

# 2<sup>nd</sup> Annual Interdisciplinary Biomedical Research Symposium

October 9, 2010  
ATSU-Kirksville Campus

## Poster Session Presentations

(Responsible Author is underlined)

### HUMAN SUBJECTS (Posters 01-08)

**Identifying differences in health-related quality of life between adolescent athletes and the general adolescent population.** Kenneth C. Lam, Sc.D., Alison Snyder Valier, Ph.D., R. Curtis Bay, Ph.D., Tamara C. Valovich McLeod, Ph.D.  
[Healthcare] [PDF of Abstract No. 01](#)

**Osteopathic manipulation reduces pain and improves quality of life.** Brian F. Degenhardt, D.O., Jane C. Johnson, M.A.  
[Musculoskeletal Disease/Therapy] [PDF of Abstract No. 02](#)

**Does Alpha Stim® enhance vagal tone?** Richard E. Hall, Ph.D., Yan Zheng, Edwin S. Purcell, Ph.D.  
[Neurological Disease/Therapy] [PDF of Abstract No. 03](#)

**Investigation of peripheral blood flow response to physical provocation tests including osteopathic digital pressure on vertebral segments.** Deborah M. Heath, D.O., Inder Raj S. Makin, M.D., Ph.D.  
[Vascular Disease] [PDF of Abstract No. 04](#)

**Palpatory accuracy of lumbar spinous processes using multiple bony landmarks.** Karen T. Snider, D.O., Eric J. Snider, D.O., Brian F. Degenhardt, D.O., Jane C. Johnson, M.A., James W. Kribs, D.O.  
[Musculoskeletal Disease/Diagnosis] [PDF of Abstract No. 05](#)

**Evaluating muscle activation asymmetry in women with low back pain syndromes.** Brian F. Degenhardt, D.O., Jeremy J. Houser, Ph.D., Michael Bird, Ph.D., Jane C. Johnson, M.A., Natalie Shurtz, B.S., Qunying Yang, M.S., Georgia Mueller, B.S., Kenneth Pamperin, M.S.  
[Musculoskeletal Disease/Diagnosis] [PDF of Abstract No. 06](#)

**Muscle activation asymmetry in females with lower back pain during a step over functional task.** Laura N. Swaters, Brian F. Degenhardt, D.O., Michael Bird, Ph.D., Jeremy J. Houser, Ph.D., Jane C. Johnson, M.A., Natalie Shurtz, B.S., Kenneth Pamperin, M.S.  
[Musculoskeletal Disease] [PDF of Abstract No. 07](#)

**Characterizing osteopathic manipulative techniques used in treating pneumonia during the MOPSE study.** Brian F. Degenhardt, D.O., Jane C. Johnson, M.A., Qunying Yang, M.S., Kenneth Pamperin, M.S., Donald R. Noll, D.O.  
[Musculoskeletal Disease/Therapy] [PDF of Abstract No. 08](#)

## ANIMAL MODELS (Posters 11-21)

**Osteopathic manipulative treatment in a rat model for ankle joint injury.** Bart Worthington, Brian F. Degenhardt, D.O., Jane C. Johnson, M.A., Rachel Ruhlen, Ph.D., Neil J. Sargentini, Ph.D., Eric J. Snider, D.O.

[Musculoskeletal Disease/Therapy] [PDF of Abstract No. 11](#)

**Voltage-dependent sodium channels that mediate excitability of muscle afferents that generate the exercise pressor reflex.** Renuka Ramachandra, Ph.D., Stephanie McGrew, B.S, Kirk Blais, B.A., Viktor Yarosky, Ph.D., Keith S. Elmslie, Ph.D.

[Musculoskeletal Disease/Therapy] [PDF of Abstract No. 12](#)

**Influence of fluvastatin treatment on skeletal muscle contractile function and blood flow in the rat.** Jason Losee, B.S., Tyler J. Smith, M.S., William L. Sexton, Ph.D.

[Muscle Pain] [PDF of Abstract No. 13](#)

**Changes in brain derived neurotrophic factor levels during antidepressant drug-enhanced neurogenesis.** Jennifer Bubel, Michelle Hovorka, M.S., David Middlemas, Ph.D.

[Neural Development (Antidepressant Drugs)] [PDF of Abstract No. 14](#)

**Chronic fluoxetine treatment increases neurogenesis in an adolescent rat model.** Michelle Hovorka, M.S., Jennifer Bubel, David Middlemas, Ph.D.

[Neural Development (Antidepressant Drugs)] [PDF of Abstract No. 15](#)

**Contractile function during acute ischemia and reperfusion in rat skeletal muscle.** Tyler J. Smith, William L. Sexton, Ph.D.

[Peripheral Artery Disease] [PDF of Abstract No. 16](#)

**Effect of simvastatin on vascular induced neointimal formation.** Nicholas R. Quinn, B.S., Ryan D. White, B.S., Yingzi Chang, M.D., Ph.D.

[Artery Disease] [PDF of Abstract No. 17](#)

**Vitamin D and celecoxib in the prevention of breast cancer.** Mason L. Hadley, Justin Rudolf, Paul S. Dale, M.D., Rachel Ruhlen, Ph.D.

[Cancer Prevention] [PDF of Abstract No. 18](#)

**Skeletal muscle PO<sub>2</sub> and contractile function during and after femoral artery occlusion: Impact of nitric oxide synthase inhibition.** Shawn Stachler, B.S., Michael Musso, B.S., William L. Sexton, Ph.D.

[Diabetes] [PDF of Abstract No. 19](#)

***C. elegans* as a model for *S. aureus* virulence.** Terin E. Budine, Neal Chamberlain, Ph.D., Vineet Singh, Ph.D., Tim D. Walston, Ph.D.

[Infectious Disease] [PDF of Abstract No. 20](#)

**Geometric comparisons of the *EMS* blastomere in *C. elegans* and *C. briggsae*.** Corey R. Johnson, B.S., Scott Thatcher, Ph.D., Timothy D. Walston, Ph.D.

[Embryology] [PDF of Abstract No. 21](#)

## BACTERIAL MODELS (Posters 31-32)

**Analysis of proteins that co-precipitate with RadA/Sms in X-irradiated *Escherichia coli*.** Melissa K. Stuart, Ph.D., Nastassia C. Richardson, B.S., Jacob L. Hiatt, B.A., Vineet K. Singh, Ph.D., Neil J. Sargentini, Ph.D.

[DNA Repair (Cancer)] [PDF of Abstract No. 31](#)

**Genetic control of recombinational repair in UV and X-irradiated *Escherichia coli* K-12.** Nadira A. Adatia, B.S., Neil J. Sargentini, Ph.D.  
[DNA Repair (Cancer)] [PDF of Abstract No. 32](#)

#### TISSUE CULTURE MODELS (Posters 41-45)

**Comparison of migration and flattening between rhoA and cystatin C overexpressing tumor cells.** Joseph Thompson, BMS II, James Cox, Ph.D.  
[Cancer Biology] [PDF of Abstract No. 41](#)

**Effect of Mifepristone (RU-486) on In-Vitro melanoma cell growth and viability.** Pandurangan Ramaraj, Ph.D., James L. Cox, Ph.D.  
[Cancer Biology] [PDF of Abstract No. 42](#)

**The role of caspase-8 in basal and stimulated melanoma migration.** Christine L. Wilson, B.S., Robert W. Baer, Ph.D.  
[Cancer Biology] [PDF of Abstract No. 43](#)

**Repetitive motion strain (RMS) induces human fibroblast (HF) sensitivity to nitric oxide (NO) in vitro: potential roles of myofascial release (MFR) in wound healing.** Thanh Cao, B.S., Michael Hicks, B.S., Paul R. Standley, Ph.D.  
[Wound Healing] [PDF of Abstract No. 44](#)

**Fibroblast-derived mediators improve skeletal muscle differentiation in a strain-dependent manner.** Michael Hicks, B.S., Thanh Cao, B.S., Paul R. Standley, Ph.D.  
[Musculoskeletal Disease/Therapy] [PDF of Abstract No. 45](#)

#### INVESTIGATIVE TOOLS (posters 51-52)

**Confocal laser scanning microscopy at KCOM.** Michelle S. Hovorka, M.S., David E. Ewing, B.S., David S. Middlemas, Ph.D.  
[Investigative Tools] [PDF of Abstract No. 51](#)

**Development of suitable sample lysis buffers for use in ELISA.** Ryan D. White, Nicholas R. Quinn, Yingzi Chang, Ph.D.  
[Biomedical Methodology] [PDF of Abstract No. 52](#)