

CURRICULUM VITAE

Dennis L. Schmitt
 Professor, Department of Agriculture
 Missouri State University
 April 2008

EDUCATION

<u>Year</u>		<u>Degree</u> <u>Conferring Institution</u>	<u>Field</u>
1969	B.S.	University of Missouri Columbia, Missouri	Agricultural Education
1974	M.S.	University of Missouri Columbia, Missouri	Dairy Husbandry Reproductive Physiology
1978	D.V.M.	University of Missouri Columbia, Missouri	Veterinary Medicine
1986	Ph.D.	University of Missouri Columbia, Missouri	Dairy Science Reproductive Physiology

PROFESSIONAL EXPERIENCE

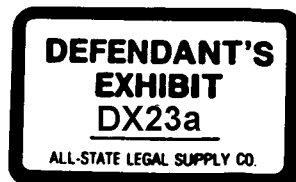
2001-present--Professor, Missouri State University, Agriculture Department, Springfield, MO.
 2006 –present – Ringling Bros. Chair of Veterinary Care, Director Research & Conservation
 1996-2001--Associate Professor, SMSU Agriculture Department, Springfield, MO.
 1993-94-- Clinical Assistant Professor Veterinary Medicine & Surgery, University of Missouri
 1983-2000 - Part-time Clinical Veterinarian, Dickerson Park Zoo, Springfield, MO

BOARD CERTIFICATION

<u>Field</u>	<u>Conferring College</u>	<u>Date</u>
Theriogenology	College of Theriogenology	1986

AWARDS AND HONORS

Alumni Professor of Reproductive Biology, Missouri State University, (2007 –present)
 SMSU Outstanding Thesis Advisor (2005)
 University of Missouri Outstanding Alumni (2004)
 SMSU Outstanding Graduate Mentor Award (2002)
 Alumni of the Year- College of Veterinary Medicine, University of Missouri (2001)
 Honorary State FFA Degree, Missouri FFA, (2001)
 SMSU College of Natural and Applied Science Award for Service (2001)
 SMSU University Award for Research (2000)
 SMSU College of Natural and Applied Science Award for Research (1998)



PROFESSIONAL ORGANIZATIONS AND SERVICE

American Association of Zoological Parks and Aquariums--Member 1987 to present
 Steering committee member of Reproductive SAG- 2002 to 2004
 Chairman of reproductive advisory committee Elephant TAG/SSP – 2001 to 2004,
 Co-Chairmant of reproductive advisory committee Elephant TAG/SSP- 2006 to present
 Chairman of research committee Elephant TAG – 2001 to 2004
 scientific advisory member of Asian Elephant SSP Committee-- 1987 to2004
 scientific advisory member of African Elephant SSP Committee-- 1992 to 2004

American Association of Zoo Veterinarians--Member 1985 to present
 American College of Theriogenology--Member 1986 to present
 American Institute of Ultrasound in Medicine—Member 2001 to 2007
 American Veterinary Medical Association--Member 1978 to present
 Asian Elephant Specialist Group, IUCN, Member 2001to present
 Task force on Captive elephant management, AsESP, IUCN – Member 2007- present
 Global Elephant Management Program – Veterinary advisor – 2007 - present
 International Embryo Transfer Society--Member 1978 to present
 International Elephant Foundation - Board Member 1998 to present
 International Veterinary Ultrasound Society—Member 2002 - 2004
 Missouri Veterinary Medical Association--Member 1978 to present
 Missouri Veterinary Alumni Association--Member 1993 to present
 Vice-president 1993-1996, President 1996-1998, representative to UM-C National
 Alumni board 1998-2000

Society for Theriogenology--Member 1978 to present

RESEARCH EXPERIENCE**Graduate Students**

<u>Name</u>	<u>Degree</u>	<u>Institution</u>	<u>Advisor/Committee</u>	<u>Dates</u>
Melissa Carden	M.S.	SMSU	Committee Member	1992-1993
John Ashcraft	M.S.	SMSU	Committee Member	1996-1999
Heather Headrick	M.N.A.S.	SMSU	Advisor	1996-2001
Don Harms	M.N.A.S.	SMSU	Advisor	1997-2002
Cary Crow	M.N.A.S.	SMSU	Committee Member	1996-1999
Christine Wilson	M.N.A.S.	SMSU	Committee Member	1996-2001
Ed Ferguson	M.N.A.S.	SMSU	Advisor	1998-2000
Jennifer Parker	M.N.A.S.	SMSU	Advisor	1998-2002
Karen Bailey	M.N.A.S.	SMSU	Advisor	1999-2001
Chad Duit	M.N.A.S.	SMSU	Committee Member	2000-2001
Rebecca Krywko	M.N.A.S.	SMSU	Advisor	2000-2002
Misti Fry	M.N.A.S.	SMSU	Advisor	2001-2002
Rebecca Utchman	M.N.A.S.	SMSU	Advisor	2000-2002

Nikki Ferwerda	M.N.A.S.	SMSU	Committee Member	2001-2002
Allison Keeley	M.N.A.S.	SMSU	Advisor	2001-2003
Brady Timmerberg	M.N.A.S.	SMSU	Advisor	2002-2004
Wendy Kiso	M.N.A.S.	SMSU	Advisor	2002-2004
Carly Decat	M.N.A.S.	SMSU	Committee Member	2002-2004
Kristy Kinchen	M.N.A.S.	SMSU	Advisor	2003-2005
Scotti Erickson	M.N.A.S.	MSU	Advisor	2004-2006
Tracy Northcutt	M.N.A.S.	MSU	Advisor	2004-2006
Rachel Humes	M.N.A.S.	MSU	Committee Member	2004-2006
Kristy Marson	M.N.A.S.	MSU	Advisor	2005-2007
Jackin Jayaram	M.N.A.S.	MSU	Advisor	2005-2008
John Melson	M.N.A.S.	MSU	Advisor	2006-2008
Julie King	M.N.A.S.	MSU	Advisor	2007-2009
Crystal Eng	M.N.A.S.	MSU	Advisor	2008-2010

RESEARCH ACTIVITIES FUNDED

<u>Title</u>	<u>PI/Co-I</u>	<u>Agency</u>	<u>Total Amount</u>	<u>Dates</u>
Ringling Bros. Chair Veterinary Care Research Director	PI	Feld Entertainment	212,000	2006-2008
Fecal reproductive steroids in North American River otters		Wonders of Wildlife	\$39,900	2004-2006
Cryopreservation of Asian Elephant Semen	PI	Ringling Bros. CEC	\$37,000	2002-2004
Cryopreservation of African Elephant Semen	PI	Indianapolis Zoo	\$ 2,500	2003
Acquisition of mobile Ultrasound	PI	Endangered Ark Foundation/SMSU	\$36,000	2001-2002
Cryopreservation of African Elephant Semen	PI	International Elephant Foundation	\$9,060	2002-2003
Cheetah Artificial Insemination	PI	SMSU	\$4,900	2000-2001
Artificial Insemination in Rhinoceros	PI	Peace River Refuge	\$156,000	1999-2001
Use of Genetic Markers To Evaluate Genetic Diversity In the Captive Elephant Population of North America	PI	Peace River Refuge	\$12,000	1998-2000
Lutenizing Hormone Levels In Asian Elephants	PI	SMSU Faculty Research Grant	\$3,850	1997-1998
A Comparison of Freezing Protocols On Post-thaw	PI	SMSU Faculty Research Grant	\$3,985	1996-1997

Viability of Asian Elephant Semen Reproduction Physiology Micromanipulation	Co-I	A.B. Technology & SMSU Foundation	\$66,885	1996
Ultrasound Investigation of Reproductive Events in Asian Elephants	Co-I	SMSU & Friends of the Zoo-Dickerson Park Zoo	\$ 3,000	1995 -1996
Artificial Insemination of Asian Elephants	Co-I	Institute of Museum Sciences-Conservation Project	\$ 50,000	1992-1995
Effects of Musth in Asian Male Elephants	Co-I	Institute of Museum Sciences- Conservation Project	\$ 50,000	1991-1992
Semen Characteristics of Maned Wolves	Co-I	AZA SSP Committee	\$ 5,000	1991-1991
Freezing Asian Elephant Semen	Co-I	SMSU & Friends of the Zoo- Dickerson Park Zoo	\$ 2,000	1989
Artificial Insemination of Asian Elephants	Co-I	Institute of Museum Sciences- Conservation Project	\$25,000	1986-1987
Embryo Transfer in Scimitar- horned Oryx	Co-I	Institute of Museum Sciences- Conservation Project	\$50,000	1985-1987

SEMINARS & PRESENTATIONS

Reproductive Physiology of Elephants. **Invited Presentation** Reproductive Biology Section University of Missouri – Columbia. November 2007

Reproduction in Exotic Animals. **Lecture**, Univeristy of Missouri, College of Agriculture. November 2007

Medical Management of Elephants. **Lecture** University of Missouri, College of Veterinary Medicine. September 2007

Medical Care of Elephants for Veterinarians, led four day **workshop**. Riddle's Elephant Sanctuary, Greenbrier, AR, May 2007

The Blind Men and the Elephant. Invited Presentation. Faculty-Student Seminar, Missouri State University. January 2007

Getting Things Done Around Here is like Breeding Elephants. Invited Presentation. Provost's Research Symposium, Missouri State University. November 2006

Getting Things Done Around Here is like Breeding Elephants. Invited presentation, American Association of Industrial Veterinarians, CVC, August 2006

Getting Things Done Around Here is like Breeding Elephants. Invited presentation Veterinary College, Ohio State University, November 2005

Getting Things Done Around Here is like Breeding Elephants. Invited presentation Math Department Seminar Missouri State University. Check Hall, November, 2005

Getting Things Done Around Here is like Breeding Elephants. Invited presentation BMS

Department Seminar Missouri State University. Professional Building, October, 2004
Under the Big Top – Why Elephants Belong in Circuses, Invited presentation for Smithsonian Institute on Ethics of Elephants in Captivity. Front Royal, VA. March 2003
Ultrasound in Elephants Workshop For Forest Elephant Veterinarians, Assam University, College of Veterinary Medicine, Guwhati, Assam, India. February 2003, 2004
Ultrasound in Elephants Workshop, Center for Asian Elephant Conservation, Kerala Agricultural University, College of Veterinary Medicine, Trissur, India. February 2003, 2004
Getting Things Done Around Here is Like Mating Elephants, Keynote speaker Missouri Academy of Science Banquet, SMSU, April 2002
Reproduction in Elephants, presentation for the PEM (Professional Elephant Management) section of AZA professional schools, Wheeling, WV, February 2002, 2003, 2004
Ultrasound in Elephants for Veterinarians Workshop, Riddle's Elephant Sanctuary, Greenbriar, AR, March 2001, 2002, 2003, and June 2000, 2001, 2002, 2003.
Medical Management of Elephants in Asian, presentation to Student AVMA at University of Missouri, December 2001
Assisted Reproductive Techniques in Elephants, Invited presentation at Louisiana State University, Baton Rouge, LA. Reproductive Physiology Seminar Series. November 2001
Medical Management of Elephants, lecture for third year veterinary students, University of Missouri, October 2001
Medical Management of Elephants Workshop, annual meeting AZVA, Disney Animal Kingdom, September 2001
Issues of Breeding Elephants in Captivity, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 2001, May 2002, May 2003
Workshop on the Management of Elephant Conservation Centers in Sumatra. Jarkarta, Sumatra, U.S. Fish & Wildlife Service and International Elephant Foundation. April 2001
Ultrasound in Elephants Workshop, Center for Asian Elephant Conservation, Kerala Agricultural University, College of Veterinary Medicine, Trissur, India. February 2001
Ultrasound in Elephants Workshop, Center for Asian Elephant Conservation, Mudumailai National Park, India, February 2001
Imaging Early Pregnancy in Elephants, Elephant Managers Association Annual Meeting, Syracuse, NY October 2000
Congenital Heart Disease in an Asian Elephant, Elephant Managers Association Annual Meeting, Syracuse, NY October 2000
Bull Elephant Management, Elephant Managers Association Annual Meeting, Syracuse, NY October 2000
Issues of Breeding Elephants in Captivity, Elephant Management Association Training School, Riddles Elephant Sanctuary, September 2000. May 2001, 2003
Teaching Embryo Transfer in Vocational Agriculture, Missouri State Vocational Teacher Conference, Springfield, MO, July 27, 2000
Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 2000.
Issues in Breeding Elephants in Captivity, Central Regional AZA Conference, Toledo, Ohio, May 2000

Issues in Breeding Elephants in Captivity, Southwest Missouri Regional Science Fair, Springfield, MO April, 2000

Elephant Conservation for Circuses, Circus 2000, Sarasota, Fl. January 2000

Issues in Elephant Reproduction, Circus 2000, Sarasota, Fl. January 2000

Elephants. Pachyderm Club, Springfield, MO. January 2000

Taking Public Affairs Into the Community. Panel member for the Workshop during the Showcase on Teaching. SMSU. Springfield, MO. January 2000

Elephants. McBride Elementary, Springfield, MO November 1999

Elephants. Mark Twain Elementary, Springfield, MO November 1999

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, November 1999.

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Training School, Riddles Elephant Sanctuary, May 1999.

Ultrasonographic Reproductive Assessment of Elephants. Pre-Veterinary Club, SMSU, March 1999

Ultrasonographic Reproductive Assessment of Elephants. Roger Williams Park Zoo Donor Breakfast, March 1999

Recent Advances in Reproductive Physiology of Elephants, Telethon for Technology, Springfield Public Schools, December 1998

Use of Ultrasound Technology, Technology Expo, SMSU, October 1998

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 1998. Invited presentation.

Genetics and Zoo Animals. Dickerson Park Zoo Docents, April 1998.

Keeping Seasonal Breeders Seasonal. Ozark Dairy Workshop on Intensive Grazing Management. Ozark Mo. Dairy Extension meeting. December 1997.

Ultrasonographic Reproductive Assessment of Elephants. Washington State University – A.B. Technology, Inc. November 1997

Ultrasound evaluation of Pregnancy in Sheep. Polk and Greene County Sheep Project Members. October 1997.

So You Want To Be a Zoo Veterinarian. Dickerson Park Zoo, August 1997. Workshop for Zoo Teens.

Semen Collection of an African Elephant. Workshop, 2nd Annual Elephant Research Symposium. Pittsburg, PA. July 1997.

Ultrasonographic Assessment of African Elephants. Workshop, 2nd Annual Elephant Research Symposium. Pittsburg, PA. July 1997.

Surgical Artificial Insemination in Elephants. Institute for Zoo and Wildlife Research. Berlin, Germany. June 1997.

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 1997. Invited presentation

Collection and Evaluation of Elephant Semen - Paper presented at First Annual Elephant Research Symposium, (1996).

Techniques of Artificial Insemination in Elephants - Paper presented at First Annual Elephant Research Symposium, (1996).

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 1996. Invited presentation.
Recent Advances in Reproductive Technology - University of Missouri Veterinary Fall Conference (1996).

Reproductive Management of Dairy Cattle. Polk County Dairy Extension Meeting. March 1997.

Reproductive Management of Dairy Cattle. Christian County Dairy Extension Meeting. March 1997.

Reproductive Management of Dairy Cattle. Lawrence County Dairy Extension Meeting. March 1997.

Research in Reproductive Physiology of Elephants, Elephant Research Symposium, Indianapolis, Indiana, June 1996.

Recent Advances in Reproductive Physiology of Elephants, Elephant Management Association Training School, Riddles Elephant Sanctuary, May 1996.

Publications (manuscripts, book chapters, abstracts, posters)

Hermes, Robert, Saragusty, J., Schaftnaar, W., Goritz, F., **Schmitt D. L.**, Hildebrandt, Thomas B. Obstetrics in elephants. *Theriogenology*. In press. (2008)

Saragusty, Joseph, Hermes, Robert, Goritz, Frank, **Schmitt Dennis L.**, Hildbrandt, Thomas B. Skewed birth sex ratio and premature mortality in elephants. *Animal Reproduction Science*. In press (2008)

Tripp, Kathleen, Verstegen, J.P., Harr, K.E., Bonde, R.K., Deutsch, C.J., Rodriguez, M., Morales, B., **Schmitt D.L.** Validation of a Serum Immunoassay to Measure Progesterone and Diagnose Pregnancy in the West Indian Manatee (*Trichechus manatus*). In press. (2008)

Schmitt, Dennis, Charmasson, S., Wiedner, E., Graham, D. Use of Lutenizing Hormone ELISA's in Breeding Elephants. Abstract. Proceedings AAZVA. Accepted. (2008)

Marson, Kristine, **Schmitt, D.**, Charmasson, S., Kiso, W., Wiedner, E., Lindsay, W., The Effects of Equine Seminal Plasma on Asian Elephant (*Elephas maximus*) Spermatozoa. Proceeding of International Elephant Conservation & Research Symposium. (2007)

Kiso, Wendy, **Schmitt, D.**, Brown, J., Olson, D., Crichton, E., Pukazhenth, B., Preservation of Sperm Motility and Acrosomal Integrity During Transport for Artificial Insemination in Asian Elephants (*Elephas maximus*). Proceeding of International Elephant Conservation & Research Symposium. (2007)

Lindsay, William, **Schmitt, D.**, Wiedner, E., Graham, D., Melson, J., Charmasson, S., Kiso, W. Successful Artificial Insemination of Traveling Elephants. Proceeding of International Elephant Conservation & Research Symposium. (2007)

Charmasson, Scotti, **Schmitt, D.**, Kiso, W., Wiedner, E., Lindsay, W., Northcutt, T. Comparison of Fetal Sex Determination from Maternal Serum in Asian and African Elephants. Proceeding of International Elephant Conservation & Research Symposium (2007)

Jayaram, Jackin, Mohan, S., Marson, K., Charmasson, S., Northcutt, T., **Schmitt, D. L.**, Wiedner, E., Lindsay, W. Early Gonadotrophic Activity May be the Reason for the Development of Multiple Corpora Lutea in the Ovaries of Pregnant Asian Elephants (*Elephas maximus*) Proceeding of International Elephant Conservation & Research Symposium. (2007)

Hildebrandt, T, Drews, B, Gaeth, A.P., Goeritz, F., Hermes, R., **Schmitt, D.**, Gray, C., Rich, P., Streich, W.J. Short, R.V., and Renfree, R.B. Foetal Age Determination and Development in Elephants. Proceeding of the Royal Society B. 274:1608 pp 323-331. (2007)

Schmitt, D.L. Reproduction in Elephants *In: Biology, Medicine, and Surgery in Elephants.* Eds. Murray Fowler and Susan Mikota 2006

Drews, Barabara, Goritz, F., Hermes, R., Striech, J.W., Rich, P., **Schmitt, D.**, Lung, N., Renfree, M., gaeth, A.P., Short, R.V., and Hildebrandt, T.B. *Morphological and ultrasonographic characterization of the embryonic development in elephants.* International Elephant Conservation and Research Symposium, Copenhagen, Demark, 2006 (Abstract and presentation)

Schmitt D.L. *Under the Big Top. Why elephants belong in circuses.* In: Ethics of Elephants in Captivity. C. Cristen ed. John Hopkins University Publishing. In Press.

Schmitt D.L., Lindsay, W.A., Wiedner, E., Kiso, W.K. *Use of Equine Seminal Plasma to initiate motility in Asian elephant semen.* Proc. Elephant Managers Association. Portland, OR 2005

Jayaram, J., Cheeran, J., Panakur, A.J., and **Schmitt D.L.** Tuberculosis in Temple elephants in Kerala, India. Proc. Elephant Managers Association, Portland, OR 2005

Schmitt D.L., Lindsay, W.A., Wiedner, E., Kiso, W.K. *Use of Equine Seminal Plasma to initiate motility in Asian elephant semen.* Proc. Society of Theriogenology. Charleston, SC. 2005.

Miller, M., Neiffer, D., **Schmitt, D.**, Weber, M., Robbins, P.K., Stetter, M., Fontenot, D., Fleming, D., Bolling, J., Miller, G., Malu, P., Medical Management of dystocia and vestibulotomy for removal of a retained fetus in an African elephant. International Elephant Research Symposium (2004)

Lindsay, W.A., **Schmitt, D.L.**, Jacobson, G., Endosurgical reduction of a vaginal cyst in an Asian elephant. International Elephant Research Symposium (2004)

Kiso, W., **Schmitt, D.**, Lindsay, W., Comparison of acrosome status in Asian (*Elephas maximus*) and African (*Loxodonta Africana*) elephant sperm using spermac stain. International Elephant Research Symposium (2004)

Kinchen, K., **Schmitt, D.** Gonadotrophin activity in serum from pregnant Asian elephants (*Elephas maximus*). International Elephant Research Symposium (2004) Poster.

Brown, J.L., and **Schmitt, D.L.** *The unusual anatomy and reproductive physiology of the elephant, and challenges with developing artificial insemination.* Science India 7:9 & 10 pp 27-32 (2004).

Brown, J. L., Goritz, F, Pratt-Hawkes, N., Hermes, R., Galloway, M., Graham, L. H., Gray, C., Walker, S. L., Gomez, A., Moreland, R., Murray, S., **Schmitt, D. L.**, Howard, J., Lehnhardt, J., Beck, B., Bellem, A., Montali, R., and Hildebrandt, T. B. *Successful artificial insemination of an Asian elephant at the National Zoological Park.* Zoo Biology 23[1], 45-63. 2004.

Dahl, N.J., Olson, D., **Schmitt, D.L.**, Blasko, D.R., Kristipati, R.S., and Roser, J.F. Development of an Enzyme-Linked Immunosorbent Assay (ELISA) in the Elephant (*Loxodonta africana* and *Elephas maximus*) Zoo Biology 23:65-78 (2004)

Schmitt, D. *Ultrasonography of Elephants* In: Health Care, Breeding and Management of Asian Elephants. Editor. Dharmeswar Das. Published by College of Veterinary Medicine, Khanapara, Guwahati, Assam, India (2003)

Gage, L. and **Schmitt, D.** *Dystocia in an African elephant (Loxodonta africana).* Proc Amer Assoc Zoo Vet. 88. 2003

Riddle, H.S., Rasmussen, B., **Schmitt, D.L.** Are Captive Elephants Important to Conservation? Gajah (Journal of the Asian Elephant Specialist Group) 22: 57-61(2003)

Isaza, R., Hunter, R. P., Richman, L. K., Montali, R. J., **Schmitt, D. L.**, Koch, D. E., and Lindsay, W. A. Fanciclovir pharmacokinetics in young Asian elephants (*Elephas maximus*). Proc. American Assoc. of Zoo Veterinarians. 82-83. (2003)

Schmitt, D., Pregnancy is a Disease of Exposure. Journal of Elephant Managers Association. 14: 2 pp 5, 20. 2003

Kiso, W., **Schmitt, D.**, Comparison of Fetal Sexing in Asian and African Elephants. Poster at International Elephant Research Symposium. Columbo, Sri Lanka, September 2003

Schmitt, D., *Proboscidea (Elephants)* In: Zoo and Wildlife Medicine 5th edition. Fowler and Miller. Saunders publishing, St. Louis, Missouri. Chapter 53: 541-549. 2003

Hedley, N., Sibley, L., Olson, D., **Schmitt, D.**, Blasko, D., and Roser, J. Development of an enzyme-linked immunosorbant assay for luteinizing hormone (LH) in the African and Asian elephants, *Loxodonta africana* and *Elephas maximus*. Biology of Reproduction. 66 (Suppl 1): 242. (2002)

Short, Johnna, **Schmitt, D.**, Diurnal variation of testosterone, progesterone, cortisol in both sexes of Asian and African elephants. Presentation at International Elephant Foundation Research Symposium. Disney Animal Kingdom, Buena Vista, FL. November 2002

Fry, Misti, **Schmitt, D.**, Comparison of Membrane Stabilizers in African elephant (*Loxodonta africana*) Semen. Presentation at International Elephant Foundation Research Symposium. Disney Animal Kingdom, Buena Vista, FL. November 2002

Krywko, Rebecca, **Schmitt, D.**, Characterization of the estrous cycle of white rhinoceros using hormonal assays. Poster at 2nd International Symposium on Assisted Reproductive Technology for the Conservation & Genetic Management of Wildlife. Omaha Henry Doorly Zoo. October 2002

Krywko, Rebecca, **Schmitt, D.**, Characterization of the estrous cycle of white rhinoceros using hormonal assays. Poster at Interdisciplinary Forum, SMSU, April 2002

Short, Johnna, **Schmitt, D.**, Diurnal variation of testosterone, progesterone, cortisol in both sexes of Asian and African elephants. Poster at Interdisciplinary Forum, SMSU, April 2002

Duer, C., Carden, M., **Schmitt, D.**, Tomasi, T. Utility of Maternal Serum Total Testosterone Analysis for Fetal Gender Determination in Asian Elephants (*Elephas maximus*). Animal Reproductive Science 69: 47-52. 2002

Schmitt, D.L., Hildebrandt, T.B., Hermes, R., Goritz, F. Assisted Reproductive Techniques in Elephants. Proceedings 1st International Symposium on Assisted Reproductive Technology for the Conservation & Genetic Management of Wildlife. IETS Satellite Symposium. January 2001. pp 22-24.

Schmitt, D.L. Assisted Reproductive Techniques in Elephants. Proceedings Wildlife Medicine Symposium. UC-Davis. January 2001. pp 8-12.

- Schmitt, D.L.**, Hardy, D.A., Montali, R.J., Richman, L.K., Lindsay, W.A., Isaza, R., West, G. Use of Fanciclovir for the Treatment of Herpesvirus Infections in Asian Elephants. *Journal of Zoo and Wildlife Medicine* 31:4 pp 518-522. 2000
- Hildebrandt, T.B., Goritz, F., Pratt, N.C., Brown, J.L., Montali, R.J., **Schmitt, D.L.**, Fritsch, G., Hermes, R., Ultrasonography of the urogenital tract in elephants (*Loxodonta africana* and *Elephas maximus*): An important tool for assessing female reproductive function. *Zoo Biology* 19:5 pp. 321-332. 2000
- Hildebrandt, T.B., Hermes, R., Pratt, N.N., Fritsch, G., Blottner, S., **Schmitt, D.L.**, Ratanakorn, P., Brown J.L., Rietschel W., Göritz, F. Ultrasonography of the urogenital tract in elephants (*Loxodonta africana* and *elephas maximus*): An important tool for assessing male reproductive function. *Zoo Biology* 19:5 pp. 333-345. 2000
- Robert Hermes, Deborah Olson, Frank Göritz, Janine L. Brown, Dennis L. Schmitt, David Hagan, Jeffrey S. Peterson, Guido Fritsch, Thomas B. Hildebrandt Ultrasonography of the estrous cycle in female African elephants (*Loxodonta africana*). *Zoo Biology* 19:5 pp 369-382. 2000
- Pace, Lanny W., **Schmitt, D.L.** Multiple Congenital Cardiac Anomalies in a Newborn Asian Elephant (*Elephas maximus*). North Central Conference of Veterinary Laboratory Diagnosticians, August 2000, East Lansing, MI.
- Brown, J.L., **Schmitt, D.L.**, Bellem, A., Graham, L.H., Lehnhardt, J. Hormone Secretion in the Asian Elephant (*Elephas maximus*) Characterization of Ovulatory and Anovulatory LH Surges. *Animal Reproductive Science. Biology of Reproduction* 61: 1294-1299. 1999
- Hildebrandt, T.B., Goritz, F., Hermes, R., **Schmitt, D.**, Brown, J.L., Schwammer, H., Loskutoff, N., Pratt, N.C., Lehnhardt, J.I., Montali, R.J., Olson, D. Artificial Insemination of African (*Loxodonta africana*) and Asian (*Elephas maximus*) Elephants. Proceedings of A.A.Z.V., Columbus, Ohio, USA. October, 1999. pp. 83-86.
- Hildebrandt, T.B., Fritsch, G., Hermes, R., Jewgenow, K., Rudolph, M., Maltzan, J., Wiesner, H., Pratt, N.C., Nieffer, D., **Schmitt, D.L.**, Goritz, F. Ultrasound Monitoring of the Sexual Maturation in the Male Elephant. Proceedings of A.A.Z.V., Columbus, Ohio, USA. October, 1999. pp.203-204.
- Richman, L.K., Montali, R.J., Cambre, R.C., **Schmitt, D.**, Hardy, D., Garber, R.L., Hildebrandt, T., Fickel, J., Schaftenaar, W., and Hayward, G.S. Clinical and Pathologic Aspects of a Fatal Herpesvirus Disease in Asian (*Elephas maximus*) and African (*Loxodonta africana*) Elephants. Proceedings of A.A.Z.V., Columbus, Ohio, USA. October, 1999. pp. 263-265.
- Richman, L.K., Montali, R.J., Cambre, R.C. **Schmitt, D.L.**, Hardy, D., Hildebrandt, T.,

Hamzeh, F.M., Shahkolahi, A., Hayward, G.S. Clinical and Pathological Findings of a Newly recognized Disease of Elephants Caused by Endotheliotropic Herpesvirus. *Journal of Wildlife Diseases*. 2000

Schmitt, D.L., Hildebrandt, T, Goretz, F., Hermes, R., Reproductive Evaluations: Ultrasonographic Evaluation Criteria for a Predictive Classification System. 4th International Elephant Research Symposium. June 1999. Atlanta, GA.

Duer, C., Carden, M., **Schmitt, D.**, Tomasi, T. Fetal Gender Determination in Asian Elephants (*Elephas maximus*). 4th International Elephant Research Symposium. June 1999. Atlanta, GA.

Schmitt, D.L., Ultrasonographic Changes During Parturition in an Elephant. 4th International Elephant Research Symposium. June 1999. Atlanta, GA.

Schmitt, D.L., An Update on the Artificial Insemination Program at Dickerson Park Zoo. 4th International Elephant Research Symposium. June 1999. Atlanta, GA.

Schmitt, D.L., Hardy, D.A , Montali, R.J., Richman, L.K., Izsara R, Lindsey W, West G. Use of Fanciclovir for Treatment of Herpesvirus in Asian Elephants. 39th International Symposium on Diseases of Zoo and Wild Animals. pp. 23-26. May 1999, Vienna, Austria.

Richman L, Montali RJ, Hildebrandt TB, Fickel J, **Schmitt DL**, Hayward GS. *Status of a New, Fatal Herpesvirus Disease of Elephants in North America and Europe*. 39th International Symposium on Diseases of Zoo and Wild Animals. pp. 17-22. May 1999, Vienna, Austria

Hildebrandt TB, Goritz F, Schnorrenberg A, Hermes, R, **Schmitt D**, Hagan D, Peterson J, Brown JL, Loskutoff N, Pratt NC, Lenhardt J, Miller G, Montali RJ, Olson D, *Successful Artificial Insemination of Nulliparous African Elephants at the Indianapolis Zoo*. 39th International Symposium on Diseases of Zoo and Wild Animals. pp. 41-46. May 1999, Vienna, Austria.

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Schmitt DL: Foot Care in Elephants Using a Restraint Device. Proceedings of the Annual Meeting of AAZVA. 4-5 November 1996.

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1998 (Springfield, MO)

SERVICE

1. Department

Graduate Education Coordinator for Agriculture Department, 1996-present
Agriculture Banquet Committee Chairman - 1997, 1999,
Serve on Selection Committee for Agricultural Education Position – 1999, 2001, 2002
Banquet Committee member – 1996-1999, 2003 - present
Department Scholarship Committee- 1998 - present
Superintendent Dairy Production District FFA Contest – 1997-present
Superintendent Milk Products District FFA Contest – 1997-present
Serve as Official Veterinarian for SMSU Rodeo – Spring 1997
Dairy Advisory Committee for Agricultural Department, SMSU, 1987-1989
Serve as Official Veterinarian for SMSU Block & Bridle Club Jackpot Show – 1997-1998
Serve as advisor for Pre-veterinary Club. 1996- present

2. College

Participant in Science Day for Springfield Public Schools sponsored by College. - March 1999
Member of Master's of Natural and Applied Science Coordinating Committee 1996- present

3. University

Program Director, Master's of Natural Applied Science Program, 2006 - present
Program Director, Master's of Plant Science Program, 2006 - present
Presidents Futures Task Force, member Fall 2005
Graduate Faculty Council, member 1997-2001, 2002-2005
Member Curricular Screening committee 1998-2001, 2002
Member Ad Hoc committee - University Vehicle Use Policy 1998 -1999
Institutional Animal Care and Use Committee, member 1986- 1993, 1997-present
Institutional Veterinarian for Missouri State University 1998- present
College Fair Committee – 1996-1999

4. Community

Grand Prize Selection Committee for Southwest Missouri Regional Science Fair, 2000, 2008
Member of Veterinary Technician Advisory Committee (OTC) 1999-2001
Elected Greene County Extension Council – 1998-2002, 2003-2007
Member of election committee 1998-1999
Member of facilities and building committee 2001-2002
Telethon For Technology - Springfield Public Schools- November 1998
Tour host for group from Springfield to East Africa – Spring 1998
Telethon For Technology - Springfield Public Schools- Spring 1997
Tour host for group from Springfield to South Africa – Spring 1997

5. National

Member Steering committee for Reproductive Scientific Advisory Group AZA 2002-present
Member ICAUC - Riddle's Elephant & Wildlife Sanctuary - 2000 - present
Member of the National Task Force on Tuberculosis in Non-domestic Animals 1997-present
Chairman of Scientific Advisory committee of AZA's Elephant TAG – 2001-present
Chairman of Reproductive Advisory committee of AZA's Elephant TAG – 2001 – present
Member of Board of Directors -University of Missouri Alumni Association, - 1999-2001
President of University of Missouri Veterinary Medical Alumni Association 1996 - 1999
Reproductive advisor for SSP for Asian and African Elephants 1996 - present
Reproductive advisor for SSP for Scimitar-horned Oryx 1987-1993

6. International

Veterinary Advisor – Global Elephant Management Plan 2007- present
Member – Asian Elephant Specialist Group – IUCN 2001-present
Member – Task force for Captive Elephant Management
Member – Task force for Veterinary Care
Member - Board of Directors of the International Elephant Foundation 1998 - present
Chairman - Scientific Advisory Committee 1999- present
Co-Program Director for International Elephant Research Symposium. 1999- present
Local Program Committee member for IETS meeting in Omaha, January 2001
Hosted the 3rd International Elephant Research Symposium –June 1998 (Springfield, MO)