C., Lescroël, A., Authier, M., Provost, P. & Grémillet, D. 2014. Windscape and tortuosity shape the flight costs of Northern Gannets. *Journal of Experimental Biology* 217: 876-885. <http://dx.doi.org/10.1242/jeb.097915>

IF 3.002

Baigrie, B.D., Thompson, A.M. & Flower, T.P. 2014. Interspecific signaling between mutualists: food-thieving drongos use a cooperative sentinel call to manipulate foraging partners. *Proceedings of the Royal Society B* 281: 20141232. <http://dx.doi.org/10.1098/rspb.2014.1232>

IF 5.292

Cappelle, J., Caron, A., Servan De Almeida, R., Gil, P., Pedrono, N., Mundeve, J., Fofana, B., Balanca, G., Dakouo, A., Ould El Mamy, A.B., Abolnik, C., Maminiaina, O.F., Cumming, G.S. De Visscher, M.N., Albina, E., Chevalier, V., Gaidet, N. 2014. Empirical analysis suggests continuous and homogeneous circulation of Newcastle disease virus in a wide range of wild bird species in Africa. *Epidemiology & Infection*: 1-12 <http://dx.doi:10.1017/S095026881400185X>

IF 2.491

Collingham, Y.C., Huntley, B., Altwegg, R., Barnard, P., Beveridge, O.S., Gregory, R.D., Mason, L.R., Oschadleus, H.D., Simmons, R.E., Willis, S.G., & Green, R.E. 2014. Prediction of mean adult survival rates of southern African birds from demographic and ecological covariates. *Ibis* 156: 741-754.

IF 1.861

Dean, W.J.R. 2014. Book Review: Handbook of the birds of the world, vol. 16: Tanagers to New World Blackbirds. *Ostrich* 85: 109-110. <http://dx.doi.org/10.2989/00306525.2014.906157>

IF 0.431

Flower, T.P., Gribble, M. & Ridley, A.R. 2014. Deception by flexible alarm mimicry in an African bird. *Science* 344: 513-516. <http://dx.doi.org/10.1126/science.1249723>

IF 31.477

Fuchs, J., Mindell, D.P., Bowie, R.C.K., Oatley, G. & Simmons, R.E. 2014. Lack of mtDNA genetic diversity in the Black Harrier (*Circus maurus*), a Southern African endemic. *Ibis* 156: 227-230. <http://dx.doi.org/10.1111/ibi.12103>

IF 1.861

Heystek, A., Geerts, S., Barnard, P. & Pauw, A. 2014. Pink flower preference in sunbirds does not translate into plant fitness differences in a polymorphic *Erica* species. *Evolutionary Ecology* 28: 457-470. <http://dx.doi.org/10.1007/s10682-014-9693-z>

IF 2.372

- Jacobs, P.J. & McKechnie, A.E. 2014. Experimental sources of variation in avian energetics: estimated basal metabolic rate decreases with successive measurements. *Physiological and Biochemical Zoology* 87: 762-769.
IF 2.05
- Jones, M.G.W. & Ryan, P.G. 2014. Effects of pre-laying attendance and body condition on long-term reproductive success in Wandering Albatrosses. *Emu* 114: 137-145.
<http://dx.doi.org/10.1071/MU12054>.
IF 1.524
- Jones, M.G.W., Dille, B.J., Hagens, Q.A., Louw, H., Mertz, E.M., Visser, P. & Ryan, P.G. 2014. The effect of parental age, experience and historical reproductive success in Wandering Albatross (*Diomedea exulans*) chick growth and survival. *Polar Biology* 37: 1633-1644.
<http://dx.doi.org/10.1007/s00300-014-1550-6>
IF 2.071
- Joseph, G.S., Seymour, C.L., Cumming, G.S., Cumming, D.H.M. & Mahlangu, Z. 2014. Termite mounds increase functional diversity of woody plants in African savannas. *Ecosystems* 17: 808-819. <http://dx.doi.org/10.1007/s10021-014-9761-9>
IF 3.531
- Kohler, S.A., Connan, M., Kolasinski, J., Cherel, Y., McQuaid, C.D. & Jaquemet, S. 2014. Trophic overlap between sexes in the dimorphic African Black Oystercatcher foraging on an alien mussel. *Austral Ecology* 39: 567-578. <http://dx.doi.org/10.1111/aec.12117>
IF 1.724
- Krüger, S.C., Allan, D.G., Jenkins, A.R. & Amar, A. 2014. Trends in territory occupancy, distribution and density of the Bearded Vulture *Gypaetus barbatus meridionalis* in southern Africa. *Bird Conservation International* 24: 162-177. <http://dx.doi.org/10.1017/S0959270913000440>
IF 1.554
- Lee, A.T.K. & Barnard, P. 2014. Aspects of the ecology and morphology of the Protea Seed-eater, *Crithagra leucopterus*, a little-known Fynbos endemic. *African Zoology* 49: 295-300.
IF 0.848
- Lee, A.T.K., Brightsmith, D.J., Vargas, M.P., Leon, K.Q., Mejia, A.J. & Marsden, S.J. 2014. Diet and geophagy across a Western Amazonian parrot assemblage. *Biotropica* 46: 322-330.
<http://dx.doi.org/10.1111/btp.12099>
IF 2.082
- Lei, B.R., Green, J.A. & Pichegru, L. 2014. Extreme microclimate conditions in artificial nests for Endangered African Penguins. *Bird Conservation International* 24: 201-213.
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Appendix 2. The most cited FitzPatrick Institute papers analyzed using the *Web of Science*.

Top 10 Citations 2005 – 2011

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320: 1763-1768. IF 28.103
285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927
283 Citations

Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2: 543-U1. IF 2.000
173 Citations

Balmford, A., Crane, P., Dobson A., Green, R.E. & Mace, G.M. 2005. The 2010 challenge: Data availability, information needs and extraterrestrial insights. *Philosophical Transactions of the Royal Society B* 360: 221-228. IF 4.997
84 Citations

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Dobson, A., Lodge, D., Alder, J., **Cumming, G.S.**, Keymer, J., McGlade, J., Mooney, H., Rusak, J.A., Sala, O., Wolters, V., Wall, D., Winfree, R. & Xenopoulos, M.A. 2006. Habitat loss, trophic collapse, and the decline of ecosystem services. *Ecology* 87: 1915–1924. IF 4.782
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63 Citations

Top 10 Citations 2000 - 2011

Richardson, D.M., Allsopp, N., D'Antonio, C.M., **Milton, S.J.**, Rejmanek, M. 2000. Plant invasions: the role of mutualisms. *Biological Reviews of the Cambridge Philosophical Society* 75: 65-93. IF 5.303

466 Citations

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320: 1763-1768. IF 28.103

285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927

283 Citations

Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2: 543-U1. IF 2.000

173 Citations

Brashares, J.S., Arcese, P., Sam, M.K., Coppolillo, P.B., Sinclair, A.R.E. & **Balmford, A.** 2004. Bushmeat hunting, wildlife declines, and fish supply in West Africa. *Science* 306: 1180-1183. IF 31.853

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84 Citations

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84 Citations

Top 10 Citations 1960 - 2011

Richardson, D.M., Allsopp, N., D'Antonio, C.M., **Milton, S.J.**, Rejmanek, M. 2000. Plant invasions: the role of mutualisms. *Biological Reviews of the Cambridge Philosophical Society* 75: 65-93. IF 5.303

466 Citations

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320: 1763-1768. IF 28.103

285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927

283 Citations

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Wilson, R.P., Grant, W.S. & **Duffy, D.C.** 1986. Recording devices on free-ranging marine animals: does measurement affect foraging performance? *Ecology* 67: 1091-1093. IF 2.588 (1991)

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Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2: 543-U1. IF 2.000

173 Citations

Chapin, F.S., Sala, O.E., Burke, I.C., Grime, J.P., Hooper, D.U., Lauenroth, W.K., **Lombard, A.**, Mooney, H.A., Mosier, A.R., Naeem, S., Pacala, S.W., Roy, J., Steffen, W.L. & Tilman, D. 1998. Ecosystem consequences of changing biodiversity: experimental evidence and a research agenda for the future. *Bioscience* 48: 45-52.

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Milton, S.J., **Dean, W.R.J.**, **Du Plessis, M.A.** & **Siegfried, W.R.** 1994. A conceptual model of arid rangeland degradation: the escalating cost of declining productivity. *BioScience* 44: 70-76. IF 2.041

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