



## Stephen Felt, DVM, MPH

Professor of Comparative Medicine

### Bio

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#### ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Comparative Medicine
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Affiliate, Stanford Woods Institute for the Environment

#### ADMINISTRATIVE APPOINTMENTS

- Attending Veterinarian, Stanford University, (2009- present)
- Associate Director, Veterinary Service Center, (2009-2019)
- Director, Laboratory Animal Medicine Residency Training Program, School of Medicine, Stanford University, (2008-2019)

#### HONORS AND AWARDS

- Excellence Project Award, "Zika Virus at the 2016 Olympic Games" (by Christian Ostberg),, Introductory Seminars (2019)
- Best Paper Award- "A mm-sized wireless implantable device for electrical stimulation.....", IEEE Transactions on Biomedical Circuits and Systems (2018)
- Tibetan Pediatric Neurocysticercosis: Working to Solve a Global Health Crisis....., Stanford Teaching Showcase Award (2018)
- Effect of Intratonsillar Injection of Steroids on Palatine Tonsils in Rabbit Model, First Place Vice President's Resident Research Award, Triological Society (2013)
- Diplomate, American College of Laboratory Animal Medicine (2005)
- Diplomate, American College of Veterinary Preventive Medicine (2003)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Council Member, AAALAC International (2019 - present)
- Specialist, AAALAC International (2017 - 2019)
- Program Co-Chair, California Laboratory Animal Medicine Society Meeting (2016 - 2017)
- Member, Exam Review Committee, American College of Laboratory Animal Medicine (2014 - 2018)
- Member, American College of Laboratory Animal Medicine Exam Strategy Task Force (2013 - 2013)
- Member, Exam Committee, American College of Laboratory Animal Medicine (2011 - 2014)
- Chair, Exam Resources Committee, American College of Laboratory Animal Medicine (2010 - 2011)
- Deputy Chair, Exam Resources Committee, American College of Laboratory Animal Medicine (2009 - 2010)
- Ad Hoc Consultant, AAALAC International (2008 - 2017)
- Member, Exam Resources Committee, American College of Laboratory Animal Medicine (2008 - 2009)

- Veterinary Consultant, World Health Organization (2005 - 2008)

## PROFESSIONAL EDUCATION

- DVM, University of Wisconsin, Veterinary Medicine (1993)
- MPH, Uniformed Services University of Health Sciences, Public Health (2003)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

His research interests include infectious diseases, particularly zoonoses, and exploring techniques which promote the health and welfare of laboratory animals.

## Teaching

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### COURSES

#### 2023-24

- Globally Emerging Zoonotic Diseases: COMPMED 84Q (Spr)

#### 2021-22

- Globally Emerging Zoonotic Diseases: COMPMED 84Q (Spr)
- Masters Research Presentations: COMPMED 291 (Spr)

#### 2020-21

- Globally Emerging Zoonotic Diseases: COMPMED 84Q (Spr)

## Publications

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### PUBLICATIONS

- **Pebble to the Metal: A Boulder Approach to Enrichment for *Danio rerio*.** *PloS one*  
Byrd, K. A., Theil, J. H., Geronimo, J. T., Ahloy-Dallaire, J., Gutierrez, M. F., Hui, E. I., Felt, T. K., Coden, K. M., Ratuski, A. S., Felt, S. A., Chu, D. K., Garner, J. P.  
2024; 19 (5): e0298657
- **Propofol Immersion as a Euthanasia Method for Adult Zebrafish (*Danio rerio*).** *Comparative medicine*  
Davis, A. K., Garner, J. P., Chu, D. K., Felt, S. A.  
2022
- **Mitochondrial Gene Diversity and Host Specificity of *Isopora* in Passerine Birds.** *Frontiers in veterinary science*  
Kubiski, S. V., Witte, C., Burchell, J. A., Conradson, D., Zmuda, A., Barbon, A. R., Vilches-Moure, J. G., Felt, S. A., Rideout, B. A.  
2022; 9: 847030
- **Ascorbic Acid and Iron Supplement Treatment Improves Stem Cell-Mediated Cartilage Regeneration in a Minipig Model.** *The American journal of sports medicine*  
Theruvath, A. J., Mahmoud, E. E., Wu, W., Nejadnik, H., Kiru, L., Liang, T., Felt, S., Daldrup-Link, H. E.  
2021: 3635465211005754
- **The epidemiology of fighting in group-housed laboratory mice.** *Scientific reports*  
Theil, J. H., Ahloy-Dallaire, J., Weber, E. M., Gaskill, B. N., Pritchett-Corning, K. R., Felt, S. A., Garner, J. P.  
2020; 10 (1): 16649
- **The Stability and Efficacy of Tricaine Methanesulfonate (MS222) Solution After Long-Term Storage** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Katz, E. M., Chu, D. K., Casey, K. M., Jampachaisri, K., Felt, S. A., Pacharinsak, C.  
2020; 59 (4): 393–400

- **Hamsters and Gerbils** *EXOTIC ANIMAL LABORATORY DIAGNOSIS*  
McKeon, G. P., Nagamine, C. M., Felt, S. A., Heatley, J. J., Russell, K. E.  
2020; 113-128
- **Biodegradable Fluorescent Nanoparticles for Endoscopic Detection of Colorectal Carcinogenesis** *ADVANCED FUNCTIONAL MATERIALS*  
Rogalla, S., Flisikowski, K., Gorpas, D., Mayer, A. T., Flisikowska, T., Mandella, M. J., Ma, X., Casey, K. M., Felt, S. A., Saur, D., Ntziachristos, V., Schnieke, A., Contag, et al  
2019; 29 (51)
- **Ultrasound/microbubble-mediated targeted delivery of anticancer microRNA-loaded nanoparticles to deep tissues in pigs.** *Journal of controlled release : official journal of the Controlled Release Society*  
Di Ianni, T., Bose, R. J., Sukumar, U. K., Bachawal, S., Wang, H., Telichko, A., Herickhoff, C., Robinson, E., Baker, S., Vilches-Moure, J. G., Felt, S. A., Gambhir, S. S., Paulmurugan, et al  
2019
- **Tracking Stem Cell Implants in Cartilage Defects of Minipigs by Using Ferumoxytol-enhanced MRI** *RADIOLOGY*  
Theruvath, A. J., Nejadnik, H., Lenkov, O., Yermeni, K., Li, K., Kuntz, L., Wolterman, C., Tuebel, J., Burgkart, R., Liang, T., Felt, S., Daldrup-Link, H. E.  
2019; 292 (1): 129–37
- **Structural Equation Modeling (SEM) of Cysticercosis in School-Aged Children in Tibetan Rural Farming Areas of Western China: Implications for Intervention Planning.** *International journal of environmental research and public health*  
Zhou, H., Wang, Q., Zhou, J., Li, T., Medina, A., Felt, S. A., Rozelle, S., Openshaw, J. J.  
2019; 16 (5)
- **Multimodality Hyperpolarized C-13 MRS/PET/Multiparametric MR Imaging for Detection and Image-Guided Biopsy of Prostate Cancer: First Experience in a Canine Prostate Cancer Model.** *Molecular imaging and biology : MIB : the official publication of the Academy of Molecular Imaging*  
Bachawal, S. V., Park, J. M., Valluru, K. S., Loft, M. D., Felt, S. A., Vilches-Moure, J. G., Saenz, Y. F., Daniel, B., Iagaru, A., Sonn, G., Cheng, Z., Spielman, D. M., Willmann, et al  
2019
- **Hamsters and Gerbils** *Exotic Animal Laboratory Diagnosis*  
McKeon, G., Nagamine, C., Felt, S.  
Wiley-Blackwell.2019; 1
- **Influence of Pain and Analgesia on Orthopedic and Wound-healing Models in Rats and Mice.** *Comparative medicine*  
Huss, M. K., Felt, S. A., Pacharinsak, C. n.  
2019
- **High prevalence of taeniasis and Taenia solium cysticercosis in children in western Sichuan, China.** *Acta tropica*  
Li, T. n., Chen, X. n., Wang, H. n., Openshaw, J. J., Zhong, B. n., Felt, S. A., Ito, A. n., Luby, S. P.  
2019; 105133
- **A Bird's-Eye View of Regulatory, Animal Care, and Training Considerations Regarding Avian Flight Research.** *Comparative medicine*  
Baker, S. W., Tucci, E. R., Felt, S. A., Zehnder, A. n., Lentink, D. n., Vilches-Moure, J. G.  
2019
- **US Molecular Imaging of Acute Ileitis: Anti-Inflammatory Treatment Response Monitored with Targeted Microbubbles in a Preclinical Model.** *Radiology*  
Wang, H., Hyvelin, J., Felt, S. A., Guracar, I., Vilches-Moure, J. G., Cherkaoui, S., Bettinger, T., Tian, L., Lutz, A. M., Willmann, J. K.  
2018; 172600
- **A mm-Sized Wireless Implantable Device for Electrical Stimulation of Peripheral Nerves** *IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS*  
Charthad, J., Chang, T., Liu, Z., Sawaby, A., Weber, M. J., Baker, S., Gore, F., Felt, S. A., Arbabian, A.  
2018; 12 (2): 257–70
- **Prevalence and risk factors for Taenia solium cysticercosis in school-aged children: A school based study in western Sichuan, People's Republic of China.** *PLoS neglected tropical diseases*  
Openshaw, J. J., Medina, A. n., Felt, S. A., Li, T. n., Huan, Z. n., Rozelle, S. n., Luby, S. P.  
2018; 12 (5): e0006465
- **Safety Considerations When Working with Humanized Animals** *ILAR JOURNAL*

- Villano, J. S., Vleck, S. E., Felt, S. A., Myers, D. D., Lester, P. A.  
2018; 59 (2): 150–60
- **EVIDENCE CONSISTENT WITH SCHOOL BASED TRANSMISSION OF *TAENIA SOLIUM* CYSTICERCOSIS IN PRIMARY SCHOOLS, SOUTHWEST CHINA**  
Openshaw, J., Chedid, C., Medina, A., Felt, S., Li, T., Huan, Z., Rozelle, S., Luby, S.  
AMER SOC TROP MED & HYGIENE.2018: 7
  - **Anatomical Road Mapping Using CT and MR Enterography for Ultrasound Molecular Imaging of Small Bowel Inflammation in Swine.** *European radiology*  
Wang, H. n., Felt, S. A., Guracar, I. n., Taviani, V. n., Zhou, J. n., Sigrist, R. M., Zhang, H. n., Liau, J. n., Vilches-Moure, J. G., Tian, L. n., Saenz, Y. n., Bettinger, T. n., Hargreaves, et al  
2018; 28 (5): 2068–76
  - **High prevalence of *Taenia solium* taeniasis and cysticercosis in Tibetan schoolchildren in western Sichuan, China: a cross-sectional study**  
Li, T., Openshaw, J. J., Chen, X., Medina, A. C., Felt, S. A., Zhou, H., Rozelle, S. D., Luby, S. P.  
ELSEVIER SCIENCE INC.2017: S89
  - **Acute and Chronic Outcomes of Gas-Bubble Disease in a Colony of African Clawed Frogs (*Xenopus laevis*)** *COMPARATIVE MEDICINE*  
Tsai, J. Y., Felt, S. A., Bouley, D. M., Green, S. L.  
2017; 67 (1): 4-10
  - **Use of Liposomal Bupivacaine for Postoperative Analgesia in an Incisional Pain Model in Rats (*Rattus norvegicus*)** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Kang, S. C., Jampachaisri, K., Seymour, T. L., Felt, S. A., Pacharinsak, C.  
2017; 56 (1): 63-68
  - **Postoperative Analgesia Due to Sustained-Release Buprenorphine, Sustained-Release Meloxicam, and Carprofen Gel in a Model of Incisional Pain in Rats (*Rattus norvegicus*)** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Seymour, T. L., Adams, S. C., Felt, S. A., Jampachaisri, K., Yeomans, D. C., Pacharinsak, C.  
2016; 55 (3): 300-305
  - **"Pedi" Cures All: Toenail Trimming and the Treatment of Ulcerative Dermatitis in Mice** *PLOS ONE*  
Adams, S. C., Garner, J. P., Felt, S. A., Geronimo, J. T., Chu, D. K.  
2016; 11 (1)
  - **Systematic Literature Review of Risk Factors and Treatments for Ulcerative Dermatitis in C57BL/6 Mice.** *Comparative medicine*  
Chu, D. K., Adams, S. C., Felt, S. A., Geronimo, J. n., Garner, J. P.  
2016; 66 (2): 89
  - **Quantitative Assessment of Inflammation in a Porcine Acute Terminal Ileitis Model: US with a Molecularly Targeted Contrast Agent** *RADIOLOGY*  
Wang, H., Felt, S. A., Machtaler, S., Guracar, I., Luong, R., Bettinger, T., Tian, L., Lutz, A. M., Willmann, J. K.  
2015; 276 (3): 809-817
  - **A Real-Time Clinical Endoscopic System for Intraluminal, Multiplexed Imaging of Surface-Enhanced Raman Scattering Nanoparticles** *PLOS ONE*  
Garai, E., Sensarn, S., Zavaleta, C. L., Loewke, N. O., Rogalla, S., Mandella, M. J., Felt, S. A., Friedland, S., Liu, J. T., Gambhir, S. S., Contag, C. H.  
2015; 10 (4)
  - **IACUC and Laboratory Animal Resources** *The Care and Feeding of an IACUC: The Organization and Management of an Institutional Animal Care and Use Committee*  
Felt, S. A., Green, S.  
CRC Press.2015; 2
  - **Egyptian Fat-tailed Jird** *The Laboratory Rabbit, Guinea Pig, Hamster and Other Rodents*  
Felt, S., Guirguis, F., Hussein, H., Merril, N.  
Academic Press.2015; 1
  - **Effect of Intratonsillar Injection of Steroids on the Palatine Tonsils of Rabbits** *LARYNGOSCOPE*  
Cho, D., Sinha, S. R., Gardner, J. M., Schaller, M. P., Pamnani, R. D., Felt, S. A., Barral, J. K., Messner, A. H.  
2014; 124 (12): 2811-2817

- **Antinociceptive Effects of Sustained-Release Buprenorphine in a Model of Incisional Pain in Rats (*Rattus norvegicus*).** *Journal of the American Association for Laboratory Animal Science*  
Chum, H. H., Jampachaisri, K., McKeon, G. P., Yeomans, D. C., Pacharinsak, C., Felt, S. A.  
2014; 53 (2): 193-197
- **Tissue Distribution of Enrofloxacin in African Clawed Frogs (*Xenopus laevis*) after Intramuscular and Subcutaneous Administration** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Felt, S., Papich, M. G., Howard, A., Long, T., McKeon, G., Torreilles, S., Green, S.  
2013; 52 (2): 186-188
- **Prevalence of *Batrachochytrium dendrobatidis* in *Xenopus* Collected in Africa (1871-2000) and in California (2001-2010).** *PloS one*  
Vredenburg, V. T., Felt, S. A., Morgan, E. C., McNally, S. V., Wilson, S., Green, S. L.  
2013; 8 (5)
- **Biology, behavior, and environmental enrichment for the captive African clawed frog (*Xenopus* spp)** *APPLIED ANIMAL BEHAVIOUR SCIENCE*  
Chum, H., Felt, S., Garner, J., Green, S.  
2013; 143 (2-4): 150-156
- **Maternal antibodies or nonproductive infections confound the need for rederivation.** *Journal of the American Association for Laboratory Animal Science*  
Nagamine, C. M., Chen, L., Ho, W. Q., Felt, S. A.  
2013; 52 (4): 495-498
- **Analgesic Effects of Sustained Release Buprenorphine in an Incisional Model of Hyperalgesia in Rats (*Rattus norvegicus*)**  
Chum, H., McKeon, G., Yeomans, D. C., Jampachaisri, K., Pacharinsak, C., Felt, S.  
AMER ASSOC LABORATORY ANIMAL SCIENCE.2012: 692-92
- **Mortality and Morbidity in African Clawed Frogs (*Xenopus laevis*) Associated with Construction Noise and Vibrations** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Felt, S. A., Cowan, A. M., Luong, R., Green, S. L.  
2012; 51 (2): 253-256
- **Carbon Dioxide and Oxygen Levels in Disposable Individually Ventilated Cages after Removal from Mechanical Ventilation** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Nagamine, C. M., Long, C. T., McKeon, G. P., Felt, S. A.  
2012; 51 (2): 155-161
- **Serum Clinical Biochemical and Hematologic Reference Ranges of Laboratory-Reared and Wild-Caught *Xenopus laevis*** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Wilson, S., Felt, S., Torreilles, S., Howard, A., Behan, C., Moorhead, R., Green, S.  
2011; 50 (5): 635-640
- **A far-reaching career** *LAB ANIMAL*  
Felt, S. A.  
2011; 40 (5): 162-163
- **Comparison of rectal and tympanic core body temperature measurement in adult Guyanese squirrel monkeys (*Saimiri sciureus sciureus*)** *JOURNAL OF MEDICAL PRIMATOLOGY*  
Long, C. T., Pacharinsak, C., Jampachaisri, K., McKeon, G. P., Howard, A. M., Albertelli, M. A., Felt, S. A.  
2011; 40 (2): 135-141
- **Cross-Species Surveillance of *Leptospira* in Domestic and Pen-Domestic Animals in Mahalla City, Gharbeya Governorate, Egypt** *AMERICAN JOURNAL OF TROPICAL MEDICINE AND HYGIENE*  
Felt, S. A., Wasfy, M. O., El-Tras, W. F., Samir, A., Rahaman, B. A., Boshra, M., Parker, T. M., Hatem, M. E., El-Bassiouny, A. A., Murray, C. K., Pimentel, G.  
2011; 84 (3): 420-425
- **Analgesic Effects of Tramadol, Tramadol-Gabapentin, and Buprenorphine in an Incisional Model of Pain in Rats (*Rattus norvegicus*)** *Journal of the American Association for Laboratory Animal Science*  
McKeon, G., Pacharinsak, Cholawat; Long, Charles T.; Howard, Antwain M.; Jampachaisri, Katechan; Yeomans, David C; Felt, Stephen A.  
2011; 50 (2): 192-197

- **EFFECTS OF RAINFALL, HOST DEMOGRAPHY, AND MUSTH ON STRONGYLE FECAL EGG COUNTS IN AFRICAN ELEPHANTS (LOXODONTA AFRICANA) IN NAMIBIA** *JOURNAL OF WILDLIFE DISEASES*  
Thurber, M. I., O'Connell-Rodwell, C. E., Turner, W. C., Nambandi, K., KINZLEY, C., Rodwel, T. C., Faulkner, C. T., Felt, S. A., Bouley, D. M.  
2011; 47 (1): 172-181
- **The Pharmacokinetics of Enrofloxacin in Adult African Clawed Frogs (Xenopus laevis)** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Howard, A. M., Papich, M. G., Felt, S. A., Long, C. T., McKeon, G. P., Bond, E. S., Torreilles, S. L., Luong, R. H., Green, S. L.  
2010; 49 (6): 800-804
- **A Bistable Switch and Anatomical Site Control Vibrio cholerae Virulence Gene Expression in the Intestine** *PLOS PATHOGENS*  
Nielsen, A. T., Dolganov, N. A., Rasmussen, T., Otto, G., Miller, M. C., Felt, S. A., Torreilles, S., Schoolnik, G. K.  
2010; 6 (9)
- **COMPARISON OF GASTROGRAFIN TO BARIUM SULFATE AS A GASTROINTESTINAL CONTRAST AGENT IN RED-EARED SLIDER TURTLES (TRACHEMYS SCRIPTA ELEGANS)** *VETERINARY RADIOLOGY & ULTRASOUND*  
Long, C. T., Page, R. B., Howard, A. M., McKeon, G. P., Felt, S. A.  
2010; 51 (1): 42-47
- **ACARIASIS IN CAPTIVE FAT-TAILED JIRDS (PACHYUROMYS DUPRASI)** *JOURNAL OF ZOO AND WILDLIFE MEDICINE*  
Felt, S. A.  
2009; 40 (1): 217-219
- **An Effective Venipuncture Technique and Normal Serum Biochemistry Parameters of the Captive Fat-Tailed Jird (Pachyuromys duprasi)** *JOURNAL OF THE AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE*  
Felt, S. A., Guirguis, F. I., Wasfy, M. O., Howard, J. S., Domingo, N. V., Hussein, I. H.  
2009; 48 (1): 57-60
- **Tacrolimus Ointment: An Effective Topical Treatment of Localized Atopic Dermatitis in a Rhesus Macaque (Macaca mulatta)** *JAALAS*  
Torreilles SL, Luong RH, Felt SA, McClure DE  
2009; 48 (3): 307-311
- **Biology, breeding, husbandry and diseases of the captive Egyptian fat-tailed jird (Pachyuromys duprasi natronensis)** *LAB ANIMAL*  
Felt, S. A., Hussein, H. I., Helmy, I. M.  
2008; 37 (6): 256-261
- **Cutaneous Leishmaniasis in the Volta District of Ghana: an Uncertain Reservoir for Focal Disease Outbreak** *Libyan Journal of Infectious Diseases*  
Racznia G, Villinski JT, Puplampu N, Mechta S, Klana JD, Felt S, Abbassy M, Hanafi H, Hoel DF, Wilson M, Boakye  
2008; 1: 50-59
- **A Multispecies Disease Outbreak of Highly Pathogenic Avian Influenza in Grd Jotyar, Iraq** *Libyan Journal of Infectious Diseases*  
Felt SA, Saad MD, Yingst SL  
2008; 1: 43-49
- **Qinghai-like H5N1 from Domestic Cats, Northern Iraq** *EID*  
Yingst SL, Saad MD, Felt SA  
2006; 12 (8)
- **A comparison of non-contact, subcutaneous, and rectal temperatures in captive owl monkeys (Aotus sp.)** *J Med Primatol*  
Shelton LJ, White CE, Felt SA  
2006; 5: 346-351
- **Evaluation of a timed and repeated perianal tape test for the detection of pinworms (Trypanoxyuris microon) in owl monkeys (Aotus nancymae)** *J Med Primatol*  
Felt SA, White CE.  
2005; 34 (4): 209-214