

The PMI Times

Department of Pathology, Microbiology & Immunology
University of South Carolina ~ School of Medicine
The Communication Source for PMI Faculty, Staff & Students
Department Chair: Dr. Mitzi Nagarkatti, PhD
Editors: Mitzi Nagarkatti, PhD, Angela Murphy, PhD & Nicki Holt



January - April 2023

P Honors & Awards

M Congratulations to Mitzi Nagarkatti, PhD, on her election to the Board of Directors of Academy of Toxicological Sciences, (ATS) Society of Toxicology. Her term will begin July 1, 2023.

I Dr. Mitzi Nagarkatti hosted a very successful Association of Medical School Microbiology and Immunology Chairs meeting (AMSMIC) January 18-22, 2023, Puerto Vallarta, Mexico. Dr. Nagarkatti was elected president of AMSMIC for the 2023-24 year.

Brandon VanderVeen (Murphy lab) received a prestigious K99/R00 award from the National Cancer Institute titled 'Impact of Obesity on Chemotherapy-Induced Cytotoxicity: Immune Cells and Skeletal Muscle'.

Congratulations to Brooke Bullard (Murphy lab) for receiving a SPARC Graduate Student Research Grant from the USC Office of the VPR. Brooke's grant is titled "Gut microbiota's contribution to the beneficial effects of panaxynol on murine ulcerative colitis".

Mary Melissa Roland (Kubinak lab) successfully defended her dissertation titled "*B-cell-intrinsic MHCII Promotes Host-Microbiota Symbiosis*" on March 16, 2023. Congratulations to Dr. Roland, PhD, and the Kubinak lab.

Sierra McDonald (Murphy lab) successfully defended her dissertation titled "Targeting macrophages in cancer models using natural compounds" on March 13, 2023. Congratulations Sierra! Sierra is now a post-doctoral fellow at UNC Lineberger Cancer Center at the University of North Carolina, Chapel Hill.

Youssef Mostakim, an undergraduate intern in the Bhere Lab was awarded the Best Student Oral Presentation in the "Anatomy and Cell and Molecular Biology" section at the SC Upstate Research Symposium for his presentation titled, "Combinatory Effects of microRNA modulation and Viral Oncolysis on Pancreatic ductal adenocarcinoma".

Sara Zepp, an undergraduate intern in the Bhere Lab received an honorable mention at the 2023 Discover USC Poster Session for her poster titled, "Exosome delivered mircoRNA therapies for Glioblastoma."

Monique Kanitz Ruschel, an undergraduate student at USC Honors College, received a Magellan Journey Research grant to participate in research in the Bhere Lab.

Congrats to Sierra McDonald (Murphy lab). Sierra is the SOM's 2023 Breakthrough Graduate Scholar. This is a highly competitive award that recognizes outstanding graduate student researchers across USC.

Hannah Gandy, a rising M2 student in the Oskeritzian Lab, received a 2023 Student Opportunities for Academic Achievement through Research (SOAR) program award of \$2,500 to study the regulatory roles of resveratrol in early-phase atopic dermatitis.

Shanieka Staley (Busbee lab) won the graduate student poster award in her session at the 2023 Discover Day USC held on April 23, 2023. Her poster was titled, "Role of gram-negative bacterial species *Bacteroides acidifaciens* (BA) in the promotion and/or progression of colitis".

Dr. Archana Saxena (Busbee lab) won 2nd place in the postdoctoral poster award in her session at the 2023 Discover Day USC held on April 23, 2023. Her poster was titled, "I3C Alleviate Ulcerative Colitis by Improving Intestinal Epithelial Barrier Function via AhR/IL-22 Pathway in Colonic Epithelial Cells".

Chandani Michell (Busbee lab) was the winner of the 2023 Newton Symposium held on March 10, 2023 at USC School of Medicine.

Tom Cardaci (Murphy lab) received the second-place award for his presentation on "Obesity Accelerated Tumorigenesis and Did Not Protect Against Murine Cancer Cachexia" at the American College of Sports Medicine–Southeast Chapter Annual Meeting, in Greenville, SC on February 23-25, 2023.

Dr. Catroppo was voted by the students of the Class of 2025 to deliver the "Pearls of Wisdom" address for the 2022-2023 Academic Year. Dr. Catroppo delivered an address entitled "Braving Uncertainty" accompanied by a PowerPoint presentation entitled "Uncertainty Is The Water We Swim In".

Dr. Robert Startz was voted by the students of the Class of 2025 to deliver the "Pearls of Wisdom" address for the 2022-2023 Academic Year.

Dr. Swapan Ray's undergraduate research student Amanda Manea, an Honors College Senior with Mathematics and Biological Sciences double major, has received the 2023 Dwight Camper Outstanding Undergraduate Research Award at the Annual Meeting of the South Carolina Academy of Science (SCAS) held at Medical University of South Carolina (MUSC), Charleston, SC on Saturday, March 25.

Tom Cardaci (Murphy lab) received the first-place graduate student award for his presentation titled "Obesity's Impact on Cancer-Induced Skeletal Muscle Wasting and Mitochondrial Dysfunction" at the Muscle Biology Conference, Advances in Skeletal Muscle Biology in Health and Disease in Gainesville, FL on March 15-17, 2023.

Dr. Swapan Ray is the faculty mentor for the undergraduate research student Ahalya Muraleedharan who has recently been awarded a grant on the project "Activation and Inhibition of Inflammasome in Spinal Cord Injury in vitro" by the South Carolina Honors College (SCHC) Research Program.

Dr. Swapan Ray's undergraduate research student Amanda Manea, an Honors College Senior with Mathematics and Biological Sciences double major, has secured the second place for her research poster presentation at the 2023 Annual Meeting of the Discover USC held at Columbia Metropolitan Convention Center (CMCC), 1101 Lincoln Street, Columbia, SC 29201 on Friday April 21.

Elizabeth Caulder, PMI Business Manager, was a nominee of the Inaugural USC Staff Senate, Outstanding Staff Award 2023.



News & Updates

Drs. Mitzi and Prakash Nagarkatti were featured in The Conversation titled, “People produce endocannabinoids – similar to compounds found in marijuana – that are critical to many bodily functions”, February 22, 2023. <https://theconversation.com/people-produce-endocannabinoids-similar-to-compounds-found-in-marijuana-that-are-critical-to-many-bodily-functions-198220> .

“Columbia police crackdown on hemp, delta-8 products” by The State, Morgan Hughes and Kailey Cota featured Dr. Prakash Nagarkatti February 14, 2023. https://edition.thestate.com/popovers/dynamic_article_popover.aspx?artguid=ed69bc2d-ad1e-405d-b769-cb451b6d708e&appcode=CSTATE&eguid=ea0ad70c-03be-4cb8-a5f4-395e4ddce5d9&pnum=4 .

The Conversation featured Drs. Mitzi and Prakash Nagarkatti in an article titled, “Cannabis-derived products like delta-8 THC and delta-10 THC have flooded the US market – two immunologists explain the medicinal benefits and potential risks”, April 28, 2023. <https://theconversation.com/cannabis-derived-products-like-delta-8-thc-and-delta-10-thc-have-flooded-the-us-market-two-immunologists-explain-the-medicinal-benefits-and-potential-risks-204171>.

Dr. Prakash Nagarkatti was a contributor in an article by Dylan Bailey, MS, RD, FAND, of Forbes Health, “9 Anti-Inflammatory Supplements Backed by Science”, April 2023. <https://www.forbes.com/health/body/anti-inflammatory-supplements/>

Collins & Lacy retail and hospitality attorney, Evan Gessner, welcomed University of South Carolina researcher, former Vice President of Research for the University, and current Senior Research Advisor to the University President, Dr. Prakash Nagarkatti, to discuss the chemical makeup of this synthetic and the continued research his team is performing to better understand its medical uses. The podcast, The Legal Bench aired “Delta 8 THC in Consumer Products” January 5, 2023. <https://www.buzzsprout.com/1436542/11988721#>

Dr. Mitzi Nagarkatti was invited to review the Dept. of Microbiology and Physiological Systems at UMass Chan Medical School February 7-10, 2023.

After a long awaited 3 years of pandemic, the Annual 2023 NIH COBRE for Dietary Supplements and Inflammation - Phase 2 External Advisory Committee Meeting was held in-person March 2, 2023, at the Columbia Metropolitan Convention Center. The attending COBRE EAC committee members were Theresa Whiteside, Cliff Lowell, Roger Markwald and Sandeep Prabhu. Presentations were given from the following PMI faculty; Prakash Nagarkatti, Brandon Busbee, Jason Kubinak, Kandy Velázquez, Carole Oskeritjian, Xiaoming Yang, Kiesha Wilson, & Narendra Singh.

Congratulations to the following COBRE EAC PMI award winners:

PDF Awards:

- Dr. Varsha Kulangara, Dr. Nagarkatti's lab, 2nd place poster award winner. Varsha was also the recipient of a \$75.00 award.
- Dr. Ahmed Aladhami, Dr. Nagarkatti's lab, 3rd place poster award winner. Ahmed was also the recipient of a \$50.00 award.
- Dr. Ahmed Mohammed, Dr. Kubinak's lab, 3rd place poster award winner. Ahmed was also the recipient of a \$50.00 award.

Graduate Student Awards:

- Patrice Cunningham, graduate student from Dr. Kandy Velazquez's lab, 2nd place graduate student poster award winner. Patrice was the recipient of a \$75.00 award.
- Sierra McDonald, graduate student from Dr. Angela Murphy's lab, 2nd place graduate student poster award winner. Sierra was the recipient of a \$75.00 award.
- Hamida Hamida, graduate student from Dr. Nagarkatti's lab, 3rd place graduate student poster award winner. Hamida was the recipient of a \$50.00.

The following PMI faculty served as judges for the NIH COBRE for Dietary Supplements and Inflammation - Phase 2 External Advisory Committee Meeting:

- Alexa Gandy, PhD
- Angela Murphy, PhD
- Deepak Bhere, PhD
- Ioulia Chatzistamou, MD, PhD
- Reilly Enos, PhD
- Swapan Ray, PhD

The entire PMI Department held our 1st Annual Networking and Collaboration Training Day, March 27, 2023, at Stone River. It was a very successful and enjoyable event with presentations from PMI research faculty with scientific highlights, medical education round tables for faculty, student breakout sessions for networking and educational games and events. The food was delicious, and we all enjoyed our day together learning. The PDFs and students had a friendly Research Bingo competition. The winners were 1st place, Taylor Carter, PhD (Nagarkatti lab), 2nd place Jeffrey Garcia-Sanchez (Nagarkatti lab), 3rd place Taylor Jannusch (Nagarkatti lab).



A warm welcome to Urmi Halder, PhD. Urmi joined the Nagarkatti lab as a Post Doctoral Researcher in February 2023. She completed her PhD degree from The University of Burdwan, India in October 2022.

We welcome Amarnath Marudamuthu, PhD, to PMI as a Post Doctoral Fellow. Amar joins us from the University of Mississippi Medical Center, Jackson, MS, where he was a Research Scholar. He also held a position as an Assistant Professor at the Ramaiah College of Arts, Science, and Commerce, Bengaluru, India. Amar's research interests include lung fibrosis, ARDS, and COPD. Amar will be working in the Nagarkatti lab.

Dr. Carole Oskeritzian participated at the USC SOMC Strategic Planning Retreat held at the USC Pastides Alumni Center on April 14.

Angela Murphy served as a reviewer for NIH/NCI Transition to Independence awards on February 15-16, 2023.

Byan Holloman, PhD, (Nagarkatti lab) was featured in an article, "What Do Three PhD Students from Three USC SmartState Labs have in Common? A Course Called SMTI".

Dr. Carole Oskeritzian co-chaired the 2023 South Carolina Governor's Awards of Excellence in Scientific Research Selection Committee meeting held at the State House on April 7.

Dr. Carole Oskeritzian served as a grant reviewer for the NIH/NIAID/NEI/NIEHS Chemical Countermeasures Research Program (CCRP) Initiative: Chemical Threat Agent-induced Pulmonary and Ocular Pathophysiological Mechanisms (R01 Clinical Trial Not Allowed) - Special Emphasis Panel, ZES1 LWJ-D CA 2 virtual study section on February 23-24.

The USC SOMC Women in Science and Medicine (WiSaM) committee chaired by Dr. Carole Oskeritzian hosted a lunch-and-learn conversation with Dr. Shirley Tilghman, first women President and President Emerita of Princeton University on March 21 in the M2 classroom. The event was attended by over 40 SOMC and Prisma Health students, staff, and faculty members.

The WiSaM committee chaired by Dr. Carole Oskeritzian hosted a student-led lunch-and-learn professional development conversation with Drs. Camilla Wenceslau and Cameron McCarthy on April 11 in the B67 classroom. The discussion about mentors and mentees was attended by over 20 USC students, staff, and faculty members.

Dr. Carole Oskeritzian served as a judge for oral presentations in the Environmental Science session at the 2023 South Carolina Junior Academy of Science Annual Meeting held on March 25 at the Medical University of South Carolina.

Dr. Carole Oskeritzian served as a judge for Graduate Students poster presentation at the 2023 Discover USC Research Day, held on April 21.

Kasie Roark (Busbee lab) successfully defended her Masters thesis in Applied Biotechnology on March 21, 2023. She has been accepted into the Integrated Biomedical Sciences Ph.D. program for the Fall 2023 semester.

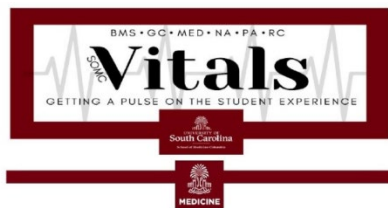
Dr. Swapan Ray serves as Academic Editor for the following peer-reviewed journals: *Cells*, *Brain Sciences*, *Journal of Food Biochemistry*, and *Scientific World Journal*.

Dr. Catroppo attended and participated in the following educational webinars, seminars, and roundtable discussions:

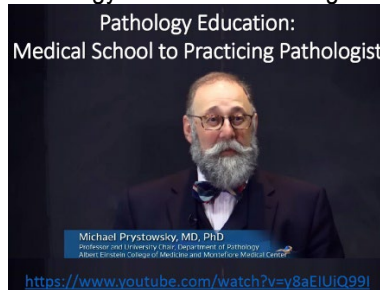
- International Association of Medical Science Educators (IAMSE) roundtable discussion on "Imposter Syndrome"
- National Board of Medical Examiners (NBME) Virtual Town Hall "Collaborating for Change: Addressing Challenges with New Solutions", discussion for faculty, deans and administrators focusing on enhancements and new solutions related to medical school products and services
- USCSOMC/USCSOMG Medical Education Seminar "Start with the End in Mind: Backwards Design for Optimizing Active Learning" (Dr. Alana Newell, Assistant Professor, Department of Education, Innovation and Technology and Assistant Director, Center for Educational Outreach, Baylor College of Medicine, and Dr. Alison Haddock, Assistant Professor, Department of Emergency Medicine and Department of Education, Innovation and Technology, Baylor College of Medicine)

- International Association of Medical Science Educators (IAMSE) webcast series audio seminar (WAS) “Academic Readiness for the Pre-clerkship Curriculum: A Closer Look at the Metrics in Pathway Students”
- AMBOSS Medical Knowledge Platform webinar for faculty
- Association of Biochemistry Educators (ABE) Webinar “Using Competency-Based Assessments to Coach Professional Development in Early Medical Students”
- USCSOMC/USCSOMG Medical Education Seminar “Improving on the TBL Formula to Increase Student Attendance and Engagement” (Dr. Chris Burns, Professor, Basic Medical Science, Director of Microbiology Curriculum, University of Arizona College of Medicine)
- University of South Carolina Center for Teaching Excellence (CTE) webinar “Overcoming Apathy & Maintaining Student Motivation”
- Association of American Medical Colleges (AAMC) webinar “Fostering an Inclusive Environment: Increasing Course Accessibility (Building Better Curriculum)”
- University of South Carolina Center for Teaching Excellence (CTE) workshop “Best Practices for Grading Objectively and Efficiently”
- University of South Carolina Center for Teaching Excellence (CTE) workshop webinar “Creating and Managing Videos with Panopto”

The Medical Student Interest Group for Pathology offered the following lunch meetings:



MEETING NOTICES
 “The Doctor’s Doctor”: What Do Pathologists Do?
 Monday, January 30th, 12:00PM – SOMC, Building 2, M2 Classroom
 Curious about Pathology? Join the Pathology Interest Group on Monday, January 30th at noon in the M2 room for Dr. Catropp’s talk, “The Doctor’s Doctor”: What do Pathologists Do? We would love to have you! For more information contact Scott Corey at scott.corey@usouthmed.sc.edu.



At these events student attendees received Chick-fil-A gift cards and promotional items from the American Society for Clinical Pathology (ASCP).

Dr. Swapan Ray served on the Annual SOM T&P Subcommittee that reviews the AFEPDs.

Dr. Swapan Ray acted as a judge for evaluating the undergraduate student research posters at the 2023 Annual Meeting of the South Carolina Academy of Science (SCAS) held at Medical University of South Carolina (MUSC), Charleston, SC on Saturday, March 25.

Dr. Swapan Ray acted as a judge for evaluating the Medical Scholars research posters in the 2023 Annual Meeting of the Discover USC held at Columbia Metropolitan Convention Center (CMCC), 1101 Lincoln Street, Columbia, SC 29201 on Friday April 21.

A warm welcome to Ryan Ball, B.S., M.S.. Ryan joined the Kubinak lab as a Ph.D. student in May 2023. He completed his Master’s degree in Biotechnology at the UofSC School of Medicine in April 2023 and then joined PMI.

Publications

Holloman BL, Cannon A, Wilson K, Nagarkatti P, Nagarkatti M. Aryl Hydrocarbon Receptor Activation Ameliorates Acute Respiratory Distress Syndrome through Regulation of Th17 and Th22 Cells in the Lungs. *mBio*. 2023 Apr 25;14(2):e0313722.

Alghetaa H, Mohammed A, Singh N, Wilson K, Cai G, Putluri N, Nagarkatti M, Nagarkatti P. Resveratrol attenuates staphylococcal enterotoxin B-activated immune cell metabolism via upregulation of miR-100 and suppression of mTOR signaling pathway. *Front Pharmacol*. 2023 Feb 24;14:1106733.

Xue D, Shang Z, Older EA, Zhong Z, Pulliam C, Peter K, Nagarkatti M, Nagarkatti P, Li YX, Li J. Refactoring and Heterologous Expression of Class III Lanthipeptide Biosynthetic Gene Clusters Lead to the Discovery of *N,N*-Dimethylated Lantibiotics from Firmicutes. *ACS Chem Biol*. 2023 Mar 17;18(3):508-517.

Carlucci CD, Hui Y, Chumanevich AP, Robida PA, Fuseler JW, Sajish M, Nagarkatti P, Nagarkatti M, Oskeritzian CA. Resveratrol Protects against Skin Inflammation through Inhibition of Mast Cell, Sphingosine Kinase-1, Stat3 and NF- κ B p65 Signaling Activation in Mice. *Int J Mol Sci*. 2023 Apr 4;24(7):6707.

Kuruppu D, Bhere D, Farrar CT, Shah K, Brownell AL, Mahmood U, Tanabe KK. Oncolytic HSV1 targets different growth phases of breast cancer leptomeningeal metastases. *Cancer Gene Ther*. 2023. In Press.

Miralda I, Samanas NB, Seo AJ, Foronda JS, Sachen J, Hui Y, Morrison SD, Oskeritzian CA, Piliponsky AM. Siglec-9 is an inhibitory receptor on human mast cells in vitro. *J Allergy Clin Immunol*. 2023;S0091-6749(23)00511-0.

Al-Sammarraie N, Mahmood M, Ray SK. Neuroprotective role of Noggin in spinal cord injury. *Neural Regen Res*. 2023 8:492-496.

Turner-McGrievy GM, Wilcox S, Frongillo EA, Murphy EA, Hutto B, Wilson M, Davey M, Bernhart J, Okpara N, Bailey S, Hu E. Effect of a plant-based versus omnivorous soul food diet on weight and lipid levels among African American adults: the NEW Soul randomized clinical trial. *JAMA Open*. 2023 Jan 3;6(1):e2250626.

Gregory K, Zhao L, Felder TM, Clay-Gilmour, Eberth JM, Murphy EA, Steck SE. Prevalence of Health Behaviors Among Cancer Survivors in the United States. *Journal of Cancer Survivorship*. 2023 Mar 18;1-9. doi: 10.1007/s11764-023-01347-8.

Manea A, Ray SK. Advanced bioinformatics analysis and genetic technologies for targeting autophagy in glioblastoma multiforme. *Cells*. 2023 Mar 15;12(6):897.

Patton EA, Cunningham P, Noneman MT, Helms HP, Martinez-Muniz G, Sumal AS, Dhameja MK, Unger CA, Aladhani A, Enos RT, Chatzistamou I, Velázquez KT. Acute Administration of Ojeok-san Ameliorates Pain-like Behaviors in Pre-Clinical Models of Inflammatory Bowel Diseases. *Nutrients*. 2023 Mar 23;15(7):1559.

Mohammed AD, Ball RAW, Kubinak JL. The interplay between bile acids and mucosal adaptive immunity. *PLoS Pathog*. 2023 Jun 22;19(6):e1011356.

Presentations

McDonald SJ, Bullard BM, VanderVeen BN, Cardaci TD, Madero SS, Chatzistamou I, Hofseth LJ, Murphy EA. Panaxynol Reduces Murine Colitis Associated Colorectal Cancer by Targeting Macrophages. University of South Carolina, Research Core Fair. Columbia, SC. January 5, 2023.

Cardaci TD, VanderVeen BN, McDonald SJ, Bullard BM, Unger CA, Price RL, Enos RT, Velazquez KT, Murphy EA. Obesity's Impact on Cancer-Induced Skeletal Muscle Wasting and Mitochondrial Dysfunction. University of South Carolina, Research Core Fair. Columbia, SC. January 5, 2023.

Wilson K, Nagarkatti PS, Nagarkatti M. Role of Macrophages in SEB-Induced ARDS. Faculty Candidate Seminar. Department of Genetics. University of North Carolina Chapel Hill School of Medicine, Chapel Hill, NC, January 25, 2023.

Cardaci TD, VanderVeen BN, McDonald SJ, Bullard BM, Madero SS, Velazquez KT, Murphy EA. Obesity Accelerated Tumorigenesis and Did Not Protect Against Murine Cancer Cachexia. American College of Sports Medicine–Southeast Chapter, Greenville, SC. February 23-25, 2023. **2nd place Graduate Student Award Winner**

Kulangara VK, Yang X, Zhong Y, Nagarkatti M, Nagarkatti PS. miRNAs Modulate Phagocytosis and IL-12 production in Macrophage Activation. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023. **2nd place Postdoctoral Fellow Award Winner.**

Aladhami, A.K., Carter, T.H., Wilson, K.S., Nagarkatti, P.S., and Nagarkatti, M. The attenuation effect of TCDD on acute respiratory distress syndrome is associated with epigenetic regulation of Aryl hydrocarbon activation of pulmonary mononuclear cells. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023. **3rd place Postdoctoral Fellow Award Winner (tie).**

Kakar K, Ali H, Zhong Y, Carter T, Nagarkatti PS, Nagarkatti M. Delta-8-tetrahydrocannabinol attenuates Experimental Multiple Sclerosis through modulation of ileal microbiota. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Mohammed AD, Ball R, Hall N, Nagarkatti M, Nagarkatti PS, Kubinak J.L. Tauroursodeoxycholic acid suppresses immune gut immune responses and ameliorate small intestine enteropathy in Antibody deficiency mouse model. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023. **3rd place Postdoctoral Fellow Award Winner (tie).**

Mitchell C, Saxena A, Hailey M, Roark K, Bogdon R, Staley S, Nagarkatti P, Nagarkatti M, Busbee PB. Sex Differences Observed and the Investigation of the Aryl Hydrocarbon Receptor's Role in Colitis Induced AhR Deficient Mice. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Hamida A, Kakar K, Nagarkatti PS, Nagarkatti M. Effect of delta-8-tetrahydrocannabinol (Δ^8 -THC) in modulating immune response and gut microbial dysbiosis in concanavalin-induced acute liver injury. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Kakar K, Hamida A, Nagarkatti M, Nagarkatti PS. Delta-8-tetrahydrocannabinol attenuates Experimental Multiple Sclerosis through modulation of ileal microbiota. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Staley S, Nagarkatti M, Nagarkatti PS, Busbee PB. Role of gram-negative bacterial species *Bacteroides acidifaciens* (BA) in the promotion and/or progression of colitis. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Carter TH, Nagarkatti M, Nagarkatti PS. Δ^9 -THC modulates the immune response by suppressing the myeloid cell proliferation and differentiation through the regulation of miRNA. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Karthik Gourishetti, Anoushka Das, Ashlee McGalliard, Sara Zepp, Karthik Rangavajhula, Youssef Mostakim, Deepak Bhare. Poster: Exosome delivered microRNA therapeutics for Glioblastoma. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Isaiah Davis, Karthik Gourishetti, Youssef Mostakim, Karthik Rangavajhula, Hannah Taylor Mills, and Deepak Bhare. Poster: Combinatory Effects of microRNA modulation and Viral Oncolysis on Pancreatic ductal adenocarcinoma. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Manea A, Al-Sammaraie N, Ray SK. Synergistic combination of the inhibitors of autophagy and telomerase activity induced apoptosis in human glioblastoma cell lines. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Oskeritzian CA. Regulatory roles of resveratrol in skin inflammation. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Wilson K, Nagarkatti PS, Nagarkatti M. Role of Macrophages in CBD Mediated Attenuation of SEB-Induced ARDS. K99/R00 Talk. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

McDonald SJ, Bullard BM, VanderVeen BN, Cardaci TD, Chatzistamou I, Hofseth LJ, Murphy EA. Mechanistic insight into the ability of panaxynol to protect against colorectal cancer. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023. **2nd place Graduate Student Award Winner**

VanderVeen BN, Cardaci TD, Cunningham P, McDonald SJ, Bullard BM, Fan D, Murphy EA, Velazquez KT. Quercetin Improved Muscle Mass and Mitochondrial Content in a Murine Model of Cancer and Chemotherapy-Induced Cachexia. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Bullard BM, McDonald SJ, VanderVeen BN, Cardaci TD, Madero SS, Hofseth LJ, Murphy EA. Panaxynol alleviates disease symptoms in an acute DSS-induced murine model of Ulcerative colitis. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

Cardaci TD, VanderVeen BN, McDonald SJ, Bullard BM, Unger CA, Price RL, Enos RT, Velazquez KT, Fan D, Frizzell N, Spangenburg EE, Murphy EA. Obesity Accelerated Tumorigenesis and Did Not Protect Against Murine Cancer Cachexia. NIH Center for Dietary Supplements and Inflammation~ Phase 2 COBRE Annual External Advisory Committee Meeting, Thursday, March 2, 2023.

VanderVeen BN, Cardaci TD, McDonald SJ, Bullard BM, Murphy EA. Chemotherapy impairs immune cell infiltration in skeletal muscle remodeling. Muscle Biology Conference, Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, FL. March 15-17, 2023.

Cardaci TD, VanderVeen BN, McDonald SJ, Bullard BM, Unger CA, Price RL, Enos RT, Velazquez KT, Murphy EA. Obesity's Impact on Cancer-Induced Skeletal Muscle Wasting and Mitochondrial Dysfunction. Muscle Biology Conference, Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, FL. March 15-17, 2023. **1st place Graduate Student Award Winner**

Kulangara VK, Yang X, Zhong Y, Nagarkatti M, Nagarkatti PS. miRNAs Modulate Phagocytosis and IL-12 production in Macrophage Activation Syndrome. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Singh NS, Yang X, Nagarkatti PS, Nagarkatti M. Diethylstilbestrol induces multigenerational alterations in the expression of microRNA in the thymus indicative of long-term effects on immune functions and disease susceptibility. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Aladhami AK, Carter TH, Wilson KS, Nagarkatti PS, Nagarkatti M. The attenuation effect of TCDD on acute respiratory distress syndrome is associated with epigenetic regulation of Aryl hydrocarbon activation of pulmonary mononuclear cells. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Palrasu M, Kakar K, Kulangara V, Aladhami A, Carter T, Wilson K, Yang X, Busbee PB, Singh NP, Nagarkatti PS, Nagarkatti M. Indole-3-carbinol prevents colitis through induction of antimicrobial peptides and mucins in an AhR-dependent manner. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Kakar K, Ali H, Zhong Y, Carter T, Nagarkatti PS, Nagarkatti M. Delta-8-tetrahydrocannabinol attenuates Experimental Multiple Sclerosis through modulation of ileal microbiota. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Carter TH, Nagarkatti M, Nagarkatti PS. Δ 9-THC modulates the immune response by suppressing the myeloid cell proliferation and differentiation through the regulation of miRNA. Society of Toxicology Annual Meeting, Nashville, TN, March 19-23, 2023.

Rangavajhula K, Bhere D. Exosome delivered microRNA therapeutics for Glioblastoma. Annual Conference of the South Carolina Academy of Sciences, Charleston, SC, March 25, 2023.

McGalliard A, Davis I, Gourishetti K, Mostakim Y, Rangavajhula K, Taylor Mills H, Bhere D. Combinatory Effects of microRNA modulation and Viral Oncolysis on Pancreatic ductal adenocarcinoma. Annual Conference of the South Carolina Academy of Sciences, Charleston, SC, March 25, 2023.

Al-Sammarraie N, Manea A, Ray SK. Prevention of apoptosis in cell culture model of spinal cord injury by promotion of autophagy using Noggin for inhibition of bone morphogenetic protein 4 (BMP4). Annual Conference of the South Carolina Academy of Sciences, Charleston, SC, March 25, 2023.

Manea A, Al-Sammarraie N, Ray SK. Synergistic induction of apoptosis utilizing inhibitors of autophagy and telomerase in human glioblastoma cell lines. Annual Conference of the South Carolina Academy of Sciences, Charleston, SC, March 25, 2023.

Muraleedharan A, Ray SK. Evaluation of bioflavonoids for inhibiting neuroinflammation and neurodegeneration in cell culture model of Alzheimer's disease. Annual Conference of the South Carolina Academy of Sciences, Charleston, SC, March 25, 2023.

Wilson K, Nagarkatti PS, Nagarkatti M. CBD Treatment Improves Fatal Inflammatory Response Exhibited in SEB-Induced ARDS. Spotlight Talk. Discover BMB 2023. American Society for Biochemistry and Molecular Biology (ASBMB), Seattle, WA, March 25 - 28, 2023.

Oskeritzian CA. The many hues of mast cells in inflammation and tissue transformation. The PMI Networking and Collaboration Training Day, Columbia, SC, March 27.

Ray S. Understanding pathology for finding therapeutic targets. The PMI Networking and Collaboration Training Day, Columbia, SC, March 27.

Youssef Mostakim and Deepak Bhare, Oral Presentation: Combinatory Effects of microRNA modulation and Viral Oncolysis on Pancreatic ductal adenocarcinoma. SC Upstate Research Symposium, Spartanburg, SC, March 31, 2023.

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