

JESSICA L. FREELING

MS, VT, LATG

The University of South Dakota • Basic Biomedical Sciences
414 East Clark Street Vermillion, SD 57069

Phone h-(605) 670-6274 w-(650) 658-6310 • Email jessica.freeling@usd.edu

OBJECTIVE

To utilize my knowledge of animal and molecular research systems, my technical skills as a Veterinary Technologist, and my management abilities in order to effectively direct the Physiology Core Facility.

EDUCATION

Masters in Basic Biomedical Sciences (August 2009 – December 2011)

The University of South Dakota • Vermillion, SD

The Laboratory of Dr. Yifan Li

Baccalaureate of Science in Agricultural Science (August 1996 – May 2002)

The University of Nebraska-Lincoln • Lincoln, NE

Veterinary Technology Major

Associate of Applied Science (August 2000 – May 2002)

Vatterott College • Omaha, NE

Veterinary Technician Program (AVMA Accredited)

PROFESSIONAL EXPERIENCE

Physiology Core Facility Director (July 2017-present)

Core Laboratory Manager (January 2012-July 2017)

The University of South Dakota • Vermillion, SD

Physiology Core Facility – pioneered start-up of new departmental core facility, implementation of electronic scheduling platform for all departmental core facilities, equipment care and maintenance, supervision and training of PIs/graduate/undergraduate students, SOP writing, safety protocol development, cardiovascular/cancer/neuro study experimental design and data collection, ultrasound, surgical performance and anesthesia, IACUC protocol writing

Research Associate III (July 2006-December 2011)

Research Associate II (November 2004-July 2006)

The University of South Dakota • Vermillion, SD

Cardiac Physiology Research Laboratory – management of laboratory, equipment care and maintenance, supervision and training of graduate/undergraduate students, SOP writing, safety protocol development, molecular biology techniques, cell culture, echocardiogram, hemodynamic data collection, experimental management and design, surgical performance and anesthesia, IACUC protocol writing

Microbiologist/Veterinary Technologist (November 2002 – October 2004)

South Dakota State University • Brookings, SD

Infectious Disease Research Laboratory – gnotobiotic porcine management, surgery management/performance/assistance, animal care, experimental management and design, anesthesia, necropsy, inoculations, venipuncture, microbiology, SOP writing, BL-3 project

involvement, *Escherichia coli* diagnostics for Animal Disease Research Diagnostic & Laboratory (ADRDL)

Temporary/Emergency Employee (June 2002 – October 2002)

South Dakota State University • Brookings, SD

Clinical Pathology Diagnostic Laboratory – Performed clinical pathology techniques for ADRDL, hematology, urinalysis, fecal analysis, parasitology, antibiotic sensitivity testing, bacterial testing, ELISA, chemistry profile analysis

Vet Assistant/Vet Technician Intern/Vet Technologist (August 1998 –May 2002)

Parkview Animal Hospital • Lincoln, NE

Client communication, surgical preparation, dentistry, radiology, anesthesia, small animal care, injections/vaccinations, clinical pathology

TECHNICAL SKILLS

- Management and supervisory experience/public speaking/clerical skills
- Equipment use, calibration, maintenance
- Standard Operating Procedure (SOP) writing
- Laboratory, Surgical, and Physiology Equipment Operation
- Anesthesia – induction, intubation, epidural placement, and monitoring
- Surgical Techniques – preparation, assistance, and performance
- Veterinary Microbiology, Hematology, Parasitology
- Large/small animal husbandry – handling, production, nutrition
- Venipuncture, inoculations, injections, euthanasia
- Necropsy – tissue collection and preparation
- Infectious disease experiment experience
- Clerical/Computer Proficient – word processing, data base, spreadsheets

RELEVANT COURSEWORK

- **Master's level courses:** Teaching in the Basic Sciences, Experimental Design and Statistics, Foundations I/II
- **Business:** Management, Communication, Writing
- **Veterinary Technology:** Anesthesia, Surgery, Dentistry, Husbandry/Nutrition, Clinical Pathology, Parasitology, Radiography, Sonography, Histology
- **Science:** Microbiology, Chemistry, Physics, Biology, Genetics, Anatomy/Physiology, Embryology, Calculus
- **Animal Science:** Management, Nutrition, Feeding, Disease

ACCREDITATIONS/LICENSURES/AWARDS

- 3.495 GPA: The University of South Dakota Basic Biomedical Sciences Graduate Program, 3.275 GPA: The University of Nebraska-Lincoln (UNL), 4.0 GPA: Vatterott College
- Passed Veterinary Technician National Examination (VTNE) through the American Association of Veterinary State Boards (AAVSB)
- Previously Certified Veterinary Technician (CVT) – State of South Dakota and Previously Licensed Veterinary Technician – State of Nebraska (no longer active licensures but eligible for re-licensure)
- Laboratory Animal Technologist (LATG): American Association for Laboratory Animal Science (AALAS)

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PROFESSIONAL PUBLICATIONS(1-11)

1. Abdullah A, Sane S, Branick KA, **Freeling JL**, Wang H, Zhang D, et al. A plant alkaloid, veratridine, potentiates cancer chemosensitivity by UBXN2A-dependent inhibition of an oncoprotein, mortalin-2. *Oncotarget*. 2015;6(27):23561-81.
2. Abdullah A, Sane S, **Freeling JL**, Wang H, Zhang D, Rezvani K. Nucleocytoplasmic Translocation of UBXN2A Is Required for Apoptosis during DNA Damage Stresses in Colon Cancer Cells. *J Cancer*. 2015;6(11):1066-78.
3. Butler JE, Francis DH, **Freeling J**, Weber P, Krieg AM. Antibody repertoire development in fetal and neonatal piglets. IX. Three pathogen-associated molecular patterns act synergistically to allow germfree piglets to respond to type 2 thymus-independent and thymus-dependent antigens. *J Immunol*. 2005;175(10):6772-85.
4. **Freeling J**, Wattier K, LaCroix C, Li YF. Neostigmine and pilocarpine attenuated tumour necrosis factor alpha expression and cardiac hypertrophy in the heart with pressure overload. *Exp Physiol*. 2008;93(1):75-82.
5. **Freeling JL**, Li Y. Age-related attenuation of parasympathetic control of the heart in mice. *Int J Physiol Pathophysiol Pharmacol*. 2015;7(3):126-35.
6. LaCroix C, **Freeling J**, Giles A, Wess J, Li YF. Deficiency of M2 muscarinic acetylcholine receptors increases susceptibility of ventricular function to chronic adrenergic stress. *Am J Physiol Heart Circ Physiol*. 2008;294(2):H810-20.
7. Li YF, Lacroix C, **Freeling J**. Cytisine induces autonomic cardiovascular responses via activations of different nicotinic receptors. *Auton Neurosci*. 2010;154(1-2):14-9.
8. Li YF, LaCroix C, **Freeling J**. Specific subtypes of nicotinic cholinergic receptors involved in sympathetic and parasympathetic cardiovascular responses. *Neurosci Lett*. 2009;462(1):20-3.
9. Zhang W, Berberov EM, **Freeling J**, He D, Moxley RA, Francis DH. Significance of heat-stable and heat-labile enterotoxins in porcine colibacillosis in an additive model for pathogenicity studies. *Infect Immun*. 2006;74(6):3107-14.
10. **Freeling JL**, Rezvani K. Assessment of murine colorectal cancer by micro-ultrasound using three dimensional reconstruction and non-linear contrast imaging. *Mol Ther Methods Clin Dev*. 2016;5:16070.
11. Min JW, Lu L, **Freeling JL**, Martin DS, Wang H. USP14 inhibitor attenuates cerebral ischemia/reperfusion-induced neuronal injury in mice. *J Neurochem*. 2017;140(5):826-33.