

Since 2016, the AOA has awarded over \$4 million in grants for osteopathic research

Get to know the projects and researchers whose work has earned AOA research grant funding.

The AOA has funded 42 research projects designed to evaluate the effectiveness of osteopathic medicine in five key areas: osteopathic philosophy, chronic diseases and conditions, OMM/OMT, musculoskeletal injuries and prevention, and pain management. Learn more about grant opportunities for [physicians](#), [fellows](#), [residents and osteopathic medical students](#), and [New Investigators](#).

The grants were selected to support five chosen focus areas:

- Chronic diseases and conditions
- Musculoskeletal injuries and prevention
- Osteopathic manipulative treatment and osteopathic manipulative medicine
- Osteopathic philosophy
- Pain management
- Here are the recipients, their institutions and their research projects.

Jennifer Ashley Belsky, DO, MS, Nationwide Children's Hospital: Exploring Osteopathic Medicine as an Effective Adjunctive Therapy for Pediatric Oncology Patients (OMET)



Special funding received from The Dale Dodson Educational Fund.

Dr. Belsky is a hematology/oncology/BMT physician fellow at Nationwide Children's Hospital in Columbus, OH. An Ohio native, Dr. Belsky completed her Master of Science degree at Wright State University and graduated from the Ohio University Heritage College of Osteopathic Medicine (OU-HCOM). Her current research focuses on providing better, supportive care options for children suffering from chemotherapy side effects.

Kyle Burke, OMS-II, Edward Via College of Osteopathic Medicine (South Carolina): The Effect of Facial Effleurage on Complement C3 in Patients with Acute Rhinosinusitis



Special funding received from The Dale Dodson Educational Fund.

Student Doctor Burke received his undergraduate degree in Biomedical Sciences from the Rochester Institute of Technology in May of 2015. Currently, he is a second-year osteopathic medical student at the Edward Via College of Osteopathic Medicine – Carolinas Campus (VCOM–CC). Student Doctor worked at the Brigham and Women’s Hospital in Boston, MA for two years following graduation. He worked with Dr. Clemens Scherzer on the Harvard Biomarkers Study as a Translational Study Coordinator

where he performed clinical research visits and sample processing. Student Doctor is currently working with Dr. Jillian Bradley at Edward Via College of Osteopathic Medicine – Carolinas Campus as an Osteopathic Student Researcher on her project “The Effect of Facial Effleurage on Acute Rhinosinusitis.”

Blaise M. Costa, PhD, Edward Via College of Osteopathic Medicine (Virginia): Clearance of Brain Metabolic Waste in a Natural Animal Model of Alzheimer’s Disease by Cranial Osteopathic Manipulation



Dr. Costa received a PhD degree in Psychopharmacology from the National Institute of Mental Health and Neurosciences, India in 2005. He then completed postdoctoral training at the University of London as a Royal Society research fellow at Max Plank Institute for Brain Research, Germany in 2007. With these trainings on the biology of glutamate receptors and its role in brain disorders, he moved to the University of Nebraska Medical Center to pursue a drug discovery project funded by the National Institute of Health. While working as a senior research fellow on this project, his team discovered novel compounds to

dissect glutamate receptor function based on their subunit composition. In 2013, Dr. Costa joined Edward Via College of Osteopathic Medicine as an Assistant Professor and promoted to an Associate Professor of Pharmacology in 2017; after receiving an American Heart Association grant. Dr. Costa has published 21 articles in the peer-reviewed journals, including one in JAOA. In the AOA funded project, Dr. Costa and co-workers will study the molecular mechanism of Cranial Osteopathic Manipulative Medicine (COMM) and its potential to serve as an adjunct treatment strategy for Alzheimer’s disease.

Charles Defendorf, DO, PGY-II, Bluefield Clinic Company: Umbilical and Amniotic Fluid Stem Cell Injections for the Management of Chronic Spine Facet Pain
Special funding received from the AT Still Foundation.



Dr. Defendorf is an Internal Medicine resident physician at Bluefield Regional Medical Center. He went to medical school at Rowan University School of Osteopathic Medicine after earning a Masters degree in Biomedical Sciences at Robert Wood Johnson Medical School and Bachelor of Science degree in Biochemistry at Seton Hall University. Presentation of undergraduate bench research results culminated at the American Chemical Society 42nd Middle Atlantic Regional Meeting discussing the use of transition metals to detect arteriosclerotic plaque. His combination of medicine and research interests continued with retrospective chart review to assess *C. difficile* treatment during graduate school and a double-blinded study to investigate osteopathic pedal pump efficacy for leg edema during medical school. Medical school also included reviewing an article publication of "Iatrogenic Hepatitis C Virus Transmission and Safe Injection Practices" in the Journal of the American Osteopathic Association.

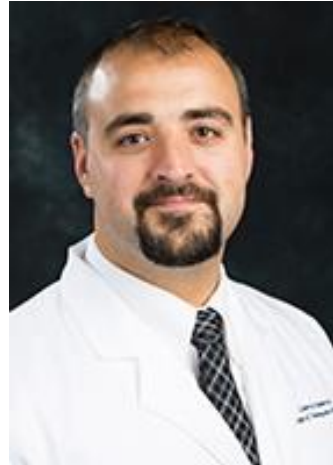
Alicia Ford, PhD, Oklahoma State University Center for Health Sciences: Effects of OMT on Biomarkers and Substance Abuse Treatment Outcomes in Patients with Chronic Pain and Opioid Abuse



Dr. Ford is a Clinical Assistant Professor at Oklahoma State University Center for Health Sciences in the Department of Psychiatry & Behavioral Sciences. She earned her doctorate in Counseling Psychology from the University of Kansas and completed a postdoctoral fellowship in Clinical Neuropsychology at the University of Michigan Health System.

At OSU-CHS she serves as director of the Psychiatry Clerkship program and teaches behavioral medicine topics in the College of Osteopathic Medicine and the Psychiatry Residency program. Dr. Ford's clinical and research interests include the cognitive effects of medical and psychiatric disorders and cognitive improvement interventions for persons with substance abuse disorders.

Joseph Christopher Gigliotti, PhD, Liberty University, Inc.: Determining the Effect of Biological Sex and Therapy on Diet-Induced Alterations in Liver and Kidney Health in Mice



Dr. Gigliotti completed a B.S. in Biochemistry and his graduate work in Nutritional Sciences at West Virginia University, studying the physiological effects of simple dietary changes in rodents. During this time, he authored several publications in the realm of nutrition and food science and developed a keen interest in renal physiology. Wanting to further his expertise in the realm of kidney disease and immunopathy, he then completed his postdoctoral training at the University of Virginia School of Medicine in the Division of Nephrology. As a National Institute of Health T32 postdoctoral fellow, he discovered and described a simple ultrasound method to modulate systemic inflammatory processes and reduce ischemic tissue damage in the kidney. His work has received recognition and research awards from different organizations, including the Institute of Food Technologists and the National Kidney Foundation. Now, as faculty at the newly established Liberty University College of Osteopathic Medicine, Dr. Gigliotti's research program is focused on understanding the immunopathology of kidney and liver diseases and how poor diet influences these processes.

Bhuma Krishnamachari, PhD, New York Institute of Technology: Predictors of Stress, Anxiety, and Depression in Female Osteopathic Medical Students: A Prospective Cohort Study
Special funding received from the AT Still Foundation.



Bhuma Krishnamachari is an Epidemiologist and Genetic Counselor. She has a PhD in Epidemiology from the University of Illinois and a Masters in Genetic Counseling from the University of Minnesota. She recently completed a Health Policy Fellowship with Ohio State University. She is currently the Assistant Dean of Research and an Associate Professor of Clinical Specialties at the New York Institute of Technology College of Osteopathic Medicine.

Alexis Marie LaPietra, DO, FACEP, FAAEM, St. Joseph's Regional Medical Center Foundation:



Osteopathic Manipulative Treatment vs. Standard Therapy in the Management of Acute Neck and Low Back Pain in the Emergency Department

Co-branded award funded in collaboration with The American Osteopathic Foundation.

Dr. Alexis LaPietra is the current Medical Director of the Emergency Medicine Pain Management Program and the Fellowship Director of the Emergency Medicine Pain Management Fellowship and Emergency Medicine Mental Health and Addiction Medicine Fellowship at St Joseph's Health in Paterson, NJ. She is the founder and creator of the Alternatives to Opioids (ALTO SM) program and the Pain Management and Addiction Medicine Section of the American College of Emergency Physicians.

In 2016 she received the Emergency Care Innovation of the Year Award from George Washington University Center for Healthcare Innovation and Policy Research as well as the American College of Osteopathic Emergency Physicians Practice Innovation Award. The ALTO SM program was awarded the NJBIZ Healthcare Heroes Innovation Award for 2017. Dr. LaPietra's work has been highlighted nationally in The Annals of Emergency Medicine, NPR, NBC, The New York Times, Fox News, MSNBC, and CNN. Her work was the basis for the "ALTO in the ED Act," part of the legislation included in the H.R.6- SUPPORT for Patients and Communities Act signed into law by President Trump in October 2018.

John C. Licciardone, DO, MS, MBA, University of North Texas Health Science Center:



Optimizing Chronic Pain Management through Patient Engagement with Quality of Life Measures: A Randomized Controlled Trial

Dr. Licciardone holds the Osteopathic Heritage Foundation Richards-Cohen Distinguished Chair in Clinical Research at the University of North Texas Health Science Center. He directs the Osteopathic Research Center and its PRECISION Pain Research Registry, which studies precision medicine and biopsychosocial aspects of pain. He is a Co-Investigator in the PACBACK Trial sponsored by National Institutes of Health (NIH), and served on the Work Group that developed NIH's Federal Pain Research Strategy.

Other achievements relative to NIH include: receiving a Midcareer Investigator Award to direct the OSTEOPATHIC Trial, serving as an expert panelist in chronic pain, and completing a term on its National Advisory Council for Complementary and Integrative Health.

Internationally, he served as a consultant to the World Health Organization on regulatory and safety issues relating to osteopathy, gave the keynote address at the Advancing Osteopathy 2008 conference that celebrated recognition of osteopaths in the United Kingdom's National Health Service (including a reception with His Royal Highness, The Prince of Wales), and has been recognized by Expertscape as the leading worldwide authority on osteopathic manipulation.

Patrick O'Connell, OMS-IV, Michigan State University College of Osteopathic Medicine: Role of ERAP1 in Tr1 Cell Biology and Ankylosing Spondylitis
Special funding received from the AT Still Foundation.



Patrick O'Connell is a fourth year DO-PhD student at Michigan State University College of Osteopathic Medicine (MSUCOM). At MSUCOM he is completing his PhD in the lab of renowned physician scientist and Dean of MSUCOM, Andrea Amalfitano, DO, PhD. In the Amalfitano lab, Patrick is working to uncover mechanisms underlying chronic autoimmune disorders, notably, Ankylosing Spondylitis (AS). Using novel mouse models of AS developed in the Amalfitano lab, Patrick will study how specific genetic polymorphisms affect the immune system, and how dysfunction of the immune system can lead to Ankylosing

Spondylitis. These studies will focus on the role of an important anti-inflammatory cell termed Type 1 Regulatory T cells (Tr1 cells), which potentially play an important role in joint inflammation. In addition to learning more about the role of Tr1 cells in AS, these studies will help to determine if Tr1 cells could potentially be implicated as one of the cell-level effectors contributing to the benefits of Osteopathic Manipulation.



Beverly A. Rzigalinski, PhD, Edward Via College of Osteopathic Medicine (Virginia): Biochemical Effects of Osteopathic Manipulation on Neuronal Function and Survival
Special funding received from the AT Still Foundation.

Dr. Rzigalinski is a professor of Pharmacology at the Edward Via College of Osteopathic Medicine in Blacksburg, Virginia. She holds joint appointments at the Virginia Tech/Wake Forest School of Biomedical Engineering, and the Virginia-Maryland Regional College of Veterinary Medicine. She received her BS in Biology from Rutgers University, an MS in Biochemistry & Toxicology from New York University, and a PhD in Biochemistry

and Pharmacology from Eastern Virginia Medical School and Old Dominion University. She has published numerous papers in scientific journals and received grants from the National Institute of Health, Department of Defense, and other agencies. She has served on several national and international committees, study sections, review panels, and editorial boards. Her past research investigated stretch and strain forces and their biochemical effects in models of traumatic brain injury. In this current grant, she applies this knowledge to deciphering the biochemical effects of osteopathic manipulation on the neuron, to unravel the cellular mechanisms by which osteopathic manipulation exerts its beneficial effects on the human.



Harald Martin Stauss, MD, PhD, Burrell College of Osteopathic Medicine: Anti-Inflammatory Actions of OMT – Role of the Cholinergic Anti-Inflammatory Reflex and Translocation of Immune Cells from Reticular Organs to the Systemic Circulation

Special funding received from The Dale Dodson Educational Fund.

Dr. Harald M. Stauss received his medical degree from the University of Heidelberg, Germany and completed a 4-year residency program in Medical Physiology at the Charité Hospital at the Humboldt-University in Berlin, Germany. He received doctoral and post-doctoral training in Pharmacology and Physiology before joining the University of Iowa in 2002, where he received tenure in 2008. In 2018, he joined Burrell College of Osteopathic Medicine in Las Cruces, NM as Associate Professor of Pharmacology. Dr. Stauss' research is focused on the autonomic nervous system. Recently, he studied the effects of the parasympathetic nervous system on hypertensive end-organ damage and on glucose metabolism. His work has been published in over 80 peer-reviewed journal articles. In the AOA-funded research project, Dr. Stauss and his co-workers will test the hypothesis that cranial OMT techniques elicit anti-inflammatory actions by increasing parasympathetic activity and thereby activating the cholinergic anti-inflammatory pathway. Furthermore, they postulate that subsequently applied osteopathic lymphatic pump techniques augment the anti-inflammatory actions of the cholinergic anti-inflammatory pathway.

Grant periods range from 6 to 24 months. Recipients are strongly encouraged to ultimately submit their research for publication in [The Journal of the American Osteopathic Association](#).