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Lincoln College Endowed Chair in Chiropractic & Biomechanical Research: Annual Update 2013

By John Mayer, D.C., Ph.D., Lincoln College Endowed Chair, University of South Florida

The research program of the Lincoln College Endowed Chair in Chiropractic & Biomechanical Research of the University of South Florida (USF) celebrated its five-year anniversary on October 1, 2012. It continues to grow as a top-tier research program while remaining the only endowed chiropractic research program at a college of medicine within the US. This unique arrangement provides an unparalleled opportunity to build interprofessional partnerships with other health professionals, which serves as an excellent environment from which to conduct ground-breaking neuromusculoskeletal research. Some of the key achievements over the past year are highlighted below.

Research and Scholarly Activity

The Lincoln Chair's research program achieved several major milestones during the past year. For example:

- ▶ The program produced the most peer-reviewed manuscripts that were published in scientific journals in its 5-year history. Among these manuscripts, the Lincoln Chair's team and a USF graduate student in exercise science published the first known systematic review on core muscle activity during physical fitness exercises.
- ▶ The FEMA-funded research grant "Low Back Injury Prevention in Firefighters" demonstrated that a targeted

work-site exercise regimen was safe and effective in improving back and core muscular endurance in firefighters while not disrupting fire service operations. These findings have laid the groundwork for future large-scale clinical trials on injury prevention in firefighters, for which extramural funding is being sought.

- ▶ Data collection was completed for the DOD-funded research grant "Reduction of Risk for Low Back Injury in Theater of Operations" in US Army soldiers at Fort Sam Houston, TX. Preliminary results are expected by the end of 2013. This study adds to the growing body of chiropractic's

involvement with research in the US military.

- ▶ The project "Development of a tele-health system to enhance delivery of back exercise and education programs" was launched through a recent donation from the Lincoln College Education and Research Fund (LCERF), and existing funds from the USF Lincoln Endowment. The aim of this system is to provide important technological advancements for delivery and self-management of back education and exercise. If successful, this system will be available to clinicians to enhance patient adherence and, ultimately, improve patient-centered outcomes.
- ▶ The USF Interdisciplinary Center for Neuromusculoskeletal Research (CNMSR) continues to develop, thanks to support from Senator Dennis Jones, the Florida Chiropractic Association (FCA), and our friends in the Florida Legislature. The CNMSR is highly complementary to the Lincoln Chair's chiropractic research program and, taken together, these initiatives provide an outstanding platform for research and innovation.

Infrastructure and Personnel Expansion

In preparation for projected future growth opportunities, substantial funding and effort were directed towards infrastructure and personnel expansion. For example:

- ▶ Existing research laboratory space was renovated within the USF Human Functional Performance Laboratory.
- ▶ New office space was built for the Lincoln Chair's team.
- ▶ Jennifer Libous, MS, was hired as the program's lead Clinical Research Administrator.

Future Research Training Opportunities

Initial strategies for three new training opportunities have been developed. These opportunities (highlighted below) are projected to be useful for appropriate chiropractic students and doctors of chiropractic who are interested in advancing their research expertise.

- ▶ A position for a post-doctoral research scholar was funded by the Florida Chiropractic Foundation (the FCA's education and research fund) and approved by USF. The position is currently open and seeking applicants.
- ▶ A proposal for a new PhD in Rehabilitation Sciences degree program was submitted to the USF Graduate School for review and approval. This degree program will be housed in the USF School of Physical Therapy & Rehabilitation Sciences.
- ▶ A formal structure for student involvement in research is under development. This structure will help match students and faculty members in order to identify suitable research training opportunities.

Professional and Community Outreach

As part of its mission, the Lincoln Chair's program is engaged in professional and community outreach for the chiropractic profession and the patients it serves. Examples of outreach efforts over the past year include:

- ▶ The Lincoln Chair served as the only doctor of chiropractic on two federal technical expert panels: 1.) Agency for Healthcare Research and Quality, Effectiveness Health Care Program, Comparative Effectiveness Review: Spinal Fusion for the Treatment of Low Back Pain Secondary to Lumbar Degenerative Disc Disease; and 2) NASA, Spinal

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SCHOOL OF PHYSICAL THERAPY & REHABILITATION SCIENCES

MORSANI COLLEGE OF MEDICINE

Post-Doctoral Research Scholar - Spinal pain and disability

The UNIVERSITY OF SOUTH FLORIDA is a Carnegie Tier 1 Very High Research Activity university with eleven colleges and four campuses serving the Tampa Bay area. The University enrolls more than 40,000 students annually in 79 undergraduate disciplines, 87 master's and specialist programs, and 25 doctoral programs, including the M.D., D.P.T. and Pharm.D. USF Health is a comprehensive academic health sciences center comprised of the Colleges of Medicine, Nursing, Pharmacy, and Public Health along with the Schools of Physical Therapy & Rehabilitation Sciences and Biomedical Sciences. The University's diverse population reflects the ethnic and cultural heritage of the Tampa Bay region, a community of some 2.5 million persons.

A Post-Doctoral Research Scholar position is available within the program of the Lincoln College Endowed Chair in Chiropractic and Biomechanical Research of the School of Physical Therapy & Rehabilitation Sciences. The successful candidate will be expected to conduct collaborative and independent research under the mentorship of the Lincoln Chair to advance a "cutting edge" neuromusculoskeletal research program in spinal pain and disability.

The research program of the Lincoln College Endowed Chair in Chiropractic and Biomechanical Research is housed within the School's **Center for Neuromusculoskeletal Research** and the **Human Functional Performance Laboratory**, which currently boast \$3M in extramural research funded through federal, state, and corporate sources, and is the cornerstone for the planned implementation of the School's PhD in Rehabilitation Sciences degree program. The Lincoln Chair's current research portfolio focuses on clinical and translational research for spinal pain, disability, injury prevention, and resilience in military, first-responder, and civilian populations. The Human Functional Performance Laboratory is a state-of-the-art clinical research laboratory for functional assessment in a wide range of neuromusculoskeletal clinical and translational studies. Research equipment and administrative services in the Laboratory are available for faculty and collaborators to conduct comprehensive assessment of muscular strength and endurance, body composition, posture and joint assessment, gait, balance, cardiopulmonary testing, motion analysis, electromyography and advanced imaging, functional evaluation, and applied neurosensory testing. **The USF Physical Therapy Center**, the School's faculty practice within the **Morsani Center for Advanced Health Care**, also provides the potential for patient-centered outcomes research.

Salary is commensurate with academic qualifications and prior post-doctoral experience.

POSITION 1404 - Post Doctoral Research Scholar Minimum Requirements for Appointment

- Earned Post-Professional Doctoral Degree (i.e., PhD) within the past 5 years in Clinical and Translational Research, Exercise Science, Rehabilitation Sciences, Epidemiology, Clinical Biomechanics or Related Discipline.
- Evidence of a sound background in analytical methods and clinical research study design.
- Evidence of scholarly activity and grantsmanship in clinical research studies.

Application review begins immediately and will continue until these positions are filled: Submit a cover letter and C.V. that includes: 1) a plan for scholarship/research, and 2) three professional references. Send by e-mail to: lincolnchair@health.usf.edu; attention: Search Committee — Research Faculty.

USF Health is committed to increasing its diversity and will give individual consideration to qualified applicants for this position with experience in ethnically diverse settings, who possess varied language skills, or who have a record of research that support/benefit diverse communities or teaching a diverse student population. The University of South Florida is an EO/EA/AA Employer. For disability accommodations, contact Cindy Ippolito at (813) 974-6200 a minimum of five working days in advance. According to FL law, applications and meetings regarding them are open to the public.

Deconditioning Injury Risk Summit.

- ▶ The Lincoln Research Prize in Chiropractic and Biomechanics, which was established in 2011 by the FCA, Florida Chiropractic Foundation for

LCERF Announces Funding

—June 17, 2013

The Lincoln College Education & Research Fund Board of Trustees is proud to announce LCERF is supporting and funding the development of a web-based system to enhance delivery of back exercises and education programs. This project will be conducted by the Lincoln Chair, John Mayer, DC, PhD at the University of South Florida. This web-based system is projected to be used in clinical trials involving firefighters and the general population. In addition, if successful in clinical trials over the next few years, this web-based “tele-health” system approach could be available for the chiropractic physician to be used in their daily practice to help foster long-term adherence and improve clinical outcomes. This system can be administered in a very practical and useful manner.

LCERF has pledged \$50,000.00 to help fund the development of this highly innovative and technologically advanced web-based system to deliver exercise and education programs for the prevention and treatment of spinal disorders.

To help LCERF fund this project you may donate to: Lincoln College Education & Research Fund, Inc., 2710 Alt 19 North, Suite 301-204, Palm Harbor, FL 34683.

Education and Research (FCF), and LCERF as the largest financial award in chiropractic research, was awarded in 2012 to Gert Bronfort, DC, PhD. The Prize will be again awarded to an exceptional chiropractic researcher at the 2013 FCA National Convention.

- A formal collaborative relationship between USF and World Spine Care (WSC) was established. World Spine Care is a non-profit foundation that provides evidence based care for individuals with spinal conditions in underserved communities throughout the world.

The Future

Despite the financially challenging times for researchers in both the private sector and academic settings, the Lincoln Chair's chiropractic research program at USF has made numerous inroads for producing clinically-meaningful research over the past five years. We thank USF and the sponsors—FCA, FCF, and LCERF—for their financial support and being proactively involved in developing unique opportunities for chiropractic research. The changing health care environment that we currently face has high expectations for more effective and more efficient care. With ongoing support and projected growth, the Lincoln Chair's chiropractic research program at USF is dedicated to meet this challenge by conducting transformational research that will add to the body of knowledge for evidence based care. ◀FCA

Dr. Mayer is the Lincoln College Endowed Chair in Biomechanical and Chiropractic Research, and a tenured faculty member in the College of Medicine of University of South Florida. He is the principal investigator and co-principal investigator on federally-funded, injury prevention research projects. He is instructor for the Health Promotion and Wellness, Critical Injury 3, and Primary Care Clerkship—Low Back Pain graduate courses at the USF College of Medicine. He serves as a manuscript reviewer for several scientific journals and advisory board member for various health and research organizations. He is also an honorary member of the Florida Chiropractic Association.



Supports The Lincoln Chair

- \$40,000 annually to underwrite research of the Lincoln Chair at the University of South Florida
- \$10,000 annually to sponsor the Lincoln Research Prize
- \$40,000 committed to underwrite Post-Doctoral Research Scholar Position

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