

Dalen William Agnew, DVM, PhD, Dipl. ACVP

Department of Pathobiology and Diagnostic Investigation
Veterinary Diagnostic Laboratory
College of Veterinary Medicine; Michigan State University
4125 Beaumont Road Lansing, MI 48910
Tel: (517) 432-5806 Fax: (517) 353-5096
E-mail: agnewd@msu.edu

EDUCATION

Doctor of Philosophy, Graduate Group in Comparative Pathology, 2002 – 2006
University of California, Davis
Dissertation: Comparative Studies of the Immunopathogenesis of Trichomoniasis
Advisors: Drs. Robert BonDurant and Linda Munson

Residency in Veterinary Anatomic Pathology, 1999 – 2002
University of California, Davis
ACVP board certification, September 2002

Doctor in Veterinary Medicine (with honors), 1986-1990
Michigan State University, College of Veterinary Medicine

Additional college studies

Michigan State University, Animal Science Department 1985-1986
Princeton University, Russian Studies Department 1983-1985
Oakland University, Selected courses in Economics, Psychology, and Philosophy 1982

Additional training

AAVMC Leadership Academy – East Lansing, Indianapolis, Washington, DC. 2015.
Two-day Investigator Training Program (Pfizer) – Michigan State University, Jun 2011.
Shortcourse in digital image management with Image Pro software – Bethesda, MD Aug 2010.
Shortcourse on Pathobiology of the Laboratory Mouse – Jackson Labs, Bar Harbor, MA. Jul 2003.
Seminars in College Teaching – UCD. Jan, 2003-Mar, 2003.

PROFESSIONAL EXPERIENCE

Sep 2020 – Present: **Professor**, Diagnostic Center for Population and Animal Health, Department of Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI.
Oct 2019 – present: **Chair**, Department of Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI.
Sep 2012 – Present: **Associate Professor**, Diagnostic Center for Population and Animal Health, Department of Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI.
Sep 2006 – Sep 2012: **Assistant Professor**, Diagnostic Center for Population and Animal Health, Department of Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI.
Jan 2005 – Aug 2006: **NIH Training Grant Fellow**, Center for Comparative Medicine, University of California, Davis, CA.
Aug 2002 – Dec 2004: **Veterinary Graduate Academic in Pathology**, Department of Pathology, Microbiology, and Immunology, School of Veterinary Medicine, University of California, Davis, CA.
Aug 2001 – Jul 2002: **Resident Pathologist**. Zoological Society of San Diego, Center for the Reproduction of Endangered Species, Department of Pathology, San Diego, CA.
Aug 1999 – Aug 2001: **Resident, Anatomic Pathology**. Veterinary Medical Teaching Hospital, College of Veterinary Medicine, University of California, Davis, CA.
Feb 1994 – May 1999: **Chief Veterinarian**. Detroit Zoological Institute, Royal Oak, MI.
Jun 1995 – May 1999: **Assistant Adjunct Professor of Small Animal Clinical Sciences**. Michigan State University College of Veterinary Medicine, East Lansing, MI.
Jul 1990 - Feb 1994: **Senior Veterinarian**. Detroit Zoological Park, Royal Oak, MI.

ADDITIONAL PROFESSIONAL POSITIONS

- Jan 2006 – present: **Consulting Pathologist**, Association of Zoos and Aquaria, Reproductive Management Center, St. Louis Zoo, St. Louis, MO.
Sep 2017 – present: **Consulting Pathologist**, Association of Zoos and Aquaria, Polar Bear Research Council

HONORS AND AWARDS

- ACVP Presidential Service Award (for enacting the new examination format) (2017)
CL Davis Samuel Thompson Award (Gross Pathology Teaching Award) (2014)
UCD Cordy Prize, 2005;
UCD Stabenfeldt Award, 2004;
CL Davis Pathology Student Scholarship Award, 2003;
AAZV Presidential Service Award (2002, 2004, 2006).
Member, African Studies Center (2012- current)
Member, Asian Studies Center (2019 - current)

RESEARCH

RESEARCH-RELATED PUBLICATIONS

Refereed Publications

2021

1. Nguyen SL, Ahn SH, Greenberg JW, Collaer BW, **Agnew DW**, Arora R, Petroff MG. 2021. Integrins mediate placental extracellular vesicle trafficking to lung and liver in vivo. *Sci Rep*.
2. 11(1):4217 Moresco A, Feltrer-Rambaud Y, Wolfman D, **Agnew DW**. Reproductive one health in primates. *Am J Primatol*. 2021 Sep 13:e23325
3. Penticoff HB, Hipkiss HK, Hetak AA, **Agnew DW**, Fortin JS. Survey of amyloidosis cases among different free-living wild and zoo animals. *Amyloid*. 2021 Sep;28(3):145-152.

2020

1. Hossaini Nasr S, Rashidjahanabad Z, Ramadan S, Kauffman N, Parameswaran N, Zinn KR, Qian C, Arora R, **Agnew D**, Huang X. 2020. Effective atherosclerotic plaque inflammation inhibition with targeted drug delivery by hyaluronan conjugated atorvastatin nanoparticles. *Nanoscale*. 7;12(17):9541-9556.
2. Needle DB, **Agnew DW**, Bradway DS, Nordhausen RW, Garner MM. 2020. Avian coxiellosis in nine psittacine birds, one black-browed barbet, and one paradise tanager. *Avian Pathol*. 49(3):268-274.

2019

1. **Needle DB**, Wise AG, Gregory CR, Maes RK, Sidor IF, Ritchie BW, **Agnew D**. 2019. Necrotizing Ventriculitis in Fledgling Chimney Swifts (*Chaetura Pelagica*) Associated With a Novel Adenovirus, Chimney Swift Adenovirus-1 (CsAdV-1). *Vet Pathol*.
2. Nelli RK, De Koster J, Roberts JN, de Souza J, Lock AL, Raphael W, **Agnew D**, Contreras GA. 2019. Impact of uterine macrophage phenotype on placental retention in dairy cows. *Theriogenology*. 127:145-152.
3. Goblet CC, Moresco A, Garner MM, **Agnew DW**, Newell-Fugate AE. 2019. Retrospective characterization of reproductive tract lesions in relation to age, parity, and contraception in captive suidae and tayassuidae. *Theriogenology*. 127:137-144.

2018

1. Corner, S, Yuzbasiyan-Gurkan, V, **Agnew, D**, Venta, PJ. Development of a 12-plex of new microsatellite markers using a novel universal primer method to evaluate the genetic diversity of jaguars (*Panthera onca*) from North American zoological institutions. *Cons Gen Res*. 2018.
2. Pesavento PA, **Agnew D**, Keel MK, Woolard KD. Cancer in wildlife: patterns of emergence. *Nat Rev Cancer*. 2018 Oct;18(10):646-661.
3. Hossaini Nasr S, Tonson A, El-Dakdouki MH, Zhu DC, Agnew D, Wiseman R, Qian C, Huang X. Effects of Nanoprobe Morphology on Cellular Binding and Inflammatory Responses: Hyaluronan-Conjugated Magnetic Nanoworms for Magnetic Resonance Imaging of Atherosclerotic Plaques. *ACS Appl Mater Interfaces*. 2018 Apr 11;10(14):11495-11507

2017

1. Wanji S, Eyong EJ, Tendongfor N, Ngwa CJ, Esuka EN, Kengne-Ouafo AJ, Datchoua-Poutcheu FR, Enyong P, **Agnew D**, Eversole RR, Hopkins A, Mackenzie CD. Ivermectin treatment of Loa loa hyper-microfilaraemic baboons (*Papio anubis*): Assessment of microfilarial load reduction, haematological and biochemical parameters and histopathological changes following treatment. *PLoS Negl Trop Dis*. 2017 11(2); 446-452.
2. Armstrong, DL, McGowen, MR, Weckle, A, Pantham, P, Caravas, J, **Agnew, DW**, Benirschke, K, Savage-Rumbaugh, S, Nevo, E, Kim, CJ, Wagner, GP, Romero, R, Wildman, DE. The core transcriptome of mammalian placentas and the divergence of expression with placental shape. *Placenta*, 2017; 71-78

2015

1. O'Neill, M, Geary, JF, **Agnew, DW**, Mackenzie, CD, Geary, TG. In vitro flubendazole-induced damage to vital tissues in adult females of the filarial nematode *Brugia malayi*. *International Journal for Parasitology: Drugs and Drug Resistance*. 2015, 5: 135-140.

2014

1. Moresco A, Dadone L, Arble J, Klaphake E, **Agnew DW**, Location and removal of deslorelin acetate implants in female African lions (*Panthera leo*). *J Zoo Wildl Med*. 2014 Jun;45(2):397-401.
2. Gilbreath ET, MohanKumar SMJ, Balasubramanian P, **Agnew DW**, MohanKumar PS. Chronic exposures to low levels of estradiol and their effects on the ovaries and reproductive hormones: Comparison with aging, 2014. *Endocrine Disruptors*, 2:1, 1-9.
3. Browne RK1, Kaurova SA, Uteshev VK, Shishova NV, McGinnity D, Figiel CR, Mansour N, **Agnew D**, Wu M, Gakhova EN, Dzyuba B, Cosson J. Sperm motility of externally fertilizing fish and amphibians. *Theriogenology*. 2015 Jan 1;83(1):1-13.

2013

1. Mason, K. L., Rogers, L. M., Soares, E. M., Bani-Hashemi, T., Downward, J. B., **Agnew, D. W.**, Peters-Golden, M., Weinberg, J. B., Crofford, L.J., Aronoff, D. M. Intrauterine Group A Streptococcal Infections are Exacerbated by Prostaglandin E₂. *J of Immunol*. 2013
2. Ballegeer, EA, Madrill, NJ, Berger, KL, **Agnew, DW**, McNeil, EA. Evaluation of hypoxia in a feline model of head and neck cancer using ⁶⁴Cu-ATSM positron emission tomography/computed tomography. *BMC Cancer*, 2013
3. Fierro BR, **Agnew DW**, Duncan AE, Lehner AF, Scott MA. Skunk musk causes methemoglobin and Heinz body formation in vitro. *Vet Clin Pathol*. Sep;42(3):291-300. 2013
4. Pasquel, SG, **Agnew, D**, Nelson, N, Kruger, JM, Sonea, I, Schott, HC. Ureteropyeloscopic anatomy of the renal pelvis of the horse. *Eq Vet J*. 45, S45, 31–38, 2013.
5. Moresco, A, **Agnew, DW**. Reproductive health surveillance in zoo and wildlife medicine. *J Zoo Wildl Med*. 44(4 suppl): S26-33. 2013.

2012

1. Adu-Addai B, Koney EB, Addo P, Kaneene J, Mackenzie C, **Agnew DW** Importance of infectious bovine reproductive diseases: an example from Ghana. *Vet Rec.* 2012 Jun 16
2. Christiansen, BW, Schlafer, DH, **Agnew, DW**, Wang, C, Kozlowski, C, Asa, CS. Diagnostic value of transcervical endometrial biopsies in domestic dogs compared with full-thickness uterine sections.. *Reprod Dom Anim* 47 (Suppl. 6), 342-346. 2012
3. Geary, J, Satti, M, Moreno, Y, Madrill, N, Whitten, D, Headley, SA, **Agnew, DW**, Geary T, Mackenzie, C. First analysis of the secretome of the canine heartworm, *Dirofilaria immitis*. *Parasit Vectors* 5: 140-150. 2012.

2011

1. Emera, D, Casola, C, Lynch, VJ, Wildman, DE, **Agnew, DW**, Wagner, GP. Convergent evolution of endometrial prolactin expression in primates, mice, and elephants through the independent recruitment of transposable elements. *Mol. Biol. Evol.* 2011 (Epub).
2. Browne, RK, Li, H, Robertson, H, Uteshev, VK, Shishova, R, McGinnity, D, Nofs, S, Figiel, CR, Mansour, N, Lloyd, NE, **Agnew, D**, Carleton, CL, Wu, M, Gakhova, EN. Reptile and amphibian conservation through gene banking and other reproduction technologies. *Russ J Herpetol.* 2011 18(3):165-174.

2010

1. Rumbleiha WK, **Agnew DW**, Maxie G, Hoff B, Page C, Curran P, Powers B. Analysis of a Survey Database of Pet Food-Induced Poisoning in North America. *J Med Toxicol.* 2010, 15 Apr (Epub ahead of print).

2008

1. **Agnew, DW**, Corbeil, LB, Munson, L, Byrne, BA, BonDurant, RH. A pregnant mouse model for *Tritrichomonas foetus* infection. 2008. *Vet Pathol* 45(6): 857-872.

2007

1. Cobo, ER, Corbeil, LB, **Agnew, DW**, VanHoosear, K, Friend, A, Olesen, DR, BonDurant, RH. *Tetratrichomonas* spp. And *Pentatrichomonas hominis* are not persistently detectable after intravaginal inoculation of estrous heifers. 2007. *Vet Parasitol.*, 150: 18-26.
2. **Agnew DW**, Munson L, Cobo ER, Olesen D, Corbeil LB, Bondurant RH. Comparative histopathology and antibody responses of non-Tritrichomonas foetus trichomonad and Tritrichomonas foetus genital infections in virgin heifers. 2007 *Vet Parasitol.* 151 (2-4):170-180.

2006

1. Ambati, BK, Nozaki, M, Singh, N, Jani, PD, Takeda, A, Richter, E, Albuquerque, RJC, Suthar, T, Sakurai, E, Caldwell, R, Ogura, Y, Mahasreshti, P, Arcchia, A, Samuelson, DA, **Agnew, D**, St. Leger, J, Ikeda, S, Leiper, LJ, Collinson, JM, Bogdanovich, S, Khurana, T, Shibuya, M, Baldwin, ME, Ferrara, N, Gerber, H-P, De Falco, S, Witta, J, Baffi, JZ, Raisler, BJ, Ambati, J. Corneal avascularity is due to soluble VEGF receptor-1. 2006. *Nature*, 443:993-997.

2005

1. Yokoyama, S, Takenaka, N, **Agnew, D**, Shoshani, J. Elephants and human color-blind deuteranopes have identical sets of visual pigments. *Genetics* 2005, 170:335-44.
2. Corbeil, LB, Campero, CM, Rhyan, JC, Anderson, ML, Gershwin, LJ, **Agnew, D**, Munson, L, BonDurant, RH. Uterine mast cells and IgE antibody responses during clearance of *Tritrichomonas foetus*. *Vet Pathol.* 2005 42: 282-90.

2004

1. **Agnew, D**, Munson, LM, Ramsay, E. Cystic endometrial hyperplasia in elephants. *Vet. Pathol.* 2004, 41(2): 179-183.

2002

1. Van Hoogmoed, L, **Agnew, D**, Whitcomb, M, Hyde, D, MacDonald, M, Snyder, J. Ultrasonographic and histologic evaluation of medial and middle patellar ligaments in exercised horses following injection with ethanolamin oleate and 2% iodine in almond oil. *Am. J. Vet. Res.* 2002, 63:738-43.

2000

1. Shoshani, J, Rasmussen, LEL, Kupsy, WJ, **Agnew, D**, Borszcz. Do elephants feel pain, and if so how do we know this? *Elephant.* 2000; 2(4): 48-51.

1998

1. Schaffer, N, Bryant, W, **Agnew, D**, Meehan, T, Beehler, B. Ultrasonographic monitoring of artificially stimulated ejaculation in three rhinoceros species (*Ceratotherium simum*, *Diceros bicornis*, *Rhinoceros unicornus*). *J. Zoo Wildl. Med.* 1998; 29 (4): 386-393.

Books

1. Tell, LA, Hazlehurst, JA, Bandivadekar, RR, Brown, JC, Spence, AR, Powers, DR, **Agnew, DW**, Woods, LW, Engilis, A. Hummingbird (Family Trochilidae) Research: Welfare-conscious Study Techniques for Live Hummingbirds and Processing of Hummingbird Specimens. Museum of Texas Tech University, Lubbock, TX. 2021

Book Chapters

1. Agnew, D, Nofs, S, Rosenberger A, Delany, M. Xenartha. *in* Pathology of Zoo and Wild Animals. Terio, K, McAloose, D, St. Leger, J. eds. Elsevier. 2018
2. Agnew, D. Camelidae. *in* Pathology of Zoo and Wild Animals. Terio, K, McAloose, D, St. Leger, J. eds. Elsevier. 2018
3. Agnew, D. and MacLachlan, NJ. Reproductive system *In* Tumors of the Domestic Animals. Meuten, D. ed. Ames, IA, Wiley Blackwell. 2017.
4. Michael R. McGowen, **Dalen Agnew** and Derek E. Wildman. Reproduction and placentation in Neotropical carnivores. *in* Molecular Population Genetics, Phylogenetics, Evolutionary Biology and Conservation of the Neotropical Carnivores. Edited by Manuel Ruiz Garcia. Hauppauge NY: Nova Science Publishers. 2011

CONFERENCE PRESENTATIONS (DALEN AGNEW)

1. **Agnew, D**, Nordstrom, S, Bolton, M, Fenton, K, Hartshorn, T, Grooms, D. DVMDx™ - Digital necropsies: The 21st century veterinary post-mortem examination. Higher Education in Development Conference. Kampala Uganda. 18-19 Jun 2015.
2. **Agnew, D**, Grooms, D, Stretton, C, Bolton, M, Norstrom S. DVM Dx – Bridging the Diagnostic Gap. Michigan Veterinary Conference. Lansing, MI 29 Jan-1 Feb 2015.

3. **Agnew, D.** Wild welfare. (Zoo animal welfare). Michigan Veterinary Conference. Lansing, MI 29 Jan-1 Feb 2015.
4. **Agnew, D,** Stretton, C, Bolin, S, Mullaney, T, Pfluger, B, Hint, M, Severt, E, Nordstrom, S, Bolton, M, Fenton, K, Hall, S, Hill, T, Gaudet, A, Hartshorn, T, and Grooms, D. Validation of digital gross necropsies in feedlot cattle and calf ranches. ACVP Annual Conference, Atlanta, GA, 8-12 Nov 2014.
5. Asa, C, **Agnew, D,** Moresco, A, Christensen, B, Agnew, M. Zoo Animal Infertility Workshop. Mid-year Meeting, Association of Zoos and Aquariums, Memphis, TN. 24-26 Mar 2014. (team presentation)
6. **Agnew, DW,** Moresco, A. What's in a pituitary? The importance of the pituitary gland in diagnostic medicine. AAZV Annual Conference, Orlando, FL 18-24 Oct 2014.
7. **Agnew, DW,** Adu-Addai, B, Addo, P, Kettler, N, Bolin, C. Serological survey of leptospirosis in Ghanaian cattle. Conference for Research Workers in Animal Disease (CRWAD). Chicago, IL 8-10 Dec 2013.
8. **Agnew, D.W.,** Moresco, A. The Contraceptive Health Surveillance Program: The Veterinarian's Important Role. AAZV Annual conference, Oakland, CA 21-26 Oct 2012.
9. **Agnew, DW,** Christiansen, B, Schlafer, DH, Wang, C, Asa, C. Use of transcervical endometrial biopsy to monitor uterine health in canids. Annual Michigan Alliance for Reproductive Technologies and Science Research Symposium (MARTS). Detroit, MI. 23 May, 2012.
10. **Agnew, D,** Mikota, S, Herdt, T, Schenck, P, Miller, M, Dhakal, I, Gairhe, K. Serum vitamin D and calcium metabolism in Asian Elephants serologically reactive and non-reactive to TB. Zoo and wildlife pathology workshop. AAZV Annual conference, Kansas City, MO 24-28 Oct 2011.
11. **Agnew, D,** Asa, C, Boutelle, S, Moresco, A. Contraception Health Surveillance in Wildlife and Zoos: A tool for comparative reproductive pathology. First Annual Michigan Alliance for Reproductive Technologies and Science Research Symposium (MARTS). East Lansing, MI. 6 May 2011.
12. **Agnew, D,** Asa, C, Boutelle, S, Moresco, A. Contraception Health Surveillance in Wildlife and Zoos: A tool for comparative reproductive pathology. First International One Health Congress. Melbourne, Australia. 14-16 Feb 2011 (abstract published in Eco Health 7(suppl 1).
13. **Agnew, D,** Adu-Addai, B. Reproductive diseases of livestock as a threat to food security. First International One Health Congress. Melbourne, Australia. 14-16 Feb 2011 (abstract published in Eco Health 7(suppl 1).
14. **Agnew, D,** Trupkiewicz, J, Newton, A, Garner, M. Danger is only skin deep: Dermal neoplasms in African hunting dogs. AAZV Annual conference, Tulsa OK, 26-30 Oct 2009. (abstract)
15. **Agnew, D,** Maxie, G, Scott, M, Rumbelha, W, Hoff, B, Powers, B. Pet-food nephrotoxicity in cats and dogs: towards a case definition. American Association of Laboratory Animal Diagnosticians Annual Conference, Reno, NV, Oct 2007.
16. **Agnew, D,** Corbeil, L, Munson, L, Byrne, B, BonDurant, R. A pregnant mouse model for *Tritrichomonas foetus* infection. Conference for Research Workers in Animal Disease (CRWAD), Chicago, IL, Dec 2006. (abstract).
17. **Agnew, D,** Corbeil, L, BonDurant, R. A Pregnant Mouse Model for *Tritrichomonas foetus* Infection and Pregnancy Loss. Conference for Research Workers in Animal Disease (CRWAD), St. Louis, MO, Dec. 2005. (Abstract). Winner of 2005 Parasitology Award.
18. **Agnew, D,** Cobo, E, Olesen, D, Corbeil, L, BonDurant, RH. The significance of reproductive lesions and serologic response associated with experimental infection of virgin heifers with non-*Tritrichomonas foetus* trichomonads. American Association of Veterinary Parasitologists Annual Conference, Minneapolis, MN, Jul, 2005. (abstract). Winner of Bayer Graduate Student Competition.
19. **Agnew, D,** Cobo, E, Olesen, D, Corbeil, L, Munson, L, BonDurant, RH. Reproductive lesions and serologic response associated with experimental infection of virgin heifers with non-*Tritrichomonas foetus* trichomonads. Are they pathogens? Conference for Research Workers in Animal Disease (CRWAD), Chicago, IL, Oct. 2004. (Abstract)
20. **Agnew, D,** Munson, L, Gage L, Fowler, M, Ramsey, E. Cystic Endometrial Hyperplasia in Nulliparous Asian Elephants (*Elephas maximus*). AAZV/IAAAM Joint Conference, New Orleans, LA, Sep. 2000. (Abstract)

CONFERENCE PRESENTATIONS BY PEERS AND STUDENTS**

1. Woloszyk Z, ** **Agnew D.** Down under in the land down under: monotreme reproduction. MSU CVM Phi Zeta Day, East Lansing, MI (virtual). 2-23 October 2020.
2. Goulet S, ** **Agnew D,** Thomas J. The *Alouatta pigra* Diet: the influence of age on diets. MSU CVM Phi Zeta Day, East Lansing, MI (virtual). 2-23 October 2020.
3. McClusky B**, **Agnew D.** Spermatogenesis in Mexican wolf testis of differing ages. MSU CVM Phi Zeta Day, East Lansing, MI (virtual). 2-23 October 2020.
4. Sayles H, ** **Agnew D.** The clinical significance of hemorrhage and congestion in the uterus of Mexican wolves. MSU CVM Phi Zeta Day, East Lansing, MI (virtual). 2-23 October 2020.
5. Wells T, Hadi SA, **Agnew D,** Mikota S, Sreevatsan S. Identification of Mycobacterium tuberculosis complex specific biomarkers in naturally infected Asiatic elephants. MSU CVM Phi Zeta Day, East Lansing, MI 4 October 2019.
6. Butler H, Roth T, **Agnew D.** Hepatic iron overload disorder in captive rhinoceros. MSU CVM Phi Zeta Day, East Lansing, MI 4 October 2019
7. Butler, H.** **Agnew, D.** An overview of the female reproductive pathology in the African painted dog. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
8. Melvin, R.** Shellabarger, W, **Agnew, D.** Characterization of vulvar fold dermatitis in polar bears (*Ursus maritimus*). MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
9. Pieczynski, J.** **Agnew, D.** Canine endometrial and ovarian histology throughout the estrous cycle. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
10. Buchweitz, N.** Agnew, D. Use of multiple correspondence analysis in visualizing wildlife diagnostic data. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
11. Child, O.,** **Agnew, D.** Effects of porcine zona pellucida contraceptive vaccine on equid uterine morphology. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
12. Stapley, ED, Mor-Vankin, N, Stutzman, B, Markovitz, D, Nielsen, B, **Agnew, D,** Manfredi, JM. A novel anti-DEK aptamer treatment of equine osteoarthritis. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
13. C. Wei, Lehner, A, **Agnew, D,** Buchwietz, J. Mass spectrometric measurement of the gonadotropic releasing hormone agonist Deslorelin. MSU CVM Phi Zeta Day, East Lansing, MI 5 Oct 2018.
14. Buchweitz, N., Agnew, D. Buchweitz, J. Modulation of hepatic divalent minerals with increasing iron concentrations in *Perissodactyla*. Mid-Michigan Symposium for Undergraduate Research, East Lansing, MI. 24 Jul 2018.
15. Stanley, B. **Agnew, D.** Clinical and laryngoscopic characterization of Norwich Terrier Upper Airway Syndrome (NTUAS): Preliminary results. European College of Veterinary Surgeons, Athens, Greece. 5-7 Jul 2018.
16. Nelli, RK, De Koster, J, Roberts, JN, de Souza, J, Lock, AL, Raphael, W, **Agnew, DW,** Contreras, AG. The phenotype of caruncle macrophages is associated with retained placenta in dairy cows. American Dairy Science Association Annual Meeting, Knoxville, TN 24-27 Jun 2018.
17. Marumo, T. Murashova, G., **Agnew, D.,** Schonig,F., Piyawattanametha, W., Mandella, MJ., Qiu, Z., Dantus, M., Contag, CH. Design of MEMS based handheld multi-photon and second harmonic generation imaging system for imaging guided surgery on oral cancer. SPIES Photonics West Conference. Jan 2018.
18. Child, O.,** **Agnew, D.** The Effects of Porcine Zona Pellucida Contraceptive Vaccine on Equid Ovarian Activity. Reproduction and Developmental Sciences Research Day, East Lansing, MI 17 Nov 2017.
19. Corner, S.,** Parys, M., Moresco, A., Yusbasiyan-Gurkan, V. **Agnew, D.** Ovarian adenocarcinoma in captive North American jaguars (*Panthera onca*): Investigating the genetic mechanisms of tumorigenesis. Reproduction and Developmental Sciences Research Day, East Lansing, MI 17 Nov 2017.
20. Kulpa, M.,** **Agnew, D.** Biofilm in the canine uterus. Reproduction and Developmental Sciences Research Day, East Lansing, MI 17 Nov 2017.

21. Monahan, C.F.,** Shellabarger, W., Thompson, K.A., Suedmeyer, K., **Agnew, D.** Female reproductive pathology in geriatric fallow deer (*Dama dama*). ACVP annual conference, Vancouver, BC, Canada. 4-8 November 2017.
22. Corner, S.,** Parys, M., Moresco, A., Yusbasiyan-Gurkan, V. **Agnew, D.** Ovarian adenocarcinoma in captive North American jaguars (*Panthera onca*): Investigating the genetic mechanisms of tumorigenesis. ACVP annual conference, Vancouver, BC, Canada. 4-8 November 2017.
23. Wise, A.G., Needle, D.B., Agnew, D.W., Sidor, I.F., Maes, R. Molecular Detection of Novel Adenoviruses in Chimney Swifts. AAVLD Annual Conference, San Diego, CA, 12-18 Oct 2017. (Abstract)
24. Monahan, C.F.,** Shellabarger, W., Thompson, K.A., Suedmeyer, K., **Agnew, D.** Female reproductive pathology in geriatric fallow deer (*Dama dama*). MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
25. Magagna, M.,** Noland, E., Tell, L., Purdin, G., **Agnew, D.** Retrospective histopathologic findings in free-ranging California hummingbirds. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
26. Imanse, S.,** Moresco, A.,**Agnew, D.** Retrospective Analysis of Giraffe Reproductive Tissues. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
27. Kulpa, M.,** **Agnew, D.** Biofilm in the canine uterus. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
28. Child, O., **Agnew, D.** The Effects of Porcine Zona Pellucida Contraceptive Vaccine on Equid Ovarian Activity. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
29. Corner, S.,** Parys, M., Yusbasiyan-Gurkan, V., Agnew, D. Development of a Multiplex Microsatellite Genotyping Panel to Assess Genetic Diversity of Jaguars (*Panthera onca*) in US Zoos, MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
30. Melvin, R.,** Moresco, A., Bateman, H., **Agnew, D.** Oviduct morphology and prolactin receptor expression in North American river otters and Asian small clawed otters. AAZV Annual conference, Dallas TX. 23-29 Sep 2017 (abstract)
31. Goblet, C.C., Moresco, A., **Agnew, D.**, Garner, M. Newell-Fugate, A. Retrospective characterization of reproductive tract lesions in relation to age, parity, and contraception in captive female suidae and tayassuidae. AAZV Annual conference, Dallas TX. 23-29 Sep 2017 (abstract)
32. Magagna, M.,** Noland, E., Tell, L., Purdin, G., **Agnew, D.** Retrospective histopathologic findings in free-ranging California hummingbirds. AAZV Annual conference, Dallas TX. 23-29 Sep 2017 (abstract)
33. Lai G, Stanley B, Nelson N, Johnson L, Thieman K, Robertson S, **Agnew D**, Holt D, Mison M, Clarke D. Clinical and laryngoscopic characterization of Norwich Terrier Upper Airway Syndrome (NTUAS): Preliminary results. Society of Veterinary Soft Tissue Surgery (SVSTS), Whitefish, MT. June 2017
34. Child, O., **Agnew, D.** The Effects of Porcine Zona Pellucida Contraceptive Vaccine on Equid Ovarian Activity. MSU Undergraduate Research Day, East Lansing, MI 7 Apr 2017. **Grand Prize Winner**
35. Marumo, T., Murashova, G., **Agnew, D.**, Schonig, F., Piyawattanametha, W., Mandella, M.J., Qiu, Z., Dantus, M., Contag, C.H. Design of MEMS based handheld multi-photon and second harmonic generation imaging system for imaging guided surgery on oral cancer International society for optics and photonics Photonics West conference, San Francisco, CA. 28 Jan – 2 Feb 2017.
36. S. Corner,** M. Parys, A. Moresco, V. Yuzbasiyan-Gurkan, **D. Agnew.** Germline mutations associated with ovarian adenocarcinoma in jaguars (*Panthera onca*). Phi Zeta Day, MSU CVM. East Lansing, MI. 7 Oct 2016. (abstract)
37. Agnew, M. Feltrer, Y. **Agnew, D.** Christiansen, B. Penfold, L. Moresco, A.. Reproductive management: Approaches to choosing contraceptives and diagnosing infertility. AAZV annual conference. Atlanta, GA, 16-22 Jul 2016. (abstract)
38. Melvin, R.,** **Agnew, D.** Oviduct morphology and prolactin receptor expression in North American river otters and Asian small clawed otters. Phi Zeta Day, MSU CVM. East Lansing, MI. 7 Oct 2016. (abstract)
39. Lai, G.P., Stanley, B., Nelson, N., Johnson, L., Thieman, K., Robertson, S., **Agnew, D.** Clinical and laryngoscopic characterization of Norwich Terrier Upper Airway Syndrome (NTUAS): Preliminary results. Veterinary Comparative Respiratory Society (VCRS), East Lansing, MI. 18-21 Sept 2016.

40. Coe, S**, Corner, S, Moresco, A, **Agnew, D**. Relationship between Bcl-2, contraceptives, and reproductive tract leiomyomas in large felids. MSU Women's Health Conference, 2015. MSU, East Lansing, MI. 20 Nov, 2015.
41. Corner, S**, Parys, M, **Agnew, D**, Moresco, A, Yuzbasiyan-Gurkan, V. Ovarian adenocarcinoma in captive North American jaguars (*Panthera onca*): Tumor characterization and investigation of BRCA1 mutations. AAZV annual meeting. Portland, OR, 26 Sep – 2 Oct 2015.
42. Raffel, R**, Moresco, A, **Agnew, D**. Uterine leiomyomas in great apes. Phi Zeta Research Day, 2015. MSU, CVM, East Lansing, MI. 2 Oct 2015.
43. Coe, S**, Corner, S, Moresco, A, **Agnew, D**. Relationship between Bcl-2, contraceptives, and reproductive tract leiomyomas in large felids. Phi Zeta Research Day, 2015. MSU, CVM, East Lansing, MI. 2 Oct 2015.
44. Child, O**, **Agnew, D**. Variation of Uterine Endometrial Epithelial Cells Throughout the Estrous Cycle in Wild and Domestic Cats. Phi Zeta Research Day, 2015. MSU, CVM, East Lansing, MI. 2 Oct 2015.
45. Raffel, R, Moresco, A, **Agnew, D**. Uterine leiomyomas in great apes. 2015 Meriel-NIH National Veterinary Scholars Symposium, Davis, CA, 30 Jul -2 Aug 2015.
46. Coe, S, Corner, S, Moresco, A, **Agnew, D**. Relationship between Bcl-2, contraceptives, and reproductive tract leiomyomas in large felids. 2015 Meriel-NIH National Veterinary Scholars Symposium, Davis, CA, 30 Jul -2 Aug 2015.
47. Child, O**, **Agnew, D**. Variation of Uterine Endometrial Epithelial Cells Throughout the Estrous Cycle in Wild and Domestic Cats. University Undergraduate Research and Arts Forum, Michigan State University. East Lansing, MI, 10 Apr 2015.
48. Corner, S**, **Agnew, D**, Nolan, A, Yusbasiyan-Gurkan, V. BRCA mutations and breast cancer in humans and jaguars. Zoobiquity, 2014. University of Washington and Woodland Park Zoo. Seattle, WA. 1 Nov 2014.
49. Stretton, C**, **Agnew, D**, Bolin, S, Mullaney, T, Pfluger, B, Hint, M, Severt, E, Nordstom, S, Bolton, M, Fenton, K, Hall, S, Hill, T, Gaudet, A, Grooms, D. BRD pathogens and antimicrobial susceptibility in different feedlot management systems. Phi Zeta Research Day, 2014. MSU, CVM, East Lansing, MI. 3 Oct 2014.
50. Nolan, A**, Corner, S, **Agnew, D**, Yusbasiyan-Gurkan, V. Investigation of ovarian carcinoma and BRCA1 mutation in captive North American jaguars (*Panthera onca*). Meriel-NIH National Veterinary Scholars Symposium, Ithaca NY, 30 Jul-3 Aug 2014.
51. de Castellanos, R**, **Agnew, D**. Correlation of uterine histology with estrous cycle in domestic and wild felids. Meriel-NIH National Veterinary Scholars Symposium, Ithaca NY, 30 Jul-3 Aug. 2014.
52. de Castellanos, R**, **Agnew, D**. Correlation of uterine histology with estrous cycle in domestic and wild felids. Phi Zeta Research Day, 2014. MSU, CVM, East Lansing, MI. 3 Oct 2014.
53. Corner, S**, Parys, M, Nolan, E **Agnew, D**, Yuzbasiyan-Gurkan, V. Investigation of BRCA1 mutations and ovarian carcinoma in captive jaguars (*Panthera Onca*). Phi Zeta Research Day, 2014. MSU, CVM, East Lansing, MI. 3 Oct 2014.
54. Rivard, M**. Agnew, D. Utilized immunohistochemistry to characterize changes in the canine endometrium during cystic endometrial hyperplasia. Phi Zeta, Research Day East Lansing, MI 4 Oct 2013.
55. French, SJ**, Moresco, A, **Agnew, DW**. The effects of contraceptives on the reproductive tract of female otters. AAZV annual meeting. Salt Lake City, UT, 28 Sep – 3 Oct 2013.
56. Christensen, BW, **Agnew, DW**, Moresco, A, Asa, CS. New tools for early diagnosis of endometrial disease in captive wildlife. AAZV annual meeting. Salt Lake City, UT, 28 Sep – 3 Oct 2013.
57. McGowen, MR, Weckle, A, **Agnew, DW**, Benirschke, Savage-Rumbaugh, S, K, Kim, CJ, Wagner, GP, Romero, R, Wildman, DE. Gene expression in the term placenta of the opossum *Monodelphis domestica* and the evolution of the therian placenta. IFPA (International Federation of Placenta Association) conference, Whistler, BC, Canada 11-14 Sep, 2013
58. McGowen, MR, Weckle, A, **Agnew, DW**, Benirschke, K, Kim, CJ, Wagner, GP, Romero, R, Wildman, DE. The evolution of gene expression in the term placenta of viviparous mammals.

Simposio Latinoamericano de Interacción Materno-Fetal y Placenta (SLIMP). Parana, Brazil, 18-19 Feb 2013.

59. Conley, KJ, McAloose, D, **Agnew, DW**, Moore, R, Pare, JA, Seimon, TA. Identification of a novel adenovirus associated with vasculitis in a North American River Otter. AAZV annual meeting. Salt Lake City, UT, 28 Sep – 3 Oct 2013.
60. Rivard, M. **Agnew, D**. Hormone receptor expression in canine cystic endometrial hyperplasia. MSU Phi Zeta Research Day. East Lansing MI. 5 Oct 2012.
61. Adu-Addai, B., Mackenzie, C.D., Langerveld A.J., **Agnew, DW**. Potentially protective dual oxidase enzymes (Duox1 and Duox2) in the normal murine and bovine reproductive tracts. 2012 Experimental Biology meeting abstracts, Abstract #833.16. San Diego, CA 21-25 Apr 2012.
62. Adu-Addai, B**, Mackenzie, CD, Langerveld, AJ, **Agnew D**. Potentially protective dual oxidase enzymes (Duox1 and Duox2) in *T.foetus*-infected bovine endometrial cells *in vitro*. Conference for Research Workers in Animal Disease. Chicago IL, 4-6 Dec 2011.
63. Kling, A**, Pellegrin, AO, Juliano, RS, Zimmerman, NP, Langohr, I, **Agnew, D**. A prevalence survey of bovine trichomoniasis in Mato Grosso Do Sul, Brazil. Conference for Research Workers in Animal Disease. Chicago IL, 4-6 Dec 2011.
64. Adu-Addai, B**, Mackenzie, CD, Langerveld, AJ, **Agnew D**. Expression of potentially protective dual oxidase enzymes (Duox1 and Duox2) in the female bovine reproductive tract. Conference for Research Workers in Animal Disease. Chicago IL, 5-7 Dec 2010.
65. Fierro, B,** **Agnew, D**, Lehner, A, Scott, M. Skunk musk causes methemoglobinemia and Heinz body formation *in vitro*. American College of Veterinary Pathologists annual conference, Baltimore, MD, 30 Oct-3 Nov 2010.
66. Tedesco, D ,** **Agnew, D**. Avian ventriculus koilin as an indicator of disease: A retrospective study. Association of Zoo Veterinarians Annual Meeting, South Padre Island, TX, 23 -29 Oct 2010. (abstract)
67. Nofs SA, McGinnity D, Kirk M, **Agnew D**, Carleton CL, Browne R. Cryopreservation of Sperm for Hellbender Conservation (Sept 2010). The Role of Zoos and Zoo Veterinarians in the Conservation of Species, Sao Paulo University, Sao Paulo, Brazil.
68. Nofs, S A., McGinnity, D, Kirk M, **Agnew D**, Carleton, C, Browne, R.. Cryopreservation of Sperm for Hellbender Salamander (*Cryptobranchus alleganiensis*). Conservation. International Conservation Workshop for the Chinese Giant Salamander. Xi'an, China, May 2010 (abstract)
69. Perpich, J,** Kiupel, M, **Agnew, D**. Immunohistochemical Characterization of Cecal Neoplasms in Pheasants. Association of Avian Veterinarians annual meeting, San Diego, CA 31 Jul-5 Aug 2010 (abstract)
70. McNiel, EA, Erfourth, TM, Madrill, NJ, **Agnew, DW**, Nelson, NC, Ballegeer, EA, Berger, KL. Evaluation of hypoxia in a feline model of head and neck cancer using ⁶⁴Cu-ATSM positron emission tomography. American Association for Cancer Research, Washington DC, 14-17 April 2010. (poster abstract)
71. Gadsden, B,** **Agnew, D**, Schott, H, Kiupel, M. IgA deposition in glomeruli of horses with renal hematuria. ACVP Annual meeting. Monterey, CA 6-9 Dec 2009. (abstract)
72. Adu-Addai, B,** **Agnew, D**. Reproductive Infectious Diseases in Ghanaian cattle. Conference for Research Workers in Animal Disease. Chicago, 6-8 Dec 2009. (abstract)
73. Adu-Addai, B,** **Agnew, D**. Reproductive Infectious Diseases in Ghanaian cattle. Phi Zeta Conference, Michigan State University, East Lansing, MI. 2 Oct 2009. (abstract).
74. Tedesco, D,** **Agnew, D**. Avian ventriculus koilin as a predictor of disease: a retrospective study. Phi Zeta Conference, Michigan State University, East Lansing, MI. 2 Oct 2009. (abstract).
75. Adu-Addai, B,** **Agnew, D**. Cytokine response to *T. foetus* in a mouse model. Conference for Research Workers in Animal Disease. Chicago, Dec 2008. (abstract)
76. Winkel, A,** Funk, J, Bolin, S, Stalis, I, **Agnew, D**. Prevalence of *Coxiella burnetii* in hoofstock placentas in zoological collections. AAZV Annual Conference, Los Angeles, CA, 11-17 Oct 2008. (abstract). **Winner of Student Manuscript Prize.**
77. Duncan, AE, Ball, R, Lyashchenko, K, **Agnew, D**, Barbiers, R. Retrospective use of multiantigen print immunoassay (MAPIA) to document successful treatment of a black rhinoceros (*Diceros bicornis*) for mycobacteriosis. AAZV Annual Conference, Los Angeles, CA, 11-17 Oct 2008. (abstract).

78. Adu-Addai, B,** **Agnew, D.** Cytokine response to T. foetus in a mouse model. Phi Zeta Conference. Michigan State University. 10 Oct 2008. (Abstract)
79. Winkel, A,** Funk, J, Bolin, S, Stalis, I, **Agnew, D.** Prevalence of Coxiella burnetii in hoofstock placentas in zoological collections. Phi Zeta Conference, Michigan State University, 10 Oct 2008. (abstract).
80. Rumbelha, W, **Agnew, D.** Maxie, G, Scott, M, Hoff, B, Powers, B. AAVLD survey of pet food-induced nephrotoxicity in North America, April to June 2007. American Association of Laboratory Animal Diagnosticians Annual Conference, Reno, NV, Oct 2007.
81. Smith, JC, Robertson, SA, Springsteen, K, **Agnew, D,** Duncan, AE, Bolon, B. A dosing regimen for oral carfentanil immobilization with intranasal naltrexone reversal for restraint of lion-tailed macaques (*Macaca silenus*). American Association of Zoo Veterinarians Annual Conference, Omaha, NE, October, 2005. (abstract).
82. Yamini, B, **Agnew, D,** Watson, GL. Uterine leiomyosarcoma, leiomyoma, cystic endometrial hyperplasia and cystic ovaries in a Vietnamese Pot Bellied Pig and 2 Wild Boars. AAVLD Slide Conference, Minneapolis, MN. 1998. (Abstract)
83. Watson, G.L., **Agnew, D.** “Boid Inclusion Disease” in a March’s Palm Pit Viper. AAVLD Slide Conference. Grand Rapids MI, 1994 (Abstract)

INVITED SPEAKER

2019

Rediscovering your senses. Digital gross and histopathology and Reproductive Pathology in Wildlife. Kwame Nakrumah University of Science and Technology, School of Veterinary Medicine, Kumasi, 5 Feb 2019.

2018

Rediscovering your senses. Digital gross and histopathology. Addis Ababa University, Ethiopia 10 May 2018, and University of Gondor, Ethiopia 15 May 2018.

Wild Sex: Reproductive management of zoo and wildlife

Comparative Reproductive Pathology

Taking on the Challenge of Abortion Diagnostics

Overview of the new ACVP examination format

Mini Gross Descriptive Course

Keynote speaker, Australian Society of Veterinary Pathology Annual Conference, Coogee Bay, Australia 14-16 Sep 2018

Challenges and Opportunities in Global Veterinary Telepathology: Real World Experiences. American College of Veterinary Pathologists Annual Meeting, Washington DC, 4 Nov 2018

Hyrax under glass: Selected cases. American College of Veterinary Pathologists Annual Meeting, Washington DC, 4 Nov 2018

Reproductive Pathology in Zoo and Wild Animals: Latin Comparative Pathology Group Presents.

American College of Veterinary Pathologists Annual Meeting, Washington DC, 5 Nov 2018

2017

Reproductive pathology of polar bears. AZA Polar Bear SSP Reproduction Workshop, AZA Annual Conference, Indianapolis, IN 9 Sep 2017.

2015

The Horizon Beyond the Lesion. Veterinary Pathology: A career that makes a difference. Makerere University, Uganda. Annual BOMA. 16-17 Jun 2015.

Rediscovering your senses. Gross and histopathology. Makerere University, Uganda 16-17 Jun 2015. (4 hr workshop).

Sex and the Single Pet: Pathology of the Reproductive Tract in Small Animal Medicine. Society for Theriogenology, San Antonio, TX ; 8 Aug 2015.

2014

When you need answers: MSU Diagnostic Center for Population and Animal Health services for Small Ruminant Producers. MSU Small Ruminant Health Symposium. East Lansing, MI. 11 Oct 2014.

Gross Pathology of Zoo Animals; Gross Pathology of Fish. (6 hrs of lecture) CL Davis Gross Pathology Course. East Lansing, MI, 14-18 Jul 2014.

Feedlot Gross Pathology; (2 hrs); Merck In-service Workshop, Calgary, Alberta 8-11 Jun 2014.

Safe Sex in the Zoo. The Past, Present, and Future Use of Contraception in Wildlife. UC Davis Wildlife and Aquatic Animal Medicine Club Annual Symposium, Davis, CA. 29-30 Mar 2014.

2013

Conference 13, 2012-2013. Wednesday Slide Conference, Joint Pathology Center, Bethesda, MD 30 January 2013.

Gross Pathology of Zoo Animals; Gross Pathology of Wildlife; Gross Pathology of Fish. (9 hrs of lecture) CL Davis Gross Pathology Course. Minneapolis, MN, 8-12 Jul 2013.

Reproductive pathology in zoo and wildlife medicine. (including 6 hrs of laboratory and 6 hrs of lecture). Tópicos especiais de Patologia em Animais Selvagens. Brazilian Association of Zoo and Wildlife Vets (ABRAVAS) Brasilia, Brazil. 20-21 Jul 2013

When the Big Ones Fall – Pathology of Elephants and Rhinos; Predators and Prey – Pathology of Hoofstock, Big Cats, and Canids; Diggers, runners, and fliers – Pathology of African small mammals and birds; Scales and mucus – Pathology of African reptiles and amphibians. Congresso de Especialidades Medvop. Bento Goncalves, Brazil 23-24 Jul 2013.

Wild sex: the role of reproductive pathology in zoo and wildlife medicine. XXX Simposio Fauna Silvestre, UNAM. Mexico City, Mexico. 15-18 Oct 2013.

2012

Wild sex: the role of reproductive pathology in zoo and wildlife medicine.

Virginia Perry Wilson Endowed Seminar at UC Davis, California. 12 Jan 2012.

Wild sex: the role of reproductive pathology in zoo and wildlife medicine.

CL Davis Foundation Workshop at the ACVP Annual conference, 1 Dec 2012.

2011

Buin Zoo continúa convocatoria para Tercer Curso de Medicina Zoológica: Patología, Reproducción y Contracepción en animales de zoológico, exóticos y silvestres (Buin Zoo Continuing Education Course in Zoo Medicine: Pathology, Reproduction, and Contraception in zoo and wild animals).

Buin Zoo, Chile. 14-17 Oct 2011

2010

Wild sex: the role of reproductive pathology in zoo and wildlife medicine.

MSU PDI seminar series. Lansing, MI, 5 Oct 2010.

Vaccines for STDs: Safe sex across the Animal Kingdom.

Western Michigan University, 2010 Vaccinology Seminar Series. 4 Oct 2010.

Oryx under glass. Selected case studies.

Michigan Society of Histotechnologists. 14-15 May 2010.

Comparing Trichs – reproductive pathogens across species and across borders.

Department of Biological Sciences, Western Michigan University Seminar Series. 23 Feb 2010.

An overview of reproductive pathology in zoo and wildlife medicine.

Wildlife Conservation, Health, and Disease Management – a post-Millennium approach. Chennai, India.
3-5 Feb 2010

2008

Death in a Dog dish: Melamine Associated Nephrotoxicity.

National Food Safety and Toxicology Center. (On-line webcast). Feb 27, 2008.

2007

Modeling the Host Response to Tritrichomonas foetus: Trichs of the Trade.

Bad Bug Club Seminar, Center for Microbial Pathogenesis. MSU. Jan. 29, 2007.

2006

The Mouse that Mooed II: More Investigations of the Immunopathogenesis of Trichomoniasis.

Seminar for PDI MSU, Oct 13, 2006

The Mouse that Mooed: The immunopathogenesis of Tritrichomonas foetus venereal infection.

Seminar for VM-PDI. Michigan State University, Jan. 2006.

2005

The Mouse that Mooed and Other Investigations of the Immunopathogenesis of Tritrichomonas foetus Venereal Infection.

Pathobiology Seminar Series, Ontario Veterinary College, Jan 2005.

2001

Medical record-keeping for the Clinical Nutritionist – Workshop.

Joint conference of the AAZV/AAWV/ARAV/NAG, Orlando, FL, Sep 2001.

Cystic Endometrial Hyperplasia in Nulliparous Asian Elephants (Elephas maximus).

House Officers' Day, VMTH, UCD, CA, May 2001

1999

Risks for Zoonotic Disease.

Wayne State University, Div of Lab Animal Resources, Detroit, MI, Mar, 1999.

1998

Sex and the Single Lion: Conception and Contraception in a Shrinking World.

Professional Development program for Detroit Zoological Institute. Apr, 1998.

1997

Looking for the Zebras. Princeton and the Healing Arts: from Lab to Leadership.

Princeton University 250th Anniversary Symposium, Princeton, NJ, Apr, 1997.

Preventative Medicine for the Reptile Practitioner. HerpLab Workshop –

Michigan State University, College of Veterinary Medicine, 1997.

1996

Looking for the Zebras.

Southeastern Michigan MENSA Annual Regional Gathering, Novi, MI, May, 1996.

1991-1993

Case studies in Zoo Medicine.

Michigan Histotechnology/Cytology Assoc Annual Conference, Novi, MI. 1991-1993.

GRANTS

Funded Grants as Principal or Co-Investigator

Association of Zoos and Aquaria	(Agnew)
Investigation of possible genetic and environmental factors leading to uterine disease in African painted dogs	
\$10,800.	10/ 1/ 2019 – 9/30/ 2020
Cincinnati Zoo	(Agnew)
Hemosiderosis in rhinoceros	
\$5500	5/16/2019-10/31/2019
USDA-FAS	(Kaneene, Agnew)
Faculty Exchange Program	
\$269,953	7/30/2019-12/31/2021
M-TRAC	(Manfredi, Agnew)
DEK aptamer for the treatment of equine acute and chronic joint inflammation	
\$17,397	1/12018-31/12/2018
MSU CVM Endowed Grants	(Agnew, Corner).
Investigation of the genetic pathogenesis of ovarian carcinoma in jaguars (<i>Panthera onca</i>) from US zoological institutions: improved methods and new techniques	
\$15,000	17/11/2017 – 01/06/2018
AZA Reproductive Management Center	(Agnew, Buchweitz, Mani)
Deslorelin detection in serum at sub-picogram levels	
\$3000	22/12/2017-01/05/2018
Michigan Animal Health Foundation	(Manfredi, Agnew, Sonea)
Is Brine Fine? Efficacy of a Saturated Salt Solution as an Alternative to Formalin for Storage of Anatomy Specimens	
\$1184.67	01/07/2017-31/12/2017
Zoetis (contract through Veterinary Diagnostic Laboratory)	(Agnew)
Electron Microscopy of Rat Ileum treated with a proprietary compound	
\$5040	1/31/2017 – 8/15/2018
USDA Foreign Agriculture Service	(Kaneene, Agnew)
Faculty Exchange Program, Africa.	
\$233,300	7/19/2016-12/31/2019
AAZV Wild Fund	(Newell-Fugate (TAMU), Agnew, Moresco)

Retrospective characterization of reproductive tract lesions in relation to parity, age, and contraception in captive Suidae and Tayassuidae
\$5000 1/1/2016-6/1/2017

Canine Health Foundation (Stanley, Agnew)
Clinical and pathological characterization of upper airway syndrome in Norwich terriers.
\$74,497 11/1/2015-10/31/2017

Boehringer-Ingelheim (contract through Veterinary Diagnostic Laboratory) (Agnew)
Study to investigate the safety of meloxicam 2% solution in gestating fetuses of cattle during the first trimester of pregnancy
\$15,000 2/1/2016-1/31/2016

American Association of Zoo Veterinarians (Agnew, Moresco)
Health Surveillance Program of the Wildlife Contraception Center
\$5000 05/01/2015 – 04/29/2016

Liverpool School of Tropical Medicine (Mackenzie, Agnew (Co-I))
Elimination of Lymphatic Filariasis Programme
\$40,472 9/11/2015 – 9/10/2016

Drugs for Neglected Diseases Initiative (Mackenzie, Agnew(Co-I))
To assess the pharmacokinetic/pharmacodynamics relationship for flubendazole in preclinical models
\$159,622 4/17/2015-4/16/2016

MSU CVM Endowed Grants (Agnew, Yuzbasiyan-Gurkan).
Characterization of tumor genotype of ovarian and mammary carcinoma in captive North American jaguars
(Panthera onca).
\$15,000 03/01/2015 – 02/28/2016

American Association of Zoo Veterinarians (Agnew, Moresco)
Health Surveillance Program of the Wildlife Contraception Center
\$3000 05/01/2014 – 04/29/2015

Michigan Animal Health Foundation (Agnew)
Correlation of uterine histology with estrous cycle in domestic and wild felids
\$2950 05/01/2014 – 04/29/2015

Michigan Animal Health Foundation (Agnew, Moresco, French)
Pathological basis for infertility in otters
\$3110 06/01/2013-06/01/2014

American Association of Zoo Vets (Agnew, Moresco)
Support of Reproductive Health Surveillance Program
\$5000 05/01/2012-04/31/2013

Gates Foundation Grant (Mackenzie, Agnew, et al)
Development of flubendazole as a field usable macrofilaricide
\$2,148,408 04/01/2011 –04/01/2013

Pfizer Research Support (Agnew, Mackenzie, Maes, Wise)
The effects of different adjuvants on the immune responses to reproductive infection with Chlamydomphila
abortus.
\$129,000 01/01/2011-09/01/2011

American Association of Zoo Veterinarians (Agnew, Mikota, Miller, Herdt, Schenck)
Serum Vitamin D status of Asian elephants from Nepal with and without tuberculosis
\$4570.50 10/01/2010-09/30/2011

CVM Endowed Research Grant Program (Freeman Fund) (Schott, Agnew, Kruger, et al)
Endouroscopic laser fulgration : a potential for idiopathic renal hematuria
\$17,520 09/22/2008 – 09/01/2011

CVM Endowed Research Grant Program (CAF) (McNiel, Agnew, Berger, et al)
Evaluating hypoxia in feline head and neck squamous cell carcinoma
\$24,603 09/22/2008- 09/01/2010

CVM Endowed Research Grant Program (Sterner Fund). (Agnew, Adu-Addai).
Investigation of Duox1 and Duox2 in the cow.
\$9011.74 09/20/2009-09/01/2010

Cowham grant (CVM PDI departmental endowed grant) (Agnew, Adu-(Addai)
Bovine reproductive diseases in Ghana
\$6856 07/01/2009-07/01/2010

CVM Endowed Research Grant Program (Equipment Grant) Agnew,
Purchase of a Victor Absorbance, Fluorescence, Luminescence Plate Reader.
\$24,000 09/20/2009

Cowham Grant (CVM PDI departmental endowed grant) (Agnew, Adu-Addai)
Cytokine production in T. foetus infected mice.
\$5752.40 6/01/2007-12/31/2007

Intervet, Inc research support (99511-00) (Grooms, Agnew)
Field safety trial of gestational bovine BVDV vaccine.
\$ 58,414 11/01/2007-4/30/2009
\$ 100,000 (Diagnostic services billed directly from DCPAH)

Submitted Grants

NIH/NCI (Agnew)
NCI Comparative Biomedical Scientist Training Program
\$ 6,406,570 07/01/2020-06/30/2035

NIH (Zinn, Agnew)
Precision Delivery and Imaging to Enhance Solid Tumor Therapy
\$1,222,317 1/9/2019 - 31/8/2024

Michigan Alliance for Animal Agriculture (Contreras, Agnew)
The potential of bovine granulocyte colony-stimulating factor (Imrestor) to modulate of uterine
macrophage inflammatory phenotype and reduce placental retention in dairy cows
\$149,843 1/2/2019-31/1/2021

NIH (Petroff, Agnew)
Novel modulators of group B Streptococcus associated with adverse pregnancy outcomes (resubmission)
\$146,250 1/4/2019 – 31/3/2021

IMLS (Subaward) (Harrison (NC State), Agnew)
Integration of multi-institutional tumor data in exotic and zoological species for characterization of novel
cancer models (resubmission)
\$8957.66 1/10/2018-31/09/2021

Not Funded Grants

Genetech (Agnew)
Graduate Pathology Training
\$303,133 9/1/2019-7/1/2022

USAID - (Kaneene, Yuzbasiyan-Gurkan, Agnew, et al)

One Health Workforce
\$80,000,000 9/1/2019-8/30/2024

Morris Animal Foundation (Agnew, Macdonald)
Investigation of possible genetic and environmental factors leading to uterine disease in African Painted Dogs.
\$10,800 1/6/2019 – 31/5/2020

NIH (Yuzbasiyan-Gurkan, Agnew)
(Resubmission in progress)
Testing of nanodrug therapy for metastatic breast cancer in companion animals
\$1,766,890 1/4/2018 – 31/2023

AAZV (John Ball Zoo) (Agnew, Buchweitz, Colburn)
Evaluation of Biochemical Exposure to Cosmetic Components in Touch and Non-Touch Exhibit-Housed Cownose Rays (*Rhinoptera bonasus*)
\$14,500 1/5/2019 – 31/4/2020

NIH (R01) (resubmission in progress) (Huang, Agnew)
Nanotechnology for glycoconjugate based anti-cancer vaccines
\$2,731,094 9/1/2016 – 8/30/2019

USAID/University of Florida (Kaneene, Agnew)
Innovative Approaches for sustainable intensification of smallholder dairy production systems to improve household income, nutrition, and health in Ethiopia
\$1,249,466 10/1/2016

USAID/University of Florida (Joshi, Agnew)
Partnership to enhance food and nutritional security and livelihoods of small holder buffalo farmers in Nepal
\$1,000,000 10/1/2016

NIH (R01) (Petroff, Agnew (Co-I))
Protective ovarian effects of tamoxifen.
\$1,164,111.00 4/1/2016 - 3/31/2019

NIH (R01) (Arpita, Agnew (Co-I))
Developmental Origin of Cardiac Disease
\$1,395,599.00 7/1/2015 - 6/30/2019

Morris Animal Foundation (Petroff, Agnew)
Anti-Mullerian Hormone as a predictor of ovarian reserve in the Maned Wolf
\$10,800 submitted 11/30/2015

ACVP/STP Coalition for Veterinary Pathology Fellows (Agnew)
Characterization of ovarian and mammary carcinoma in jaguars (*Panthera onca*) and evaluation of major candidate genes
\$179,196 11/1/2015 – 10/31/2018

USDA (Foreign Agricultural Service) (Kaneene, Agnew)
2015 Borlaug Fellowship Program for Africa, Asia, and Latin America: Animal & Plant Health: Support for Fellow 7
\$38,162.00 9/1/2015 - 2/28/2016

USAID (Kaneene, Agnew among many others)
MSU Livestock Innovation Grant (Multi-college grant)
\$40,000,000 9/1/2015-8/30/2020

Merck Animal Health (Agnew, Grooms, Bolin)
Enhancing food security with remote digital post mortem examinations
\$149,710.00 3/1/2015 - 2/29/2016

AAZV Research Grant (Agnew, Yuzbasiyan-Gurkan)
Validation of immunohistochemical markers for the characterization of reproductive neoplasia in North American captive jaguars (*Panthera onca*) and other felids
\$7425 03/01/2015-02/28/2016

Morris Foundation Grant (Agnew, Yuzbasiyan-Gurkan)
Characterization of reproductive neoplasia in North American captive jaguars (*Panthera onca*) and evaluation of major candidate genes
\$168,368 9/01/2014-9/01/2017

Morris Foundation Grant (Harrison, Agnew)
Wildlife Oncology and Therapeutics Database
\$44,533.00 7/1/2014 - 6/30/2016

IMLS (Agnew, Moresco)
Reproductive Health Surveillance Program
\$249,000 10/1/2013-09/30/2016

Morris Foundation Grant (Agnew, Moresco)
Molecular characterization of feline mammary epithelial cells when exposed to progestins
\$118,309 9/01/2012-9/01/2015

R01 NIH Dual purpose for Dual Benefit (Agnew, Mackenzie, Ames)
Duox1 and Duox2 expression and response to venereal infection in the female reproductive tract
\$1,509,267 09/20/2011-09-20/2016

Morris Foundation Grant (Agnew, Moresco)
Endometrial hyperplasia and pyometra in African wild dogs (*Lycaon pictus pictus*)
\$171,601 6/15/2012-6/15/2015

AAZV Research Grant (Agnew, Moresco)
Reproductive Health Surveillance Program
\$7600 03/01/2012-02/28/2013

R15 NIH grant to NCRR (Agnew, Mackenzie, Adu-Addai)
Duox1 and Duox2 expression and response to venereal infection in the female reproductive tract
\$436,532 06/15/2010-06/15/2013

CVM Endowed Research Grant Program (Agnew, Bolin)
Leptospirosis in a cattle herd in coastal Ghana
\$9961 04/1/2011-31/3/2012

CVM Endowed Research Grant Program (Agnew, Mackenzie)
Identification of animal models for human fibroids (leiomyomas)

\$8220

6/15/2011-6/15/2012

Michigan University Research Corridor (Agnew, Wildman, Rumbelha, Grooms)
Elevated levels of toxicants identified in the placenta of cattle are associated with changes in methylation at CpG sites and with abortions and stillborn calves.
\$440,000 10/11/2010-12/31/2011

American Association of Zoo Veterinarians (Agnew, Bolin)
Trichomonad and bacterial causes of diarrhea in Giant Anteaters (*Myrmecophaga tridactyla*)
\$5770 6/15/2010-6/15/2011

3IE Foundation (Mywish, Mohankumar, Agnew, et al)
Controlling TB Through Rapid Diagnosis and Education Programs: Impact Evaluation Using Randomized Control Experiment in Rural Tamil Nadu, India
\$2,817,410 11/27/2009-09/1/2011

Bill and Melinda Gates Foundation (Agnew, MacKenzie)
Duox1 and Duox2 expression and response to venereal infection in the female reproductive tract
\$100,000 12/18/2009-12/18/2010

Great Lakes Regional Center of Excellence (Agnew, Bolin)
Select Agents and Other Zoonotic Threats in Livestock, Deer, and Ticks
\$830,283 7/21/2009-5/31/2011

CVM Endowed Research Grant Program (Sterner Fund). (Agnew, Adu-Addai).
International registry of comparative reproductive pathology
\$17917 11/15/2009-11/15/2011

American Kennel Club (Johnson, Agnew, Hauptman)
Do dogs with lymphocytic thyroiditis (autoimmune thyroiditis) also have lymphocytic inflammation in the testes or ovaries?
\$ 10,800 03/01/2009-03/01/2010

CVM Endowed Research Grant Program (Sterner Fund) Agnew, Adu-Addai
Cytokine Production in a Bovine Endometrial Cell Culture Model
\$9822.74 09/22/2008-09/21/2009

USDA ISE Grant – (Agnew, Kaneene, Adu-Addai, Nyarko, Addo, Koney)
Reproductive Infectious Diseases of Cattle in Ghana: a Model for Building National Veterinary Capacity (Institutionally limited application not accepted at University level)
\$150,000. 06/15/2008-06/15/2010

American Quarter Horse Association (99872-00) (Agnew, Kiupel, Bolin) American
Quarter Horse Association
Presence of *Coxiella burnetii* (Q fever) in North American Equines
\$11,900 11/30/2007-11/30/2008

Patents

Detection of the Gonadotropin Superagonist Deslorelin by Unique Application of a Protease Enzyme

INSTRUCTION

COURSES TAUGHT

VM 528 – Reproduction – 2 credits

- Moderator and main developer
- Two week course developed from scratch for the MSU CVM curriculum reinvention utilizing flipped classroom concepts. In 2020, this required complete conversion of the course to an on-line format due to COVID 19.
- Enrollment 115 students

PDI 630 – Diagnostic Pathology Clerkship - 3 credits

- Three-week veterinary course taught to third and fourth year veterinary students. Students learn necropsy and clinical pathology techniques and interpretation of post mortem findings and diagnostic laboratory results through daily necropsies, clinical pathology rounds, and seminars
- Enrollment is normally 10 students (range 8-11) in each of 11 clerkships.
- Moderated this course 2006-2019
- In 2020, assisted new moderator in the course, and also helped develop an entirely on-line version in response to COVID 19.
- Developed new curriculum and assessment tools in 2008. In 2017, the number of students was increased to 13/clerkship.

PDI 631 – Necropsy Clerkship - 3 credits

- Three-week veterinary course taught to third and fourth year veterinary students. Students deepen their knowledge of interpretation of gross and histologic findings through supervised necropsies and histologic slide reviews
- Enrollment is normally 4 students
- Co-instructed in this course annually in 2006-2019

PDI 553 – Systemic Pathology - 3 credits

- Sixteen-week veterinary course taught to second year veterinary students. Students learn anatomic pathology of digestive, urinary, respiratory, integumentary, cardiovascular, nervous, reproductive, musculoskeletal, endocrine and lymphatic systems through lectures and laboratories. I specifically teach reproductive pathology and (starting in 2016, skeletal muscle pathology)
- Enrollment is normally 110 students
- Co-instructed in this course annually 2006-2019

PDI 632 – Problems in Veterinary Pathology – 3 credits

- Three week clerkship offered to senior veterinary students for them to pursue individual small research projects. These vary from a review of the histology of invertebrate feed materials to case reports of reproductive lesions in dogs, cats, horses, cattle, or various wildlife species. I usually supervise 1-3 of these per year.

PDI 853 – Advanced Systemic Pathology - 3 credits

- Sixteen week-veterinary course taught to anatomic and clinical pathology residents every other year. Students learn advanced anatomic pathology of digestive, urinary, respiratory, integumentary, cardiovascular, nervous, reproductive, musculoskeletal, endocrine and lymphatic systems through lectures and laboratories
- Enrollment is normally 10 students
- Co-instructed in this course in 2007, 2009, 2011, 2013, 2015, 2017, 2019.

PDI 521 – Veterinary Organ Microanatomy – 2 credits

- Sixteen week veterinary course for first year veterinary students covering histology of all organs. I cover the male and female reproductive system in 3 one hour lectures and 2 two hour laboratories (presented twice each). Approximately 110 students per year.
- Co-instructed in this course in 2017-2018

VM 532 – Veterinary Integrated Problem Solving - 3 credits

- Sixteen week veterinary course for second year veterinary course. Students integrate subject materials from previous and concurrent semester courses through student-led case discussions.
- Enrollment is normally 8 students per group
- Was a discussion facilitator for this course 2006- 2011; course was canceled in 2012.

PDI-561 – International Veterinary Medicine (previously Tropical Veterinary Medicine) – 1 credit

- Sixteen week veterinary selective course designed to expose students to the diversity of opportunities available for veterinarians to work in international projects.
- Students are assessed by their production of a grant proposal for an international project. In almost every year, one or more of these proposals are actually funded in some form.
- This course was co-developed by Dalen Agnew and Charles Mackenzie in 2009.
- Enrollment in the first year was 4; in 2010 it was 6; in 2011, 12 students. Taught in 2012-15 with 12 or more students. In 2016, there were 10; in 2017, 13; in 2018, 10 students; in 2019 there were 4.

PDI 891 - Livestock Diagnostic Pathology - 2 credits

- Sixteen week graduate level course on livestock pathology designed to acquaint residents and veterinarians with the likely diseases and diagnostic techniques used in livestock medicine
- Co-instructed 4 lectures, 2 labs/yr in 2007

PDI 870 - Laboratory Animal Pathology – 2 credits

- Sixteen week graduate level course designed to familiarize residents with common laboratory animal diseases and diagnostic approaches.
- Co-instructed in this course, (amphibians and reptiles) 3 hr lecture/lab in 2007, 2009, 2011, 2018

VM-513 – Veterinary Ethics - 2 credits

- Sixteen week course designed to expose veterinary students to ethical challenges common in their profession with the expectation that they would be challenged by the situations presented and work with their peers in small groups to understand the challenges and possible solutions
- Facilitated small group discussions, developed a zoo based scenario and lectured (2-4 sessions, 1 lecture/yr) - 2007-2015.
- This course was discontinued and remodeled for 2017. I was part of the redesign team, creating a blended on-line, discussion, and in-class lecture/discussion course. I also provided one scenario, facilitated an on-line discussion group, and provided one lecture. This course included students from both freshman and sophomore years (classes of 2020 and 2021).

LCS 610f – Small Ruminant Production Medicine Clerkship – 3 credits

- 3 week clerkship providing didactic and hands on experience for senior veterinary students.
- I provided a 1.5 hr lecture on reproductive diseases of small ruminants (new course and new lecture material) Spring 6 2011- 2019

LCS 610 – Equine Theriogenology – 3 credits

- 3 week clerkship providing didactic and hands on experience for senior veterinary students.
- I provided a 2 hr lab experience including slide review of endometrial and placental pathology and gross dissection of equine placentas – (3-4 clerkships/year); 2008-2019

LCS 624 Equine Proficiency – 3 credits

- 3 week clerkship providing didactic and hands on experience for senior veterinary students.
- I provided a 2 hr lab experience including slide review of endometrial and placental pathology and gross dissection of equine placentas – (1 clerkship/year); 2013-2019

VM 101 Introduction to Veterinary Medicine – 1 credit

- I co-teach one lecture on international experiences in veterinary medicine: 2016-2019

ADDITIONAL TEACHING EXPERIENCE

Instructor at the Joint Pathology Center, US Army, Reproductive Pathology and Wednesday Slide Conference (Bethesda, MD) 23-24 October 2019.

Instructed twenty externs in zoo medicine, 1990-1999, including foreign students from Canada, France, Brazil, and Russia. Contact hrs 40 hrs/wk, 4-20 weeks depending on student.

Anesthesia in zoo medicine. Anesthesia Curriculum for Sophomore Veterinary students. Michigan State University College of Veterinary Medicine, East Lansing, MI, 1991-1992. 2 Contact hrs each.

Annual case studies presentation to Michigan State University College of Veterinary Medicine sophomores in the Veterinary Integrated Problem Solving (VIPS) course. East Lansing, MI, 1994-1998. 2 contact hrs annually.

Annual presentations (Case studies, Zoo careers, nutrition) for the Detroit Zoological Society Zoo School adult education program. Royal Oak, MI, 1991-1998. 6-9 contact hrs/year.

Zoo medical record-keeping. Henry Ford Community College Medical Information Technology program, Royal Oak, MI, Feb, 1995. Lecture and lab 2 contact hrs.

Workshop on exotic ungulate footcare. AAZK Conference, Detroit, MI, Oct 1996. 8 contact hrs.

Instructor, Herplab 1997. Michigan State University College of Veterinary Medicine Zoo and Wildlife Club workshop on herpetologic medicine. 8 contact hrs.

Master's in Science Education Program. Member of the Detroit Zoological Institute instructional team in conjunction with Lawrence Technological University, 1998. Lecture/field work. 4 contact hrs.

Assisted in instruction at Wildlife Necropsy Laboratories for veterinary students, 1999-2000, 2002-2005. University of California, Davis (UCD). 4 contact hrs annually.

VM452/459 Laboratory instructor and teaching assistant in Veterinary General Pathology and Systemic Pathology (2002-2004; UCD) 160 contact hrs annually.

PMI 476; Instructor; 2 lectures in Comparative pathology of Non-mammalian vertebrates (2003,2005 UCD). 2 contact hrs each year.

PMI475; Instructor; 1 lecture/1 lab on female reproductive pathology for non-vet pathology graduate students (2004, 2005 UCD) 4 contact hrs.

Instructor in case studies for UCD Veterinary Pathology club (2003-2006) 6-8 contact hrs annually.

Instructor; Gross pathology rounds for UCD residency program (2003-2006) 3-6 contact hrs annually.

Instructor, COSMOS program, UCD veterinary education for 50 high school students. Summer 2003. 2 contact hrs.

VM 293B; On-duty pathologist responsible for necropsy and biopsy UCD resident training/case management (1 wk/yr in 2003-2005). 80 contact hrs.

Coach of the Animal Welfare Judging Team for the MSU CVM from 2009-2013 (won the national contest in 2010 and took second overall in 2011). Approximately 10 students/year for one term. In 2014, I provided contest material and did not coach. In 2015, I provided lectures to the upcoming team on elephant welfare and assisted in development of contest scenarios.

STUDENT MENTORING AND ADVISING

Graduate students:

PhD major advisor for Sarah Corner, 2013-2018. Characterization of reproductive neoplasia in North American captive jaguars (*Panthera onca*) and evaluation of major candidate genes.

PhD major advisor for Benjamin Adu-Addai, 2007-2013; Graduated in 2013. Bovine Trichomoniasis in Ghana.

MS Co-major advisor and committee member for James Geary, 2009-2012. Canine and human filariasis

PhD committee member for Peter Schall 2017-present. Meta-analysis of oocyte quality markers.

PhD committee member for Robert Vlietstra 2017-2019. Fertility management of dairy cows.

PhD committee member for Puja Basu, 2015- 2019. Tamoxifen protective effect on the ovary.

PhD committee member and technical advisor for Ebony Gilbreath, 2009-2011. Chronic estrogen effects.

PhD committee member for Marisa Erasmus, 2011-2014. Graduated in 2014. Welfare of farmed turkeys.

MS Committee member and technical advisor for Santiago Garcia, 2009-2012. Equine renal clinical anatomy.

MPH major research advisor for Andrea Winkel, 2007-08. Q fever in zoo hoofstock.

PhD examination committee for Rebecca Vaughan, Murdoch University; 2008; Health status and conservation of the highly endangered Gilbert's potoroo.

International visiting scholars:

In 2014, I mentored Dr. Julius Okuni and Celsus Sente (together with Steve Bolin), both from Uganda's Makerere University, as part of a USAID training program. In 2013, I trained Dr. Alfred Diouf from Senegal, who I then visited in 2014 to assess potential graduate school programs, as part of the Bourlag program of USDA's foreign agriculture service. In 2016, I mentored Dr. Adeniyi Adebisi from Nigeria for 3.5 months, a pathologist and part of the USDA FEP program (see

grants). In 2017, I co-mentored Drs. Tufa and Shimelis from Ethiopia as part of the USDA FEP program for 3.5 months. In 2018-2019, I was the co-coordinator of the FEP program.

Residents:

Resident advisor for Barbie Gadsden (passed ACVP board examination in 2010), Vinicius Carierra (passed the ACVP board examination in 2011), Karla Fenton (passed 2 of 4 parts in 2012 and passed in 2013), Stephanie French (passed 3 of 4 parts in 2013 and 2014; repeating one part in 2015 and 2016, passed full board exam in 2017). Resident advisor for Megumi Shiki (withdrew from the program after 1 year). Advisor for Erica Noland (passed certifying examination in 2017). In 2018, I became residency coordinator and mentored Sarah Coe. In 2019, I am resident mentor for Zachary Millman and Kerry Goldin.

Veterinary students:

Summer (NIH/Merial) Research Advisor for Veterinary Students Jennifer Lamoureux 2007, Samantha Middleton (2008-2009), Dana Tedesco (2008), Jessica Perpich (2009), Yinfei Guo (2010), Nicole Maurer (2011), Michelle Rivard (2012-2013), Rebecca de Castellanos (2014), Aisling Nolan (2014, University of Dublin), Sarah Coe and Rebecca Raffel (2015), Rachel Melvin (2016), Matt Kulpa (2017), Jordan Pieczynski and Hailee Butler (2018-2019). I was also class advisor to the class of 2017.

Annually (2010-2019), I am the “Spartan Vet” advisor for 3-4 veterinary students as a means to ease the students into their first 6 months of veterinary school. This program was discontinued in 2020.

Student advisor for UCD veterinary student Nichole Stephenson, in NIH STAR program, Summer 2005. 6+ contact hrs

Undergraduate students:

Undergraduate Advisor for Melissa Tatro, Honors College professorial assistant (2010-2012). She continued in the lab as an employee during her veterinary schooling. I was advisor for Honors College Professorial assistant Olivia Child (2013-2016), who continued in my lab in 2017. In 2017, she won the university wide Grand Prize award for Science, Technology, Engineering, and Mathematics in the Undergraduate Research Forum. I also advised and employed Mikaela Berning in 2014-15 in my laboratory. She was training in histotechnology. I am an informal advisor for Allie Heineman, who also works part-time in my laboratory. Currently Bridie McClusky, from the zoology department, is working in my laboratory.

CONFERENCE PRESENTATIONS

1. Mar K, **Agnew DW**, Schaftenaar W, Naing T, Mikota S. Pathology Training for Elephant Veterinarians, Managers, and Forest Police in Myanmar, American Association of Zoo Veterinarians Annual Conference, Virtual (Nashville TN), 2020
2. Manfredi JM, Conley MM, Thon SK, Sonea IM, **Agnew, DW**. Is Brine Fine: Efficacy of saturated salt solution as an alternative to formalin for storage of anatomy specimens. American College of Veterinary Pathologists annual conference, Washington DC, 4-7 Nov 2018.
3. **Agnew, D**, Sikarskie, J, Abood, S. Ethics in the veterinary school curriculum. Teaching the new dogs old tricks. AAZV Annual conference. Oakland, CA 20-26 Oct 2012. (abstract).
4. **Agnew, D**, Siegford, M, Daigle, C, Swanson, J. Virtual Animal Welfare Assessment: Educational and husbandry tools for the zoo industry. Wildlife Conservation, Health, and Disease Management – a post-Millennium approach. Chennai, India. 3-5 Feb 2010
5. **Agnew, D**, Siegford, J, Tubbs, M, Daigle, C, Snider, R, Swanson, J. Virtual Animal Welfare Assessment: Educational and husbandry tools for the zoo industry. AAZV Annual conference, Tulsa OK, 26-30 Oct 2009. (abstract)

GRANTS

Funded Grants as Principal or Co-Investigator

MAHF (Manfredi, Agnew)
Is Brine fine? Saturated salt solutions

AAZV Mazuri Fund (Levens, Agnew)
Zoo Pathology Training Tool
\$2800 10/28/2011-10/28/2012

SERVICE

SERVICE-RELATED PUBLICATIONS

Refereed Publications

2022

1. **Agnew D.** Perinatal mortality in horses and camelids. *Clin Theriogenol.* 2022; 14:55-58.
2. **Agnew D.** Failure of pregnancy in ruminants. *Clin Theriogenol.* 2022; 14:59-62.
3. Premanandan C, **Agnew D.** Perinatal mortality in dogs and cats. *Clin Theriogenol.* 2022; 14: 70-72.
4. Scott TN, Swenson CL, Stein L, **Agnew DW.** What is your diagnosis? Abdominal mass from a dog. *Vet Clin Pathol.* 2022 Mar 7. doi: 10.1111/vcp.13082.

2021

1. Glabman RA, Thompson KA, Mani R, Colburn R, **Agnew DW.** Atypical *Brucella inopinata*-Like Species in 2 Marine Toads. *Emerg Infect Dis.* 2021 Jun;27(6):1748-1750.
2. Eustace R, **Agnew D,** Fitzgerald SD, Fyfe JC, Duncan AE, Petroff B, Thompson KA. Presumptive congenital hypothyroidism in red pandas (*Ailurus fulgens fulgens*) from four successive litters. *J Zoo Wildl Med.* 2021 Jun;52(2):795-805.
3. Landolfi JA, Gaffney PM, McManamon R, Gottdenker NL, Ellis AE, Rech RR, Han S, Lowenstine LJ, **Agnew D,** Garner MM, McAloose D, Hollinger C, St Leger J, Terrell SP, Duncan M, Pessier AP. Reproductive tract neoplasia in adult female Asian elephants (*Elephas maximus*). *Vet Pathol.* 2021 Nov;58(6):1131-1141.
4. Henderson EE, Dange RB, Patterson JS, Herdt T, **Agnew DW.** Pathology in Practice. *J Am Vet Med Assoc.* 2021 Oct 15;259(8):857-859.
5. Moresco A, Dadone L, Klaphake E, Johnston M, Han S, **Agnew DW.** Hydrometra in rock hyrax (*Procavia capensis*) under managed care. *J Zoo Wildl Med.* 52(2), 820-826.

2020

1. Needle DB, , Marr JL, Park CJ, Andam CIP, Wise A, Maes RK, Wilkes RK, Anis EA, Sidor IF, **Agnew DW,** Ellis JC, Tate P, Mathewson A, Benton C, and Gibson R. Concurrent Infection of Skunk Adenovirus-1, *Listeria monocytogenes*, and a Regionally Specific Clade of Canine Distemper Virus in One Gray Fox (*Urocyon cinereoargenteus*) and Concurrent Listeriosis and Canine Distemper in a Second Gray Fox. *Pathogens* 2020, 9, 591
2. Strachota, J. Jacobs, CC, **Agnew, D,** Roberts, J .Theriogenology Question of the Month: Diagnosis and management of cystic endometrial hyperplasia in a pot-bellied pig. *JAVMA.* 2020; 257(9):917-920.

2019

1. Magagna M, Noland E, Tell LA, Purdin G, Rideout B, Lipman MW, **Agnew D.** 2019. Histopathologic findings in free-ranging California hummingbirds 1996-2017. *J Wildl Dis.* Apr;55(2):343-351
2. Henderson E, Kumar R, Herdt T, **Agnew D.** 2019. Pathology in practice. Congenital brain deformities in a cow with hypovitaminosis A. *JAVMA.* (in press).

2018

1. Jenkins TL, Agnew D, Rissi DR. Fibroblastic osteosarcoma with epithelioid and squamous differentiation in a dog. *J Vet Diagn Invest.* 2018 Jul;30(4):593-597.

2017

1. Cossic B, Silver G, Kent M, Glass EN, **Agnew D**, McDonough S, Miller AD. Surgical removal of a choroid plexus oncocytoma in an adult cat. *J Small Anim Pract.* 2017 .
2. Thompson KA, Agnew D, Nofs SA, Harrison TM. Obstetrical and postpartum complications in lesser Madagascar hedgehog tenrecs (*Echinops telfairi*): four cases. *J Zoo Wildl Med.* 2017 Jun;48(2):446-452.
3. Sokol SA, Agnew DW, Lewis AD, Southard TL, Miller AD. Pulmonary hyalinosis in captive sugar gliders (*Petaurus breviceps*). *J Vet Diagn Invest.* 2017;29(5):691-695

2015

1. Thompson KA, Campbell M, Levens G, Agnew D. Bilaterally symmetrical oral amelanotic melanoma in a boa constrictor (*Boa constrictor constrictor*) *J Zoo Wildl Med.* 2015 Sep;46(3):629-32.
2. Thompson, K, Niehaus, A, Shellabarger, W, Depenbrock, S, **Agnew, D**. Antemortem diagnosis of cystic endometrial hyperplasia and successful ovariohysterectomy in an African warthog (*Phacochoerus africanus*). *J Zoo Wildl Med.* 2015 Dec;46(4):904-8.
3. Roberts JN, Carleton CL, Conley AJ, **Agnew DW**. Theriogenology Question of the Month. *J Am Vet Med Assoc.* 2015 Jul 15;247(2):153-5.
4. Zoll WM, Needle DB, French SJ, Lim A, Bolin S, Langohr I, **Agnew D**. Sarcocystis spp. Infection in two Red Panda Cubs (*Ailurus fulgens*). *J Comp Pathol.* 2015 Jun 5 153(2-3):185-9.
5. Woodhouse SJ, Rose M, Desjardins DR, Acvp D, **Agnew DW**. Diagnosis of Retrobulbar Round Cell Neoplasia in a Macaroni Penguin (*Eudyptes chrysolophus*) Through Use of Computed Tomography. *J Avian Med Surg.* 2015 Mar;29(1):40-5.

2014

1. Schlanser JR, **Agnew DW**, Paperd DW, Harrison TM. Gastric dilatation-volvulus in a Red Panda (*Ailurus fulgens*). *J Vet Med Sci.* 2014 Jun;76(6):901-3.

2013

1. Olbertz L, Langohr I, Werner J, Pessoa L, Kiupel M, **Agnew DW**, Montiani-Ferreira F. Anterior uveal spindle cell tumor in a blue-eyed mixed-breed dog. *Vet Ophthalmol.* 2013 Feb 3.
2. Jacobson ER, Reese DJ, Berry CR, Brock P, **Agnew DW**, Toplon DE, Abbott JR, Kridel HA, Alleman AR, Dunbar MD. What is your diagnosis? *J Am Vet Med Assoc.* 2013 Dec 1;243(11):1533-5.

2012

1. Kondo H, Wickins SC, Conway JA, Mallicote MF, Sanchez LC, **Agnew DW**, Farina LL, Abbott JR. Cranial Mediastinal Liposarcoma in a Horse. *Vet Pathol.* 2012. 49 (6): 1040-1042.
2. Desjardins DR, Kennedy LH, **Agnew DW**. Pathology in practice. Mycoplasma pulmonis infection. *J Am Vet Med Assoc.* 2012 Jan 15;240(2):155-7.
3. Terrell SP, Origgi FC, **Agnew DW**. Glomerulonephropathy in Aged Captive Key Largo Woodrats (*Neotoma floridana smalli*). *Vet Pathol.* 2012 49(7): 710-716.

2011

1. Harrison, TM, Stanley, BJ., Sikarskie, JG, Bohart, G, Ames, K, Tomlian, J, Marquardt, M, Marcum, A, Kiupel, M, Sledge, D, **Agnew, DW**. Surgical Amputation of a Digit and Vacuum-Assisted-Closure

(V.A.C.) Management in a Case of Osteomyelitis and Wound Care in an Eastern Black Rhinoceros (*Diceros bicornis michaeli*). J. Zoo. Wildl. Med. 2011. 42(2): 317-321

2. Lamoureux JL, Fitzgerald SD, Church MK, **Agnew DW**. The effect of environmental storage conditions on bone marrow fat determination in three species. J Vet Diagn Invest. 2011;23(2):312-5.

2010

1. Harrison TM, Dominguez P, Hanzlik K, Sikarskie JG, **Agnew DW**, Bergin I, Fitzgerald SD, Kitchell BE, McNiel E. Treatment of an Amelanotic Melanoma using Radiation Therapy in a Lesser Madagascar Hedgehog Tenrec (*Echinops telfairi*). J Zoo Wildl Med. 2010. 41(1):152-157.
2. Harrison TM, McKnight CA, Sikarskie JG, Kitchell BE, Garner MM, Raymond JT, Fitzgerald SD, Valli VE, **Agnew DW**, Kiupel M. Malignant lymphoma in african lions (*panthera leo*). Vet Pathol. 2010 47(5):952-7.

2009

1. Occhipinti, L, Carleton, C, Holcombe, S, Chaney, K, **Agnew, DW**. Theriogenology Question of the Month. 2009. J Am Vet Med Assoc. 234(6):751-3.

2008

1. Bergin IL, Campbell B, **Agnew DW**. Ependymal cyst in a cynomolgus macaque (*Macaca fascicularis*). 2008. J Med Primatol. (Epub ahead of print)
2. Levens, GP, Watson, G, **Agnew, DW**. Glandular hypertrophy and ulceration along the tail dorsum of a Spotted Salamander, *Ambystoma maculatum*. 2008 J Herp Med Surg 18(1):9-11.

2007

1. Brenner, D, Larsen, RS, Wack, RF, **Agnew, D**, Imai, D. Concurrent west Nile virus and *Mycobacterium avium* infection in a black-necked swan (*Cygnus melanocoryphus*). 2007. J. Zoo Wildl. Med., 38(2): 357-362.

2005

1. **Agnew, D**, Shoshani, J, Hagey, LH. Cholelithiasis in a wild African elephant (*Loxodonta africana*). The elephants of Zoba Gash-Barka, Eritrea: Part 4. 2005. J. Zoo Wildl. Med., 36(4): 677-683.

2003

1. Tell, LA, Leutenegger, CM, Larsen, RS, **Agnew, D**, Keener, L, Needham, ML, Rideout, BA. Real-time polymerase chain reaction testing for the detection of *Mycobacterium genavense* and *Mycobacterium avium* Complex species in avian samples. Av. Dis. 2003, 47:1406-1415.

1999

1. **Agnew, D**, Barbiers, RB, Watson GL, Poppenga R. Zinc Toxicosis in a Striped Hyena (*Hyaena hyaena*). J. Zoo Wildl. Med. 1999; 30 (3): 431-434.

NON-PEER-REVIEWED PUBLICATIONS

1. Kasantikul, T, Erhensing, G, **Agnew, D**. Encephalomyocarditis Virus in primates. JP Wednesday slide conference submission. 2017.
2. Michels, R. **Agnew, D**. Biobanking, Zoology, and The Pill; Using Freezerworks to manage a wildlife contraception center and biorepository. Posted on November 5, 2016 by News, Freezerworks.com
3. **Agnew, D**. CLD/AAZP Zoo and Wildlife Pathology Workshop Meets in Utah. CL Davis Newsletter. Dec 2013.

4. Ritter, J, **Agnew, D.** Latin Comparative Pathology Group The Latin Subdivision of the CL Davis Foundation Diagnostic Exercise Case #: 37 Oct 2013.
5. **Agnew, D.** It can be a zoo around here. DCPAH Newsletter, Summer 2013.
6. Bolin, S, **Agnew, D,** Maes, R. New diseases and old diseases revisited. DCPAH Newsletter, Summer 2011.
7. **Agnew, D.** Tackling the challenges of livestock abortion diagnosis. DCPAH Newsletter. Spring 2011.
8. **Agnew, D.** Book Review: The Biology of the Coccidia (Apicomplexa) of Snakes of the World: A Scholarly Handbook for Identification and Treatment. JAVMA. 2010. 236(6): 641.
9. **Agnew, D,** Bolin, S. A new bag of Trichs: Trichomoniasis in Large and Small Animal Medicine. DCPAH Newsletter, Fall 2009.
10. **Agnew, D.** Book Review: Potter's Pathology of the Fetus, Infant and Child Vet Pathol, March 2009; vol. 46, 2: pp. 358.
11. Benirschke, K, **Agnew, D.** Scimitar Horned Oryx. In Comparative Placentation website. http://placentation.ucsd.edu/scimitar_oryx.htm accessed 23 Nov, 2008
12. **Agnew, D.** Benirschke, K. Lesser Hedgehog Tenrec. In Comparative Placentation website. http://placentation.ucsd.edu/scimitar_oryx.htm accessed 23 Nov, 2008.
13. **Agnew, D.** Book Review: Biology, Medicine, and Surgery of Elephants. Vet. Pathol. 2007. 44: 560.
14. **Agnew, D.** Cryptosporidiosis in reptiles. in AAZV Infectious Disease Committee notebook (1994 and updated in 2000).
15. **Agnew, D.** Book Review: Pocket Companion to Veterinary Medicine. J. Zoo Wildl. Med. 1995; 26:607-8.
16. **Agnew, D.** Born a pathologist. Intervet. 1988; 24: 20.

CONFERENCE PRESENTATIONS (DALEN AGNEW)

1. **Agnew, D.** Mastering the challenge of a bovine abortion work-up. Abortion diagnostics for food animal practice. MVC. Lansing, MI. 29 Jan-1 Feb 2016.
2. **Agnew, D.** Shellabarger, W. Klebsiella pneumoniae in coatis (*Nasua narica*). AAZV annual conference (Zoo and Wildlife Pathology Workshop). Atlanta, GA, 16-22 Jul 2016.
3. **Agnew, D.** Necropsy of the Small Ruminant. Small Ruminant Symposium, Michigan State University, East Lansing, MI. 10 Oct 2015.
4. **Agnew, D,** Walsh, T, McMannamon, R, Pesavento, P. Neuropathology Mystery Slide Session (Lipofuscinosis in an Elephant). ACVP Annual Conference, Atlanta, GA, 8-12 Nov 2014.
5. **Agnew, D.** Lipofuscinosis in an elephant. Zoo and wildlife pathology workshop. AAZV Annual conference, Kansas City, MO 23 Oct 2011.
6. **Agnew, D.** Skunk musk toxicity in a red panda. Zoo and wildlife pathology workshop. AAZV Annual conference, Kansas City, MO 23 Oct 2011.
7. Mietelka, K, **Agnew, D,** Dalhausen, R, Bolin, S, Lim, A. Mycobacteria and hemosiderosis in an Aracari. Zoo and wildlife pathology workshop. AAZV Annual conference, Kansas City, MO 23 Oct 2011.
8. **Agnew, D.** Overview of reptile renal histoanatomy. Zoo and wildlife pathology workshop. AAZV Annual conference, South Padre Island, TX, 24 Oct 2010.
9. **Agnew, D.** Lead toxicity in an American crocodile. Zoo and wildlife pathology workshop. AAZV Annual conference, South Padre Island, TX, 24 Oct 2010.
10. **Agnew, D.** Hair shaft embolism in a wallaby. Zoo pathology workshop. AAZV Annual Conference, Tulsa, OK. 2009.
11. **Agnew, D,** Bolin, S, Lim, A, Meader, L, Grosjean, N, Flegler, C, Jones, H. Crazy anteater trichs: Tetratrichomonad-associated diarrhea in a giant anteater (*Myrmecophaga tridactyla*). AAZV Annual conference, Tulsa OK, 26-30 Oct 2009. (abstract)
12. Strand, E. Mazet, J. **Agnew, D,** Calle, P, Mitchell, M, Stringfield, C, Murphy, H. Balancing life and a career in zoo/wildlife medicine. American Association of Zoo Veterinarians Annual Conference, Knoxville, TN, Oct, 2007.

13. **Agnew, D.** Literature searches for Luddites. American Association of Zoo Veterinarians Annual Conference, Tampa, FL, Sept, 2006. (abstract).
14. **Agnew, D.** Brain removal in charismatic megavertebrates: a not-so charismatic chore. American Association of Zoo Veterinarians Annual Conference, Tampa, FL, Sept, 2006. (abstract).
15. **Agnew, D, Masliah, E, Rideout, B.** Birds that sing and die: beta amyloid precursor protein as a marker for avian traumatic brain injury. AAZV Annual conference. Minneapolis, MN, Oct 2003. (Abstract) Winner of 2003 Morris Animal Foundation Post-graduate manuscript contest.

CONFERENCE PRESENTATIONS BY PEERS AND STUDENTS**

1. Strachota, J. Jacobs, CC, **Agnew, D**, Roberts, J. Diagnosis and management of cystic endometrial hyperplasia in a pot-bellied pig. Society for Theriogenology annual conference. Savannah, GA, 24-27 Jul 2019.
2. Melvin, R.** Shellabarger, W, **Agnew, D**. Characterization of vulvar fold dermatitis in a polar bear (*Ursus maritimus*). American Association of Zoo Veterinarians, CL Davis Pathology Workshop. Prague, Czech Republic, 7 Oct 2018.
3. Ehrensing, G., Kasantikul, T., Bolin,,S., Maes, R., Wise, A., Magagna, M., Mullaney, T., Montalbano, R., **Agnew, D**. Natural Outbreak of Fatal Encephalomyocarditis Virus in a Non-Human Primate Collection. American Association of Veterinary Laboratory Diagnosticians Annual Conference, Kansas City, MO, 18-22 October 2018
4. Henderson, E., **Agnew, D.**, Fitzgerald, S., Kiupel, M., Faisal, M., Loch, T. Thyroid hyperplasia in a steelhead trout. Midwest Association of Veterinary Pathology, Columbus, OH. 2-3 Aug 2018.
5. Darling, S.,** Carleton, C., **Agnew, D**. Urorectal septum malformation sequence in a Standardbred foal: A case study and comparative review of the literature. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
6. Henderson, E.,** **Agnew, D**. Atlas of invertebrate feed species: Distinguishing friend from foe. MSU CVM Phi Zeta Day, East Lansing, MI 6 Oct 2017.
7. Darling, S.,** Carleton, C., **Agnew, D**. Urorectal septum malformation sequence in a Standardbred foal: A case study and comparative review of the literature. ACVP annual conference, Vancouver, BC, Canada. 4-8 November 2017.
8. Henderson, E.,** **Agnew, D**. Atlas of invertebrate feed species: Distinguishing friend from foe. AAZV Conference, Dallas TX, 23-29 Sep 2017 (abstract)
9. Magagna, M.,** Duncan, A., **Agnew, D**. Chromomycosis in an Asiatic Black-Spined Toad. AAZV-CLDavis Annual Wildlife Pathology Workshop. AAZV Annual conference, Dallas TX. 23 Sep 2017.
10. Henderson, E.,** Eustace, R., **Agnew, D**. Aspergillosis in Chinese Alligators (*Alligator sinensis*).AAZV-CL Davis Annual Wildlife Pathology Workshop. AAZV Annual conference, Dallas TX. 23 Sep 2017.
11. Mulka, K.,* **Agnew, D**. Transmural gallbladder hemorrhage as an indicator of anaphylaxis in dogs. ACVP annual meeting. Phi Zeta Day, MSU CVM. East Lansing, MI. 7 Oct 2016. (abstract)
12. Mulka, K.,* Monahan, C., **Agnew, D**. Transmural gallbladder hemorrhage as an indicator of anaphylaxis in dogs. ACVP annual meeting. New Orleans, LA. 3-7 Dec 2016. (abstract)
13. Thompson, K.* **Agnew, D.**, Shellabarger, W. An urban herd of fallow deer (*Dama dama*). AAZV annual conference (Zoo and Wildlife Pathology Workshop). Atlanta, GA, 16-22 Jul 2016.
14. Cranfield, M. Smith, D., Zabka, T., **Agnew, D**. Corner, S.,* Collins, P., Okuni, J., Alinaitwee, L. Lowenstine, L. Telepathology and conservation of the eastern gorilla. APESCA, Kigali, Uganda. 24-26 Oct 2016. (abstract)
15. Corner, S.** Zabka, T.,Okuni, J., Cranfield, M., **Agnew, D.**, Collins, J., Brown, C., Graham, T. Lowenstine, L., Hollinger, C., Smith, D. The Uganda-Rwanda-North America Pathology Network: A multi-institutional effort to build diagnostic pathology capacity in Uganda and Rwanda. APESCA, Kigali, Uganda. 24-26 Oct 2016.
16. Monahan, C. ****Agnew, D**. Barnes, K. Berlinski, R., Kiupel, M. Hepatic neoplasia in a white rhinoceros. MAVP annual meeting. Pikeville, TN. 12 Jul 2016.
17. Thompson, K**, Patterson, J, **Agnew, D**, Harrison, T. Treatment of renal adenocarcinoma in a binturong (*Arctictis binturong*) with nephrectomy followed by oral chemotherapy (Toceranib phosphate). AAZV annual meeting. Portland, OR, 26 Sep – 2 Oct 2015.
18. Croce, A, White , L, Cullen, J, Agnew, D, Dombrowski, D. Multisystemic spindle cell sarcoma in a black rat snake (*Elaphe (pantherophis) obsoleta*). ACVP Annual Meeting, Minneapolis, MN, 17-21 Oct 2015.
19. Paschal, L**, **Agnew, D**. Angiomatosis in an Aged Zoo Bear (*Ursus arctos*). ACVP Annual Conference, Atlanta, GA, 8-12 Nov 2014.

20. Roberts, J, Carleton, C, **Agnew, D**. Diagnosis and management of a granulosa theca cell tumor in a nulliparous Holstein heifer. Theriogenology Annual Conference, Portland, OR 6-9 Aug 2014.
21. Carter, C, Vernau, W, Komine, M, **Agnew, DW**, Stickle, J, Scott, M. Basophilic leukemia with hemangiosarcoma. Mystery Slide Case Session 2014 ACVP and ASCVP Annual Meeting, Atlanta, Georgia.
22. Rivard, M **, **Agnew, DW**, Hass, J. Investigation of hind limb paralysis in a California Sea Lion (*Zalophus californianus*). IAAAM annual meeting . Sausalito, CA 21-26 Apr 2013
23. Massa, AT**, Agnew, DW, French, SJ. Hepatocellular carcinoma and duodenal adenoma in an African grass rat. ACVP Annual Conference, Montreal, CAN 16-20 Nov 2013
24. Kondo, H, Leone, AM, Toplon, DE, Conley, KJ, Origgi, FC, Brock, AL, Kincaid, AL, **Agnew, DW**, Wellehan, FX, Jacobson, ER, Farina, Abbot, JR. Histologic, immunohistochemical, ultrastructural characteristics of granulosa cell tumors in four reptiles. ACVP Annual Conference, Seattle, WA 2-5 Dec 2012.
25. Tatro, M**, **Agnew D**. Tricky trichs: developing a diagnostic polyclonal anti-*T. foetus* antibody. MSU Phi Zeta Day. East Lansing, MI, 5 Oct 2012.
26. Lamoureux, J**, **Agnew, D**. Neonatal hypoxic encephalopathy in a rhino calf. Midwest Association of Veterinary Pathologists Annual meeting. New Harmony, IN. 26-28 Jul 2012.
27. LoBato, DN**, **Agnew, D**, Harrison, TM. Characterization of a mammary mass in an aged Virginia opossum (*Didephis virginiana*). ACVP Annual Meeting. Nashville, TN. Dec 3-6 2011. (Abstract and poster)
28. Beninson, J, Stanley, B, **Agnew, D**, Hagey, L, Harrison, T. Cholecystolithiasis in a mandrill. Association of Zoo Veterinarians Annual Meeting, South Padre Island, TX, 23 -29 Oct 2010. (abstract)
29. Carierra, V, ** Berlinski, R, Common, R, Langohr, I, **Agnew, D**. Renal myxozoanosis (*Myxidium sp.*) in a red-footed tortoise (*Geochelone carbonaria*). ACVP Annual meeting. Monterey, CA 6-9 Dec 2009. (abstract)
30. Mietelka, K, ** **Agnew D**. Mystery Slide seminar – female reproductive system. Polyarteritis nodosus in a canine uterus. ACVP Annual Meeting, Monterey, CA. 7 Dec 2009.
31. Smedley, R. **Agnew, D**, Kiupel, M, Cline, M. Mystery Slide Seminar – female reproductive system. Endometrial neoplasia in a macaque. ACVP Annual Meeting, Monterey, CA. 7 Dec 2009.
32. Middleton, S, ** Herdt, T, Zyskowski, J, and **Agnew, D**. Post-mortem nutritional evaluation of bone mineral concentrations in the horse, cow, and dog and its application to exotic species. AAZV Annual conference, Tulsa OK, 26-30 Oct 2009. (abstract)
33. Carierra, V, ** Berlinski, R, Common, R, Langohr, I, **Agnew, D**. Renal myxozoanosis (*Myxidium sp.*) in a red-footed tortoise (*Geochelone carbonaria*). Phi Zeta Conference, Michigan State University, East Lansing, MI. 2 Oct 2009. (abstract).
34. Middleton, S, ** Herdt, T, Zyskowski, J, and **Agnew, D**. Post-mortem nutritional evaluation of bone mineral concentrations in the horse, cow, and dog and its application to exotic species. Phi Zeta Conference, Michigan State University, East Lansing, MI. 2 Oct 2009. (abstract).
35. Gadsden, B, ** Kiupel, M, **Agnew, D**. Mystery Slide Seminar – male reproductive system. ACVP Annual meeting. San Antonio, TX. Nov 2008.
36. Lamoureux, J, ** Fitzgerald, S, **Agnew, D**. The impact of tissue storage conditions on bone marrow fat content determination in three species. ACVP Annual meeting. San Antonio, TX. Nov 2008. (abstract)
37. Harrison, T., Sikarskie, J, Bohart, G, Ames, K, Coe, P, Blom, R, Stanley, B, DeCamp, C, Tomlian, J, Marquardt, M, MacFadden, A, **Agnew, D**. Surgical Amputation of a digit and VAC (Vacuum Assisted Closure) management in a case of osteomyelitis and wound care in an Eastern Black Rhinoceros (*Diceros bicornis michaeli*). AAZV Annual Conference, Los Angeles, CA, 11-17 Oct 2008. (abstract).
38. Harrison, T, Dominguez, P, Hanzlik, P, McNeil, E, Sikarskie, J, **Agnew, D**, Bergin, I, Fitzgerald, S, Kitchell, B. Treatment of an Amelanotic Melanoma using Radiation Therapy in a Lesser Madagascar Hedgehog Tenrec (*Echinops telfairi*). AAZV Annual Conference, Los Angeles, CA, 11-17 Oct 2008. (abstract).
39. Lamoureux, J, ** Fitzgerald, S, **Agnew, D**. The impact of tissue storage conditions on bone marrow fat content determination in three species. Phi Zeta Conference, Michigan State University, 10 Oct 2008. (abstract).

40. Perpich, J,** Kiupel, M. **Agnew, D.** Immunohistochemical characterization of cecal neoplasms in pheasants. Phi Zeta Conference, Michigan State University, 10 Oct 2008. (abstract).
41. Middleton, S,** Herdt, T, **Agnew, D.** Post-mortem nutritional evaluation of bone mineral concentrations in the horse, cow, and dog. Phi Zeta Conference, Michigan State University, 10 Oct 2008. (abstract).
42. Perpich, J,** Kiupel, M. **Agnew, D.** Immunohistochemical characterization of cecal neoplasms in pheasants. Merck Merial NIH National Veterinary Scholars Symposium. Jul 31- Aug 3, 2008. (abstract).
43. Middleton, S,** Herdt, T, **Agnew, D.** Post-mortem nutritional evaluation of bone mineral concentrations in the horse, cow, and dog. Merck Merial NIH National Veterinary Scholars Symposium. Jul 31- Aug 3, 2008. (abstract).
44. Hoane, J, ****Agnew, D,** Snowden, K. Disseminated encephalitozoonosis in a dog. American College of Veterinary Pathologists Annual Conference, Savannah, GA, Nov 2007. (abstract).
45. Martell, N,** Bicknese, E. Papendick, R, **Agnew, D.** Leydig cell tumor in a lesser slow loris (*Nycticebus pygmaeus*). American College of Veterinary Pathologists Annual Conference, Savannah, GA, Nov 2007. (abstract).
46. Bergin, I,** Prociuk, U, Mehler, S, **Agnew, D.** Intersex in a domestic short-haired cat with mosaic karyotype 38,XX/39,XXY. American College of Veterinary Pathologists Annual Conference, Savannah, GA, Nov 2007. (abstract).
47. Osipenko, Y,** **Agnew, D.** Surviving the worst: Leningrad Zoo during the Blockade 1941-44. AAZV Conference Proceedings, Aug 2004 (Abstract)
48. Emanuelson, K, **Agnew, D.** Wasting syndrome in a bull African elephant (*Loxodonta Africana*). AAZV Annual Conference, Milwaukee, WI, Oct 2002. (Abstract)

DIAGNOSTIC CASE LOAD

The number of cases for which I was responsible are listed below. The majority of necropsy and biopsy cases were completed with a resident; for mail-in cases, I was typically the sole pathologist. In addition, I read over 1000 immunohistochemistry slides per year for USDA's scrapie eradication program.

<u>Year</u>	<u>Biopsy Cases</u>	<u>Necropsy Cases</u>	<u>Field Necropsy (Mail in)</u>
2006	36	104	0
2007	1149	173	86
2008	1168	209	42
2009	1242	117	213
2010	934	75	120
2011	388	130	32
2012	1108	121	23
2013	449	107	144 (+2 EM cases)
2014	631	123	38 (+23 EM cases)
2015	433	71	80 (+10 EM cases)
2016	803	128 (+ 10 digital necropsies)	61 (+4 EM cases)
2017	874	170	72 (+7 EM cases)
2018	591	122	50 (+9 EM cases)

ADMINISTRATIVE (10%)

COMMITTEES

University Committee on Faculty Tenure (2008-2012; 2016- present)
Departmental Faculty Advisory Committee (2010-2012) (chair in 2012)
DCPAH Annual Review Committee (2010, 2012)
DCPAH Residency Selection Committee (2008-present)
DCPAH Annual Quality Assurance team leader (2008, 2010, 2012, 2014, 2016)
College ad hoc committee to standardize course evaluations (SIRS) (2011)
College Honor Code Committee (2012-2016; particularly active in 2014)
College Admissions Committee (2014 – dean’s appointee)
DCPAH Director Search Committee (Chair – 2014-2015)
College Research Space committee (2014- present)
College Phi Zeta planning committee (2014- present)
DCPAH/PDI Endocrinology faculty search committee (2013; Chair 2015-2016)
PDI Pathology Faculty search committee (2017-2018)
PDI Aquatic Health Faculty search committee, chair (2017-2018)
Residency Review Committee, ad hoc (2017-2018)
Residency Co-coordinator (2018- present)
Mentoring committee for Dr. Bart Gorgoglione (2019-present)

Reproduction and Developmental Sciences Program, member (2011-present)
Member of the MSU African Studies Center Core Faculty (2009-present)

PROFESSIONAL MEMBERSHIPS

American College of Veterinary Pathologists (Diplomate 2002),
American Veterinary Medical Association,
American Association of Zoo Veterinarians (AAZV),
Association of Veterinary Laboratory Diagnosticians,
American Association of Veterinary Parasitologists,
Association of Reptile and Amphibian Veterinarians,
Association of Zoos and Aquaria (AZA),
Elephant Research Foundation (ERF),
Michigan Association of Lab Animal Veterinarians,
Phi Zeta,
Michigan Veterinary Medical Association (MVMA) (1990-1999, 2006-present),
Southeastern Michigan Veterinary Medical Association (1995-1999),
Midwest Regional Zoo Vet Association (1990-1999, 2006-present)

PROFESSIONAL ACTIVITIES

Board member, Michigan Animal Health Foundation; 2006-2012
Board member, Potter Park Zoo Advisory Board; 2007-2012
Editor, American Association of Zoo Vets (AAZV) Annual Proceedings 1968-2006 CD-ROM, 1968-2004 CD-ROM, and the 1990-2002 CD-ROM;
Chair of AAZV Information Resources Committee (1999- 2006);
Member of AAZV executive board (2003-2006);
Elected Member of AAZV Ethics Committee (2003-2005)
Member of AAZV Infectious Disease Committee
Member of AAZV Awards Committee (2013- present; chair of Munson award program)
Moderator of International Zoo Vet Forum (on-line) (1999-2010)

Member of ten Association of Zoos and Aquaria accreditation teams;
Member of MVMA Public Health Committee (1990-1999),
Board Member of Elephant Research Foundation and Editorial Board Member for *Elephant* (1995-2017);
Member of the Animal Welfare and Behavior Group at MSU (2006-2015)
Member of Michigan Vet Conference Emerging Diseases subcommittee and session moderator 2011.
Member of ACVP Exam Committee, 2012 – present (Chair in 2016-2017).
Vice-chair of ACVP Certifying Examination Board (2017-2018)
Chair ACVP Certifying Examination Board (2018 – present)
Co-Moderator of the annual Zoo and Wildlife Pathology Workshop at the AAZV meeting 2012-2019.
Grant Review Board for ALMA (Alberta Livestock and Meat Association) (2016)
Grant reviewer for Michigan Alliance for Animal Agriculture (2016, 2018)

EDITORIAL AND REVIEWER DUTIES FOR SCIENTIFIC JOURNALS

Veterinary Pathology, Associate Editor (2012- present) and Ad hoc reviewer (2002 – present)
Journal of Zoo and Wildlife Medicine, Associate editor (2005-2013); Ad hoc reviewer 1995-present
Journal of the American Veterinary Medical Association, Ad hoc reviewer
Journal of Veterinary Diagnostic Investigation, Ad hoc reviewer
PLOS-Neglected Diseases, Ad hoc reviewer
PLOS Pathogens Ad hoc reviewer
PLOS one Ad hoc reviewer
Veterinary Parasitology, Ad hoc reviewer
Theriogenology, Ad hoc reviewer
Tropical Animal Health and Production, Ad hoc reviewer
Reproduction, Fertility, and Development, Ad hoc reviewer
Biology of Reproduction, Ad hoc reviewer
African Journal of Microbiology, Ad hoc reviewer
Journal of Veterinary Medical Science, ad hoc reviewer