

1. BIOGRAPHICAL SKETCH: Hendrik Jan Bertschinger

1.1 GENERAL INFORMATION

Surname	Bertschinger								
First names	Hendrik Jan					ID Number			
Citizenship	RSA and Switzerland					Title	Prof	Female	Male
Place of birth	Johannesburg, RSA					Date of birth		16 June 1941	
Population group	African		Coloured		Indian		White	Other (Please specify)	
Department						Position		Professor emeritus	
Direct Telephone									
E-mail									
Date of appointment						Permanent full-time		Temporary full-time	

1.2 ACADEMIC QUALIFICATIONS OBTAINED

Degree/Diploma	Field of study	Higher education institution	Year	Distinctions
BVSc	Veterinary Science	University of Pretoria	1965	
DrMedVet	Veterinary reproduction	University of Zurich	1975	
PhD	Veterinary reproduction	University of Utrecht	2010	

1.3 WORK EXPERIENCE TO DATE

Name of employer	Capacity and/or type of work	Period From mm//yy to mm//yy
Department of Agriculture	State Veterinarian	3/65 to 10/66
University of Zurich	"Assistant" "Oberassitent"	12/66 to 2/70 3/70 to 5/75
OVI	State Veterinarian - reproduction	6/75 to 6/76
University of Pretoria, Department of Physiology, Pharmacology & Toxicology, Faculty of Veterinary Science	Senior lecturer	7/76 to 12/81
University of Pretoria, Department of Theriogenology	Associate professor Professor and HOD Full professor	1/82 to 12/86 1/87 to 12/95 1/96 to 12/00

University of Pretoria, Veterinary Wildlife Studies	Full professor	1/01 to 5/06
University of Pretoria, Department of Production Animal Studies, Immunocontraception Laboratory	Professor emeritus Extraordinary professor	8/08 to 12/11
University of Pretoria, Department of Production Animal Studies, Immunocontraception Laboratory	Contract employment funded by TIA	4/13 to 3/18
University of Pretoria, Department of Production Animal Studies, Immunocontraception Laboratory	Contract employment	5/18 to 7/18
University of Pretoria, Department of Production Animal Studies, Immunocontraception Laboratory	Contract employment	9/18 to 11/18
University of Pretoria, Department of Production Animal Studies	Undergraduate teaching	2/19
University of Pretoria, Department of Production Animal Studies	Post graduate teaching	4/19

2. TEACHING ACTIVITIES

2.1 Courses presented		
Course	Level (e.g. second year, Masters)	Self developed (Yes or No)
Endocrine physiology	BVSc II (undergraduate)	Yes
Renal Physiology	BVSc II (undergraduate)	Yes
Reproductive physiology	BVSc II (undergraduate)	Yes
Veterinary Biochemistry	BVSc II (undergraduate)	Yes
Applied Physiology	BVSc III (undergraduate)	Yes
Reproductive physiology and endocrinology of the male and female	BVSc IV (undergraduate)	Yes
Functional infertility of the cow	BVSc IV (undergraduate)	Yes
Breeding soundness and andrology of the bull (BVSc IV)	BVSc IV (undergraduate)	Yes
Breeding soundness and andrology of the ram (BVSc V)	BVSc IV (undergraduate)	Yes
Reproductive physiology and artificial insemination of the pig	BVSc V (undergraduate)	Yes
Wildlife diseases – elective	BVSc V (undergraduate)	Yes
Module 1: Reproductive physiology and endocrinology - Entire course	MMedVet (post graduate)	Yes
<i>Module 2: Bovine theriogenology</i> <ul style="list-style-type: none"> • Physiology and endocrinology of the sex cycle, fertilization, pregnancy and partus • Functional infertility • Physiology and endocrinology of the bull • Breeding soundness and andrology of the bull 	MMedVet (post graduate)	Yes
<i>Module 4: Small sock theriogenology</i> <ul style="list-style-type: none"> • Breeding soundness and andrology of the ram 	MMedVet (post graduate)	Yes
<i>Module 5: Wildlife reproduction</i> Entire module	MMedVet (post graduate)	Yes

3. TEACHING OUTPUTS

3.1 Educational publications and products

Student notes developed for undergraduate courses

4. OTHER TEACHING CONTRIBUTIONS

4.1 Visits to local and overseas universities as guest professor or lecturer in regard to teaching

Faculty of Veterinary Science, University of Zurich, Jan-June 1993

5. RESEARCH ACTIVITIES

5.1 Former supervision or co-supervision (*completed*)

Name of student	Degree/Title of dissertation/ thesis and date	Supervisor	Co-supervisor(s)	Duration of studies (years)
V.H. Guerrini	The effect of heat and humidity on thyroid function and related parameters in sheep, MMedVet (Phys), 1982	HJBertschinger		2
R.O. Gilbert	The transfer of Bluetongue virus by embryo transfer in sheep. MMedVet(Gyn), 1985	RI Coubrough	HJ Bertschinger	2
S.J. Terblanche	The effect of gonadotropin, androstenedione and method of synchronization on the superovulatory response of Dorper ewes. MMedVet (Gyn), 1989	HJ Bertschinger		2
R.C. Tannus	Influence of endometrial cysts on early pregnancy of mares. Faculty of Veterinary Science, University of Zürich (adviser: R. Thun), DrMedVet (Zurich), 1994	R Thun	HJ Bertchinger	2
J. Larsen	An examination of the relationship between reproductive and growth performance variables in Bovelder bulls. MMedVet (Bov), 1998	HJ Bertschinger		2
W.A. Schultheiss	Some aspects of the aetiology of vesiculitis in a Sussex herd. MMedVet (Gyn), 1998	HJ Bertschinger		
F.J. Bruwer	Die invloed van selenium en β -karoteentoediening op geseklekteerde plasmameters en die dragtigheidsyfer van ontvangerkoeie tydens embryo-oorplasing. MMedVet (Gyn), 2000	HJ Bertschinger		2
P Irons	Effect of sample collection and handling on the sensitivity and specificity of diagnostic tests for <i>Trichomonas foetus</i> in bulls, MMedVet (Gyn), 2002	HJ Bertschinger		2
K.N. Köppel	The use of a probiotics in captive cheetahs (<i>Acinonyx jubatus</i>), 2004	M van Vuuren	HJ Bertschinger	2

S Sasidahrn	Comparative genetics of selected Southern African Mountain Zebra (<i>Equus zebra zebra</i> and <i>Equus zebra hartmannae</i> populations, MSc, 2005	HJ Bertschinger	A Guthrie C Harper	2
H De Nys	Control of testosterone secretion, musth and aggressive behaviour in African elephant (<i>Loxodonta africana</i>) bulls using a GnRH vaccine, MSc, 2005	HJ Bertschinger		2
C Cordel	Pharmacokinetics and <i>in vitro</i> effects of imipramine hydrochloride on the vas deferens in cattle MMedVet (Gyn), 2005	HJ Bertschinger		2
C Mouiex	Genetic verification of multiple paternity in two free-ranging isolated populations of African wild dogs (<i>Lycaon pictus</i>), MSc, 2006	HJ Bertschinger	A Guthrie M Schulman C Harper	2
J Marais	A study of sarcoid tumours in Cape Mountain Zebra (<i>Equus zebra zebra</i>), MSc, 2006	HJ Bertschinger	J Schoeman	2
F Lampen	Faecal corticosterone concentration as an indicator of stress in African penguins (<i>Spheniscus demersus</i>), MSc, 2007	HJ Bertschinger	D Gerber	2
PJ Nel	An outbreak of equine sarcoid in a population of Cape mountain zebra (<i>Equus zebra zebra</i>) – a retrospective study, MSc, 2007	HJ Bertschinger	JH Williams	2
S Sasidahrn	Fitness correlations with genomic diversity in captive African Cheetah (<i>Acinonyx jubatus</i>) populations and identifying the gene causing the King cheetah coat pattern PhD, 2011	AJ Guthrie	HJ Bertschinger L Lyons C Harper	5
A Newell	Contraception of African wild dogs with deslorelin implants, MSc, 2009	HJ Bertschinger	J Nothling	2
M Ahlers	Endocrine correlates of free-ranging African elephant (<i>Loxodonta africana</i>) treated with porcine zona pellucida vaccine, MSc 2010	HJ Bertschinger	A Ganswindt	2
G Benavides	Induction of anoestrus in free-ranging African elephant (<i>Loxodonta africana</i>) cows using a gonadotrophin-releasing hormone vaccine, MSc, 2011	HJ Bertschinger	ML Schulman H. Annandale	2
B Vlamings	Dog appeasing pheromone®: A useful tool to minimize stress and aggression in African wild dogs (<i>Lycaon pictus</i>), MSc, 2012	HJ Bertschinger	M Paris	1
JR Birrel	Vaccination against GnRH as a prelude to surgical castration of horses, MSc, 2017	HJ Bertschinger	M.L. Schulman A. Ganswindt	2
CJ Joone	Porcine zona pellucida immunocontraception in the mare: clinical, endocrinological and immunological effects. PhD, 2017	HJ Bertschinger	M Schulman	3
AE Botha	Immunocontraception of domestic species with GnRH vaccines., PhD, 2018	HJ Bertschinger	ML Schulman	3

M Nolan	Efficacy and safety of recombinant zona pellucida vaccines in domestic horse mares and current application of native porcine zona pellucida vaccines in African elephant cows, PhD, 2019	M Schulman	HJ Bertschinger	
---------	--	------------	-----------------	--

5.2 Current post-graduate students

Name of student	Degree enrolled for and date of first registration	Project title	Supervisor	Co-supervisor(s)	Year of registration
J Meuffels	PhD	Male gamete rescue for genetic biobanking by semen collection via electro-ejaculation and cryopreservation in free-ranging African rhinoceroses (<i>Cerathotherium simum</i> ; <i>Diceros bicornis</i>) and African elephants (<i>Loxodonta africana</i>)	HJ Bertschinger	I Lueders	2019

5.3 Obtaining research funds (Optional) – Listing grants from the last 10 years only

Origin of research funds (e.g. contract research, THRIP, international funding organisations, other(s))	Title of research project or programme	Duration	Money allocated (R) (Optional - exact amounts not required)
USFWS	Control of testosterone secretion, musth and aggressive behaviour in African elephant (<i>Loxodonta africana</i>) bulls using a GnRH vaccine	4 years	625 520 Made available to Dr Imke Lueders
IEF	Immunocontraception as a means of population control in wildlife and domestic animals	4 years	30 000
TIA	Immunocontraception as a means of population control in wildlife and domestic animals	5 years	7 000 000
Epi-Use	Anti-Müllerian hormone concentrations in African elephant cows treated with the immunocontraceptive porcine zona pellucida vaccine as an indicator of follicular reserves	2 year	127 220
HSUS/HIS	Immunocontraception Laboratory support - dalaries	ongoing	≈160 000 pa

6. RESEARCH OUTPUTS

6.1 Publications in peer-reviewed or refereed journals

- BERTSCHINGER, H.J. (1967). Die Zyklussynchronisation beim Schwein. Schweizerisches Archiv für Tierheilkunde, 109: 588-593.
- GEYER, H., BERTSCHINGER, H.J., STRITTMATTER, J. und MOREL, J. (1975). Erbliche Unfruchtbarkeit bei männlichen weissen Chinesenhamstern. Zeitschrift für Versuchstierkunde, 17: 78-90.
- BERTSCHINGER, H. und GEYER, H. (1975). Zur Blutentnahme und intra-venösen Injektion beim Schwein. Schweizerische Archiv Tierheilkunde, 117: 701-711.

4. WILD, P., BERTSCHINGER, H.J. und ZEROBIN, K. (1978). Raster und transmissionselektronenmikroskopische Untersuchungen von diploiden bovinen Spermien. *Zuchthygiene*, 13: 107-112.
5. ZEROBIN, K., BERTSCHINGER, H.J. und WILD, P. (1978). Diploider DNA Gehalt in Spermien von Stieren der Schweizer Braunviehrasse. 13: 113-120.
6. WORTHINGTON, R.W., BERTSCHINGER, H.J. and MÜLDERS, M.S.G. (1979). Catecholamine and cyclic nucleotide response of sheep to the injection of *Clostridium welchii* type D epsilon toxin. *Journal of Medical Microbiology*, 12: 497-502.
7. GUERRINI, V.H., KOSTER, N. and BERTSCHINGER, H.J. (1980). Effect of ambient temperature and humidity on urine output in sheep. *American Journal of Veterinary Research*, 41; 1851-1853.
8. BUTTON, C., BERTSCHINGER, H.J. and MÜLDERS MARIA S.G. (1981). Haemodynamic and neurological responses of ventilated and apnoeic calves to succinylcholine. *Journal of the South African Veterinary Association*, 52: 283:288.
9. GUERRINI, V.H. and BERTSCHINGER, H. (1982). Effect of ambient temperature and humidity on plasma cortisol in sheep. *British Veterinary Journal*, 138: 175-182.
10. GUERRINI, V.H., BERTSCHINGER, H. and KOSTER, N. (1982). The effects on sheep urinary and plasma electrolytes of 4 weeks exposure to different ambient temperatures and humidities. *Australian Journal of Agricultural Research*, 33: 347-354.
11. GROSSKOPF, J.F.W., VAN RENSBURG, J.J. and BERTSCHINGER, H.J. (1982). Haematology and blood chemistry of horses during a 210 km endurance ride. *Proceedings of first international conference on equine exercise physiology*, Oxford, eds D.H. Snow, S. Persson and R. Rose: 416-424.
12. VAN HEERDEN, J. and BERTSCHINGER, H.J. (1982). Serum cortisol concentrations in captive tamed and untamed black-backed jackals (*Canis mesomelas*) and translocated dogs. *Journal of the South African Veterinary Association*, 53: 235-237.
13. GUERRINI, V.H. and BERTSCHINGER, H. (1983). Effect of exposure to a hot-humid and a hot-dry environment on thyroid hormone values in sheep. *British Veterinary Journal*, 139: 119-128.
14. PENZHORN, B.L., BERTSCHINGER, H.J. and COUBROUGH, R.I. (1986). Reconception of mare following termination of pregnancy with prostaglandin F_{2α} before and after Day 35 of pregnancy. *Equine Veterinary Journal*, 18: 215-217.
15. VAN AMSTEL, S.R., GUTHRIE, A.J., REYERS, F., BERTSCHINGER, H., OBEREM, P.T. KILLEEN, V.M. and MATTHEE, O. (1987) The clinical pathology and pathophysiology of heartwater: a review. *Onderstepoort Journal of Veterinary Research*. 54(3): 287-90.
16. OETTLE, E.E., BERTSCHINGER, H.J., BOTHA, A.E. and MARAIS, A. (1988). Luteolysis in early diestrous Beagle bitches. *Theriogenology*, 29: 757-763.
17. VAN AMSTEL, S.R., REYERS, F., GUTHRIE, A.J., OBEREM, P.T. and BERTSCHINGER, H.J. (1988). The clinical pathology of heartwater. 1. Haematology and blood chemistry. *Onderstepoort Journal of Veterinary Research*, 55: 37-45.
18. TALJAARD, T.L., TERBLANCHE, S.J., BERTSCHINGER, H.J. and VAN VUUREN, L.J. (1991). The effect of the laparoscopic technique on the oestrous cycle length of the ewe. *Journal of the South African Veterinary Association*, 62: 60-61.
19. STANLEY, S.M.R., WILHELMI, B.S., RODGERS, J.P. and BERTSCHINGER, H.J. (1993). Immunoaffinity chromatography combined with gas chromatography-negative ion chemical ionization mass spectrometry for the confirmation of flumethasone abuse in the equine. *Journal of Chromatography*, 614: 78-86.
20. VOLKMANN, D.H., BERTSCHINGER, H.J., SCHULMAN, M.N. (1995). The effect of prostaglandin E₂ on the cervixes of dioestrous and parturient mares. *Reproduction in Domestic Animals*, 30: 240-244.
21. FAYRER-HOSKEN, R.A., BROOKS P., BERTSCHINGER, H.J., KIRKPATRICK, J.F., TURNER, J.W. AND LIU, I.K.M. (1997) Management of African elephant populations by immunocontraception. *Wildlife Society Bulletin*, 25: 18-21.
22. FAYRER-HOSKEN, R.A., BROOKS P., KIRKPATRICK, J., BERTSCHINGER, H.J., RAATH, J.P., SOLEY, J.M. (1997) Potential of the porcine zona pellucida (PZP) being an immunocontraceptive agent for elephants. *Theriogenology*, 47: 397.
23. BASTOS, A.D.S, BERTSCHINGER, H.J., CORDEL, C., VAN VUUREN, C. de W.J., KEET, D., BENGIS, R.G., GROBLER, D.G., THOMSON, G.R. (1999) Possibility of sexual transmission of foot-and mouth disease from African buffalo to cattle. *Veterinary Record*, 145: 77-79.
24. FAYRER-HOSKEN, R.A., BERTSCHINGER, H.J., KIRKPATRICK, J.F., GROBLER, D., LAMBRESKI, N., HONEYMAN, G., ULRCIH, T. (1999) Contraceptive potential of the porcine zona pellucida vaccine in the African elephant (*Loxodonta africana*). *Theriogenology*, 52: 835-846.
25. FAYRER-HOSKEN, R.A., GROBLER, D., VAN ALTENA, J.J., BERTSCHINGER, H.J., KIRKPATRICK, J.F. (2000) Immunocontraception of African elephants. *Nature*, 407:149
26. CORDEL, C., SWAN, G.E., MÜLDERS, M.S.G., BERTSCHINGER, H.J. (2000) Pharmacokinetics of

- intravenous imipramine hydrochloride in cattle. *Journal of Veterinary Pharmacology and Therapeutics*, 21:1-3
27. FAYRER-HOSKEN, R.A., GROBLER, D., VAN ALTENA, J.J., BERTSCHINGER, H.J., KIRKPATRICK, J.F. (2001) African elephant contraception. *Nature* 411: 766
 28. BERTSCHINGER, H.J., ASA, C.S., CALLE, P.P., LONG, J.A., BAUMAN, K., DEMATTE, K., JÖCHLE, W., TRIGG, T.E. (2001) Control of reproduction and sex related behaviour in exotic carnivores with the GnRH analogue deslorelin: preliminary observations. *Journal of Reproduction and Fertility*, Supplement 57: 275-283
 29. Bertschinger, H.J., Trigg, T.E., Jöchle, W., Human, A. (2002) Induction of contraception in some African wild carnivores by down-regulation of LH and FSH secretion using the GnRH analogue deslorelin. *Reproduction Supplement* 60: 41-52
 30. IRONS, P.C., HENTON, M.M. BERTSCHINGER, H.J. (2002) Collection of preputial material by scraping and aspiration for the diagnosis of *Tritrichomonas foetus* in bulls. *Journal of the South African Veterinary Association*, 73(2): 66-69
 31. BERTSCHINGER, H.J., HUMAN, A. (2002) Contraception of lions and cheetahs using the GnRH analogue deslorelin *Reproduction in Domestic Animals* 37: 226
 32. BERTSCHINGER, H.J., NÖTHLING, J.O., NARDINI, R.M., HEMMELDER, S., BROEKHUISEN, M.H. (2002) Collection of semen in cheetahs (*Acinonyx jubatus*) using electro-ejaculation: attempts to avoid urine contamination *Advances in Ethology* 37: 122
 33. IRONS, P.C., DUNGU-KIMBEMGA, B., MUKHUFHI, N., MICHEL, A., PETA, F., BERTSCHINGER, H.J. (2002) Effect of collection method, time and transport medium on a PCR test for *Tritrichomonas foetus* in bulls. *Reproduction in Domestic Animals* 37: 236
 34. NÖTHLING, J.O., BERTSCHINGER, H.J., BROEKHUISEN, M.H., HEMMELDER, S., NARDINI, R. (2002) Quality of African wild dog (*Lycaon pictus*) semen collected by means of electro-ejaculation *Advances in Ethology* 37:146
 35. LOURENS, D.C., THOMPSON, P.N., BERTSCHINGER, H.J., AMEEN M. (2002) Evaluation of oestrus observation and conception rates in suckling beef cows using whole milk progesterone concentration. *Journal of the South African Veterinary Association*, 73(4): 190-194
 36. KENNEDY, M., KANIA, S., STYLIANIDES, E., BERTSCHINGER, H., KEET, D., VAN VUUREN, M. (2003) Detection of feline coronavirus infection in southern African nondomestic felids. *Journal of Wildlife Diseases* 39(3): 529-535
 37. GEE, G., BERTSCHINGER, H., DONOGHUE, A.M., BLANCO, J., SOLEY, J. (2004) Reproduction in non-domestic birds: physiology, semen collection, artificial insemination and cryopreservation. *Avian and Poultry Reviews* 15(2): 47-101
 38. KÖPPEL, K.N., BERTSCHINGER, H.J., VAN VUUREN, M., PICARD, J.A. (2006) The use of a probiotic in captive cheetahs (*Acinonyx Jubatus*). *Journal of the South African Veterinary Association* 77: 127-130
 39. DELSINK, A.K., VAN ALTENA, J.J., GROBLER, D., KIRKPATRICK, J., BERTSCHINGER, H., SLOTOW, R. (2006) Regulation of a small, discrete African elephant population through immunocontraception in the Makalali Conservancy, Limpopo, South Africa. *South African Journal of Science* 102: 403-405
 40. Bertschinger, H.J., Jago, M., Nöthling, J.O., Human, A. (2006) Repeated use of the GnRH analogue deslorelin to down-regulate reproduction in male cheetahs (*Acinonyx jubatus*). *Theriogenology* 66: 1762-1767
 41. NEL, P.J., BERTSCHINGER, H., WILLIAMS, J., THOMPSON, P. (2006) Descriptive study of an outbreak of equine sarcoid in a population of Cape mountain zebra (*Equus zebra zebra*) in the Gariep Nature Reserve. *Journal of the South African Veterinary Association* 77: 184-190
 42. DELSINK, A.K., VAN ALTENA, J.J., GROBLER, D., BERTSCHINGER, H.J., KIRKPATRICK, J., SLOTOW, R. (2007) Implementing immunocontraception in free-ranging African elephants at Makalali Conservancy. *Journal of the South African Veterinary Association* 78: 25-30
 43. IRONS P.C., J.O. NÖTHLING, H.J. BERTSCHINGER. (2007) Bull breeding soundness evaluation in Southern Africa. *Theriogenology* 68: 842-847
 44. MARAIS, H.J., NEL, P., BERTSCHINGER, H.J., SCHOEMAN, J.P., ZIMMERMAN, D. (2007) Prevalence and body distribution of sarcoids in South African Cape mountain zebra (*Equus zebra zebra*). *Journal of the South African Veterinary Association* 78: 145-148
 45. TURNER J.W., A.T. RUTBERG, R.E. NAUGLE, A. MANPREET, M.A. KAUR, D.R. FLANAGAN, H.J. BERTSCHINGER & I.K.M. LIU. (2008) Controlled-release components of PZP contraceptive vaccine extend duration of infertility. *Wildlife Research* 35: 555-562
 46. Bertschinger, H.J., M.A. De Barros Vaz Guimarães, T.E. & A. Human. (2008) The use of deslorelin implants for the long-term contraception of lionesses and tigers. *Wildlife Research* 35: 525-530
 47. BOTHA, A.E., M.L. SCHULMAN H.J. BERTSCHINGER, A.J. GUTHRIE, C.H. ANNANDALE AND S.B.

- HUGHES (2008) The use of a GnRH vaccine to suppress mare ovarian activity in a large group of mares under field conditions. *Wildlife Research* 35: 548-554
48. Bertschinger, H.J., D.G.A. Meltzer, Ann van Dyk. (2008) Captive breeding of cheetahs in South Africa – 30 years of data. *Reproduction in Domestic Animals*. 43 (Suppl. 2): 66-73
 49. MATJILA, PT, A.L. LEISEWITZ, F. JONGEJAN, H.J. BERTSCHINGER, B.L. PENZHORN (2008) Molecular detection of *Babesia rossi* and Hepatozoon in African wild dogs (*Lycaon pictus*) in South Africa. *Veterinary Parasitology* 157(1-2): 123-127
 50. BOUTELLE, S.M., H.J. BERTSCHINGER. (2010) Reproductive management in captive and wild canids: contraception challenges. *International Zoo Year Book* 44: 109-120.
 51. DE NYS, H.M., H.J. BERTSCHINGER, J.A. TURKSTRA, B. COLENBRANDER, R. PALME, A.M. HUMAN. (2010) Vaccination against GnRH may suppress aggressive behaviour and musth in African elephant (*Loxodonta africana*) bulls – a pilot study. *Journal of the South African Veterinary Association* 81: 8-15.
 52. Ganswindt A, Muenscher S, Henley M, Henley S, Heistermann M, Palme R, Thompson P, Bertschinger H. (2010) Endocrine correlates of musth and the impact of ecological and social factors in free-ranging African elephants (*Loxodonta africana*). *Hormones and Behaviour* 57: 506-514.
 53. HULSMAN, A., F. DALERUM, A. GANSWINDT, S. MUENSCHER, H.J. BERTSCHINGER, M. PARIS. (2010) Non-invasive monitoring of glucocorticoid metabolites in brown hyaena (*Hyaena brunnea*) feces. *Zoo Biology* 29: 1-8.
 54. Ganswindt A, Muenscher S, Henley M, Palme R, Thompson P, Bertschinger H. (2010) Concentrations of faecal glucocorticoid metabolites in physically injured free-ranging African elephants *Loxodonta africana*. *Wildlife Biology* 16: 1-10.
 55. BOTHA AE, SCHULMAN ML, MUENSCHER S, BERTSCHINGER HJ AND GUTHRIE AJ (2010) The reversibility of GnRH vaccination to suppress ovarian activity in a large group of mares over a two-year period *Anim. Reprod. Sci.* 121 (1-2) 62
 56. SASIDHARAN SP, LUDWIG A, HARPER C, MOODLEY Y, BERTSCHINGER HJ, GUTHRIE AJ. (2011) Comparative genetics of sarcoid tumour-affected and non-affected mountain zebra (*Equus zebra*) populations. *South African Journal of Wildlife Research* 41 (1): 36-49.
 57. Ahlers MJ, Ganswindt A, Münscher S, Bertschinger HJ (2012) Faecal 20-oxo-pregnane concentrations in free-ranging African elephants (*Loxodonta africana*) treated with porcine zona pellucida vaccine. *Theriogenology* 78: 77–85.
 58. ANDRE' GANSWINDT, CHARLOTTE MUILWIJK, MONIQUE ENGELKES, STEFANIE MUENSCHER, HENK BERTSCHINGER, MONIQUE PARIS, RUPERT PALME, ELISSA Z. CAMERON, NIGEL C. BENNETT, FREDRIK DALERUM. (2012) Validation of noninvasive monitoring of adrenocortical endocrine activity in ground-feeding aardwolves (*Proteles cristata*): Exemplifying the influence of consumption of inorganic material for fecal steroid analysis. *Physiological and Biochemical Zoology* 85(2):194–199.
 59. Schulman ML, Botha AE, Muenscher SB, Guthrie AJ, Bertschinger HJ (2012) Reversibility of the effects of GnRH vaccination used to suppress reproductive function in mares. *Equine Veterinary Journal* ISSN 0425-1644, DOI: 10.1111/j.2042-3306.2012.00577.x. [Highlighted as being of particular interest to equine practitioners in AAEP's Kester Newshour 2013](#)
 60. VAN DEN BERGHE F. PARIS DBBP, VAN SOOM A, RIJSSELAERE T, VAN DER WEYDED L, BERTSCHINGER HJ, M.C.J. PARIS MCJ (2012) Reproduction in the endangered African wild dog: Basic physiology, reproductive suppression and possible benefits of artificial insemination. *Animal Reproduction Science* 133: 1-9.
 61. NEWELL-FUGATE AE, NÖTHLING JO, BERTSCHINGER HJ (2012) Seasonal changes in steroid hormone profiles, body weight, semen quality, and the reproductive tract in captive African wild dogs (*Lycaon pictus*) in South Africa. *General and Comparative Endocrinology* 178: 272-281.
 62. Benavides Valades G, Ganswindt T G, Annandale H, Schulman ML, Bertschinger HJ (2012) Non-invasive assessment of the reproductive cycle in free-ranging female African elephants (*Loxodonta africana*) treated with a gonadotropin-releasing hormone (GnRH) vaccine for inducing anoestrus. *Reproductive Biology and Endocrinology* 10:63 doi:10.1186/1477-7827-10-63: 1-10.
 63. Kirkpatrick JF, Delsink AK, van Altena JJ, Bertschinger HJ (2012) Fertility control and African elephants: A new paradigm for management. In: *Ecology, behaviour and conservation*. Eds M. Aranovich and O. Dufresne. Nova Publishers, Inc., New York: pp77-96.
 64. LANE EP, MILLER S, LOBETTI R, P. CALDWELL P, H.J. BERTSCHINGER HJ, R. BURROUGHS R, KOTZE A, VAN DYK A (2012) Effect of diet on the incidence of and mortality owing to gastritis and renal disease in captive cheetahs (*Acinonyx jubatus*) in South Africa. *Zoo Biology* 31: 669–682.
 65. Bertschinger HJ, Delsink AK, Kirkpatrick JF, van Altena JJ, Ahlers M, Dickerson T, Powrie D, Burger A. Porcine zona pellucida immunocontraception of African elephants (*Loxodonta africana*): beyond the experimental stage. IVth International Wildlife Management Congress, James W. Cain III and Jason P.

Marshal, Editors, 9-12 July 2012: 95-102.

66. LUDWIG C, B. WACHTER, S. SILINSKI-MEHR, A. GANSWINDT, H. BERTSCHINGER, H. HOFER, M. DEHNHARD (2013) Characterisation and validation of an enzyme-immunoassay for the non-invasive assessment of faecal glucocorticoid metabolites in cheetahs (*Acinonyx jubatus*). *General and Comparative Endocrinology* 180: 15–23.
67. Delsink A.K., J. Kirkpatrick, J.J. van Altena, H.J. Bertschinger, S.M. Ferreira, R. Slotow (2013) Lack of spatial and behavioral responses to immunocontraception application in African elephants (*Loxodonta africana*). *Journal of Zoo and Wildlife Medicine* 44(4S): S52–S74.
68. BERTSCHINGER H.J., W.S MATTHEWS, N. DE GOEDE, C. HANEKOM, D. COOPER, L. MÜLLER, B. PAGE, AK.DELSINK (2013) The Tembe Elephant Park (*Loxodonta africana*) immunocontraception story. *Journal of Zoo and Wildlife Medicine* 44 (4S): S150 (abstract).
69. BERTSCHINGER H.J., M.L.SCHULMAN (2013) Litter size of captive and free-ranging African lions (*Panthera leo*) in South Africa: implications for fertility control. *Journal of Zoo and Wildlife Medicine* 44 (4S): S151 (abstract).
70. LÜDERS, I., B. TINDALL, D. YOUNG, G. VAN DER HORST, S. BOTHA, I. LUTHER, L. MAREE, H.J. BERTSCHINGER. (2016) Standing sedation with medetomidine and butorphanol in captive African elephants (*Loxodonta africana*). *The Veterinary Journal* 209: 190-192
71. Joonè, C.J., H.J. Bertschinger, S.K. Gupta, G.T. Fosgate, A.P. Arukha, V. Minhas, E. Dieterman, M.L. Schulman. (2015) Ovarian function and pregnancy outcome in pony mares following immunocontraception with native and recombinant porcine zona pellucida vaccines. *Equine Veterinary Journal* ISSN 0425-1644 DOI: 10.1111/evj.12557
72. Fàbregas, M.C., Garcés-Narro, C., Bertschinger, H. Koehler, G. (2016). Carcass utilization by tigers: implications for calculating prey requirements. *Journal of Zoology* doi:10.1111/jzo.12403: 1-9.
73. Bertschinger, H.J., Caldwell, P. (2016) Fertility suppression of some wildlife species in southern Africa—a review. *Reproduction in Domestic Animals* 51 (Suppl. 1): 18–24 (DOI: 10.1111/rda.12783)
74. Joonè, C.J., M.L. Schulman, H.J. Bertschinger (2016) Ovarian dysfunction associated with zona pellucida-based immunocontraceptive vaccines. *Theriogenology* xxx: 1-9.
75. Lueders, I., Young, D., Maree, L., van der Horst, G., Luther, I., Botha, S., Tindall, B., Ganswing, A. and Bertschinger, H.J. (2017) 'GnRH vaccination for contraception in wild and captive African elephant bulls (*Loxodonta africana*): effects on reproductive organs and semen quality', *PLoS ONE* 12(9): e0178270. <https://doi.org/10.1371/journal.pone.0178270>:1-21.
76. Joone, C.J., Schulman, M.L., Fosgate, G.T., Claes, A.N.J., Gupta, S.K., Botha, A.E., Human, A., Bertschinger, H.J. (2017) Serum anti-Müllerian hormone dynamics in mares following immunocontraception with anti-zona pellucida or -GnRH vaccines. *Theriogenology* 106: 214-220.
77. Bertschinger H.J., Lueders I. (2018). Use of anti-gonadotropin-releasing hormone vaccines in African elephants (*Loxodonta africana*): A review. *Bothalia - African Biodiversity & Conservation* ISSN: (Online) 2311-9284, (Print) 0006-8241.:1-9.
78. Bertschinger HJ, Delsink A, van Altena JJ, Kirkpatrick JF. (2018). Porcine zona pellucida vaccine immunocontraception of African elephant (*Loxodonta africana*) cows: A review of 22 years of research. *Bothalia - African Biodiversity & Conservation*ISSN: (Online) 2311-9284, (Print) 0006-8241: 1-8.
79. Garai ME, Lucy A. Bates, LA, Bertschinger H., Delsink A, Pretorius Y, Zitzer HR (2018). Non-lethal elephant-population-control methods: Summary of the first ESAG workshop. *Bothalia - African Biodiversity & Conservation*ISSN: (Online) 2311-9284, (Print) 0006-8241:
80. Nolan MB, Bertschinger HJ, Roth R, Crampton M, Martins IS, Fosgate GT, Stout TA, Schulman ML. (2018). Ovarian function following immunocontraceptive vaccination of mares using native porcine and recombinant zona pellucida vaccines formulated with a non-Freund's adjuvant and anti-GnRH vaccines. *Theriogenology* 120: 111-116. XX:XX. <https://doi.org/10.1016/j.theriogenology.2018.07.044> 0093-691.
81. Joone CJ, Schulman ML, Fosgate GT, Plagis TA, Crafford JE, Gupta SK, Bertschinger HJ. (2019). Antigen-specific CD4p and CD8p T-cell responses in PBMC from pony mares immunized with either native or recombinant zona pellucida vaccines. *Theriogenology* 126: 106-113
82. Nolan MB, Schulman ML, Botha AE, Human AM, Roth R, Crampton MC, Bertschinger HJ. (2019). Serum antibody immunoreactivity and safety of native porcine and recombinant zona pellucida vaccines formulated with a non-Freund's adjuvant in horses. *Vaccine* 37: 1299–1306.
83. Lueders, I., Oerke, A.-K., Knauf-Witzens, T., Young, D. & Bertschinger, H. J. (2019): Use of gonadotropin releasing hormone (GnRH) vaccines for behavioural and reproductive control in managed Asian elephant *Elephas maximus* and African elephant *Loxodonta africana* populations. *International Zoo Yearbook* **53**. DOI: 10.1111/izy.12220
84. Joone CJ, Nolan MB, Bertschinger HJ, Schulman ML. (2019). Researching immunocontraceptive vaccines with mares (*Equus caballus*) as both a target and model for African elephant (*Loxodonta africana*) cows: A review, *Animal Reproduction Science* <https://doi.org/10.1016/>

j.anireprosci.2019.06.002

85. María Cayetana Fàbregas CM, André Ganswindt A, Fosgate GT, Bertschinger HJ, Meyer LCR. (2019) Behavioral and adrenocortical responses of captive white rhino adolescents to the introduction of a new calf. *Acta Ethol* DOI 10.1007/s10211-019-00322-w
86. French H, Peterson E, Schulman M, Roth R, Crampton M, Conan A, Marchi S, Knobel D, Bertschinger H. (2020). Efficacy and safety of native and recombinant zona pellucida immunocontraceptive vaccines in donkeys. *Theriogenology* 153: 27-33 DOI: [10.1016/j.theriogenology.2020.04.041](https://doi.org/10.1016/j.theriogenology.2020.04.041)
87. Fàbregas MC, Fosgate GT, Ganswindt A, Bertschinger H, Hofmeyr M, Meyer LCR. (2020). Rehabilitatio method affects behavior, welfare, and adaptation potential for subsequent release of orphaned whit rhinoceros. *Acta ethologica* <https://doi.org/10.1007/s10211-020-00343-w>.
88. French H, Peterson E, Schulman M, Roth R, Crampton M, Conan A, Marchi S, Knobel D, Bertschinger H (2020). Efficacy and safety of native and recombinant zona pellucida immunocontraceptive vaccines i donkeys. *Theriogenology* 153: 27-33 DOI: [10.1016/j.theriogenology.2020.04.041](https://doi.org/10.1016/j.theriogenology.2020.04.041)
89. Fabregas MC, Fosgate GT, Ganswindt A, Bertschinger H, Meyer LCR. (2020). Unforeseen consequences o conservation management practices: case study on herding rhino as an anti-poaching measure. *Anima Conservation* doi:10.1111/acv.12646 1-12.

6.2 Books and/or chapters in books

Books

Book chapters

1. BERTSCHINGER, HENK, AUDREY DELSINK, JJ VAN ALTENA, JAY KIRKPATRICK, HANNO KILLIAN, , ANDRE GANSWINDT, ROB SLOTOW, GUY CASTLEY (2008). Chapter 6: Reproductive control of elephants. In: *Elephant Management: A Scientific Assessment for South Africa*. Eds RJ Scholes and KG Mennel: 257-328.
2. BIGGS, HARRY C., ROB SLOTOW, ROBERT J. SCHOLES, JANE CARRUTHERS, RUDI VAN AARDE, GRAHAM HI KERLEY, WAYNE TWINE, DOUW GROBLER, HENK BERTSCHINGER, CC GRANT, HPP LÖTTER, JAMES BLIGNAUT, LISA HOPKINSON, MIKE PEEL. (2008). Chapter 12. Towards integrated decision making for elephant management. In: *Elephant Management: A Scientific Assessment for South Africa*. Eds RJ Scholes and kg mennel: 537-586.
3. BERTSCHINGER, H.J., E.S SILLS. (2013) Contraceptive applications of GnRH-anlogs and vaccines for wildlife mammals of southern Africa: Current experience and future challenges. In: *Gonadotropin-releasing hormone (GnRH). Production, structure and function*. ES Sills (ed). Nova Science Publishers Inc., New York, ISBN: 978-1-62808-478-8 (eBook) 278 pp: 85-107

6.3 Published full-length conference papers/keynote addresses

1. BERTSCHINGER, H.J., ASA, C.S., CALLE, P.P., LONG, J.A., BAUMAN, K., DEMATTE, k., JÖCHLE, W., TRIGG, T.E. (2001) Control of reproduction and sex related behaviour in exotic carnivores with the GnRH analogue deslorelin: preliminary observations. *Journal of Reproduction and Fertility, Supplement* 57: 275-283
2. Bertschinger, H.J., Trigg ,T.E., Jöchle, W., Human, A. (2002) Induction of contraception in some African wild carnivores by down-regulation of LH and FSH secretion using the GnRH analogue deslorelin. *Reproduction Supplement* 60: 41-52
3. Bertschinger, H.J., M.A. De Barros Vaz Guimarães, T.E. & A. Human. (2008) The use of deslorelin implants for the long-term contraception of lionesses and tigers. *Wildlife Research* 35: 525-530
4. BOTHA, A.E., M.L. SCHULMAN H.J. BERTSCHINGER, A.J. GUTHRIE, C.H. ANNANDALE AND S.B. HUGHES (2008) The use of a GnRH vaccine to suppress mare ovarian activity in a large group of mares under field conditions. *Wildlife Research* 35: 548-554
5. Bertschinger, H.J., D.G.A. Meltzer, Ann van Dyk. (2008) Captive breeding of cheetahs in South Africa – 30 years of data. *Reproduction in Domestic Animals*. 43 (Suppl. 2): 66-73
6. Bertschinger HJ, Delsink AK, Kirkpatrick JF, van Altena JJ, Ahlers M, Dickerson T, Powrie D, Burger A. Porcine zona pellucida immunocontraception of African elephants (*Loxodonta africana*): beyond the

- experimental stage. IVth International Wildlife Management Congress, James W. Cain III and Jason P. Marshal, Editors, 9-12 July 2012: 95-102. 7. Bertschinger, H.J., Caldwell, P. (2016) Fertility suppression of some wildlife species in southern Africa—a review. *Reproduction in Domestic Animals* 51 (Suppl. 1): 18–24 (DOI: 10.1111/rda.12783)
8. Bertschinger Henk (2017) The phenomenon of musth and the control thereof using immunocontraception. Proceedings of the 50th South African Equine Veterinary Association Congress, Sukuza, Mpumalanga, 12-16 February 2017: 101-103.
 9. HJ BERTSCHINGER, C HERBERT, M.A. DE BARROS VAZ GUIMARÃES, T.E. TRIGG AND A. HUMAN (2009) Managing the reproductive rate of some large carnivores using the GnRH super-agonist implant Suprelorin®. Plenary speaker. British Veterinary Zoological Society, York, 7-8 November 2009: 12-17
 10. HJ Bertschinger, A Delsink, JF Kirkpatrick, JJ van Altena, H Denys, M Bates, T Burke, D powrie (2009) Immunocontrol of reproductive rate and aggression in African elephants. British Veterinary Zoological Society, York 7-8 November 2009: 71
 11. HJ BERTSCHINGER, DGA MELTZER, A VAN DYK (2009) Value of semen evaluation in a cheetah breeding program. British Veterinary Zoological Society, York 7-8 November 2008: 19-20
 12. Bertschinger, H., Joone, C., Schulman, H. (2017) Immunocontraception of horses with the porcine zona pellucida vaccine: effects and possible mechanisms. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017:46-47 (invited speaker for workshop on immunocontraception).
 13. Bertschinger, H. (2017) Population control in different species with emphasis on immunocontraception and deslorelin. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017 (invited speaker for the summer school).
 14. Bertschinger, Henk, Delsink, Audrey, Schulman, Martin, Kirkpatrick, Jay. Development and current status of African elephant (*Loxodonta africana*) immunocontraception using the porcine zona pellucida (pZP) vaccine in South Africa - Department of Production Animal Studies Research Highlight. Proceedings of the 32nd Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 15 September 2017, Onderstepoort.

6.4 Non-refereed publications or popular articles

1. FEHSE, R., WINZENRIED, H.U., KUPFERSCHMIED, H.U., BERTSCHINGER, H., EGGENBERGER, E. und LUGINBÜHL (1974). Die Schweine-KB in Prüfung. *Der Kleinviehzüchter*, Nr 11: 48-60.
2. BERTSCHINGER, H.J., MELTZER, D.G.A., VAN DIJK, A., COUBROUGH R.I., SOLEY, J.T. and COLLETT, F.A. (1984). Cheetah lifeline. *Nuclear Active*, 30: 2-7
3. GROBLER D.G. AND BERTSCHINGER H.J. (1997) Elephant contraception in the Kruger National Park. *Custos*, May 1997: 18-20
4. BERTSCHINGER H.J., KIRKPATRICK J.F. AND FAYRER-HOSKEN R.A. (1997) Immunocontraception in African elephant in the Kruger National Park. *Hooo-Hooo, Newsletter of the SAVA Wildlife Group*, 1: 13-14.
5. BERTSCHINGER, H.J. (1998) Technology against culling elephants. *Archimedes*, 40:54-55.
6. Bertschinger, Henk (2015) A hort history of contraception in animals. *Vet news*, February 2015: 6-7.
7. Bertschinger, Henk (2015) Immunocontraception and GnRH super-agonists. *Net news*, February 2015: 8-7.

7. OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

7.1 Participation in conferences, workshops and short courses

7.1.1 National

1. BERTSCHINGER, HJ. Die Zyklussynchronisation beim Schwein. Annual Meeting of the Swiss Veterinary Society, Zürich 1967.
2. BERTSCHINGER HJ. The morphology of diploid bull spermatozoa. Electron Microscopy Society of Southern Africa, Pretoria, December 1975.
3. COUBROUGH, R.I., BERTSCHINGER, H.J., SOLEY, J.T. and MELTZER, D.G.A. (1976). Some aspects of normal and abnormal spermatozoa in Cheetah (*Acinonyx jubatus*). Proceedings of the Electron Microscopy Society of Southern Africa, 6: 5-6.
4. BERTSCHINGER HJ. Artificial insemination in pigs and examination of boars for fertility. Biennial Congress of the South African Veterinary Association. Grahamstown, August, 1977.

5. BERTSCHINGER HJ. Oestrus synchronization in the bovine (Poster). Biennial Congress of the South African Veterinary Association, Grahamstown, August 1977.
6. BERTSCHINGER HJ. Ultramicroscopic studies on cheetah spermatozoa (Poster). Biennial Congress of the South African Veterinary Association, Grahamstown, August 1977.
7. COUBROUGH, R.I., BERTSCHINGER, H.J. and SOLEY, J.T. (1978). Scanning electron microscopic studies on Cheetah spermatozoa. Proceedings of the Electron Microscopy Society of Southern Africa, 8: 57-58.
8. COUBROUGH, R.I. and BERTSCHINGER, H.J. (1980). Methods of semen examination and evaluation and their use in practice. Proceedings of the Symposium on Reproduction in Ruminants of the SAVA: 182-193.
9. COUBROUGH, R.I. and BERTSCHINGER, H.J. (1980). The effect of malnutrition on the female genital tract as reflected in histological changes and their practical implications. Proceedings of the Symposium on Reproduction in Ruminants of the SAVA: 261-269.
10. BERTSCHINGER HJ. The oestrous cycle of the cheetah. Annual General Meeting of the Mammal Research Institute, December 1981
11. PENZHORN, B.L. and BERTSCHINGER, H.J. (1984). Herbesetting van merries na beindiging van dragtigheid weens toediening van prostaglandine. 1st Faculty Day, Faculty of Veterinary Science, University of Pretoria: 20.
12. BERTSCHINGER HJ. The hereditary occurrence of diploid sperm in bulls". First Andrology Workshop of Southern Africa, December 1985.
13. BERTSCHINGER HJ. Induction of parturition in the mare" (Live demonstration). 9th Scientific Meeting of the Cuthbert Crichton Research Society, Onderstepoort, 27 September 1986.
14. VOLKMANN, D.H., BERTSCHINGER, H.J. and VAN ZYL, D. (1986). Synchronization of mares for AI with frozen semen. 3rd Faculty Day, Faculty of Veterinary Science, University of Pretoria: 13.
15. VOLKMANN, D.H., BERTSCHINGER, H.J. and VAN ZYL, D. (1987). The effects of season and lactation on response of mares to synchronization with progesterone, oestradiol- 17 β and prostaglandin F_{2 α} . Kruger National Park Proceedings of the Equine Practitioners Group Congress,: pp 13.
16. BERTSCHINGER, H.J., SOLEY, J.T., EHRET, W.J. and WOOD, R. (1987). The morphology and fertility of bull sperm with a mid-piece defect. 4th Faculty Day, Faculty of veterinary Science, University of Pretoria: Poster 9.
17. BERTSCHINGER, H.J. and VOLKMANN, D.H. (1987). Prostaglandin E₂ as a cervical dilating agent in the mare.
4th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Poster 8.
18. VOLKMANN, D.H., BERTSCHINGER, H.J., WITCOMB, M.A. and VAN ZYL, D. (1982). The incidence of bacteria in the involuting uterus of the mare. 4th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Paper 9.
19. GILBERT, R.O. and BERTSCHINGER, H.J. (1988). Cyclical changes in equine endometrial histology. 5th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Poster 12.
20. BERTSCHINGER HJ. Prostaglandin E₂ as a cervical dilating agent in the mare". (1987). ⁱⁱⁱ
10 of the Cuthbert Crichton Society Scientific Meeting
21. BERTSCHINGER HJ. Recent developments in pig reproduction". Meeting of the Pig Veterinary Society, Pretoria, 15 September 1987.
22. TALJAARD, T.L., TERBLANCHE, S.J. en BERTSCHINGER, H.J. (1988). Die effek van laparoskopiese inseminasie op die estrus-siklus van die ooi. 5de Fakulteitsdag, Fakulteit Veeartsenykunde, Universiteit van Pretoria: Referaat 6.
23. BERTSCHINGER H.J. On-farm AI in pigs". Meeting of the Pig Veterinary Society, Stellenbosch, 8 March 1988.
24. VAN DER MERWE, B.D.W. and BERTSCHINGER, H.J. (1988). Laparoscopic technique for intra-uterine insemination of bitches. 5th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Paper 2.
25. VOLKMANN, D.H., BERTSCHINGER, H.J., SCHULMAN, M.L. MURRAY, S.E. and VAN ZYL, D. (1988). Prostaglandin E₂ as an adjunct to equine partus induction. 5th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Paper 5.
26. BERTSCHINGER HJ. Prostaglandin E₂ as a cervical dilating agent in the mare". Congress of the Equine Practitioners Group, Verwoerd Dam, February 1988.
27. BERTSCHINGER, H.J. (1989). The physiology and endocrinology of the oestrous cycle of the mare. Proceedings of the Equine Practitioners Group Congress, Warmbaths: pp 6.
28. BERTSCHINGER HJ. Some aspects of artificial insemination in the dog". Mini-Congress, Oranje-Vaal Group of the SAVA, 18 March 1989.
29. BERTSCHINGER HJ. Bovine somatotropin - a review". Mini-Congress, Oranje-Vaal Group of the SAVV, 18 March 1989.
30. BERTSCHINGER, H.J., VOLKMANN, D.H., WESTLIN-VAN AARDE, L.M., JANSE VAN VUUREN, L. and KILLEEN, V.M. (1989). Progesterone profiles in post-partum Nooitgedacht pony mares. 6th Faculty Day, Faculty of Veterinary Science, University of Pretoria: Paper 10.

31. TERBLANCHE, S.J. and BERTSCHINGER, H.J. (1989). Embryo production in Dorper ewes vaccinated against androstenedione. Congress on Biotechnology for Developing Countries, 4-8 September, Edinburgh.
32. BERTSCHINGER, H.J. (1990). Endocrinology of early pregnancy in the mare. Stud Health Session of the Equine Practitioners Group Congress, 19-11 February, Mont-Aux-Sources: 14-16.
33. BERTSCHINGER, H.J., VOLKMANN, D.H., WESTLIN-VAN AARDE, L.M., JANSEN VAN VUUREN, L. and KILLEEN, V.M. (1990). Characterization of post-partum anoestrus in pony mares. Proceedings of the Cuthbert Crichton Research Society, 21 April, Cape Town.
34. BERTSCHINGER, H.J., EHRET, W.J., WOOD, R. and COERTZE, R.J. (1990). Beef bull performance, scrotal circumference and semen quality. 7th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 27 September, Onderstepoort: Paper 10.
35. EHRET, W.J., BERTSCHINGER, H.J., GILBERT, R.O. and VOLKMANN, D.H. (1990). Some experience with the preparation of teaser bulls. 7th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 27 September, Onderstepoort: Poster 1.
36. NÖTHLING, J.O., VOLKMANN, D.H. and BERTSCHINGER, H.J. (1990). The use of ultrasound in clinical andrology. 7th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 27 September, Onderstepoort: Paper 1.
37. BERTSCHINGER, H.J., SOLEY, J.T., DE LANGE, D.H., BURGER, W.P. (1991). Semen collection and evaluation in ostriches Seminar on Ostrich Research, Oudtshoorn, 17-18 July, pp 42-44
38. BERTSCHINGER HJ. Some aspects of spermatology in veterinary science". Guest lecturer at: Annual Meeting of the Southern African Society of Reproductive Biology, 28-29 November 1991, Pretoria.
39. SOLEY, J.T., BERTSCHINGER, H.J., ROBERTS, D.C., DE LANGE, D.H., BURGER, W.P. (1991). Correlation between semen quality and egg fertility in ostriches. Seminar on Ostrich Research, Oudtshoorn, 17-18 July, pp 45-47
40. VOLKMANN, D.H., GUTHRIE, A.J., KÜNDIG, H., BERTSCHINGER, H.J., ZEROBIN, K. (1991). Telemetric determination of *in vivo* electrical activity and motility of the equine myometrium. 8th Faculty Day, Faculty of Veterinary Science, University of Pretoria, Onderstepoort, 26 September, p 8
41. BERTSCHINGER, H.J., BURGER, W.P., SOLEY, J.T., DE LANGE, D.H. (1992). Semen collection and evaluation of the male ostrich. Proceedings of the SAVA Biennial Veterinary Congress, Grahamstown, 7-10 September, pp 154-158
42. BERTSCHINGER, H.J. (1994). Reproduction in black and white rhinos: a review. Proceedings of Symposium on rhinos as game ranch animals, Wildlife Group of the SAVA, Onderstepoort, 9-10 September, pp 155-161
43. BERTSCHINGER, H.J. (1995). Immunocontraception as a means of population control: will it work for elephants? Proceedings of the Elephant Managers and Owners Association and Work Shop and Inaugural Meeting, Warmbaths, 3-4 November, pp
44. SCHULTHEISS, W., BERTSCHINGER, H.J. (1995). Bovine vesicular gland enlargement: Attempts to establish causative factors. 12th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 27 September, Onderstepoort: Paper 26
45. BERTSCHINGER, H.J. (1996). Reproduction in African buffalo: a review. Proceedings of a Symposium on the African Buffalo as a Game Ranch Animal, Onderstepoort, 26 October, 62-74
46. VOLKMANN, D.H., GOOSEN, G.H., BERTSCHINGER, H.J., SHUTTLEWORTH, R., KOEKEMOER, A. and HOWELL, P.G. (1997) *In vitro* and *in vivo* testosterone production by an equine granulosa cell tumour. 13th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 26 September, Onderstepoort: Paper 10
47. BERTSCHINGER HJ. Immunocontraception in African elephant. Department of Obstetrics and Gynaecology, Medical Faculty, University of Pretoria, 4 September 1997.
48. BERTSCHINGER H.J. Elephant population control and immunocontraception in the Kruger National Park. Gynaecologist Travellers from the United Kingdom and Ireland. Pretoria, 4 November 1997.
49. BERTSCHINGER, H.J., FAYRER-HOSKEN, R., KIRKPATRICK, J.F., SOLEY, J.T., STEFFENS, W. and ARD, M. (1997) Immunocytochemistry of the elephant zona pellucida using anti-pZP antibodies. 13th Faculty Day, Faculty of Veterinary Science, University of Pretoria, 26 September, Onderstepoort: Paper 11 (**best paper award**)
50. MELTZER, D.G.A., BERTSCHINGER, H.J., COOPER, D., GROBLER, D.G., KEET, D.F., ELS, H.J., SOLEY, J.T. and STEIN, B. (1997). A comparative study of the quality of semen of the lions from the Hluhluwe/Umfolozzi Park and the Kruger National Park. Proceedings of a Symposium on Lions and Leopards as Game Ranch Animals, Onderstepoort, 24-25 October, 174-176
51. MELTZER, D.G.A., BERTSCHINGER, H.J. and van DYK, A. (1998) Reproduction in male cheetahs: I. Breeding management and semen evaluation. Proceedings of a Symposium on Cheetahs as Game Ranch Animals. Ed BL Penzhorn, Onderstepoort, 23-24 October: 145-152
52. BERTSCHINGER HJ. Elephant population control and immunocontraception in the Kruger National Park. Johannesburg Honorary Rangers Society, 16 March 1998.

53. BERTSCHINGER, H.J. and MELTZER, D.G.A. (1998) Reproduction in male cheetahs: II. Sperm morphology. Proceedings of a Symposium on Cheetahs as Game Ranch Animals. Ed BL Penzhorn, Onderstepoort, 23-24 October: 153-158
54. BERTSCHINGER, H.J., MELTZER, D.G.A., van DYK, A. and STRACHAN, A. (1998) Breeding female cheetahs in captivity. Proceedings of a Symposium on Cheetahs as Game Ranch Animals. Ed BL Penzhorn, Onderstepoort, 23-24 October: 168-174
55. BERTSCHINGER, H.J., KIRKPATRICK, J.F. and FAYRER-HOSKEN, R.A. (1998) Immunocontraception of African elephant in the Kruger National Park. Proceedings of the 6th Biennial International Symposium on Wildlife Utilization – A Veterinary Perspective, Onderstepoort, 12-26 June: 25-33
56. BERTSCHINGER, H.J., VOLKMANN, D.H. (1999) Methodology and value of pregnancy diagnosis in wildlife. Proceedings of the LHPG and VDG of the SAVA, 30-31 August, Christiana: 46-53
57. Methodology and value of pregnancy diagnosis in wildlife. Symposium on the Guidelines for Game Auctions, Onderstepoort, 27 March 1999.
58. BERTSCHINGER, H.J., SOLEY, J.T., MELTZER, D.G.A., ELS, H. (2000) A comparative study of the sperm morphology of lions in the Hluhluwe/Umfolozi game reserve and the Kruger National Park. Proceedings of the 3rd South African Semen and Embryo Group, 4 March, Onderstepoort: 9
59. BERTSCHINGER, H.J., KIRKPATRICK, J.F., FAYRER-HOSKEN, R.A. (2000) Immunocontraception using porcine zona pellucida vaccine in African elephant. Proceedings of the 3rd South African Semen and Embryo Group, 4 March, Onderstepoort: 1
60. CORDEL, C., BERTSCHINGER, H.J., KEEGAN, J. (2000) Pharmacological enhancement of emission and ejaculation in cattle: a look at imipramine hydrochloride. Proceedings of the 3rd South African Semen and Embryo Group, 4 March, Onderstepoort: 2
61. BERTSCHINGER, H.J. (2001) Contraception of some wild carnivores in southern Africa using deslorelin down-regulation of LH and FSH. Proceedings of the 17th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 20 September, Onderstepoort: 21
62. BERTSCHINGER, H.J. (2003) Contraception as a means of population control in wildlife. Facilitative workshop on identifying the direction and prioritising research into alternative methods of controlling problem baboons in timber plantations, Harare, 27 February: 8
63. De Nys, H.M., Bertschinger, H.J., Human, A. (2003) Control of testosterone secretion, musth and aggressive behaviour in African elephant (*Loxodonta africana*) bulls using a GnRH vaccine. Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort:
64. LAMPEN, F., BERTSCHINGER, H.J., PARSONS, N., HUMAN, A. (2003) Serum corticosterone concentrations in response to ACTH stimulation in African penguins (*Spheniscus demersus*). Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort: 19
65. KIM, J, GUTHRIE, A.J., NEL, A., HARPER, C., BERTSCHINGER, H.J. (2003) Domestic dog microsatellite markers used for parentage verification in the African wild dog (*Lycaon pictus*). Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort: 41
66. SASIDHARAN, S.P., NEL, A., HARPER, C., GUTHRIE, A.J., BERTSCHINGER, H.J. MOODLEY, Y., HARLEY, E. (2003) Applying horse genetic markers to endangered Cape mountain zebra (*Equus zebra zebra*) populations affected with sarcoid tumour. Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort: 42
67. BERTSCHINGER, H.J., KÖSTER, L., HUMAN, A. (2003) Monitoring of stress in cheetahs. Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort: 15
68. KOEPEL, K.N., PICARD, J., VAN VUUREN, M., BERTSCHINGER, H. (2003) The use of probiotics in cheetahs (*Acinonyx jubatus*). Proceedings of the 19th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 25 September, Onderstepoort: 16
69. BERTSCHINGER, H.J. (2004) Contraception and behavioural modification in horses. VIIIth Biennial Course in Stud Management, Howick, 7-9 July: 24-25
70. BERTSCHINGER, H.J. (2004) Contraception of wild carnivores. South African Veterinary and Paraveterinary Congress, Cape Town, 27-30 July: 93
71. MOUIEX, C., HARPER, C., GUTHRIE, A., BERTSCHINGER, H.J., SCHULMAN, M.L. (2005) Verification of parentage in African wild dog (*Lycaon pictus*) packs show multiple paternity. Proceedings of the 20th Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 15 September, Onderstepoort: 61
72. BERTSCHINGER, H.J. (2016) Immunocontraception as a means of population control in wildlife and domestic animals. Animal Health Technology Innovation programme. Pretoria, 10-11 March.
73. Bertschinger Henk (2017) The phenomenon of musth and the control thereof using immunocontraception. Proceedings of the 50th South African Equine Veterinary Association Congress, Sukuza, Mpumalanga, 12-16 February 2017: 101-103. **Key note speaker.**
74. Bertschinger Henk, Delsink Audrey, Schulman Martin (2017) Porcine zona pellucida immunocontraception

- of African elephant cows in South Africa. Proceedings of 8th Oppenheimer De Beers Group Research Conference, Johannesburg, 17-18 October 2017: 16.
75. Bertschinger, Henk, Delsink, Audrey, Schulman, Martin, Kirkpatrick, Jay. Development and current status of African elephant (*Loxodonta africana*) immunocontraception using the porcine zona pellucida (pZP) vaccine in South Africa - Department of Production Animal Studies Research Highlight. Proceedings of the 32nd Faculty Day of the Faculty of Veterinary Science, University of Pretoria, 15 September 2017, Onderstepoort.
 76. Bertschinger Henk. Elephant population control techniques: overview. Shelanti wildlife veterinary workshop, 16-17 May 2018, Shilanti Game Reserve.
 77. Bertschinger HJ. Management of aggressive behaviour and musth in African elephant bulls. Proceeding of the Congress of the Wildlife Group of the South African Veterinary Association, Misty Hills, Muldersdrift, South Africa, 7-9 March 2019: 28-30.
 78. Meufels Janine, Luther-Binoir Ilse, Lueders Imke, Bertschinger Henk. Conservation through semen collection and cryopreservation in African rhinoceroses (*Cerathotherium simum simum*; *Diceros bicornis*) and elephants. Proceeding of the Congress of the Wildlife Group of the South African Veterinary Association, Misty Hills, Muldersdrift, South Africa, 7-9 March 2019: 36-37.
 79. Fàbregas, M.C.; Fosgate, G; Ganswindt, A; Bertschinger, H; Hofmeyr, M; Meyer, L. Rehabilitation method affects the welfare and adaptation potential of orphan white rhinoceros. South African Wildlife Management Association conference. Wilderness, South Africa, 1-5 September 2019. Oral presentation.

7.1.2 International

1. WILLIAMS, D.M., BERTSCHINGER, H.U., POHLENZ, J. und BERTSCHINGER H. (1974). Pathologische Befunde bei Sauen mit puerperaler Mastitis. 3rd Congress of the International Pig Veterinary Society.
2. BERTSCHINGER, H.U., POHLENZ, J., WILLIAMS, D. und BERTSCHINGER, H. (1974). Bakteriologische Befunde bei Sauen mit puerperaler Mastitis. 3rd Congress of the International Pig Veterinary Society.
3. COUBROUGH, R.I., BERTSCHINGER, H.J. and KÜHNE, K.J. (1980). The practical implication of genital histopathological changes and changes in enzyme and hormonal levels in the cow caused by malnutrition. Proceedings of the 11th International Congress on Diseases of Cattle. Tel Aviv, Vol II: 867-874.
4. Plasma testosterone, scrotal circumference, libido and body mass in young bulls on different planes of nutrition".
13th International Congress on Diseases of Cattle, Durban, August 1984.
5. COUBROUGH, R.I., BERTSCHINGER, H.J. and EHRET, W.J. (1986). The significance of complete examination in assessing breeding soundness in bulls. Proceedings of 14th World Congress on Diseases of Cattle, Dublin: 941-946.
6. BERTSCHINGER, H.J., BRUWER, F.J., COUBROUGH, R.I. and MÜLDERS, M.S. (1988). An interaction between dietary β -carotene and injected selenium as reflected by red cell glutathione peroxidase concentration in cattle. 15th World Buiatrics Congress, Palma, Spain 415-420.
7. BERTSCHINGER, H.J., SOLEY, J.T., EHRET, W.J., and WOOD, R. (1988). The morphology and fertility of bull sperm with a mid-piece defect. 15th World Buiatrics Congress, Palma, Spain: 1334-1339.
8. GILBERT, R.O. and BERTSCHINGER, H.J. (1989). Cyclical changes in equine endometrial histology. Proceedings of the Annual Fall Conference of the Society for Theriogenology, Coeur d'Leone, Idaho, September 29-30: 347.
9. VOLKMANN, D.H., BERTSCHINGER, H.J., SCHULMAN, M.L. and DE CRAMER, K.G.M. (1989). The use of prostaglandin E₂ as a cervical dilator in mares. Proceedings of the Reproductive Biology Workshop, 30 November-1 December, Belville.
10. BERTSCHINGER, H.J., EHRET, W.J., WOOD, R. and COERTZE, R.J. (1992). Beef bull performance, scrotal circumference and semen quality. 12th International Congress on Animal Reproduction, The Hague, 23-27 August, (accepted for publication in edited congress proceedings), pp 3
11. VOLKMANN, D.H., BERTSCHINGER, H.J. and WESTLIN, L.M. (1992). Characterization of post-partum anoestrus in pony mares. 12th International Congress in Animal Reproduction, The Hague, 23-27 August, (accepted for publication in edited congress proceedings), pp 3
12. BERTSCHINGER, H.J. (1995). Semen collection and evaluation in ostriches. 15th World Congress on Fertility and Sterility, Montpellier, 17-22 September, p 17
13. BERTSCHINGER, H.J. (1995). The use of conventional parameters and swim-up tubes to evaluate frozen bull semen. 15th World Congress on Fertility and Sterility, Montpellier, 17-22 September, p 94
14. IRONS, P.C., BERTSCHINGER, H.J., SOLEY, J.T. and BURGER, W.P. (1996). Semen collection and

evaluation in the ostrich. International Conference on Improving Our Understanding of Ratites in a Farming Environment, Manchester, 27-29 March, 157-159

15. BERTSCHINGER, H.J., FAYRER-HOSKEN, R., KIRKPATRICK, J.F., SOLEY, J.T., STEFFENS, W. and ARD, M. (1996). Immunocytochemistry of the elephant zona pellucida using anti-pZP antibodies. Proceedings of the 13th International Congress on Animal Reproduction, Sydney, 30 June-4 July, p9-5
16. BERTSCHINGER, H.J., FAYRER-HOSKEN, R., KIRKPATRICK, J.F., SOLEY, J.T., STEFFENS, W. and ARD, M. (1996). Immunocytochemistry of the elephant zona pellucida using anti-pZP antibodies. Proceedings of the 4th International Conference on Fertility Control for Wildlife Management, Great Keppel Island, 8-11 July :p 27
17. FAYRER-HOSKEN, R.A., BROOKS, P., KIRKPATRICK, J.F. BERTSCHINGER, H., RAATH, J.P. and SOLEY, J.T. (1997). Potential of the zona pellucida (pZP) being an immunocontraceptive agent for elephants. Proceedings of the Annual Conference of the International Embryo Transfer Society, Nice, 12-14 January, p397 (Theriogenology, 47 (1997): 397).
18. JOSLING, D., SOLEY, J.T., MELTZER, D.G.A., BERTSCHINGER, H.J., ELS, H.J. (1998). Ultrastructural features of sperm abnormalities observed in lions from two South African game reserves. Proceedings of the ICEM14, Symposium II, Volume IV, Cancun, Mexico, 31 August-4 September: 121-122.
19. BERTSCHINGER, H.J., KIRKPATRICK, J.F., FAYRER-HOSKEN, R.A. (1999) Immunocontraception using porcine zona pellucida vaccine in the African elephant. Andrology in the Nineties: Proceedings of the South African Society for Reproductive Medicine and Surgery. 25-27 March, Cape Town: AL-45
20. BERTSCHINGER HJ. Beef bull performance, semen quality and improvement in semen quality". 16th World Cattle Diseases Congress, 13-17 August 1990, Salvador, Brazil.
21. BERTSCHINGER HJ. Some experience with the preparation of teaser bulls". 16th World Cattle Diseases Congress, 13-17 August 1990, Salvador, Brazil
22. SOLEY, J.T., BERTSCHINGER, H.J., COUBROUGH, R.I., MELTEZER, D.G.A. (1999) The morphology of normal and abnormal cheetah sperm. Andrology in the Nineties: Proceedings of the South African Society for Reproductive Medicine and Surgery. 25-27 March, Cape Town: AL-47
23. BERTSCHINGER, H.J., SOLEY, J.T., MELTZER, D.G.A, ELS, H. (1999) A comparative study of the sperm of lions in the Hluhluwe/Umfolozi Game Reserve and the Kruger National Park. Andrology in the Nineties: Proceedings of the South African Society for Reproductive Medicine and Surgery. 25-27 March, Cape Town: AL-48
24. ARLOTTO, T., GERBER, D., TERBLANCHE, S.J., COOPER, D., BERTSCHINGER, H.J., (2000) Development of morula stage embryos after trans vaginal oocyte recovery of the African buffalo. Proceedings of the Annual Conference of the International Embryo Transfer Society, 8-12 January, Maastricht: 324
25. BERTSCHINGER, H.J., ASA, C.S., CALLE, P.P., LONG, J.A., JÖCHLE, W. (2000) Control of reproduction and sex related behaviour in exotic wild carnivores with the GnRH analogue deslorelin. Proceedings of the 4th International Symposium on Canine and Feline Reproduction, 29 June-1 July, Oslo: 22
26. SCHELLING, C., VENNOS, C., BERTSCHINGER, H.J. (2000) Microsatellite analysis in southern African wild dogs. Proceedings of the 27th International Conference on Animal Genetics, 22-26 July: 104
27. BERTSCHINGER, H.J. (2001) Make sure the profit is in the bag! Breeding soundness evaluation of the ram. Proceedings of the 5th International Sheep Veterinary Congress Stellenbosch, 21-25 January: 250-251
28. BERTSCHINGER, H.J., TRIGG, T.E., JÖCHLE, W., HUMAN, A. (2001) Contraception of some African wild carnivores in southern Africa using deslorelin down-regulation of LH and FSH Proceedings of the 5th International Symposium on Fertility Control in Wildlife, Skukuza, 19-22 August: 66-67
29. BERTSCHINGER, H.J., HUMAN, A. (2002) Contraception of lions and cheetahs using the GnRH analogue deslorelin. 6th Annual Meeting of the European Society of Animal Reproduction, Parma, 12-14 Sept
30. IRONS, P.C., DUNGU-KIMBEMGA, B., MUKHUFHI, N., MICHEL, A., PETA, F., BERTSCHINGER, H.J. (2002) Effect of collection method, time and transport medium on a PCR test for *Tritrichomonas foetus* in bulls. 6th Annual Meeting of the European Society of Animal Reproduction, Parma, 12-14 September 2002
31. NÖTHLING, J.O., BERTSCHINGER, H.J., BROEKHUZEN, MH, HEMMELDER, S., NARDINI, R. (2002) Quality of African wild dog (*Lycaon pictus*) semen collected by means of electro-ejaculation. 4th International Symposium on Physiology and Behaviour of Wild and Zoo Animals, Berlin, 29 Sept – 2 Oct
32. BERTSCHINGER, H.J., NÖTHLING, J.O., NARDINI, R., HEMMELDER, S., BROEKHUZEN, M.H. (2002) Collection of semen in cheetahs (*Acinonyx jubatus*) using electro-ejaculation: attempts to avoid urine contamination. 4th International Symposium on Physiology and Behaviour of Wild and Zoo Animals, Berlin,

29 Sept – 2 Oct

33. BERTSCHINGER, H.J., KIRKPATRICK, J.F., FAYRER-HOSKEN, R.A., GROBLER, D., VAN ALTENA, J.J. (2004) Immunocontraception of African elephants using porcine zona pellucida vaccine. Proceedings of an expert consultation on the Control of Wild Elephant Populations, Editors: B Colenbrander, J de Gooijer, R Paling, S Stout, T Stout, T Allen, Utrecht University: 45-47
34. DELSINK, A., BERTSCHINGER, H.J., KIRKPATRICK, J.F., DE NYS, H., GROBLER, D., VAN ALTENA, J.J. (2004) Contraception of African elephant cows in two private conservancies using porcine zona pellucida vaccine, and the control of aggressive behaviour in elephant bulls with GnRH vaccine. Proceedings of an expert consultation on the Control of Wild Elephant Populations, Editors: B Colenbrander, J de Gooijer, R Paling, S Stout, T Stout, T Allen, Utrecht University: 69-72
35. IRONS, P., KING, V., OTTE, L., BERTSCHINGER, H., COLENBRANDER, B., GERBER, D. (2004) Determination of pregnancy status of African buffalo by fecal steroid analysis. 15th International Congress on Animal Reproduction, Porto Seguro, Brazil, 8-12 August: 77
36. BERTSCHINGER, H.J., JAGO, M., HUMAN, A. (2004) Repeated use of the GnRH analogue deslorelin to down-regulate reproduction in male cheetahs (*Acinonyx jubatus*). 5th International Symposium on Canine and Feline Reproduction, Basic and Applied Research on Domestic, Exotic and Endangered Carnivores, Sao Paulo, Brazil, 4-6 August: 131-132
37. BERTSCHINGER, H.J., VENTER, L.J., HUMAN, A. (2004) Treatment of aggressive behaviour and contraception of some primate species and red pandas using deslorelin implants. 5th International Symposium on Physiology, Behaviour and Conservation of Wildlife, Berlin, Germany, 26-29 September. In: Advances in Ethology Supplements to Ethology **38**: 24
38. BERTSCHINGER H.J., ISENBÜGEL E., JANETT F., OSSENT P. AND WILD P. (2006) Infertility in a pair of Indian lions in Zurich Zoo. Proceedings of the Hungarian Society of Animal Reproduction, Budapest, 26-27 June: 44-46
39. NEWELL-FUGATE, A, BERTSCHINGER, H, NÖTHLING, J. (2006) Reproductive effects of a long-acting deslorelin implant or injection in male African wild dogs (*Lycan pictus*)-a preliminary report of the first 7 months post-treatment. In: Proceedings of the American Association of Zoo Veterinarians, Tampa, : 286-287
40. BERTSCHINGER H.J., DELSINK, A., VAN ALTENA, J.J., GROBLER, D., KIRKPATRICK, J.F., BATES M., BURKE T. (2007) Effects of porcine zona pellucida immunocontraception on annual calving percentages of six discrete African Elephant populations. 6th International Conference on Fertility Control for Wildlife. York, UK, 3-5 September: 48
41. BOTHA E., SCHULMAN M., BERTSCHINGER H.J. (2007) The use of a GnRH vaccine to suppress mare ovarian activity under field conditions in South Africa. 6th International Conference on Fertility Control for Wildlife. York, UK, 3-5 September: 35
42. BERTSCHINGER H.J., DE BARROS VAZ GUIMARÃES M.A., TRIGG T.E., HUMAN A. (2007) The use of deslorelin implants for the long-term contraception of free-ranging and captive lionesses. 6th International Conference on Fertility Control for Wildlife. York, UK, 3-5 September: 25-26
43. DELSINK, A., KIRKPATRICK, J.F., VAN ALTENA, J.J., GROBLER, D., BERTSCHINGER H.J., SLOTOW R. (2007) Lack of social and behavioural consequences of immunocontraception in African elephants. 6th International Conference on Fertility Control for Wildlife. York, UK, 3-5 September: 31
44. TURNER J.W., A.T. RUTBERG, R.E. NAUGLE, M.A. KAUR, D.R. FLANAGAN, H.J. BERTSCHINGER & I.K.M. LIU. (2007) Controlled-release components of PZP contraceptive vaccine extend duration of infertility. 6th International Conference on Fertility Control for Wildlife. York, UK, 3-5 September: 7-8
45. Bertschinger H.J., Delsink, A., van Altena, J.J., Grobler, Ganswindt A., Kirkpatrick, J.F., De Barro Vaz Guimarães M.A., Trigg T.E. (2007) Control of reproduction in African elephants, lions and cheetahs. 18th Symposium on Tropical Animal Health and Production: Reproductive biotechnology for conservation. Utrecht, The Netherlands, 26 October: 33-39
46. Stout TAE, Bertschinger HJ, Colenbrander B. (2007). The use of GnRH vaccines for reproductive suppression in horses and elephants. EU-Asia Link Project Symposium 'Managing the Health and Reproduction of Elephants Populations in Asia' 8-10 October 2007, Faculty of Veterinary Medicine, Kaselsart University, Bangkok, Thailand: 114-116.
47. BERTSCHINGER, H.J., D.G.A. MELTZER, ANN VAN DYK. (2008) Captive breeding of cheetahs in South Africa – 30 years of data. Plenary paper. 16th International Congress on Animal Reproduction, Budapest, 14-17 July 2008
48. HJ BERTSCHINGER, TE TRIGG, A NEWELL FUGATE, JO NÖTHLING, M.A. DE BARROS VAZ GUIMARÃES. (2008) Contraception of lionesses, cheetahs and wild dogs using the GnRH agonist implant Suprelorin®. Plenary paper. 6th International Symposium on Canine and Feline Reproduction, Basic and

Applied Research on Domestic, Exotic and Endangered Carnivores, Vienna 9-11 July 2008

49. HJ BERTSCHINGER, C HERBERT, M.A. DE BARROS VAZ GUIMARÃES, T.E. TRIGG AND A. HUMAN (2009) Managing the reproductive rate of some large carnivores using the GnRH super-agonist implant Suprelorin®. Plenary speaker. British Veterinary Zoological Society, York, 7-8 November 2009: 12-17
50. HJ Bertschinger, A Delsink, JF Kirkpatrick, JJ van Altena, H Denys, M Bates, T Burke, D Powrie (2009) Immunocontrol of reproductive rate and aggression in African elephants. British Veterinary Zoological Society, York 7-8 November 2009: 71
51. HJ BERTSCHINGER, DGA MELTZER, A VAN DYK (2009) Value of semen evaluation in a cheetah breeding program. British Veterinary Zoological Society, York 7-8 November 2008: 19-20
52. HJ BERTSCHINGER, A DELSINK, JF KIRKPATRICK, JJ VAN ALTENA, H DENYS, M BATES, T BURKE, D POWRIE 2010. Immunocontrol of reproductive rate of African elephant cows using porcine zona pellucida vaccine on four private game reserves in South Africa. Proceedings of the International Elephant Conservation and Research Symposium, Kwalata 26-29 January: 9.
53. HJ BERTSCHINGER, H DENYS 2010. Immunocontrol of aggressive behaviour in African elephant bulls. Proceedings of the International Elephant Conservation and Research Symposium, Kwalata 26-29 January: 5-6.
54. 4th International Symposium on non-surgical contraceptive methods of pet population control. Dallas, 8-10 April 2010. No papers given but trip sponsored by Found Animals Foundation
55. HJ BERTSCHINGER, A DELSINK, JF KIRKPATRICK, JJ VAN ALTENA, M BATES, T BICKERSON, D POWRIE 2010. Immunocontrol of reproductive rate in African elephants with porcine zona pellucida vaccine. Proceedings of Compassionate Conservation Animal Welfare in Conservation Practice, Oxford, 1-3 September 2010: 30.
56. HJ BERTSCHINGER, H DENYS, JA TURKSTRA, B COLENBRANDER 2010 Immunocontrol of aggressive behaviour with GnRH vaccine in African elephants. Proceedings of Compassionate Conservation Animal Welfare in Conservation Practice, Oxford, 1-3 September 2010: 47.
57. HJ BERTSCHINGER 2010. Immunocontrol of reproductive rate in African elephant cows. African Animal Action Conference 2010, Nairobi, 6-8 September 2010: 23.
58. HJ BERTSCHINGER 2010. Managing the reproductive rate of some large predators using the GnRH super-agonist implant Suprelorin®. African Animal Action Conference 2010, Nairobi, 6-8 September 2010: 23
59. Bertschinger H.J., A N. Rowan, A Delsink, JJ van Altena, T M. Telecky 2012. Immunocontraception of wildlife using the porcine zona pellucida vaccine - Workshop. IVth International Wildlife Management Congress Durban, 9 - 12 July
60. Bertschinger, H. 2012. Porcine zona pellucida immunocontraception of African elephants (*Loxodonta africana*): Beyond the experimental stage IVth International Wildlife Management Congress Durban, 9 - 12 July
61. Bertschinger, H.J., Matthews, W.S, de Goede, N., Hanekom, C., Cooper, D., Muller, L., Page, B, Delsink, A.K. 2012. The Tembe Elephant Park elephant (*Loxodonta africana*) immunocontraception story. 7th International Conference on Fertility Control in Wildlife, Jackson Hole, 29-31 August: 44
62. Delsink, A. K., Kirkpatrick, J., Van Altena, JJ., Bertschinger, H. J., Ferreira, S., Slotow. 2012. Lack of spatial and behavioural responses to immunocontraception application in African Elephants (*Loxodonta africana*). 7th International Conference on Fertility Control in Wildlife, Jackson Hole, 29-31 August: 42.
63. Bertschinger, H.J., Schulman M. 2012. Litter sizes of captive and free-ranging lions (*Panthera leo*) in South Africa: Implications for fertility control. 7th International Conference on Fertility Control in Wildlife, Jackson Hole, 29-31 August: 50
64. Bertschinger, H.J. 2014. Immunocontraception as a means of population control in wildlife and domestic animals. Animal and human vaccine development in South Africa: past achievements and future prospects. University of Pretoria, Pretoria, 30 January-1 February 2014.
65. Bertschinger, HJ. 2015. Control of wild elephants. Human-Wildlife Conflict Management Workshop, Kathmandu, 15-17 April 2015.
66. O'Kennedy M.M., H.K. Lotter-Stark, T. Tsekoa and M. Crampton, H.J. Bertschinger. Immunocontraception as a means of population control in wildlife and domestic animals. Proceedings of Plant-based vaccine, antibodies and biologics, 8-10 June 2015, Lausanne, Switzerland
67. Bertschinger, H.J. Kontrazeption bei Exoten und Zootiere. Reproduktionsmedizin und Kontrazeption bei Hund, Katze, Heim- und Zootiere. 18th Congress of the European Veterinary Society for Small Animal Reproduction. Hannover 12 September 2015 (Invited speaker).

68. Bertschinger, H.J. Fertility suppression in exotic and zoo animals. Reproduction and Pediatrics in dogs, cats and exotics. 18th Congress of the European Veterinary Society for Small Animal Reproduction. Hannover, 11-12 September 2015: 54-58. (Invited speaker).
69. Imke Lueders, Debbie Young, Liana Maree, Gerhard van der Horst, Ilse Luther, Stephan Botha, Brendan Tindall, Geoff Fosgate, André Ganswindt, Henk Bertschinger. Effect of the GnRH vaccine Improvac® on testicular size and ultrasonographic appearance in African elephants (*Loxodonta africana*). IEF, Singapore, November, 2016:
70. Ambrosia R., Roberts B., Roberts T., DeYoung B., Peterson E., Bertschinger H., Schulman M., Crampton M., Roth R., Van Zyl P., Cameron-Blake N., Vandenplas M., Knobel D., French H. Porcine and recombinant zona pellucida vaccines as immunocontraceptives for donkeys in the Caribbean. ACT 2017
71. Ambrosia R, DeYoung B, Roberts T, Roberts B, Bertschinger H, Schulman M, Knobel D, Vandenplas M, Peterson E, Cameron-Blake N, French H. Efficacy of porcine and recombinant zona pellucida vaccines for immunocontraception of female donkeys. Theriogenology Conference. Ft. Collins, CO. August 3, 2017.
72. Ambrosia R, DeYoung B, Roberts T, Roberts B, Bertschinger H, Schulman M, Knobel D, Vandenplas M, Peterson E, Cameron-Blake N, French H. Efficacy of porcine and recombinant zona pellucida vaccines for immunocontraception of female donkeys. Carribea Conference, St. Kitts, WI, May 2017.
73. Peterson E., Bertschinger H., Schulman M., Crampton M., Roth R., Van Zyl P., Cameron-Blake N., Vandenplas M., Knobel D., French H. Recombinant zona pellucida as an immunocontraceptive for donkeys in the Caribbean.
74. Bertschinger H.J., Delsink, A., Schulman M. & Kirkpatrick, J., 2017, 'Development and current status of African elephant (*Loxodonta africana*) immunocontraception using the porcine zona pellucida (PZP) vaccine in South Africa', in: The 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017. pp. 14. (Invited speaker).
75. Joone C., French H., Knobel D., Bertschinger H.J., Schulman M. Ovarian suppression following PZP vaccination in pony mares and donkey jennies. In: The 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017. pp 27.
76. Delsink A.K., Kirkpatrick K., van Aletna JJ, Bertschinger H.J., Ferreira S.M., Slotow R. Lack of spatial and behavioural responses to immunocontraception application in African elephants (*Loxodonta africana*). In: The 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017. Pp 43.
77. Roberts T, Roberts B, DeYoung B, Ambrosia R, Bertschinger H, Schulman M, Knobel D, Vandenplas M, Peterson E, Cameron-Blake N, French H. Efficacy of porcine zona pellucida vaccines for immunocontraception of female donkeys. Phi Zeta Day, Ross University School of Veterinary Medicine, April 2017
78. DeYoung B, Ambrosia R, Roberts T, Roberts B, Bertschinger H, Schulman M, Knobel D, Vandenplas M, Peterson E, Cameron-Blake N, French H. Efficacy of recombinant zona pellucida vaccines for immunocontraception of female donkeys. Phi Zeta Day, Ross University School of Veterinary Medicine, April 2017
79. French H., Petersen E., Ambrosia R., Bertschinger H., Schulman M., Crampton M., Roth R., van Zyl P., Cameron-Blake N., Vanderpals M., Knobel D. Porcine and recombinant zona pellucida vaccines as immunocontraceptives for donkeys in the Caribbean. In: The 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017. pp 24.
80. Bertschinger, H., Joone, C., Schulman, H. (2017) Immunocontraception of horses with the porcine zona pellucida vaccine: effects and possible mechanisms. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017:46-47 (invited speaker for workshop on immunocontraception).
81. Bertschinger, H. (2017) Population control in different species with emphasis on immunocontraception and deslorelin. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017 (invited speaker for the summer school).
82. Bertschinger Henk J, Delsink A. Porcine zona pellucida contraception to achieve fertility control in free-ranging African elephants. Annual Conference of the Wildlife Society, 7-11 October 2018, Cleveland, USA.
83. HJ Bertschinger HJ, Lüders I. (2018). Control of aggression, musth and fertility in African elephant bulls with anti-GnRH vaccines. International Congress of the Endocrine Society, 1-4 December 2018, Cape Town, RSA. (invited speaker).

84. Middlebrooks E, Peterson EP, Knobel D, Schulman M, Bertschinger H, Crampton M, Roth R, Van Zyl P, French H. Efficacy and safety of porcine zona Pellucida and recombinant zona pellucida in combination with a non-Freund's adjuvant as immunocontraceptives in Caribbean donkeys. The Society for the Science of Reproduction. 16-19 July 2019, San Jose, USA.
85. Bertschinger Henk. The use of deslorelin implants for population management of wild carnivores with emphasis on female lions and male and female cheetahs. 3rd Repro Expert Inn, Virbac. Deslorelin Symposium. 25 June 2019, Berlin, Germany (invited speaker).
86. Bertschinger Henk, Delsink Audrey, Schulman Martin. van Altena JJ, Kirkpatrick Jay. (2020) pZP vaccine immunocontraception of African elephant (*Loxodonta africana*) cows: A review of 22 years of research. Pathways Kenya, 16-18 February 2020, Limuru, Kenya.

7.1.3 Editing Proceedings of International Symposium

- Proceedings Committee of the 13th World Congress on Cattle Diseases, Durban, 1984
- Proceedings of the 5th International Symposium on Fertility Control in Wildlife, Skukuza, 2001
- Proceedings of 7th International Conference on Fertility Control of Wildlife, Jackson Hole 29-31 August 2012.
- Proceedings of 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017

7.2 Teamwork and collaboration with others:

- Dr Dave Cooper (KZN-Wildlife and Dr Mike Toft (private practitioner, Waterfall Vet): crucial collaboration on contraception of elephants and wild carnivores.
 - Prof RP Millar (Mammal Research Institute, UP): crucial collaboration on immunocontraception of feral dogs and wild carnivores.
 - Drs Michael Crampton and Maretha O'Kennedy (CSIR Biosciences): Crucial collaboration on development of synthetic bacterial and plant antigens for immunocontraception of feral dogs, wild carnivores and elephants.
 - Twenty-three private, provincial and national game reserves and numerous wildlife sanctuaries: crucial collaboration on immunocontraception of elephant cows and control of androgen related behaviour and musth in elephant bulls.
 - Wildlife veterinarians in private practice: collaborate and advise on wildlife contraception and control of androgen related behaviour.
 - Dr A Rowan, HSUS, USA
 - Dr Kirkpatrick, Science and Conservation Centre, Billings Montana
 - Dr Turner, Medical School, University of Ohio
 - Drs Janett and Thun, Faculty of Veterinary Science, University of Zurich
 - Drs Möstel and Plamer, Faculty of Veterinary Science, University of Vienna
 - Dr M.A. DE BARROS VAZ GUIMARÃES, Faculty of Veterinary Science, University of San Paulo, Brazil
 - Drs Colenbrander and Stout, Faculty of Veterinary Science, University of Utrecht
 - De Wildt Cheetah and Wildlife Centre
 - Africat Foundation
 - Peptech Animal Health, Sydney, Australia
 - Pfizer Animal Health
 - Virbac Animal Health
 - Ross University, St Kitts
 - Prof J Grooten, University of Gent, Belgium
- **Membership in national and international bodies**
 - South African Veterinary Association
 - Committee member of the Reproduction Group 1977-1988
 - Live Stock Health and Production Group of the SAVA
 - Equine Practitioners Group of the SAVA
 - Co-opted member of the Stud Health Committee 1988-1996
 - Wildlife Group of the SAVA
 - Cuthbert Chrichton Research Society
 - Reproductive Biology Society of Southern Africa

- Scientific Committee of the 13th World Congress on Cattle Diseases, Durban, 1984
- Elephant Owners and Managers Association
- International Society of Animal Reproduction Committee
- Veterinary Committee of the SA Medicines Control Council 1987 - 1999
- International Society for Fertility Control in Wildlife

7.4 Visits to local and overseas universities or research institutes as guest professor or researcher

I have had recent research visits to the Institute of Zoology, University of Cambridge and other UK universities. I have also had research visits to the Institut Pasteur (Paris, France). I was made an Honorary Fellow of the Institute of Zoology.

8 MANAGEMENT AND ADMINISTRATIVE DUTIES

Management responsibilities

Head of Department 1987-1995 with full management responsibilities

Faculty and other committees

- Faculty Heads of Department, 1987 – 1995
- Faculty Clinical Heads of Department, 1987 - 1995
- Faculty Undergraduate Curriculum Committee, 1988 - 1989
- Faculty Research Committee, 1985-1986 and 1993
- Faculty Campus Committee, 1983-1988
- Faculty Sport Committee, 1980 - 1995
- Faculty representative on Students Council 1986
- Faculty Planning Committee, 1987-1988
- Faculty Hospital Planning Committee, 1986 to 1992
- Faculty Titles Committee, 1988 - 1995
- Faculty Olthaver and Theiler Memorial Committee, 1988 - 1995
- Faculty Student Selection Committee, 1987 and 1991 - 1995
- Committee to Investigate a Course in Equine Sciences - Secundus 1987
- Teaching Animal Unit Committee (Chairman), 1991- 1995
- Postgraduate Curriculum Committee, 1992-1999
- Faculty Appointments Committee 1994-1998
 - Re-appointed in 2000
- Discussions with MEDUNSA Committee, 1992
- Committee to Investigate Departmental Structure, 1992
- Faculty Wildlife Committee, 1994 - 2005

9 COMMUNITY SERVICE OR PROFESSIONAL SKILLS

9.1 Professional service performed

Advisory Committee Responsibilities

- Reproduction Group of the SAVA
 - Honorary secretary/treasurer, 1977-1985
 - Additional member, 1986-1988
- Stud Health Committee of the EPG, 1988 - 2003
- Faculty representative on the British Council Veterinary Higher Education Link Program for the Southern African Region 1997-2000
- de Wildt Cheetah and Wildlife Centre Management Committee, 1994 - present (from November 1995 as chairman)
- de Wildt Cheetah and Wildlife Centre Trust, chair, 1999-2010
- International Society of Animal Reproduction Committee 1996-2012

- International Society for Fertility Control in Wildlife – Congress organiser for August 2001
- Organiser of the 5th International Symposium on Fertility Control in Wildlife
- Organiser of the Wildlife session at the South African Veterinary and Paraveterinary Congress, 27-30 July, 2004
- International Society of Animal Reproduction Committee – appointed to executive committee in 2004
- Contraception Advisory Board of the American Zoo Animal Association – appointed 2007 and attended first meeting in St Louis, Missouri, 7-9 March 2008
- International Society of Animal Reproduction Committee – appointed to president of the executive committee in 2008-2012
- Advisory Committee: Botstiber International Institute for Wildlife Fertility Control: 2016 to date

Continuing education course involvement

1. Symposium on reproduction in ruminants, Bloemfontein, 1980. Reproduction and Production Group of the SAVA (co-organizer).
2. Examination of bulls and rams for genital soundness, semen preservation and AI of the ewe, 1983. Two-day CE Course for veterinarians (organizer).
3. Artificial insemination in sheep, 1983. One-day CE Course for veterinarians (organizer).
4. Examination of bulls and rams for genital soundness, semen preservation and AI of the ewe, 1984. Two-day CE Course for veterinarians (organizer).
5. Laparoscopic insemination of sheep, 1987. Three-day CE Course for veterinarians (organizer).
6. Clinical canine reproduction, 1987. One-day CE Course for veterinarians (organizer).
7. Integrated Gynecological dairy herd programme, 1988. Two-day CE Course for veterinarians.
8. Organizer and chairman of the One-day session on equine reproduction at the 1989 EPG Congress, Warmbaths, 1989.
9. Artificial insemination in the pig 1989. One-day CE Course for veterinarians (presenter and organizer).
10. Embryo transfer in cattle, 1989. Three-day CE Course for veterinarians (organizer).
11. Short Course in Equine Theriogenology, (Guest speaker: Prof Kenney, USA), 7-8 August 1990, Onderstepoort (organizer).
12. Organizer of the Continuing Education Course for Laparoscopic Insemination in Sheep, 3-5 September 1990, Onderstepoort (organizer).
13. Organizer of the Continuing Education Course for Bovine Embryo Transfer, 22-26 October 1990 (organizer).
14. Organizer of the Continuing Education Course for Breeding Soundness and Andrology of the Bull, 5-6 December 1991 (presenter and organizer).
15. Evaluation of fresh and frozen semen. Course presented to veterinarians. Onderstepoort (presenter and organizer).
16. Pig semen course and December 1994 (presenter and organizer).
17. Semen evaluation and breeding soundness of bulls, Pietermaritzburg, March 1995 (organizer and presenter).
18. Artificial insemination in the pig. Course presented to pig farmers. Onderstepoort, September 1996 (organizer and presenter)
19. Good laboratory practice. Course presented to pig farmers. Onderstepoort, September 1996 (organizer and presenter)
20. Serving capacity and *impotentia coeundi* in the beef bull. Course presented to animal scientists and agricultural extension officers. Onderstepoort, September 1996 (organizer and presenter)
21. Breeding soundness evaluation in bulls. Half day CE course to North-West Province veterinarians in Kimberly, 15 March 1997 (organiser and presenter)
22. Two-day course on artificial insemination in pigs. Elsenberg, 27-28 April 1998.

Organisation of congresses

1. 13th World Congress on Cattle Disease, Durban 1984. Scientific Committee.
2. Organizer and chairman of the Stud Health Session at the 1990 EPG Congress, Mont-Aux-Sources, February 1990.
3. Organizer of the 1st Stud Managers' Course (Guest speaker: Prof Kenney, USA), 30-31 July 1990, Montagu.
4. Organizer and Chairman of the Stud Health Session at the 1992 EPG Congress, Badplaas, February 1992.
5. Organizer of the 2nd Stud Managers' Course: Nutrition on the Stud Farm (Guest speaker: Deborah Lucas, UK), 6-7 July 1992, Cedara.
6. Organizer and chairman of the Stud Health Session at the 1994 EPG Congress (Guest speaker: Dr AW Allen), Wilderness, - February 1994.
7. Organizer and chairman of the Stud Health Session of the 1995 EPG Congress, Golden Gate, February 1995.
8. Organiser of the 5th International Symposium on Fertility Control in Wildlife, Skukuza, 2001
9. Organiser of the Wildlife session at the South African Veterinary and Paraveterinary Congress, July, 2004
10. Conference Organising Committee, 7th International Conference on Fertility Control of Wildlife, Jackson Hole

29-31 August 2012.

9.2 Involvement with other universities/scientific institutions

- Jockey Club Laboratories, New Market UK, 1983
- University of Zurich 1993-2005
- Faculty of Veterinary Science, University of Utrecht several visits from 2002 to date
- Science and Conservation Centre, Billings Montana – 2004
- Taif Conservation Centre, Taif, Saudi Arabia, 2005
- University of Gent, 2011-2017
- Ross University, St Kitts, 2015 to date

Examiner/external examiner

Undergraduate courses:

1. Reproductive physiology and artificial insemination, BSc IV, Faculty of Veterinary Science, University of Pretoria, 1978-1981.
2. AI and reproduction, undergraduates, Faculty of Veterinary Science, MEDUNSA, 1987, 1993, 1994 and 1995.
3. Reproduction course 310, BSc Agric students of Department of Animal and Wildlife Science, University of Pretoria, June 1996 and 1999.

Graduate courses:

1. AI and reproduction, post-graduates, Faculty of Veterinary Science, MEDUNSA, 1989 June 1990.
2. Comparative Reproductive Physiology and AI, MMedVet (Prac Bovids), MEDUNSA, 1990 and 1992.
3. Theriogenology, post-graduates, Faculty of Veterinary Science, MEDUNSA, 1991

Registration exam:

Theriogenology, Registration Exam for foreign veterinarians, South African Veterinary Council, 1987, 1989 and 1995.

MSc thesis:

C. Kemp: Puberteitsbereiking in jong soggies: 'n Studie van die beereffek op die vervroeging van puberteit. Msc (Agric) Dierefisiologie.

CE Grotto: Physiological and behavioural measure of animal welfare in realltion to semi-captive African elephant (*Aloxodonta africana*) ineration programs. December 2018. University of Pretoria.

PhD thesis and oral exam:

F Stansfield: Ontogeny of the ovarian follicular reserve of the African elephant (*Loxodonta africana*), May 2012, University of Pretoria

C. Ververs: Breeding on the Brink of Extinction: What can we learn from game-ranched white rhinoceroses (*Ceratotherium simum simum*)? 18 May 2018, University of Gent, Faculteit Diergeneeskunde.

9.3 Referee duties

- Editorial Committee of the SAVA Journal, 1980-1986
- Referee for the SAVA Journal
- Proceedings Committee of the 13th World Congress on Cattle Diseases, Durban, 1984
- Proceedings of the Electron Microscopy Society of Southern Africa, 1988
- Proceedings of the EPG Congress, 1989
- Editor of the Proceedings of the Stud Health Session of the 1990 EPG Congress, Mont-Aux-Sources, 1990
- Editor of the Proceedings of the Stud Health Session of the EPG Congress, Badplaas, 1992
- Editor of the Proceedings of the 2nd Stud Managers' Course, Cedara, 1992
- Editor of the Proceedings of the Stud Health Session of the EPG Congress, Wilderness, 1994
- Editor of the Proceedings of the Stud Health Session of the EPG Congress, Golden Gate, 1995
- Evaluator for the FRD
- Editorial Committee of the 5th International Symposium on Fertility Control in Wildlife

- Editorial Advisory Board of Reproduction in Domestic Animals, ongoing
- Editorial Advisory Board of Theriogenology, ongoing
- Editorial Advisory Board of Vaccine, ongoing
- Editorial Advisory Board of Wildlife Research, ongoing
- Editorial Advisory Board of Animal Reproduction Science, ongoing
- Editorial Advisory Board of Onderstepoort Veterinary Journal
- Editorial Advisory Board of South African Journal of Science
- Editorial Advisory Board of South African Journal of Animal Science

10 AWARDS AND SCIENTIFIC/SCHOLARLY RECOGNITION

- Award for the best paper presented at Faculty Day, September 1997
- Ann van Dyk conservation award in 2001-11-22
- President of the International Congress on Animal Reproduction
- BERTSCHINGER, H.J., D.G.A. MELTZER, ANN VAN DYK. (2008) Captive breeding of cheetahs in South Africa – 30 years of data. Plenary paper. 16th International Congress on Animal Reproduction, Budapest, 14-17 July 2008
- HJ BERTSCHINGER, TE TRIGG, A NEWELL FUGATE, JO NÖTHLING, M.A. DE BARROS VAZ GUIMARÃES. (2008) Contraception of lionesses, cheetahs and wild dogs using the GnRH agonist implant Suprelorin®. Plenary paper. 6th International Symposium on Canine and Feline Reproduction, Basic and Applied Research on Domestic, Exotic and Endangered Carnivores, Vienna 9-11 July 2008 (invited speaker).
- HJ BERTSCHINGER, C HERBERT, M.A. DE BARROS VAZ GUIMARÃES, T.E. TRIGG AND A. HUMAN (2009) Managing the reproductive rate of some large carnivores using the GnRH super-agonist implant Suprelorin®. Plenary speaker. British Veterinary Zoological Society, York, 7-8 November 2009: 12-17 (invited speaker).
- HJ Bertschinger, A Delsink, JF Kirkpatrick, JJ van Altena, H Denys, M Bates, T Burke, D Powrie (2009) Immunocontrol of reproductive rate and aggression in African elephants. British Veterinary Zoological Society, York 7-8 November 2009: 71 invited speaker).
- HJ BERTSCHINGER, DGA MELTZER, A VAN DYK (2009) Value of semen evaluation in a cheetah breeding program. British Veterinary Zoological Society, York 7-8 November 2008: 19-20 (invited speaker).
- Bertschinger, H.J. Kontrazeption bei Exoten und Zootiere. Reproduktionsmedizin und Kontrazeption bei Hund, Katze, Heim- und Zootiere. 18th Congress of the European Veterinary Society for Small Animal Reproduction. Hannover 12 September 2015 (Invited speaker).
- Bertschinger, H.J. Fertility suppression in exotic and zoo animals. Reproduction and Pediatrics in dogs, cats and exotics. 18th Congress of the European Veterinary Society for Small Animal Reproduction. Hannover, 11-12 September 2015: 54-58. (Invited speaker).
- Certificate of Outstanding Contribution in Reviewing, Animal Reproduction Science, Elsevier, March 2015
- Bertschinger H.J., Delsink, A., Schulman M. & Kirkpatrick, J., 2017, 'Development and current status of African elephant (*Loxodonta africana*) immunocontraception using the porcine zona pellucida (PZP) vaccine in South Africa', in: The 8th International Conference on Wildlife Fertility Control. Kellogg Conference Hotel, Gallaudet University, Washington DC. 18 – 21 July 2017. pp. 14. (Invited speaker).
- Bertschinger, H., Joone, C., Schulman, H. (2017) Immunocontraception of horses with the porcine zona pellucida vaccine: effects and possible mechanisms. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017:46-47 (invited speaker for workshop on immunocontraception).
- Bertschinger, H. (2017) Population control in different species with emphasis on immunocontraception and deslorelin. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017 (invited speaker for the summer school).
- Bertschinger, H. (2017) Population control in different species with emphasis on immunocontraception and deslorelin. Proceedings of the 21st Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) Bern, Switzerland 24 – 26 August 2017 (invited speaker for the summer school).
- HJ Bertschinger HJ, Lüders I. (2018). Control of aggression, musth and fertility in African elephant bulls with anti-GnRH vaccines. International Congress of the Endocrine Society, 1-4 December 2018, Cape Town, RSA. (invited speaker).
- Invited to Nepal in April 2015 as a consultant on control of fertility and aggression of elephants.
- Invited to India as a consultant on population control in June 2018.