

The PMI Times

Department of Pathology, Microbiology & Immunology
University of South Carolina ~ School of Medicine

The Communication Source for PMI Faculty, Staff & Students

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Editors: Angela Murphy, PhD, Franklin Berger, PhD & Nicki Holt



September - December 2025

P **Honors & Awards**

M Congratulations to Dr. Raymond Bogdon and Dr. Tom Cardaci!!

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- Raymond Bogdon, a Ph.D. graduate student mentored by Dr. Philip Brandon Busbee, successfully defended his thesis, *“Aryl hydrocarbon receptor regulates kynurenine pathway to modulate colitis and depressive-like behavior,”* on October 23, 2025. He recently secured a position at Nephron Pharmaceuticals.
 - Tom Cardaci (Murphy lab) successfully defended his dissertation on November 11, 2025, entitled *“Examining Skeletal Muscle Ultrastructural and Metabolic Changes with Cancer-Induced Cachexia.”* Tom is pursuing his postdoctoral training at Colorado State University.

Dr. Carole Oskeritzian, Dr. Jie Li, and Dr. Melissa Ellerman (Lead Principal Investigator) will serve as multi-PIs on a Center for Dietary Supplements and Inflammation (CDSI) COBRE Pilot Project II entitled *“Targeting the bidirectional gut-skin axis with gut microbial metabolites in chronic inflammation”* recommended for funding by NIH/NIGMS 5P30GM154631-02 (Nagarkatti).

Tom Cardaci (Murphy lab) received 3rd place award for his presentation at the Colorado Nutrition Obesity Research Center (NORC) Retreat.

Cole Espinosa and Sarah Tran (Oskeritzian Laboratory) were awarded a Magellan Scholar Research Grant entitled *“Role of sphingosine-1-phosphate receptors in mast cell activation and modulation by microbe-derived capnine”*.

Tom Cardaci’s publication *‘Pro-Fibrotic Immune Cells and Fibro-Adipogenic Progenitors Contribute to Skeletal Muscle Extracellular Matrix Remodeling and Fibrosis in Cancer Cachexia’* was recognized by the American Physiological Society as a *2025 Select Article*.

With Dr. Claudia Grillo (Pharmacology, Physiology and Neuroscience), Lead Principal Investigator, Dr. Carole Oskeritzian, Dr. Ambika Rao (Endocrinology, Dorn VA Medical Center and Prisma Health) and Dr. Daping Fan (Cell Biology and Anatomy) will serve as co-Investigators on a ClinTrUSC Pilot Project Grant recommended for funding entitled “Ginsenosides as a new therapy for obesity and its co-morbidities”.



In the presence of the honorable Lieutenant Governor Pamela Evette, Dr. Carole Oskeritzian co-chaired the South Carolina Governor’s Awards of Excellence in Scientific Research ceremony held at the Rotunda of the State Capitol, Columbia, SC on October 29. Dr. Prakash Nagarkatti was honored as recipient of the prestigious Award of Excellence in Scientific Awareness.

News & Updates

Dr. Prakash Nagarkatti has been invited to give a talk and participate at the National Society of Toxicology Conference, in a Continuing Education Course titled, “Lost in Translation? Navigating Species Selection for Immunotoxicological Assessment in Preclinical Studies”.

Dr. Brooke Bullard joined the faculty in the Department of Science at Mercer University in Atlanta as an Assistant Professor of Biology. Congratulations Brooke!

Dr. Prakash Nagarkatti has been invited to serve as a Panelist at the 10th Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE) on June 14 - June 17, 2026.

Dr. Angela Murphy served as a reviewer of Student Posters at the 2025 Statewide Aging and Alzheimer’s Disease Research Symposium held in Columbia on October 9-10.

Dr. Prakash Nagarkatti was interviewed by “Partnership for Public Service” on the impact of termination of NIH grants to support minority students and programs.

Dr. Angela Murphy and Dr. Avery Dingle were invited by the Provost to serve on the School of Medicine, Dean Search Committee.

Dr. Prakash Nagarkatti and Dr. Mitzi Nagarkatti authored the Convo publication titled, “How pollution and the microbiome interact with Tregs, the immune system regulators whose discovery was honored with the Nobel Prize”, Oct 10, 2025. <https://theconversation.com/how-pollution-and-the-microbiome-interact-with-tregs-the-immune-system-regulators-whose-discovery-was-honored-with-the-nobel-prize-266865>

Dr. Brandon Busbee and Dr. Angela Murphy Co-Chair the newly formed PMI Curriculum Committee.

Dr. Prakash Nagarkatti contributed to the article in The Hill titled, “Minority health researchers walk tightrope amid NIH funding cuts” Nov 8, 2025. <https://thehill.com/cdn.ampproject.org/c/s/thehill.com/policy/healthcare/5592836-trump-administration-nih-funding-cuts/amp/>

“Which Anti-Inflammatory Supplements Actually Work?” was the title of the publication by Lori Youmshajekian, Scientific American Magazine Nov 2025 issue. Dr. Prakash Nagarkatti was a contributor to the article. <https://www.scientificamerican.com/article/three-anti-inflammatory-supplements-can-really-fight-disease-according-to/>

Dr. Angela Murphy is serving as a mentor to junior faculty in the PROPEL program.

Publications

Raji L, Siddique M, Bohm M, Pierre J, Playdon M, Scott S, Li B, Cook K, Murphy EA, Makowski L. Murine Models of Obesity-Related Cancer Risk. *Cancer Prevention Research*. 2025 Sep 2;18(9):509-529.

Sarhan M, Wohlfeld C, Perry-Mills A, Meyers J, Fadel J, Murphy EA, Bonilha L, Fan D. The pathophysiology of mixed Alzheimer's disease and vascular dementia. *Theranostics*. 2025 Sep 3;15(18):9793-9818.

Staley S, Walkup V, Oxendine S, Mauya Z, Williams J, Busbee PB, Wilson K. Sex-dependent modulation of acute respiratory distress syndrome by *Bacteroides acidifaciens*: gut microbiome impact on lung inflammation. *Front Immunol*. 2025 Sep 22;16:1653309.

Cardaci TD, Bullard BM, Bastian AV, Roark K, NeSmith M, Unger, CA, Price BL, Kubinak RL, Murphy EA, VanderVeen BN. Pro-Fibrotic Immune Cells and Fibro-Adipogenic Progenitors Contribute to Skeletal Muscle Extracellular Matrix Remodeling and Fibrosis in Cancer Cachexia. *American Journal of Physiology-Cell Physiology*. 2025 Oct 1;329(4):C1283-C1299.

VanderVeen BN, Cardaci TD, Unger CA, Nesmith M, Freeman JC, Bastian AV, Roark K, Mansi Upadhyay, Levy AG, Bullard BM, McDonald SJ, Velázquez KT, Enos RT, Kubinak JL, Hofseth LJ, Hebert JR, Fan D, Murphy EA. Cannabis Improves Metabolic Dysfunction and Macrophage Signatures in Obese Mice. *American Journal of Physiology-Cell Physiology*. 2025 Oct 1;329(4):C1316-C1331.

Hebert JR, Holmberg R, Boncyk M, Scott G, Murphy EA, Hofseth LJ. Perspective: Food Environment, Climate Change, Inflammation, Diet, and Health. *Advances in Nutrition*. 2025 Oct;16(10):100504.

Akter S, Bawa EM, Riccardi N, Amoatika D, Miller MC, Owens OL, Donelle L, Murphy EA, Fan D, Moss M, Waugh ML, Levkoff SE, Hucek FA, Neils-Strunjas J, Adams SA, Newman-Norlund R, Newman-Norlund S, Hardin J, Absher J, Olatosi BA, Li X, Bakos L, McCollum Q, Bonilha L, Friedman DB. Harnessing team science in dementia research: Insights from the Alzheimer's disease research group in South Carolina. *Journal of Alzheimer's Disease Reports*. 2025 Oct 16:9:25424823251385902.

Chakrabarti M, Phillips M, Herron A, Kubinak JL, Murphy EA, Azhar M, Evans CE. Regulation of Inflammatory Lung Injury by Transforming Growth Factors. *American Journal of Physiology-Lung*. 2025 Nov 1;329(5):L539-L554.

Costa BG, Cardaci TD, Harris DR, Machek SB, Willoughby DS. Skeletal Muscle Androgen-Regulated Gene Expression Following High- and Low-Load Resistance Exercise. *DNA*. 2025; 5(4):56.

Peacock TE, Johnson K, Cheedipudi A, Mohammed AD, Ball RAW, Cox H, Pender SK, Jolly A, Velazquez KT, Potts J, Murphy EA, Frizzell N, Evans C, Kubinak JL. Longitudinal Analysis of the Cellular/Microbial Dynamics of Polymicrobial Sepsis in Mice. *Frontiers in Immunology*. 2025 Dec 3:16:1682451.

Older EA, Mitchell MK, Campbell A, Lian X, Madden M, Wang Y, van de Wal LE, Zaw T, VanderVeen BN, Tatum R, Murphy EA, Chen YH, Fan D, Ellermann M, Li J. Human gut commensal *Alistipes timonensis* modulates the host lipidome and delivers anti-inflammatory outer membrane vesicles to suppress colitis in an *Il10* -deficient mouse model. *Gut Microbes*. 2025 Dec;17(1):2517380.

Presentations

Bastian AV, VanderVeen BN, Cardaci TD, Bullard BM, NeSmith MM, Roark K, Unger CA, Velazquez KT, Enos RT, Pierre JF, Kubinak JL, Herbert JR, Hofseth LJ, Fan D, Murphy EA. Cannabinoid Modulation of Intestinal Immune Responses and Structural Alterations in Obese Mice. USC Research Core Fair, Columbia, SC, September 19, 2025.

NeSmith MM, Bastian AV, VanderVeen BN, Cardaci TD, Bullard BM, Unger CA, Roark K, Upadhyay M, Hofseth LJ, Herbert JR, Murphy EA. An Anti-Inflammatory Diet Improves Immune Signatures in the Lamina Propria of Obese Mice. USC Research Core Fair, Columbia, SC, September 19, 2025.

Upadhyay M, Bastian AV, NeSmith MM, Roark K, VanderVeen BN, Cardaci TD, Bullard BM, Unger CA, Hofseth LJ, Herbert JR, Murphy EA. Caloric Restriction and Anti-Inflammatory Diet Alter Immune Composition in Obese Adipose Tissue. USC Research Core Fair, Columbia, SC, September 19, 2025.

Roark KL, VanderVeen BN, Unger CA, Cardaci TD, Bullard BM, Bastian AV, Nesmith MM, Upadhyay M, Joven N, Velazquez KT, Enos RT, Bonilha L, Fan D, Murphy EA. Cannabis Improves Obesity-Induced Metabolic Dysfunction and Modulates Myeloid Cells in Mouse Brain. USC Research Core Fair, Columbia, SC, September 19, 2025.

Hamida H, Palrasu M, Marudamuthu A, Nagarkatti P, Nagarkatti M. Therapeutic role of Δ^8 -THC in experimental autoimmune hepatitis through regulation of miR-199a-3p and miR-100-5p. Fulbright Association 48th Annual Conference (FACON25), Miami FL, October 24-26, 2025.

Bastian AV, VanderVeen BN, Cardaci TD, Bullard BM, NeSmith MM, Roark K, Unger CA, Velazquez KT, Enos RT, Pierre JF, Kubinak JL, Herbert JR, Hofseth LJ, Fan D, Murphy EA. Cannabinoid Modulation of Intestinal immune responses and Structural alterations in Obese Mice. Metabolic Dysregulation Obesity Cancer (MeDOC) Consortium Meeting, Memphis TN, October 27-29, 2025.

NeSmith MM, Bastian AV, VanderVeen BN, Cardaci TD, Bullard BM, Unger CA, Roark K, Upadhyay M, Hofseth LJ, Herbert JR, Murphy EA. An Anti-Inflammatory Diet Improves Immune Signatures in the Lamina Propria of Obese Mice. Metabolic Dysregulation Obesity Cancer (MeDOC) Consortium Meeting, Memphis TN, October 27-29, 2025.

Upadhyay M, Bastian AV, NeSmith MM, Roark K, VanderVeen BN, Cardaci TD, Bullard BM, Unger CA, Hofseth LJ, Herbert JR, Murphy EA. Caloric Restriction and Anti-Inflammatory Diet Alter Immune Composition in Obese Adipose Tissue. Metabolic Dysregulation Obesity Cancer (MeDOC) Consortium Meeting, Memphis TN, October 27-29, 2025.

Dr. Angela Murphy presented/led several talks at the Metabolic Dysregulation Obesity Cancer (MeDOC) Consortium Meeting, Memphis, TN, October 27-29, 2025, including:

- Anti-inflammatory dietary input and obesity-associated colorectal cancer
- Benefits of an anti-inflammatory diet on biomarkers associated with metabolic dysregulation: dependent on or independent of a reduction in calories?
- Manuscript and Project Development Session

Carter TH, Nagarkatti M, Nagarkatti P. THC Dampens Type-1 Interferon Signaling in Developing Myeloid Cells of the Bone Marrow. Interferon and Cytokine Society, Seattle WA, November 2-5, 2025.

Hamida H, Weyer C, Gupta R, Wilson K, Nagarkatti P, Nagarkatti M. Microbiome and single-cell transcriptomic profiling reveal the immunomodulatory role of Δ^8 -THC in autoimmune hepatitis. American Society of Microbiology, South Carolina Branch, Columbia SC, November 15, 2025.

Cardaci TD, VanderVeen BN, Bullard BM, NeSmith M, Bastian AV, Roark K, Freeman J, Joven N, Murphy EA. Profibrotic immune cells and fibro-adipogenic progenitors contribute to skeletal muscle extracellular matrix remodeling and fibrosis in cancer cachexia. CU Anschutz Nutrition Obesity Research Center Meeting, Anschutz CO, Dec 2025.