

# ATSU RESEARCH

A newsletter produced by Research Support

Image (nerve fibers near a putative muscle spindle) courtesy of Dr. Keith Elmslie and Dr. Ranuka Ramachandra

*An expert is a person who has made all the mistakes that can be made in a very narrow field. ~Niels Bohr*

## Publications

Benton MJ, **Alexander JL**, Holland JD. Relationship between strength, function, and quality of life in older adults with chronic lung disease: is there an influence of gender? J Cardiopulm Rehabil Prev. 2014;34(2):143-149.

Broglio SP, Cantu RC, Gioia GA, Guskiewicz KM, Kutcher J, Palm M, **Valovich McLeod TC**. National Athletic Trainers' Association Position Statement: management of sport concussion. J Athl Train. 2014;49(2):245-265.

Bullen RN [alum], Kook YA, Kim K, **Park JH**. Self-perception of the facial profile: an aid in treatment planning for orthognathic surgery. J Oral Maxillofac Surg. 2014;72(4):773-778.

**Danto JB**. Moving from EBM to EBOM: an osteopathic perspective on evidence-based medicine. J Am Osteopath Assoc. 2014;114(4):235-236.

Frik M, Jiménez J, Vasilevski V [student], Carreira M, de Almeida A, Gascón E, Benoit F, Sanaú M, Casini A, Contel M. Luminescent iminophosphorane gold, palladium and platinum complexes as potential anticancer agents. Inorg Chem Front. 2014;1(3):231-241.

**Gevitz N**. A degree of difference: the origins of osteopathy and first use of the "DO" designation. J Am Osteopath Assoc. 2014;114(1):30-40.

**Gevitz N**. The "Diplomate in Osteopathy": from "school of bones" to "school of medicine". J Am Osteopath Assoc. 2014;114(2):114-124.

**Gevitz N**. The "Doctor of Osteopathy": expanding the scope of practice. J Am Osteopath Assoc. 2014;114(3):200-212.

**Halupa CM**. Exploring student self-plagiarism. Int J High Educ. 2014;3(1):121-126.

Han KH, **Park JH**, Bayome M, Jeon IS, Lee W, Kook YA. Effect of frequent application of low-level laser therapy on corticotomized tooth movement in dogs: a pilot study. J Oral Maxillofac Surg. 2014;72(6):1182.e1-1182.e12.

## Publications, continued

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Jue SS, Kim JY, Na SH, Jeon KD, Bang HJ, **Park JH**, Shin JW. Localization of ODAM, PCNA, and CK14 in regenerating junctional epithelium during orthodontic tooth movement in rats. *Angle Orthod*. 2014;84(3):534-540.

Kinne BL [student], Crouch NA, Strace CL. Anterior canal benign paroxysmal positional vertigo treatment techniques. *Phys Ther Rev*. 2014;19(2):79-85.

Lee MC, Franco M, Vargas DM, **Hudman DA**, White SJ, Fowler RG, **Sargentini NJ**. A  $\Delta$ inB mutation that sensitizes *Escherichia coli* to the lethal effects of UV- and X-radiation. *Mutat Res Fundam Mol Mech Mutagen*. 2014;763-764C:19-27.

Lee SC, **Park JH**, Bayome M, Kim KB, Araujo EA, Kook YA. Effect of bone-borne rapid maxillary expanders with and without surgical assistance on the craniofacial structures using finite element analysis. *Am J Orthod Dentofacial Orthop*. 2014;145(5):638-648.

Martin JL, Ishmukhametov R, Hornung T, **Ahmad Z**, Frasch WD. Anatomy of F<sub>1</sub>-ATPase powered rotation. *Proc Natl Acad Sci U S A*. 2014;111(10):3715-3720.

**Mathieson K**, **Leafman JS**. Comparison of student and instructor perceptions of social presence. *J Educ Online*. 2014;22(2).

Nwenyi EO [alum], **Leafman J**, **Mathieson K**, Ezeobah N. Quality of life differences between two groups of pediatric sickle cell patients. *Int J Health Care Qual Assur*. 2014;27(6).

Pamenter ME, Carr JA [student], Go A, Fu Z, Reid SG, Powell FL. Glutamate receptors in the nucleus tractus solitarius contribute to ventilatory acclimatization to hypoxia in rat. *J Physiol*. 2014;592(Pt 8):1839-1856.

**Park JH**. Closure of maxillary spaces during retention. *J Clin Orthod*. 2014;48(3):196-197.

**Sartor-Glittenberg C**, Lehmann S [alum], Okada M [alum], Rosen D [alum], Brewer K [adjunct], **Bay RC**. Variables explaining health-related quality of life in community-dwelling older adults. *J Geriatr Phys Ther*. 2014;37(2):83-91.

**Singh VK**. High level expression and purification of Atl, the major autolytic protein of *Staphylococcus aureus*. *Int J Microbiol*. 2014;2014:615965.

**Snider KT**, **Johnson JC**, **Degenhardt BF**, **Snider EJ**, Burton DC. Association of low back pain, somatic dysfunction, and lumbar bone mineral density: reproducibility of findings. *J Am Osteopath Assoc*. 2014;114(5):356-367.

**Welch CE**, Hankemeier DA, Wyant AL, Hays DG, Pitney WA, Van Lunen BL. Future directions of evidence-based practice in athletic training: perceived strategies to enhance the use of evidence-based practice. *J Athl Train*. 2014;49(2):234-244.

**Welch CE**, Van Lunen BL, Hankemeier DA. An evidence-based practice educational intervention for athletic trainers: a randomized controlled trial. *J Athl Train*. 2014;49(2):210-219.

**Welch CE**, Van Lunen BL, Hankemeier DA, Wyant AL, Mutchler JM, Pitney WA, Hays DG. Perceived outcomes of web-based modules designed to enhance athletic trainers' knowledge of evidence-based practice. *J Athl Train*. 2014;49(2):220-233.

# Presentations and Abstracts

\* indicates presenter

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**Alexander JL\***, **Bordenave E\***, **Bordenave L\***, **Sartor-Glittenberg C\***. Efficacy of a student-led model for delivering A Matter of Balance. Presented at: American Society on Aging 2014 Aging in America Conference; March 11-15, 2014; San Diego, CA.

Barrett K [student]\*, **Kondrashova T\***, **Kondrashov P\***, Clay I [student]\*. Image recognition and development of hands-on sonographic skills by first-year Kirksville College of Osteopathic Medicine students as assessed by practical ultrasound skill assessment exam. Poster presented at: 2014 American Association of Colleges of Osteopathic Medicine Annual Conference; April 2-5, 2014; Washington, DC. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Baum KR [student]\*, **Singh VK**, Vaish M, Johansson T [alum]. Significance of four Msr proteins in *Staphylococcus aureus*. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO. Poster presented at: 114th General Meeting of the American Society for Microbiology; May 17-20, 2014; Boston, MA.

Boehm K [student]\*, Fraticelli N [student]\*, Jordan RM [student]\*, Riccardi M [student]\*, **Houser J**, **Kondrashov P\***. Does alternating dissection effect student performance on practical examinations? Poster presented at: Experimental Biology 2014; April 26-30, 2014; San Diego, CA. Abstract published in: FASEB J. 2014;28(1 suppl):LB29.

Clay I [student]\*, **Kondrashova T\***, **Kondrashov P\***, Barrett K [student]\*. The impact of a clinical ultrasound elective course on student performance at an ultrasound skills station during Performance Assessment III testing. Poster presented at: 2014 American Association of Colleges of Osteopathic Medicine Annual Conference; April 2-5, 2014; Washington, DC. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**Dewald L\***. Envisioning a healthier campus: help build the ACHA-National College Health Assessment for faculty/staff. Where do we go from here? Presented at: American College Health Association 2014 Annual Meeting; May 27-31, 2014; San Antonio, TX.

**Dewald L\***. Ethical case studies in college health. Presented at: American College Health Association 2014 Annual Meeting; May 27-31, 2014; San Antonio, TX.

**Dewald L\***, **Ayars C\***. Workplace bullying, a public health crisis in need of a public health intervention. Poster presented at: 65th Annual Meeting of the Society for Public Health Education; March 19-21, 2014; Baltimore, MD.

**Dewald L\***, Huggs-English C\*. Mental health conditions in athletes. Presented at: American College Health Association 2014 Annual Meeting; May 27-31, 2014; San Antonio, TX.

**Dewald L\***, St. Germain-Driscoll C\*. Strategies, connections, and ideas: best practices in teaching public health online. Presented at: 65th Annual Meeting of the Society for Public Health Education; March 19-21, 2014; Baltimore, MD.

Goodwin S\*, **Olsen LK\***, Fopeano D\*, Edwards K\*. Interactive, integrative, and imaginative instructional initiatives for health class. Presented at: Society of Health and Physical Educators (SHAPE) America 2014 Convention; April 1-5, 2014; St. Louis, MO.

## Presentations and Abstracts, continued

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**Gross-Panico ML\***. Developing oral health leaders through successful partnerships and community based learning. Presented at: 2014 National Oral Health Conference; April 28-30, 2014; Fort Worth, TX. Abstract published in: *National Oral Health Conference Program Book*. 2014:51.

**Halupa C\***. Transformational learning in the technological age. Presented at: The Association of Christian Distance Education ACCESS 2014; March 9-12, 2014; Palm Beach, FL.

Harper JM [student]\*, Parfitt J [student], **Makin IR, Singh VK**. A multi-plex quantitative PCR to evaluate bacterial pathogens associated with periodontal disease. Presented at: 114th General Meeting of the American Society for Microbiology; May 17-20, 2014; Boston, MA.

Hyde J\*, Smith B [alum]. Homolateral Lisfranc dislocation in a collegiate football player. Presented at: Great Lakes Athletic Trainers Association 46th Annual Meeting and Symposium; March 12-15, 2014; Wheeling, IL.

Jordan RM [student]\*, Boehm K [student]\*, Fraticelli N [student]\*, Riccardi M [student]\*, **Kondrashov P\***. Does pre-medical anatomy experience affect student performance in gross anatomy courses in medical school? Poster presented at: Experimental Biology 2014; April 26-30, 2014; San Diego, CA. Abstract published in: *FASEB J*. 2014;28(1 suppl):LB31.

King A [student]\*, **Lehnardt C**. Case study: osteopathic manipulation utilization in patient with a family history and symptoms of myotonic dystrophy type II. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**Kondrashova T\***, **Kondrashov P\***. Ultrasound curriculum at Kirksville College of Osteopathic Medicine. Poster presented at: 2014 American Association of Colleges of Osteopathic Medicine Annual Conference; April 2-5, 2014; Washington, DC.

Lapinski J [student]\*, **Sexton P**. DREAM (Diversity Redefining Education and Medicine) curriculum for the lesbian, gay, bisexual and transgender populations. Presented at: 2014 American Association of Colleges of Osteopathic Medicine Annual Conference; April 2-5, 2014; Washington, DC.

Lapinski J [student]\*, **Sexton P**. The effectiveness of a "Basic Medical ASL Workshop" in increasing cultural competency and knowledge in a sample of osteopathic medical students. Presented at: 6th Biennial Deaf Studies Today! Conference; April 10-12, 2014; Orem, UT.

Lapinski J [student]\*, **Sexton P**, Folks S [student]\*, Tate M [student]\*. The role of religion in osteopathic and allopathic medicine: incorporating mind, body, and spirit. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**Lewis JH**. Simultaneous auscultation using electronic stethoscopes and mobile applications for community-based medical student education. *Teach Learn Med*. 2014;26(2):196-197.

**Lockwood M, Kondrashova T**, Schoenfuss A [student]\*, King A [student]\*. Integration of ultrasound into the osteopathic manipulative medicine curriculum. Poster presented at: 2014 American Association of Colleges of Osteopathic Medicine Annual Conference; April 2-5, 2014; Washington, DC.

**Makin IR\***, **Pedapati C, Heath D**. Long-term Doppler signal acquisition and rapid signal characterization for a peripheral flow assessment system. Presented at: American Institute of Ultrasound in Medicine 2014 Annual Convention; March 29-April 2, 2014; Las Vegas, NV. Abstract published in: *J Ultrasound Med*. 2014;33(suppl):S9-S10.

## **Presentations and Abstracts, continued**

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**Makin IRS\***, Munavall G. Ultrasound and radiofrequency. "Expert in the Hall." Presented at: American Society for Laser Medicine and Surgery 2014 Annual Conference; April 4-6, 2014; Phoenix, AZ.

**Makin IRS\***, **Pedapati C**, Popp C [alum], **Levine R**. Output power characterization of a portable diode laser system deployed for clinical use. Presented at: Academy of Laser Dentistry 21st Annual Conference; February 27-March 1, 2014; Scottsdale, AZ.

Marler TL [student]\*, **Elmslie KS**. Expression of NaV1.9 channels by muscle afferent neurons. Poster presented at: Experimental Biology 2014; April 26-30, 2014; San Diego, CA. Abstract published in: FASEB J. 2014;28(1 suppl):1129.10.

**Maxwell B\***. Building an interprofessional collaborative case competition. Presented at: National Academies of Practice Annual Meeting and Forum; April 4-6, 2014; Alexandria, VA.

McIntire SL [student]\*, **Cox JL**. Effects of cystatin C variant clones on B16F10 metastasis. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**McWilliams TE\***, Watts L\*, Ebersole B\*. OGME consortia model. Presented at: Society of Teachers of Family Medicine Annual Spring Conference; May 3-7, 2014; San Antonio, TX.

**Mehta Z\***, Eikenberry G, DiStefano S, Azuma T. (C)APD: what works and what does not. Poster presented at: AudiologyNOW! American Academy of Audiology Annual Meeting; March 26-29, 2014; Orlando, FL.

Moore J [student]\*, Mallin M, Bess R. Implementation of the EMO Triage score reduces cost of health care: a randomized controlled trial. Poster presented at: Society for Academic Emergency Medicine Annual Meeting; May 13-17, 2014; Dallas, TX.

Musso ND [student]\*, Churchwell JC, Kesner RP. Interactions of the prefrontal cortex and the amygdala during fear extinction. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Naik CY [student]\*, **Chang Y**. Role of MCP1 in insulin-induced migration and proliferation in vascular smooth muscle cells. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**Olsen LK\***, Peña De La Cruz A\*, Peña De La Cruz G, Duvall A [student], Phromsid N, Amatya A. Fat phobias held by HS students in Mexico and Thailand. Presented at: Society of Health and Physical Educators (SHAPE) America 2014 Convention; April 1-5, 2014; St. Louis, MO.

Priest SM [student]\*, Huber GA [student]\*, **Geisbuhler TP**. Hydroxysafflor yellow A and the cardiac permeability transition pore. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Riccardi M [student]\*, Fraticelli N [student]\*, Jordan RM [student]\*, Boehm K [student]\*, **Marberry K**, **Kondrashov P\***. Histological changes in the structure of lateral and medial menisci following the destabilization of the knee in a rat model. Poster presented at: Experimental Biology 2014; April 26-30, 2014; San Diego, CA. Abstract published in: FASEB J. 2014;28(1 suppl):LB18.

## Presentations and Abstracts, continued

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**Ruhlen RL**, Ginsburg ZG [student], **Pazdernik VK**, **Kondrashov PE**, **Marberry KM\***. Effects of gender and hormones on posttraumatic osteoarthritis. Presented at: Orthopaedic Research Society 2014 Annual Meeting; March 15-18, 2014; New Orleans, LA.

**Schaffer R\***, Jones R [student], Amin P [student]. Assessment and dental management of patients with von Willebrand disease. Poster presented at: World Federation of Hemophilia 2014 World Congress; May 11-15, 2014; Melbourne, Australia.

Schoenfuss AJ [student]\*, **Schneider RP**. Osteopathic manipulation for the treatment of chronic migraine: a case report. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Sedinkin JD [student]\*, **Chang Y**. Role of MCPIP1 in controlling hepatic lipid handling. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Smith B [alum]\*, Curtis D [adjunct], **Alexander J**, Doucherty C. Hip strengthening protocol effects on neuromuscular control, hip strength, and self-reported functional deficits in individuals with functional ankle instability. Presented at: Great Lakes Athletic Trainers Association 46th Annual Meeting and Symposium; March 12-15, 2014; Wheeling, IL.

**Snider KT**, Dowling DJ, Seffinger MA, Channell MK, Yao SC, Gustowski SM, **Johnson JC**, Pryor MJ [resident]\*. The effect of table trainer ratios on student learning of cervical muscle energy techniques. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

**Stuart MK\***, **Hudman DA**, Hiatt JL [student], **Sargentini NJ**. Recognition of *radA* ochre mutants by monoclonal antibody 2A2. Presented at: 114th General Meeting of the American Society for Microbiology; May 17-20, 2014; Boston, MA.

Udonkang E [student]\*, **Sargentini NJ**. Radiation survival of *Escherichia coli* ampicillin persister cells. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Veteto AB [student]\*, **Marberry K**, **Kondrashov P\***. The histological structure of the medial patellofemoral ligament: implications in knee stability and pain generation. Poster presented at: Experimental Biology 2014; April 26-30, 2014; San Diego, CA. Abstract published in: FASEB J. 2014;28(1 suppl):914.9.

Whitman JK [resident]\*, **Fleschner CR**, **Stuart MK**. Isolation of a ganglioside unique to the water-insoluble membrane fraction of rat lens. Poster presented at: 3rd Annual Missouri Osteopathic Student and Postgraduate Research Symposium at the 116th Missouri Osteopathic Annual Convention; April 30-May 4, 2014; Branson, MO.

Wijesighe S [student]\*, Gomez I, Hughes S, Moir A, Mortimer R, Paul S. Self-reported reasons why HIV/Aids patients miss appointments in a metropolitan specialty clinic. Poster presented at: 35th Annual Central California Research Symposium; April 24, 2014; Fresno, CA.

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Congratulations to Drs. Lockwood and Kondrashova and to students Amanda Schoenfuss and Alicia King for winning the American Association of Colleges of Osteopathic Medicine Annual Conference Outstanding Medical Education Research Poster and Presentation Award for their poster, "Integration of Ultrasound into the Osteopathic Manipulative Medicine Curriculum."