

PRELIMINARY PROGRAM



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

7th ISWE Conference
Skukuza, Kruger National Park
13 – 16 October 2019



SUNDAY OCTOBER 13TH – SKUKUZA, KRUGER NATIONAL PARK

900 – 1600 ISWE Board meeting (closed meeting)
1730 – 2000 BOMA DINNER ICEBREAKER

MONDAY OCTOBER 14TH – SKUKUZA CONFERENCE CENTRE

830 – 900 Opening words

900 – 1015 SESSION 1: STRESS AND WELFARE

- 1) Maternal effects in snowshoe hare: impact of predation risk on offspring. Laura McCaw (ISWE Travel Grant Awardee)
- 2) Using dermal cortisol to measure the stress physiology of wild and captive Wyoming toads (*Anaxyrus baxteri*). Rachel Santymire
- 3) Stress Physiology of Australia's iconic marsupial, the koala. Edward Narayan
- 4) Non-invasive monitoring of glucocorticoid metabolite concentrations in urine and faeces of the sungazer. Juan Scheun
- 5) Validation of a non-invasive technique using faecal glucocorticoid metabolites to measure stress in leopards (*Panthera pardus*). Andrea Webster

1015 – 1045 Break



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1045 – 1200 SESSION 2: REPRODUCTION

- 1) Effects abnormal prolactin secretion has on the metabolic health of acyclic female African elephants (*Loxodonta africana*). Matthew Krmarik
- 2) An effect of multiple paternity on females and kittens' immune and hormonal status in felids. Sergei Naidenko
- 3) Assessment of fecal progesterone and estrogen metabolites for reproductive monitoring in female aye-ayes (*Daubentonia madagascariensis*). Elizabeth Donelan
- 4) The clockwork whale: Annual testosterone cycles reconstructed from baleen of adult male bowhead whales (*Balaena mysticetus*). Kathleen Hunt
- 5) Relationship Between Thyroid and Testosterone Hormones in Aquarium and Wild Sand Tiger Sharks (*Carcharias taurus*). Cayman Adams

1200 – 1300 Lunch/Trainee Mentor Luncheon

1300 – 1400 **PLENARY TALK:** Dr. Ann MacLarnon – Department of Anthropology, Durham University, United Kingdom. "FROM MECHANISM TO EVOLUTION: THE EXPLANATORY POWER OF WILDLIFE ENDOCRINOLOGY"

1400 – 1415 Break

1415 – 1500 SESSION 3: MISCELLANEOUS

- 1) Social context mediates testosterone's effect on snort acoustics in male hyrax songs. Lee Koren
- 2) Hand raised, pack-living dogs' and wolves' urinary oxytocin levels following interactions with human partners. Gwen Wirobski
- 3) Urinary creatinine concentrations reveal that wild chimpanzee mothers positively influence muscle mass development years past weaning. Patrick Tkaczynski

1500 – 1800 Pre-booked activity/Leisure time

1800 – 2000 **POSTER SESSION + Cheese and Wine**



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TUESDAY OCTOBER 15TH – SKUKUZA CONFERENCE CENTRE

845 – 1015 SESSION 4: WILDLIFE CONSERVATION

- 1) Drivers of population performance: Physiological responses to environmental stress in equids (Grevy's Zebra, *Equus Grevyi*, Cape mountain zebra, *E. zebra zebra* and Carneddau Welsh mountain ponies *E. ferus caballus*). Danielle Hinchcliffe
- 2) Perioovulatory changes in behaviour and faecal oestrogen and progesterone metabolite concentrations could predict the fertile period in female African wild dogs (*Lycaon pictus*). Monique Paris
- 3) Ecological Espionage: Application of non-invasive methods to evaluate anthropogenic disturbance in elusive African clawless otter (*Aonyx capensis*). Tshepiso Majelantle
- 4) Non-invasive measurement of reproductive and stress hormone metabolites in Asian elephants: an approach towards conservation. Polani Seshagiri
- 5) Climate change and human disturbance increase stress levels in a wild ungulate. Louis Hunnincg
- 6) Male or female? Can we determine hatchlings' sex of reptiles absent sex chromosomes? Mai Bernheim

1015 – 1045 Break

1045 – 1200 SESSION 5: STRESS AND WELFARE

- 1) Snot for Science: A non-invasive technique for measuring cortisol in free-swimming beluga whales (*Delphinapterus leucas*). Justine Hudson (Coralie Munro Memorial Travel Grant Awardee)
- 2) Non-invasive assessment of physiological stress in captive Asian elephants. Govindhasamy Umapathy
- 3) Hairs do not contain a historical record of stress – elucidating hair glucocorticoid kinetics in laboratory rats. Pernille Colding
- 4) Non-invasive monitoring of physiological stress in an Afrotropical arid-zone passerine bird, the southern pied babbler (*Turdoides bicolor*). Emma Jepsen
- 5) Validation of an enzyme immunoassay (EIA) for hair glucocorticoids determination in a wild population of Egyptian mongoose. Katarina Jewgenow

1200 – 1300 Lunch

1300 – 1400 **PLENARY TALK: Dr. Nigel Bennett – Professor of Zoology, University of Pretoria, South Africa.**
“TEASING APART SOCIALLY-INDUCED INFERTILITY IN NON-REPRODUCTIVE FEMALE AND MALE EUSOCIAL MOLE-RATS IN HARSH ARID ENVIRONMENTS”

1400 – 1415 Break

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1415 – 1500 SESSION 6: ANIMAL HEALTH

- 1) Adiposity, Reproductive Cycling Status, and Activity Levels in Zoo Asian Elephants (*Elephas maximus*). Daniella Chusyd
- 2) Acute Phase Proteins as Indicators of the Elephant Immune Response to Infectious Disease. Katie Edwards
- 3) Predicting all-cause disease, CVD, and mortality risk in zoo-housed western lowland gorillas (*Gorilla gorilla gorilla*) using lipid and inflammatory markers. Ashley Edes

1500 – 1700 Pre-booked activity/Leisure time

1700 – 2100 BUSHBRAAI

WEDNESDAY OCTOBER 16TH – SKUKUZA CONFERENCE CENTRE

900 – 1015 SESSION 7: REPRODUCTION

- 1) Baleen hormone cycles inform reproductive histories of female bowhead whales. Cory Matthews
- 2) Immunocontraception of male and female giraffes using the GnRH vaccine Improvac. Franz Schwarzenberger
- 3) Unraveling the giant panda reproductive biology: potential roles of prostaglandins PGE2 and PGF2 α – preliminary results. Jella Wauters
- 4) Study of reproductive endocrinology in sloth bear females through urinary estradiol and progesterone profiling. Yaduraj Khadpekar
- 5) Role of male androgen production in female mate choice in the endangered black-footed ferret. Emily Potratz

1015 – 1045 Break



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1045 – 1200 SESSION 8: METHODOLOGIES

- 1) Hormones in blubber tissue: a new tool for physiological assessment of the endangered North Atlantic right whale (*Eubalaena glacialis*). Katherine Graham
- 2) Preliminary analyses of serum phytoestrogens in white rhinoceros using liquid chromatography-multiple reaction. Angie Adkin
- 3) Hair cortisol analyses in different mammal species: choosing the wrong enzyme immunoassay (EIA) may lead to erroneous results. Martin Dehnhard
- 4) Who's poo? Using progesterone metabolites measured in faecal samples of paired captive short-beaked echidnas as a marker of sex. Kate Dutton-Regester
- 5) Measurement and preliminary validation of 1 α -hydroxycorticosterone (1 α OH-B) stress hormone in elasmobranchs. Catharine Wheaton

1200 – 1300 Lunch

1300 – 1400 SESSION 9: STRESS AND WELFARE

- 1) Findings from long term reproductive and adrenal hormone monitoring of Asian elephants at the National Zoological Park and Oregon Zoo. Janine Brown
- 2) Exploring relationships between fecal glucocorticoid metabolites, social coping mechanisms, and a novel, non-invasive measure of oxidative stress in grizzly bears (*Ursus arctos horribilis*). Grace Fuller
- 3) Validating the use of qiviut cortisol as a stress biomarker in muskoxen (*Ovibos moschatus*). Juliette Di Francesco
- 4) Relationships of nutrition to fecal glucocorticoid metabolites in bison (*Bison bison*). Lara Metrione

1400 – 1630 **WORKSHOP: Dr. Rupert Palme – “NON-INVASIVE MEASUREMENT OF GLUCOCORTICOIDS: ADVANCES AND PROBLEMS”**

1630 – 1700 Closing remarks



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POSTER PRESENTATIONS

REPRODUCTION

1. Noninvasive endocrine monitoring of reproduction based on breeding records in Indian mouse deer (*Moschiola indica*). Vinod Kumar
2. Using ultrasonography and endocrinology to understand folliculogenesis and reproductive failure in whooping cranes. Megan Brown
3. Are we expecting? Developing a test for pregnancy detection in captive snow leopards (*Panthera uncia*). Beth Roberts
4. Leave me alone - Association patterns influence reproductive and stress-related faecal hormone metabolite concentrations in giraffe bulls. Tanja Wolf
5. Is a GnRH vaccine an effective contraception method in zoo-managed mammals? Shana Lavin
6. Establishing a Living Koala Genome Bank: Non-invasive hormone monitoring as a management tool for breeding koalas in captivity. Tamara Keeley
7. Determining the effects of dietary phytoestrogens on red colobus monkey (*Piliocolobus tephrosceles*) fecal hormone levels in Kibale National Park, Uganda. Michael Wasserman
8. Urinary biomarkers of pregnancy and pregnancy-loss detection in the giant panda. Kirsten Wilson
9. Non-invasive monitoring of the oestrous cycle of female African lions (*Panthera leo*): can I trust this stool? Isabel Callealta
10. Non-invasive monitoring of estrogen and testosterone metabolites in amphibian urine: Applications for determining gender, seasonal steroidogenesis and spermatogenesis. Andrew Kouba
11. A combination of non-invasive endocrine monitoring and predictive models to assess pregnancy status in wild guanacos: a population approach. Antonela Marozzi
12. Use of urinary biomarkers of ovarian function in Chinchilla lanigera: assessing protocols for synchronization and ovulation induction. Marina Ponzio
13. Functional relationships between estradiol and paternal care in red bellied lemurs. Madalena Birr
14. Ovarian suppression with Improvest[®], a GnRH immunological product in Giraffe (*Giraffa* spp) under managed care. Linda Penfold
15. Reproductive and adrenal physiology of dwarf mongoose in relation to social changes. Candace Scarlata
16. Southern white rhinoceros (*Ceratotherium simum*) transferred from Kruger National Park to New Zealand: A review of reproduction during twenty years *ex situ*. Catherine Morrow



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METHODOLOGIES

17. Non-invasive pregnancy diagnosis via faecal sample analysis in non-domestic equids. Sue Walker
18. Non-invasive assessment of fecal glucocorticoid and androgen metabolites in pygmy hippopotamus (*Choeropsis liberiensis*). Gabriella Flacke
19. Identification and quantification of steroid hormones in polar bear (*Ursus maritimus*) feces by HPLC. Kristen Counsell
20. Validation of the measurement of progestagen and glucocorticoid metabolite concentrations in feces and analysis through anxiolytic medication administration to facilitate social pairing of an Allen's swamp monkey (*Allenopithecus nigroviridis*). Laura Amendolagine
21. Sex determination in Brazilian macaws (*Ara ararauna*, *A. macao* and *A. chloropterus*) by enzyme immunoassay of progestagen and androgen metabolites from excreta. Bruna Vieira
22. Conserving primary antibody stocks: The development of robust indirect competitive enzyme linked immunosorbent assays (ELISA). Rebecca Mogey
23. Field-friendly methods supporting African wild dog (*Lycaon pictus*) faecal glucocorticoid metabolite monitoring. Gabriella Postiglione
24. Progesterone determination in preserved corpora lutea of bobcat (*Lynx rufus*). Beate Braun
25. Development of a new progesterone metabolite EIA for non-invasive reproductive monitoring. Russell Hart
26. A novel and highly sensitive non-invasive method to measure steroid hormones in claws reveals sex- and age-specific seasonal variation in cortisol in European Badgers (*Meles meles*). Bobby Fokidis

WILDLIFE CONSERVATION

27. Sex ratios of olive ridley sea turtles in the Pacific: establishing baselines for climate change research. Camryn Allen
28. Endocrine correlates of gender and throat colouration in the Southern Ground-Hornbill (*Bucorvus leadbeateri*). Sophie Neller



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STRESS AND WELFARE

29. Understanding stress physiology of tigers in the Terai-Arc landscape (TAL), India - a pilot study. Shiv Kumari Patel
30. The tail-tale of stress: an exploratory study to assess hair cortisol in Asian elephants. Sanjeeta Sharma Pokharel
31. Translocated wild Asian elephants have prolonged lower basal glucocorticoid concentrations when compared to local residents. Ee Phin Wong
32. Effects of habitat enrichment on stress physiology of Leopard (*Panthera pardus*) under captive conditions. Ratna Ghosal
33. Experimental assessment of feather corticosterone as an integrated measure of hypothalamic-pituitary-adrenal axis activity. Catherine Soos
34. Cortisol, T3, and land use associations in two primate species in Costa Rican lowlands. Emily Chester
35. Capture as an acute stressor: phylogenetic and seasonal variation in avian stress responses. Celiwe Ngcamphalala
36. Biological and anthropogenic stress responses in wild and captive Asian elephants in the Western Ghats, southern India. Sreedhar Vijaykrishnan
37. Seasonal effects of faecal glucocorticoid (fGCM) and triiodothyronine (FTM) metabolites in a model nocturnal strepsirrhine primate population. Channen Long
38. Effects of transfer on fecal glucocorticoid metabolites in red pandas (*Ailurus fulgens*). Monika Conrad
39. The effects of environmental stress and body condition on African wild dog (*Lycaon pictus*) faecal glucocorticoid metabolite concentrations. Bruce Crossey
40. Anthropogenic disturbances and physiological stress in free-ranging primates: A meta-analysis. Olivier Kaisin
41. The effect of capture and transport on serum cortisol and total thyroxin concentrations in white rhinoceroses (*Ceratotherium simum*) sedated with either azaperone or midazolam. Friederike Pohlin
42. The effects of after-hour visitor events on cheetah (*Acinonyx jubatus*) and giraffe (*Giraffa tippelskirchii* & *Giraffa camelopardalis reticulata*) behavior and adrenal activity at the Oregon Zoo. Laurel Fink
43. Validating new physiological indicators of welfare in white-bellied pangolin (*Phataginus tricuspis*) using fecal extracts and high pressure liquid chromatography. Jocelyn Bryant
44. The effects of pre-hatching elevated corticosterone and post-hatching restrictive food availability on HPA axis development of mallard ducks (*Anas platyrhynchos*). Breanne Murray
45. Neurobiology of stress in captive capuchin monkeys (*Sapajus nigritus*). Nei Moreira
46. Physiological and behavioural measure of animal welfare in relation to semi-captive African Elephant (*Africana Loxodonta*) interaction programs. Elizabeth Berkeley
47. Non-invasive monitoring of adrenocortical activity in free-ranging Namaqua rock mice (*Micaelamys namaquensis*) in response to anthropogenic land use and season. Mmatsawela Ramahlo
48. Establishing a non-invasive method for monitoring adrenocortical function in roan antelope (*Hippotragus equinus*). Vanessa Wandja Kamgang
49. Stress and reproductive hormone profiles as measured in baleen from two humpback whales (*Megaptera novaeangliae*) of different sex and habitat. Carley Lowe