

## CURRICULUM VITAE

Barry A. Ball

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### Education

Virginia Tech	BS candidate	1974-77	Animal Science
University of Georgia	DVM	1981	Summa Cum Laude
Cornell University	PhD	1987	Veterinary Medicine
American College of Theriogenologists	Board Cert.	1987	Diplomate

### Appointments

2010-current	Professor and Clay Chair in Equine Reproduction. Department of Veterinary Science, Gluck Equine Research Center, University of Kentucky.
2004-05	<b>Bye Fellow</b> , Robinson College, University of Cambridge.
1996-2010	Professor, University of California, Davis, Department of Population Health and Reproduction. John P. Hughes Endowed Chair in Equine Reproduction,
1993-96	Associate Professor of Theriogenology, Cornell University, Department of Clinical Sciences.
1987-93	Assistant Professor of Theriogenology, Cornell University, Department of Clinical Sciences.
1984-87	Graduate Research Assistant, Cornell University.
1982-84.	Resident in Reproduction, University of Florida, Clinical Theriogenology, instruction of third and fourth year veterinary students.
1981-82	Veterinarian, Washington County Veterinary Service, Abingdon, Virginia. Bovine and equine practice.

### Professional Societies

1981-present	American Veterinary Medical Association.
1981- present	Society for Theriogenology,.
1987- present	American College of Theriogenologists. President-elect 2013-14.
1996- present	American Association of Equine Practitioners.

### Honors and Awards

1984	Graduate rotating assistantship - College of Veterinary Medicine, Cornell.
1987	First place award, Student Research Competition, International Embryo Transfer Society, Dublin, Ireland.
1992	SmithKline Beecham Award for Research Excellence - Cornell University.
1996	Excellence in Equine Research Award, American Veterinary Medical Association.
1997	John P. Hughes Endowed Chair in Equine Reproduction. University of California, Davis.
1997	Schering-Plough Award for Outstanding Research in Equine Reproduction; World Equine Veterinary Association; Padua, Italy.
2003	Carl Norden – Pfizer Distinguished Teacher Award; School of Veterinary Medicine, University of California, Davis.
2004-05	Bye Fellow, Robinson College; University of Cambridge.
2004-05	Fulbright Distinguished Scholar – University of Cambridge and Equine Fertility Unit, Newmarket.
2005-13	Senior Membership, Robinson College; University of Cambridge.
2012	Theriogenologist of the Year. American College of Theriogenologists.

### Selected Publications (from a list of 114 referred publications):

- 1) Ricker JV, Linfor JJ, Delfino WJ, Kysar P, Scholtz EL, Tablin F, Crowe JH, **Ball BA**, Meyers SA. Equine sperm membrane phase behavior: The effects of lipid-based cryoprotectants. *Biol Reprod* 74:359-365, 2006.
- 2) Sabeur K, **Ball BA**. Detection of superoxide anion generation by equine spermatozoa *Am J Vet Res* 67:701-706, 2006.
- 3) Brinsko SP, **Ball BA**. Characterization of lymphocyte subsets in the equine oviduct. *Eq Vet J* 38:214-218, 2006.
- 4) **Ball BA**, Sabeur K, Nett TM, Liu IKM. Effects of a GnRH-cytotoxin on reproductive function in peripubertal male dogs. *Theriogenology* 66:766-774, 2006.
- 5) Sabeur K, **Ball BA**. Characterization of galactose-binding proteins in equine testis and spermatozoa. *An Reprod Sci* 101:74-84, 2007.
- 6) Sabeur K, **Ball BA**. Characterization of NADPH oxidase 5 (NOX5) in equine testis and spermatozoa. *Reproduction* 134:263-270, 2007.
- 7) Burnaugh L, Sabeur K, **Ball BA**. Generation of superoxide anion by equine spermatozoa as detected by dihydroethidium. *Theriogenology* 67:580-589, 2007.

- 8) Brown JA, Mapes S, **Ball BA**, Hodder ADJ, Liu IKM, Pusterla N. Prevalence of equine herpesvirus-1 infection among Thoroughbreds residing on a farm on which the virus was endemic. *J Am Vet Med Assoc*. 231:577-580, 2007.
- 9) **Ball BA**, Sabeur K, Allen WR. Liposome-mediated uptake of exogenous DNA by equine spermatozoa and applications in sperm-mediated gene transfer. *Equine Veterinary Journal* 40:76-82, 2008.
- 10) Sabeur K, **Ball BA**, Corbin CJ, Conley A. Characterization of a novel, testis-specific equine serine / threonine kinase. *Mol Reprod Dev* 75:867-873, 2008.
- 11) **Ball BA**, Conley AJ, Grundy SA, Sabeur K, Liu IKM. Expression of anti-Müllerian Hormone (AMH) in the equine testis. *Theriogenology* 69:624-631, 2008.
- 12) Brum A, Sabeur K, **Ball BA**. Apoptotic-like changes in equine spermatozoa separated by density-gradient centrifugation or after cryopreservation. *Theriogenology* 69:1041-1055, 2008.
- 13) **Ball BA**, Conley AJ, Grundy SA, Sabeur K, Liu IKM. Expression of anti-Müllerian Hormone (AMH) in equine granulosa-cell tumors and in normal equine ovaries. *Theriogenology* 70:968-977, 2008.
- 14) Claes A, **Ball BA**, Brown JA, Kass PH. Rectal tears in horses: Risk factors, management and outcome: 99 cases (1985-2006). *J Am Vet Med Assoc* 233:1605-1609, 2008.
- 15) **Ball BA**. Oxidative stress, osmotic shock and apoptosis: Impacts on sperm function and preservation in the horse. *An Reprod Sci* 107:257-267, 2008.
- 16) Burnaugh L, **Ball BA**, Sabeur K, Thomas AD, Meyers SA. Osmotic stress stimulates generation of superoxide anion by equine spermatozoa. *An Reprod Sci* 117:249-260, 2010.
- 17) Assis AC, **Ball BA**, Browne P, Conley AJ. Cellular Localization of Androgen Synthesis in Equine Granulosa-theca Cell Tumors: Immunohistochemical Expression of 17 $\alpha$ -hydroxylase/17,20-lyase Cytochrome P450. *Theriogenology* 74:393-401, 2010.
- 18) Almeida J, Conley AJ, Mathewson L, **Ball BA**. Expression of steroidogenic enzymes during equine testicular development. *Reproduction* 141:841-848, 2011.
- 19) Almeida J, **Ball BA**, Conley AJ, Mathewson L, Place NJ, Liu IKM, Scholtz EL, Stanley SD, Moeller BC. Biological and clinical significance of anti-Müllerian hormone determination in blood serum of the mare. *Theriogenology* 76:1393-1403, 2011.
- 20) Almeida J, Conley AJ, Mathewson L, **Ball BA**. Expression of anti-Müllerian hormone, CDKN1B, androgen receptor and connexin43 in equine testis during puberty. *Theriogenology* 77:847-857, 2012.
- 21) Pereira GR, Lorenzo PL, Carneiro GF, **Ball BA**, Goncalves PB, Pegoraro LM, Bilodeau-Goeseels S, Kastelic JP, Casey PJ, Liu IKM. The effect of growth hormone (GH) and insulin-like growth factor-I (IGF-I) on in vitro maturation of equine oocytes. *Zygote* 20:353-360, 2012.
- 22) **Ball BA**, Almeida J, Conley AJ. Determination of serum anti-Müllerian hormone concentrations for the diagnosis of granulosa-cell tumors in mares. *Equine Vet J* 45:199-203, 2013.
- 23) Almeida J, Conley AJ, **Ball BA**. Expression of anti-Müllerian hormone, cyclin kinase inhibitor, connexin 43, androgen receptor and steroidogenic enzymes in the equine cryptorchid testis. *Equine Vet J* 45:538-545, 2013.
- 24) Stoll A, Love CC, **Ball BA**. Use of a single-layer density centrifugation method enhances sperm quality in cryopreserved-thawed equine sperm. *J Equine Vet Sci* 33:547-551, 2013.
- 25) Keith LA, **Ball BA**, Scoggin KE, Esteller-Vico A, Woodward EM, Squires EL, Troedsson MHT. Diestrus administration of oxytocin prolongs luteal maintenance and reduces plasma PGFM concentrations as well as endometrial COX-2 expression in mares. *Theriogenology* 79:616-624, 2013.
- 26) Claes A, **Ball BA**, Almeida J, Corbin CJ, Conley AJ. Serum anti-Müllerian hormone concentrations in stallions: Developmental changes, seasonal variation, and differences between intact stallions, cryptorchid stallions and geldings. *Theriogenology* 79:1229-1235, 2013.
- 27) Pereira GR, Lorenzo PL, Carneiro GF, **Ball BA**, Bilodeau-Goesells S, Kastelic J, Pegoraro LMC, Pimentel CA, Esteller-Vico A, Illera JC, Granado G, Casey P, Liu IKM. The involvement of growth hormone in equine oocyte maturation, receptor localization and steroid production by cumulus-oocyte complexes in vitro. *Res Vet Sci* 95:667-674, 2013.
- 28) **Ball BA**, Scoggin KE, Troedsson MHT, Squires EL. Characterization of Prostaglandin E<sub>2</sub> Receptors (EP2, EP4) in the Equine Oviduct. *An Reprod Sci* 142:35-41, 2013.
- 29) Canisso IF, **Ball BA**, Troedsson MH, Silva ESM, Davolli GM. Decreasing pH of mammary gland secretions is associated with parturition and is correlated with electrolyte concentrations in prefoaling mares. *Vet Rec* 173:218, 2013.
- 30) Claes A, **Ball BA**, Corbin CJ, Conley AJ. Age and season affect serum testosterone concentrations in cryptorchid stallions. *Vet Rec* 173:168, 2013.
- 31) Kruger M, Pitts N, Fayrer-Hosken R, **Ball BA**, Virgo J, Betts E, Buss P. Validation of a fecal glucocorticoid metabolite assay to measure stress in the White Rhinoceros (*Ceratotherium simum*). *Gen Comp Endocrinol* (submitted) 2013.
- 32) **Ball BA**, Conley AJ, Almeida J, Esteller-Vico A, Crabtree J, Munro C, Liu IKM. A retrospective analysis of 2,253 cases submitted for endocrine diagnosis of possible granulosa-cell tumors in mares. *J Eq Vet Sci* 34:307-313, 2014.
- 33) Canisso IF, **Ball BA**, Erol E, Claes A, Scoggin KE, McDowell KJ, Williams NM, Dorton Ar, Wolfsdorf KE, Squires EL, Troedsson MHT. Experimental induction of nocardioform placentitis (*Crossiela equi*) in mares. *Equine Vet J* (in press) 2014.
- 34) Scholtz EL, Krishnan S, **Ball BA**, Corbin CJ, Moeller BC, Stanley SD, McDowell KJ, Hughes AL, McDonnell DP, Conley AJ. Pregnancy without Progesterone: A "new", natural progestin. *PNAS* (In press) 2014.

35) Claes A, **Ball BA**, Scoggin KE, Esteller-Vico A, Kalmar JJ, Conley AJ, Squires EL, Troedsson MHT. The relationship between anti-Müllerian hormone, ovarian follicular populations and age in mares. *Reproduction* (submitted) 2014.