

2012 Student Research Abstracts and Poster Competitions

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This issue of *The Journal of the American Osteopathic Association (JAOA)* features abstracts from student posters that were presented during the 55th Annual American Osteopathic Association (AOA) Research Conference. The poster competition was held Sunday, October 7, 2012, during the AOA's annual Osteopathic Medical Conference and Exposition (OMED 2012) in San Diego, California. Student Poster Competition participants submitted their abstracts through either the AOA's Council on Research or the Student Osteopathic Medical Association (SOMA). Recipients of the SOMA Student Research Fellowship submitted a few of the abstracts. The SOMA abstracts presented at OMED 2012 are published in this issue of the *JAOA* beginning on page 65. Abstracts submitted through the AOA Council on Research were published in the *JAOA*'s August 2012 issue and are available online at <http://www.jaoa.org/content/112/8/529.full>.

In addition to the AOA/SOMA Student Research Conference, the Bureau on International Osteopathic Medical Education and Affairs (BIOMEA) held a separate student competition. All participants who submitted abstracts to the BIOMEA competition were welcome to present posters at the BIOMEA seminar, which was also held on Sunday, October 7, 2012, during OMED 2012. The winners of the BIOMEA competition were invited to give a short presentation on their research during the International Seminar at OMED 2012.

SOMA Student Research Fellowship Program

Since 2011, SOMA has partnered with the AOA to bring a new opportunity to motivated osteopathic medical students who have the desire to become involved in research endeavors. The fellowship program was created to address the need for continued high-quality research from the osteopathic medical community. The skill set required to complete a research project is multifaceted, ranging from technical experimental knowledge to advanced cognitive skills. The ability to identify gaps of knowledge in basic or clinical science and to scientifically test proposed hypotheses are just a few of the cognitive skills and expertise required to complete a research endeavor. Building on these skills with effective technical and scientific communication skills is paramount for successful dissemination of research results. By starting the development of these diverse skills in osteopathic medical students, the osteopathic medical profession can provide the opportunity for osteopathic medical research to flourish and come to prominence.

The selected participants in the 2012 SOMA Student Research Fellowship Program received a stipend of \$2000. Each recipient of the Student Research Fellowship is responsible for presenting a poster at the subsequent OMED student poster competition. In other words, 2012 winners will present their posters at OMED 2013.

Applications for the upcoming 2013 SOMA Student Fellowship Program will open in February 2013. I encourage all interested parties to visit <http://www.studentdo.com> for additional information regarding the application. This program is a wonderful opportunity for interested osteopathic medical students to further gain research knowledge and advance the osteopathic medical community as a whole. As students, we are grateful for the generosity of the AOA and the Osteopathic Heritage Foundation for their financial support and commitment to student research.

SOMA Research Symposium 2012

The 16th Annual National SOMA Research Symposium and Student Poster Competition were part of the annual AOA Research Conference and were supported by the AOA and SOMA—both of which, as previously stated, are committed to increasing student involvement in research. Moreover, both bodies recognize the important and critical role that research in clinical studies and basic science plays in bridging the gap between the laboratory and the bedside.

The theme of the 2012 research conference was “Premier OMM-Relevant Research and Charting a Collaborative Way Forward.” Improving the scientific understanding and dissemination of evidence-based medicine of how osteopathic manipulative treatment impacts health and disease exemplifies this concept. In particular, osteopathic medical students are uniquely trained to further research in osteopathic manipulative medicine, which serves to promote the advancement of osteopathic medicine.

This year’s SOMA abstracts are organized into the following 5 categories:

- fellowships (see page 65)
- osteopathic manipulative medicine/osteopathic principles and practice (see page 67)
- clinical studies (see page 69)
- basic science (see page 71)
- medical education (see page 92)

More than 80 abstracts were accepted for the student competition, with approximately 30 of those being submitted through SOMA. Posters were judged on October 8, 2012. Three first-place winners and 6 second-place winners were awarded during the Student Research Symposium Reception, as follows:

1ST PRIZE

- “The Cystine/Glutamate Antiporter Regulates Indoleamine 2,3-dioxygenase Enzymatic Activity and Protein Levels in Human Monocyte-Derived Dendritic Cells” by Matthew J. Copeland, OMS II, et al, West Virginia School of Osteopathic Medicine (abstract S13—see page 77)
- “The Relationship Between Time Spent Outdoors and Health in Older Adults” by Suvi Neukam, OMS III, et al, University of New England College of Osteopathic Medicine (abstract S28—see page 85)
- “Analysis of the Role of v99 in Hermaphrodite Development” by Eric Goldwaser, OMS II, University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine (abstract S32—see page 87)

2ND PRIZE

- “Autoantibody-Induced Endocytosis Contributes to Neuronal Functional Loss and Amyloid Deposition in Alzheimer Disease Brains” by Eric P. Nagele, OMS II, et al, University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine (abstract B15)¹
- “Expression of Prophage Genes in *Salmonella enterica* Serovar Typhimurium Under Environmental Stressors” by Ben Minh Khuc, MS, OMS I, et al, Touro University College of Osteopathic Medicine in California (TUCOM) (abstract B17)²
- “Hypothyroidism and Its Effects on the Biomarker Translation Test (BT Test) for Breast Cancer Screening: How Undiagnosed and/or Untreated Hypothyroidism Can Cause a False Positive Test” by Kendra Gray, OMS II, MBA, CPE, et al, Midwestern University/Arizona College of Osteopathic Medicine (abstract C5)³

(continued)

- “Correlating Chapman Tender Points With Diagnostic Studies in Patients Presenting to the Emergency Department With Chest Pain” by Melissa M. Blessing, OMS IV, et al, A.T. Still University-School of Osteopathic Medicine in Arizona (abstract P3)⁴
- “Lymphatic Pump Technique Enhances Pulmonary Immunity and Facilitates the Clearance of Respiratory Infection With *Streptococcus pneumoniae*” by Artur Schander, OMS III, et al, University of North Texas Health Science Center Texas College of Osteopathic Medicine (abstract P6)⁵
- “HIF Prolyl-Hydroxylase-3 Plays a Key Role in Epithelial to Mesenchymal Transition” by Trenton Place, OMS III, et al, Midwestern University/Chicago College of Osteopathic Medicine (abstract S30—see page 86)

First-place winners received \$500 each, and second-place winners were awarded \$250 each.

BIOMEA Student Competition

At OMED 2012, SOMA continued its collaboration with BIOMEA to offer students a venue to present their international health and outreach experiences. The competition consists of 2 categories: (1) research projects conducted internationally and (2) broad outreach experiences. There were 21 abstracts submitted in the research category and 10 in the outreach category. The winners, who were selected by BIOMEA members, were as follows:

RESEARCH

- First Place: “Effect of Clinical Screening, Treatment, and Health Education on Schistosomiasis Prevalence in Tanzania: A Longitudinal Study” by Alexandra Rhee, OMS II, TUCOM
- Second Place: “Study of Characteristics and Management of Breast Cancer in Taiwan” by Eric Lau, OMS II, TUCOM

OUTREACH

- First Place: “Malaria Education of School-Aged Children in Kwahu-Eastern Region, Ghana” by Jonathan Giordano, OMS II, Center for Global Health, New York Institute of Technology College of Osteopathic Medicine
- Second Place: “Unique, Collaborative Approach to Managing Schistosomiasis in Northwestern Tanzania” by Aaron Heffner, OMS II, TUCOM

These abstracts and others submitted to the BIOMEA poster competition are planned for publication in a later edition of the JAOA. The winners were invited to present a summary of their research in San Diego, California, during the 14th Annual International Seminar, “Osteopathic Medicine: Hands-on Care Worldwide,” which was held on Sunday, October 7, 2012, at OMED 2012.

It is my pleasure to congratulate all of the winners and abstract presenters on their achievements. Each year the number of abstracts submitted to the SOMA and BIOMEA poster competitions grows, and the quality of research conducted continues to improve as well. I am hopeful that the continued participation in the competition will serve as a driving force for each student and his or her colleagues. By starting research involvement during medical school, we ensure the continuation of cutting-edge osteopathic medical research.

References

1. Nagele EP, Han M, Acharya N, DeMarshall C, Nagele RG. Autoantibody-induced endocytosis contributes to neuronal functional loss and amyloid deposition in Alzheimer disease brains [abstract B15]. *J Am Osteopath Assoc.* 2012;112(8):557.
2. Khuc BM, Garcia-Russell N. Expression of prophage genes in *Salmonella enterica* serovar typhimurium under environmental stressors [abstract B17]. *J Am Osteopath Assoc.* 2012;112(8):558.
3. Gray K, DeRosa A. Hypothyroidism and its effects on the biomarker translation test (BT Test) for breast cancer screening: how undiagnosed and/or untreated hypothyroidism can cause a false positive test [abstract C5]. *J Am Osteopath Assoc.* 2012;112(8):537.
4. Blessing MM, LoVecchio F, Heath D, Bay RC. Correlating Chapman tender points with diagnostic studies in patients presenting to the emergency department with chest pain [abstract P3]. *J Am Osteopath Assoc.* 2012;112(8):531-532.
5. Schander A, Orlowski A, Hodge LM. Lymphatic pump technique enhances pulmonary immunity and facilitates the clearance of respiratory infection with *Streptococcus pneumoniae* [abstract P6]. *J Am Osteopath Assoc.* 2012;112(8):533.