

Professor Gerhard van der Horst – Biographical Note/Short CV

Prof Gerhard van der Horst (PhD, PhD) is an Emeritus Professor in the Department of Medical Bioscience, University of the Western Cape, South Africa, an Extra Ordinary Professor in the Physiology Division, Medical School, University of Stellenbosch, an Extra-Ordinary Professor in the Department of Animal Science, University of Stellenbosch, South Africa, a Senior Consultant to Microptic SL, Barcelona, Spain and a Research Associate, National Zoological Gardens, SANBI, Pretoria, South Africa.

Prof van der Horst served as a Junior lecturer in Zoology, University of Stellenbosch, Senior lecturer at Nelson Mandela Metropolitan University, Port Elizabeth, post-doctoral at University of Cambridge, and Senior Professor and Academic Chair in Physiology at the University of the Western Cape. All his post graduate qualifications are in the field of comparative sperm biology.

His research focus has been in understanding the biology of sperm from invertebrates to vertebrates with special reference to mammals including primates and humans. In this context he uses some novel techniques:

1. Computer Aided Sperm Analysis and sperm flagellar analysis in animals and humans and currently with the emphasis on human sperm as related to fertility. He is considered an international expert on CASA and has made major inputs into commercial CASA systems such as the Sperm Class Analyzer
2. A multitude of microscopic techniques to decipher sperm structure and functionality and its relationship with fertilization. In this context he uses cutting edge microscopic techniques such as Nomarski Differential Interference Microscopy, positive and negative phase contrast fluorescence microscopy, confocal microscopy, and both scanning and electron microscopy. In his institution he has access to all these applications and many of his papers have been based using these technologies.

He published >130 research papers (mostly in sperm biology) and presented 250 conference papers nationally and internationally in some 37 countries.

Apart from using CASA he has been involved in many new developments in this field that relate to sperm functional aspects and automation of previously subjective analyses in sperm vitality assessment and the acrosome reaction. These are all crucial aspects in the evaluation of sperm quality and potential fertilizing capacity.

He was the founder member of the Reproductive Biology Society (the Andrology Workshop) of South Africa in 1984. He has not only served as President of the Physiology Society of Southern Africa for two terms, but was the Convenor of the International Symposium of Spermatology in 2002 in Cape Town, a prestigious spermatology meeting presented only every four years. Since then he served on the International Steering Committee of the ISS. He has been appointed as Associate Editor of Reproduction in Domestic Animals from 1 June 2019.

In 2019 he has been invited as guest speaker to two International conferences in Ekatarinburg, Russia (May 2019) and The Polish Andrology Society, Lodz, Poland (October 2019)

He has been invited as speaker to two major global conferences in Reproduction in 2020: Association of Applied Animal Andrology, Bologna, Italy, June 2020 and the European Society of Human Reproduction, Copenhagen, July 2020. Both these invitations relate to papers in his expert field of CASA.

Currently he supervises some 6 PhD and 2 MSc students and is still actively involved in experimentation with his postgraduate students.

Publications

1. Van der Horst, G. 1972. Seasonal effects on the Anatomy and Histology of the Reproductive Tract of the Male Rodent Mole *Bathyergus suillus suillus* (Schreber). *Zoologica Africana* 7(2): 491-520.
2. Van der Horst, G. 1978. The structure of the testis of the mullet, *Liza dumerili* (Teleostei; Mugilidae) with special reference to spermatogenesis. *Zool. Africana* 13(2): 223-243.
3. Van der Horst, G. 1978. The structure of the spermatozoon of *Liza dumerili* (Teleostei) with notes on spermiogenesis. *Zool. Africana* 13(2): 245-258.
4. Van der Horst, G. 1978. The breeding cycle of male *Liza dumerili* (Teleostei; Mugilidae). *Zool. Africana* 13(2): 259-273.
5. Van der Horst, G. Cross, R.H.M. 1978. A simple method for the preparation of sperm of external fertilizers for scanning electron microscopy. *Stain Technology* 53(4): 191-194.

6. McLachlan, A., Cooper, C. and Van der Horst, G. 1979. Growth and production of **Bullia rhodostoma** on an open sandy beach in Algoa Bay. S. Afr. J. Zool. 14: 49-53.
7. McLachlan, A., Wooldrige, T. and Van der Horst, G. 1979. Tidal movements of the macrofauna on an exposed sandy beach in South Africa. J. Zool., Lond. 188: 433-442.
8. McLachlan, A. and Van der Horst, G. 1979. Growth and production of two molluscs from an exposed sandy beach. S. Afr. J. Zool. 14(4): 194-201.
9. Van der Horst, G. 1979. Spermatozoon structure of three Anuran species. Proceedings electron microscopy society of South Africa. 9: 153-154.
10. Van der Horst, G., Dott, H.M. and Foster, G.C. 1980. Studies on the motility and cryopreservation of rainbow trout sperm (**Salmo gairdneri**) S. Afr. J. Zool. 15: 275-279.
11. Van der Horst, G. and Erasmus, T. 1980. Spawning time and spawning grounds of mullet species with special reference to the effect of the environment on reproduction in **Liza dumerili**. S. Afr. J. Sci., 77:73-78.
12. McLachlan, A., Erasmus, T., Wooldridge, T., Van der Horst, G., Rossouw, G., Lasiak, T.A. and McGwynne, L. 1981. Sand beach energetics: An ecosystem approach towards a high energy interface. Estuarine, Coastal and Shelf Science 12: 1-15.
13. Van der Horst, G. 1980. On the origin of a lipofuscin-like pigment in the testis of a teleost fish. Proc. Electron Microsc. Society of S.A. 10: 143-144.
14. Van der Horst, G. 1980. Differential effect of EM fixation on spermatid and sperm flagellae of a teleost fish. Proc. Electron. Microsc. of S.A. 10: 145-146.
15. Grobler, S.R. and van der Horst, G. 1982. Biochemical analysis of various colddrinks with regard to enamel erosion, de- and remineralization. Journal of the Dental Association S.A. 37: 681-684.
16. Grobler, S.R., Aalbers and van der Horst, G. 1983. The pH, calcium, potassium, sodium and phosphorus levels in South African Fruit Juices. J. of Dietetics and Home Economics 11: 95-98.

17. Van der Horst, G., Wesso, I., Burger, A.P., D. Dietrich, D.L.L. and Grobler, S.R. 1984. Chemical analysis of cooldrinks and fruit juices - some clinical implications. S.A. Medical Journal 66:755-758.
18. Van der Horst, G. and Samuels, J. 1984. A new videographic method with computer analysis for measuring human and bull sperm velocity. S. Afri. J. Sci. 80:144.
19. Van der Horst, G., Delpierre, G. and Pienaar, K. 1984. Does the PLATO computer based education system pay off at the University of the Western Cape. S. Afr. J. Sc. 80.
20. Van der Horst, G. 1984. The scanning electron microscopy of new and extensively used toothbrush bristles. Proc. EM. Society 14: 137- 138.
21. Van Der Horst, G. 1984. Phagocytosis of aged gametes in the oyster ***Crassostrea gigas***. Proc. EM. Society 14: 139-140.
22. McGwynne, L.E. and Van der Horst, G. 1985. Patterns of reproduction in three sandy beach whelks of the genus ***Bullia*** (Griffiths) J. Molluscan Studies 51: 190-197.
23. Van der Horst, G. 1985. Rat seminiferous tubules and vasectomy : A scanning electron microscopy study Proc. Electron microscope S.A. 15 : 187-188.
24. Van der Horst, G. 1986. Respiratory metabolism of fish, amphibian and mammalian sperm. Arch. Androl. 17(2) : 161-164.
25. Samuels, J.S. and Van der Horst, G. 1986. Sperm motility analysis by means of frame lapse videography Arch. Androl. 17(2) : 151-155.
26. Van der Horst, G., Hodgson, A.N., Bernard, R., Salie, W. and Maasdorp, J.J.W. 1986. Sperm ultrastructure of two Donax (*Bivalvia*) species. Proc. Electron. Microsc. 16: 69-70.
27. Van der Horst, G. and M^c Clusky, L. 1986. Scanning electron microscopy of the testicular ampullae and spermatocysts of the soupfin shark, ***Galeorhinus galeus***. Proc. Electron Microsc. 16: 71-72.
28. Van der Horst, G., Samuels, J. and Wiswedel, K. 1987. Quantitative analysis of sperm motion and potential in AIDS diagnosis. Arch. Aids Res. 1: 193.

29. Van der Horst, G. and Becker, W.B. 1987. AIDS epidemiology, AIDS research in South Africa and possibility of Animal Models. Arch. Aids Research 1: 214-215.
30. Van der Horst G., Jacobs, S. and Van Aswegen G. 1987. SEM of sperm in the testis and Wolfian duct of the african elephant, *Loxodonta africana*. Proc. Electron Microsc. 17: 79-80.
31. Visser, John and Van der Horst G. 1987. Description of *Heleophryne* sperm (Amphibia; Leptodactylidae). Proc. Electron Microsc. 17: 83-84.
32. Van der Horst, G. 1987. Current status of in-vitro fertilization in invertebrates. S. Afr. J. Sci. 83: 509.
33. Van der Horst, G., Burger, A.P. and Salie, W. 1988. A computerized system for measuring sperm oxygen consumption and sperm velocity of the same semen sample. Biol. Reprod. Suppl. Number 1 38:91.
34. Lasiak, T. and Van der Horst, G. 1988. Gametogenic activity in three internally fertilized prosobranchs from southern Africa with notes on egg capsules of *Burnupena lagenaria*. S. Afr. J. Zool. 23: 128-133.
35. Van der Horst, G. and Lasiak T. 1989. Characteristics of mature oocytes from four species of marine teleosts. S. Afr. J. Zool. 24:74-76.
36. Van der Horst, G., Kitchin, R.M., Curry, P.T. and Atherton, R.W. 1989. Use of membrane filters and osmium tetroxide etching in the preparation of sperm for scanning electron microscopy. Journal Electr. Microsc. Technique 12:65-70.
37. Curry, P.T., Ziemer, T., Van der Horst, G., Straley, M., Atherton, R.W. and Kitchin, R.M. 1989. A comparison of sperm morphology and silver nitrate staining characteristics in the domestic ferret and the black-footed ferret. Gamete Res. 22:27-36.
38. Van der Horst, G., Farris, M., Curry, P.T., Kitchin, R.M. and Atherton, R.W. 1989. Abnormal sperm: Species, inbreeding, age and season. Proc. Electron Microsc. S.A. 19:149 -150
39. Van der Horst, G., Visser, John and Van der Merwe, Liz, 1989. Fertilization pattern and sperm tail structure. Proc. Electron Microsc. S.A. 19:151 - 152
40. Hodgson, A., Bernard, R. and Van der Horst, G. 1990. Comparative spermatology of three species of *Donax* J. Moll. Stud. 56:257-265.

41. Van der Horst, G. and Lasiak, T. 1990. The effect of fixation, dehydration and clearing on the size of large cells. Proc. Electron Microsc. SA. 20:57 - 58.
42. Daries, E.J., L. Scott, Fisher, D.W. and Van der Horst, G. 1990. The effect of trichloroacetic acid and heat fixation on rat sperm morphology. Proc. Electron Microsc. SA. 20:59 - 60.
43. Kaskar, K., Van der Horst, G., Franken, D.R. and Kruger, T. 1990. Fresh, capacitated and bound human spermatozoa: A SEM study. Proc. Electron Microsc. SA 20:165 - 166.
44. Burger, B. and Van der Horst, G. 1990. The preparation of oyster embryos for scanning electron microscopy. Proc. Electron Microsc. SA. 20:65 - 66.
45. Van der Horst, G., Visser, J. and Van der Merwe, E. 1991. The ultra-structure of the spermatozoan of ***Typhlonectes natans*** (Gymnophiona): Typhlonectidae) J. Herpetol. 25(4):441 - 447.
46. Van der Horst, G., Curry, P.T. and Kitchin, R.M., Burgess, W., Thorne, E.T., Kwiatkowski, D., Parker, M. and Atherton, R.W. 1991 Light and scanning electron microscopy of sperm of four ferret species. Mol. Reprod. Dev. 30:232 - 240
47. Brinders, J and Van der Horst, G. 1991. Correlation between sperm motility patterns and sperm structural patterns in the Wistar rat. Comm. Electron Microsc. Soc. Southern Africa, 21:181 -182
48. Gabriels, Y. and Van der Horst, G. 1991. Assessment of cooling and freezing damage of rat cauda epididymal sperm by means of SEM. Comm. Electron Microsc. SA. 21:193 -194
49. Van der Horst, G. and Van der Merwe, Liz 1991. Late spermatid-sperm/Sertoli cell association in the caecilian, ***Typhlonectes natans*** (Amphibia:Gymnophiona). Comm. Electron Microsc. SA 21: 247 -248
50. Wilson, B, Van der Horst, G, and Channing, A. 1991. Scanning Electron Microscopy of the unique sperm of ***Chiromantis xerampelina*** (Amhibia:Anura). Comm. Electron Mocrosc. SA. 21:255 -256
51. Kaskar, K. and Van der Horst, Franken, D.R. and Kruger, T. 1991. Morphological features of human sperm-zona interaction: A comparison

between light and scanning electron microscopy. *Comm. Electron Microsc. SA* 21: 205 - 206

53. Jequier, A.M. and Van der Horst, G. 1993. Infertility. Chapter in *MIMS Disease Index (South African edition)*, pp 292 - 295.
54. Kaskar, K, Franken, DR, Van der Horst, G, Kruger, TF, Oehninger, S and Hodgen, GD. 1993 The effect of caffeine on sperm motility and zona pellucida binding of normo- and teratozoospermic men. *ARTA* 4:295-308.
55. Kaskar, K., Franken, D., Van der Horst, G., Kruger, TF, Oehninger, S and Hodgen, GD. 1993. The effect of follicular fluid on sperm motility and zona pellucida binding potential of normozoospermic men. *ARTA* 4:285-293.
56. Gabriel, L.K., Franken, DR, Van der Horst, G. Kruger, TF. 1993. Wheat germ agglutinin receptors on human sperm membranes and its relationship with sperm morphology. *Andrologia* 26:5-8.
57. Kaskar, K, Franken, DR, Van der Horst, G, Kruger, TF. 1994. The effect of pentoxifylline on sperm movement characteristics and zona pellucida binding potential of teratozoospermic men. *Hum. Reprod.* 9(3):477 - 481.
58. Kaskar, K., Franken, DR, Van der Horst, G. Oehninger, S, Kruger, TF, Hodgen, GD. 1994. The relationship between morphology, motility and zona pellucida binding potential of human spermatozoa. *Andrologia* 26:1-4
59. Gabriel, LK, Kaskar, K, Franken, DR, Van der Horst, G, Kruger, TF 1994. Wheat germ agglutinin activity on human spermatozoa and zona binding evaluated under hemizona assay conditions. *Hum. Reprod.*
60. Van der Horst, G. and Allison, H. 1994. Image analysis of motile cells: Patterns of sperm motility. *Proc. EMSSA* 24:95
61. Wilson, B., Van der Horst, G. and Channing, A. 1994. Scanning electron microscopy of South African Anuran sperm. *Proc. EMSSA* 24:94
62. Gabriel, L.K., Franken D.R., Van der Horst, G. Kruger, T.F. 1995. Localization of wheat germ agglutinin lectin receptors on human sperm by fluorescence microscopy: Utilization of different fixatives. *Archives of Andrology* 33:77-85.
63. Gabriel, LK, Kaskar, K. Franken, DR, Van der Horst, G, Kruger, TF. 1995. FITC-wheat germ agglutinin staining of spermatozoa and fertilization *in vitro*. *Fertility and Sterility* 63(4):894-901

64. Van der Horst, G., Wilson, B. and Channing, A. 1995. Amphibian sperm: Phylogeny and Fertilization environment. Mem. Mus. nat. Hist. nat 16:333-342
65. Wilson, B., Van der Horst., G. and Channing, A. 1995. A comparison of ranid versus rhacophorid sperm: Two extremes. Madoqua 19(1):61-64.
66. Spinks, A., van der Horst, G. And Bennett, N.C. 1997. Influence of breeding season and reproductive characteristics in the common mole-rat, *Cryptomys hottentotus*, J. Reprod. Fertil. 109:79-86
67. Seier, J. and van der Horst, G. (1997) Abnormal morphology of vervet monkey sperm. Am. J. Primatol. 25:397-403.
68. Van der Horst, G., Bornman, M.S. and Harper, I. 1996. Quantitative human sperm analysis: new approaches. Proceedings of the Microsc. Soc. of Southern Africa
69. Wilson, B., Van der Horst, G. and Channing, A. (1998). Comparison of motility patterns of sperm aspirated from amplexant pairs of *Xenopus laevis*, by electro-ejaculation and from the testes. Herpetological Journal (UK), 8:51-56.
70. De Jager C, Bornman MS & van der Horst G. I. The effect of p-nonylphenol, an environmental toxicant with oestrogenic properties, on fertility potential in adult male rats. Andrologia 1999;31(2):99-106.
71. Lambrechts, H, van Niekerk, FE, Cloete, SW, Coetzer, WA and van der Horst, G (1999) The effect of cryopreservation, viability and motility of epididymal African buffalo spermatozoa. Theriogenology, 52:1241 – 1249.
72. Van der Horst, G. Seier, JV, Spinks, AC, Hendricks, S. 1999. The maturation of sperm motility in the epididymis and vas deferens of the vervet monkey, *Cercopithecus aethiops*. Int. J. Androl 22:197-207
73. Lambrechts, H, van Niekerk, FE, Cloete, SW, Coetzer, WA and van der Horst, G (2000). Sperm viability and morphology of two genetically diverse merino lines. Reproduction and Development, 12:337 – 344.
74. Seier, JV, van der Horst, G, de Kock, M and Chwalisz, C (2000). The detection and monitoring of early pregnancy in the vervet monkey with the use of ultrasound and correlation with reproductive steroid hormones. Journal of Medical Primatology: 29:70-75.
75. Bennett, M, de Kock, M and van der Horst, G (2000). Oleanolic acid induction of apoptosis in Sertoli cells. Biol. Reprod. 62 (Suppl. 1) : 134
76. Van der Horst, G and Seier, J (2000). Comparisons of the motility and kinematic parameters of fresh and frozen-thawed cauda epididymal and ejaculate sperm in the

- vervet monkey. Biol Reprod. 62 (Suppl. 1) :145 – 146.
77. Hattingh, N and van der Horst, G (2000) The effect of WIN 18446 on the testis, epididymis and selected sperm parameters of male CBA mice. Biol. Reprod. 64 (Suppl. 1): 185.
 78. Abrahams, H, Seier, J, Johnson, Q and van der Horst, G (2002) The effect of selected amino acids on sperm motility in the vervet monkey (*Cercopithecus aethiops*) In: Proceedings of the 9th International Symposium on Spermatology 2002, pp 121 – 126 (eds G van der Horst, D Franken, M Bornman, T de Jager and S Dyer) Monduzzi Editori, Bologna, Italy.
 79. Bartels, P and van der Horst, G. 2002. Epididymal, vas deferens and ejaculate sperm of African buffalo: Motility, and Longevity of fresh, cooled to 4°C and frozen thawed sperm. In: Proceedings of the 9th International Symposium on Spermatology 2002, pp 1133 – 138. (eds G van der Horst, D Franken, M Bornman, T de Jager and S Dyer) Monduzzi Editori, Bologna, Italy.
 80. van der Horst, G (2002). Computer Aided Sperm Motility Analysis of sperm isolated from the Wolfian duct of the African elephant, *Loxodonta africana*. In: Proceedings of the 9th International Symposium on Spermatology 2002, pp 149 - 152. (eds G van der Horst, D Franken, M Bornman, T de Jager and S Dyer) Monduzzi Editori, Bologna, Italy.
 81. de Beer, de Kock, M, Johnson, Q and van der Horst, G (2002) The effect of two pesticides, Alachlor and Mancozeb, on Sertoli cells *in vitro*. In: Proceedings of the 9th International Symposium on Spermatology 2002, pp 197 – 200. (eds G van der Horst, D Franken, M Bornman, T de Jager and S Dyer) Monduzzi Editori, Bologna, Italy.
 82. Mdhuli, MC and van der Horst, G. 2002. Sperm motion characteristics and fertility of male Wistar rats. Laboratory Animals 36:1 – 6.
 83. Seier, JV, Chwalisz, K, Louw, J, van der Horst, G, de Kock, M, du Toit, D, Laubscher, JA. (2002). Endometrial function in vervet monkeys (*Cercopithecus aethiops*): morphology, β 3 integrin and insulin-like growth factor binding protein – 1 expression during the menstrual cycle and pregnancy in the normal and disrupted endometrium. Journal of Medical Primatology, 31: 330 – 339.
 84. Brooks, N.L. and van der Horst, G. (2003). Short-term effect of N’N-bis(dichloroacetyl)-1-8-octamethylenediamine (WIN 18446) on the testes, selected sperm parameters and fertility of male CBA mice. Laboratory Animals 37:363-373.
 85. Van der Horst, G., Seier, J. and Mdhuli, M, (2004) Subhuman primates as models for the development of male contraceptives. Gynecologic and Obstetric Investigation, 57(1):15-17.
 86. Mdhuli, MC, Seier, J and van der Horst (2004) The male vervet monkey: sperm

- characteristics and use in reproductive research. *Gynecol Obstet Invest.* 2004;57(1):17-18.
87. Van der Horst, G (2005). Reproduction: Male. In: the text book: *The Laboratory Primate*, pp529-539. Ed S-Wolfe-Coote. Elsevier Academic Press, London
 88. Van der Horst, G, Kitchin, RM, van der Horst, M, Atherton R (2009). The effect of the breeding season, cryopreservation and physiological extender on selected sperm and semen parameters of four ferret species: implications for captive breeding in the endangered black-footed ferret. *J Reprod Fert. Develop.* 21: 353-363.
 89. Van der Horst, G and Maree, L 2009. SpermBlue®: A new universal stain for human and animal sperm which is also amenable to automated sperm morphology analysis. *Biotechnic & Histochemistry* 2009, 84(6): 299–308.
 90. Maree, L, du Plessis, SS, Menkveld RM, and van der Horst, G (2010) Morphometric dimensions of the human sperm head depend on the staining method used. *Human Reproduction*, Vol.25, No.6 pp. 1369–1382
 91. Lebelo, SL, van der Horst, G (2010) The ultrastructure of the Sertoli cell of the vervet monkey, *Chlorocebus aethiops* *Tissue and Cell* 42(6):348-354.
 92. van der Horst, G and Jarvis, JUM (2012). Diversity of sperm midpiece size, mitochondrial number and structure in selected African mammals pp 94-99: *Sperm Cell Research in the 21st century: Historical discoveries to new horizons*; Ed: M Morisawa, Adthree Publishing Co, Ltd, Tokyo.
 93. van der Horst, G, Maree, L, Kotze, SL and O’Riain, JM (2011)
Sperm structure and sperm motility in the eusocial naked mole rat, *Heterocephalus glaber*, in the absence of sperm competition: A case of degenerative orthogenesis? *BMC Evolutionary Biology* 11:351 doi:10.1186/1471-2148-11-351 Published: 5 December 2011
 94. Lebelo, SL, and van der Horst, G, (accepted). The ultrastructure of the Leydig cells of the vervet monkey, *Chlorecebus aethiops*. *Italian Journal of Anatomy*.
 95. Imke Lueders, Ilse Luther, Gerhardus Scheepers, Gerhard van der Horst (2012) Improved semen collection method for wild felids: Urethral catheterization yields high sperm quality in African lions (*Panthera leo*) – *Theriogenology*. 78 (2012) 696–701

96. Maree, L and van der Horst, G (2013). Quantification and identification of sperm subpopulations using computer-aided sperm analysis and species-specific cut-off values for swimming speed. *Biotechnic & Histochemistry* 88 (3–4): 181–193.
97. Walton , S, Hofmeyr , SD, van der Horst, G (2013) Accurate automated quantitative imaging of tortoise erythrocytes using the NIS image analysis system. *Biotech and Histochem* 88: 242 – 249
98. Van der Horst G. and Maree, L. (2014). Sperm Form and Function in the Absence of Sperm Competition. *Molecular Reproduction & Development* 8 1:204–216 (2014)
99. van der Horst, G. (2014) Sperm motility subpopulations and fertility. Proceedings of the 25th Technical conference on artificial insemination and reproduction . Green Bay Wisconsin.25: 73-77
100. van der Horst, G. (2014) Overview of the AI industry in South Africa. Proceedings of the 25th Technical conference on artificial insemination and reproduction . Green Bay, Wisconsin 25: 95 – 98
101. van der Horst (2014) Automated Sperm morphology analysis Proceedings of the 25th Technical conference on artificial insemination and reproduction. Green Bay, Wisconsin25: 125 - 128
102. Mortimer, S, van der Horst, G and Mortimer, D (2015). The future of Computer aided semen analysis. *Asian Journal of Andrology* 17: 1- 9
103. Lueders, I, Tindall, B, Young, D, van der Horst, G, Botha, S, Luther, I, Maree, L and Bertschinger HJ. (2015) Standing sedation with medetomidine and butarphanol in captive African elephants (*Loxodonta Africana*) *Veterinary Journal* – online July 2015.
104. Ultrastructural Changes Occurring During Spermiogenesis of the Vervet Monkey, *Chlorocebus aethiops*. *Asian Journal of Animal Science*. *Asian J. Anim. Sci.*, 10 (4-5): 247-254, 2016
105. Mortimer, S, van der Horst, G and Mortimer, D (2015). The future of Computer aided semen analysis. *Asian Journal of Andrology* 17: 1- 9
106. Lueders, I, Tindall, B, Young, D, van der Horst, G, Botha, S, Luther, I, Maree, L and Bertschinger HJ. (2015) Standing sedation with medetomidine and butarphanol in captive African elephants (*Loxodonta Africana*) *Veterinary Journal* – online July 2015.
107. Lebelo,SL and van der Horst, G (2016) Ultrastructural Changes Occurring During Spermiogenesis of the Vervet Monkey, *Chlorocebus aethiops*. *Asian Journal of Animal Science*, 10 (4-5): 247-254,
108. Lebelo, SL and van der Horst, G. Histological and Ultrastructural Features of the Leydig Cells and their Association with other Testicular Cells of the Vervet Monkey, *Chlorocebus aethiops*. *Pakistan journal of Zoology* 49(5):1595-1601 · July 2017 DOI:

10.17582/journal.pjz/2017.49.5.1595.1601

109. Fereshteh Dardmeh, Hiva Alipour, Parisa Gazerani, Gerhard van der Horst, Erik Brandsborg⁴, Hans Ingolf Nielsen Lactobacillus rhamnosus PB01 (DSM 14870) supplementation affects markers of sperm kinematic parameters in a diet-induced obesity mice model. PLoS One 12(10): e0185964. <https://doi.org/10.1371/journal.pone.0185964>
110. Effects of GnRH vaccination in wild and captive African Elephant bulls (*Loxodonta africana*) on reproductive organs and semen quality Imke Lueders, Debbie Young, Liana Maree, Gerhard van der Horst, Ilse Luther, Stephan Botha, Brendan Tindall, Geoffrey Fosgate, Andre' Ganswindt, Henk J. Bertschinger PLoS One 12 (9) One e0178270. <https://doi.org/10.1371/journal.pone.0178270>
111. G van der Horst and Stefan du Plessis 2017. Not just the marriage of figaro: but the marriage of who/eshre semen analysis criteria with sperm functionality Polish Andrology Online 2017, 4 (1) , 6 – 21
112. Bashir M. Ayad, Gerhard Van der Horst, Stefan S. du Plessis 2017 Short abstinence: A potential strategy for the improvement of sperm quality. Middle East Fertility Society Journal (In press).
113. Patrick Siyambulela Mafunda , Liana Maree , Antoinette Kotze , Gerhard van der Horst . 2017. Sperm structure and sperm motility of the African and Rockhopper penguins with special reference to multiple axonemes of the flagellum. Theriogenology 99: 1 – 9.
114. G van der Horst, B Skosana, Audrey Legendre, Peter Oyeyipo, S du Plessis. 2017 Cut-off values for normal sperm morphology and toxicology for automated analysis of rat sperm morphology and morphometry. Biotechnic and Histochemistry DOI: <https://doi.org/10.1080/10520295.2017.1380842>
115. H. Alipour¹, G. Van Der Horst, O.B. Christiansen, F. Dardmeh, N. Jørgensen, H.I. Nielsen, and C. Hnida. 2017 Improved sperm kinematics in semen samples collected after 2 h versus 4–7 days of ejaculation abstinence. Human Reproduction. doi:10.1093/humrep/dex101
116. Van der Horst, G, Medger, K, Steckler, D, Luther, I, Bartels, P. Bottlenose dolphin (*Tursiops truncatus*) sperm revisited: Motility, morphology and ultrastructure of fresh sperm of consecutive ejaculates. Animal Reproduction Science, 195: 309 – 320
117. G van der Horst, Liana Maree and Stefan du Plessis, 2018. Current perspectives of CASA applications in diverse mammalian spermatozoa. Reproduction Fertility and Development. <https://doi.org/10.1071/RD17468>

118. G van der Horst, M Bennett and JDD Bishop. 2018. CASA in invertebrates. *Reproduction Fertility and Development*. <https://doi.org/10.1071/RD17470>
119. R Kotze, N Muller, L du Plessis, G van der Horst (2019) The importance of insect sperm: Sperm ultrastructure of *Hermetia illucens* (black soldier fly) *Tissue and Cell* DOI: 10.1016/j.tice.2019.06.002