

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 2022

P Honors & Awards

M Dr. Prakash Nagarkatti was honored with the Society of Toxicology (SOT) Distinguished Toxicology Scholar Award at the 61st Annual SOT Meeting, March 27-31, 2022. He presented "Unraveling the Mystery of AhR: From Suppressor T Cells to Epigenome and Microbiome".

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Dr. Kiesha Wilson, Nagarkatti lab, was the recipient of NIH MOSAIC K99-R00 grant award. Project Title: "Role of macrophages in CBD mediated attenuation of SEB-induced ARDS". The grant is a K99/R00 funded through the NIH Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) program. The institution is the National Institute of General Medical Sciences (NIGMS).

Alkeiver Cannon, Nagarkatti lab was the Graduate Student Award winner in the Biomedical Sciences section (BMSC) at UofSC Discover Day, April 22, 2022.

Dr. Kiesha Wilson, Nagarkatti lab, was the Postdoctoral Scholar Award winner (poster session B) in the BMSC section at UofSC Discover Day, April 22, 2022.

Dr. Taylor Carter, Nagarkatti lab, was the Postdoctoral Scholar Award winner (poster session C) in the BMSC section at UofSC Discover Day, April 22, 2022.

Khadija Kakar, one of the Fulbright students from the Nagarkatti lab has been selected from UofSC to attend a ceremony and reception in Washington, DC for Bono, U2 lead singer and co-founder of ONE and (RED) who is going to be awarded the Fulbright Prize for International Understanding on March 31, 2022. Khadija hails from Pakistan and has been doing charitable work using her personal funds for >8years to fight against poverty affecting literacy and plans to build an organization towards this goal.

Dr. Angela Murphy received an ASPIRE I grant from the UofSC Office of the Vice President for Research (VPR) in the amount of \$15,000 for research on 'Challenging the current chemotherapy treatment paradigm for obese individuals'.

Sierra McDonald (Murphy lab) received an honorable mention for her presentation on 'Surgical wounding accelerates tumor growth and metastasis in a murine breast cancer model' at the 37th Annual W. Morgan Newton Research Symposium.

Mitchell NeSmith (Murphy lab) received an honorable mention for his presentation on 'The effects of emodin on chemotherapy-induced skeletal muscle atrophy' at UofSC Discover Day, April 22, 2022.

Elizabeth Caulder, PMI Business Manager, was nominated and received the 2022 Exceptional Research Service Award from the UofSC VPR office.

Yvonne Hui received a 2022 Exceptional Research Service Award, a new peer-nomination-based awards program honoring outstanding research support staff members across the UofSC System. Yvonne was presented her award by the UofSC VPR, Dr. Julius Fridriksson during a ceremony followed by a dinner reception held on April 5.

Dr. Carole Oskeritzian received the Outstanding Oral Presentation Award at the 2022 World Congress in Cancer Research and Therapy, held in a hybrid format in Paris, France on April 25-26.

Nour Shams (Dr. Velázquez Lab) received the Senior Thesis Award for his work on the efficacy of CBG as an analgesic in a mouse model of neuropathic pain.

Yvone Shametaj (Dr. Velázquez Lab) was granted the Senior Thesis Award for her work on the involvement of TFG alpha receptors on tumor burden in a mouse model of colorectal cancer.

Dr. Velázquez research proposal entitled, 'Skeletal muscle macrophage manipulation in a model of cancer cachexia' was selected for funding by the Veterans Affairs Health Care System.

Dr. Swapan Ray's undergraduate research student, Amanda Manea, who is an Honors College junior with Mathematics and Biological Sciences double-major, has been named the 2022 Barry M. Goldwater Scholar of UofSC. This scholarship, the most prestigious award in the country for natural science, engineering, and mathematics undergraduates, is awarded in recognition of their exceptional work and commitment to research careers.

Dr. Swapan Ray's Postdoctoral Fellow, Dr. Nadia Al-Sammarraie, has been honored as the recipient of the 2022 New Investigator Award in the James E. Clyburn Health Disparities Poster Session at the Columbia Metropolitan Convention Center on April 14, 2022.

Dr. Archana Saxena (mentor: Dr. Philip Brandon Busbee) received a 2022 UofSC ASPIRE award for her project titled "Role of AhR in colonic epithelial cell (CEC)-mediated regulation of the IL-22 receptor expression during colitis". Congratulations, Dr. Saxena!

Chandani Mitchell, a Ph.D. graduate student in Dr. Philip Brandon Busbee's lab, received a 2022 UofSC SPARC award for her project titled 'Role of AhR in IL-22 secretion by Rorc-expressing cells during indole-3-carbinol treatment of colitis'. Congratulations, Chandani!

Dr. James F. Catroppo was nominated for Teacher of the Year and Pearls of Wisdom speaker by the Students of the UofSC School of Medicine M2 Class of 2024, April 6, 2022.

Dr. James F. Catroppo was awarded the honor of delivering the Pearls of Wisdom address by the Students of the UofSC School of Medicine M2 Class of 2024, April 20, 2022.

Dr. Alexa Gandy was named the Teacher of the Year by the M2 - Class of 2024, April 20, 2022.

Dr. Carole McMahon was awarded the AMWA Kay McFarland Women's Health Award, April 20, 2022.

News & Updates

Dr. Prakash Nagarkatti gave testimony at the SC State Legislature on April 4, 2022, on legalizing marijuana for medical use. <https://scstatehouse.gov/video/schedule.php>

Dr. Prakash Nagarkatti and Dr. Mitzi Nagarkatti wrote an article for The Conversation titled, 'Is the omicron variant Mother Nature's way of vaccinating the masses and curbing the pandemic?' published on January 27, 2022. <https://theconversation.com/is-the-omicron-variant-mother-natures-way-of-vaccinating-the-masses-and-curbing-the-pandemic-175496>

Dr. Prakash Nagarkatti and Dr. Mitzi Nagarkatti authored an article for The Conversation titled, 'Will BA.2, an omicron subvariant, cause another wave of U.S. infections?' published on March 22, 2022 <https://www.pbs.org/newshour/health/will-ba-2-an-omicron-subvariant-cause-another-wave-of-u-s-infections>

Dr. Prakash Nagarkatti & Dr. Mitzi Nagarkatti wrote an article for The Conversation titled, 'Why we can't 'boost' our way out of the COVID-19 pandemic for the long term?' published on April 19, 2022. <https://theconversation.com/why-we-cant-boost-our-way-out-of-the-covid-19-pandemic-for-the-long-term-181027>

Dr. Mitzi Nagarkatti served on the panel reviewing grants for NIH/NIEHS "CCRP (Chemical Countermeasures Research Program) Initiative: Chemical Threat Agent-induced Pulmonary and Ocular Pathophysiological Mechanisms" on March 15, 2022.

Dr. Angela Murphy gave an invited presentation on 'Obesity's Impact on Colorectal Cancer and Response to Therapy' at the University of Alabama NIDDK-funded Nutrition and Obesity Research Center on January 18, 2022.

Dr. Angela Murphy served as a reviewer for ZCA1 SRB-A (M1) SEP-2 for NCI R03 and R21 grants focused on cancer immunology and immunotherapy on February 3-4, 2022.

Dr. Angela Murphy served as a reviewer for NIH/NCI Transition to Independence awards on February 16-17, 2022.

Dr. Angela Murphy served as a reviewer for NIH/NIDDK Nutrition and Obesity Research Centers on March 14, 2022.

Dr. Angela Murphy gave a presentation in the College of Nursing at UofSC on 'Influence of Diet on Inflammatory Processes in Cancer' on April 6, 2022.

Elizabeth Caulder, PMI Business Manager, was invited to serve as a member of a new rapid response team tasked with the review and improvement of the Research Grant hiring process.

With Women in Science and Medicine (WISaM) Co-Chair Kinsey Meggett and committee members, and in partnership with the Culture and Climate Committee, Dr. Oskeritzian organized and facilitated the inaugural 2022 Spring Forum for Advocacy, a lunch-and-learn event held on April 21 attended by over 40 UofSC SOMC Students, Staff and Faculty members.

Dr. Carole Oskeritzian served as a grant reviewer for the Swiss National Science Foundation, Division of Biology and Medicine, Bern Switzerland, on January 10, 2022.

Dr. Carole Oskeritzian was invited to serve on the Editorial Board of *Frontiers in Immunology* as a Review Editor, Autoimmune and Autoinflammatory Disorders.

Dr. Carole Oskeritzian was an invited Speaker and Session Chair at the 2022 World Congress in Cancer Research and Therapy, held in a hybrid format in Paris, France on April 25-26, 2022.

Dr. Carole Oskeritzian served as a judge for oral presentations in the Environmental Sciences and Behavioral Sciences (Psychology and Sociology) sessions at the 2022 South Carolina Junior Academy of Science Annual Meeting held on April 2, 2022, at the UofSC Aiken.

Dr. Carole Oskeritzian served as a judge for Graduate Students poster presentation at the 2022 Discover UofSC Research Day, held on April 22.

Dr. Carole Oskeritzian was invited to join a discussion panel at the joint EMBRN International Mast Cell and Basophil Meeting and International Eosinophil Society Meeting held virtually on January 26, 2022.

Dr. Carole Oskeritzian was invited to serve as a UofSC SOM representative on the selection committee for the Townsend Lecture Series entitled the 'Impact of Biology on Society'. Established over 20 years ago, this lectureship is overseen by the Dean's Office of the College of Arts & Sciences.

Emma Patton (Dr. Velázquez lab) accepted a job offer working in the forensic lab at the State Law Enforcement Division of South Carolina.

Patrice Cunningham officially joined the Velázquez Lab as a Ph.D. student.

Nour Shams (Dr. Velázquez lab) graduated from UofSC with a concentration in Biochemistry and Molecular Biology.

Yvone Shametaj (Dr. Velázquez lab) graduated from UofSC and is starting the MD program at SOMC.

Matthew Noneman (Dr. Velázquez lab) graduated from UofSC with a concentration in Biochemistry and Molecular Biology.

Dr. Velázquez was invited to review R15 grants on the Special Emphasis Panel/Scientific Review Group of Infectious Diseases and Immunology.

Dr. Velázquez reviewed a manuscript for the *Journal of Cachexia, Sarcopenia, and Muscle*.

Dr. Swapan Ray served as a Judge for the poster presentations at the 94th Annual Meeting of the South Carolina Academy of Science at UofSC Aiken. April 2, 2022.

Dr. Swapan Ray participated as a reviewer for the graduate student poster presentations at the annual Discover Day, UofSC, April 22, 2022.

Dr. Swapan Ray was a grant reviewer for the ORAU (Oak Ridge Associated Universities) Ralph E. Powe Junior Faculty Enhancement Awards Program, 2022.

Dr. Swapan Ray was the Academic Editor for the peer-reviewed paper recently published in *Brain Sciences*, 'Is Interstitial Chemotherapy with Carmustine (BCNU) Wafers Effective against Local Recurrence of Glioblastoma? A Pharmacokinetic Study by Measurement of BCNU in the Tumor Resection Cavity.' *Brain Sci.* 2022, 12, 567. <https://doi.org/10.3390/brainsci12050567>

Dr. Philip Brandon Busbee served on the NIH review panel NIH Digestive Sciences Small Business Activities Special Emphasis Panel (ZRG1 DKUS B) on March 17, 2022. He was asked to continue to work for this review panel for the July 21-22, 2022 meeting.

Dr. Philip Brandon Busbee, as a past recipient of the 2021 ASPIRE Track I award, served on the UofSC ASPIRE II Review Panel on April 19, 2022.

Dr. Philip Brandon Busbee served as a reviewer for the SC INBRE Furman Fellowship grants on February 4, 2022.

Karthik Gourishetti, Ph.D. joined Dr. Bhere's lab as a postdoctoral fellow in January 2022. He joins us from University of Indiana where he worked as a research fellow.

Dr. James F. Catroppo attended the following webinars and workshops:

- University of South Carolina Center for Teaching Excellence (CTE) workshop "Leading Good Classroom Discussions" (15 April 2022)
- American Association of Medical Colleges (AAMC)/Fundamental Role of Arts and Humanities in Medical Education (FRAHME) "Art of Diagnosis" Virtual Forum (6 April 2022)
- International Association of Medical Science Educators (IAMSE) Webcast Audio Seminar (WAS) "Strategies for Incorporating Self-Directed Learning into Basic Sciences Education" 31 March 2022)
- International Association of Medical Science Educators (IAMSE) Webcast Audio Seminar (WAS) "Towards Integrated Medical Education: Getting the Best Out of Interdisciplinary Teacher Teams and Leaders" (24 March 2022)
- University of South Carolina Center for Teaching Excellence (CTE) workshop "Empowering Communication" (22 February 2022)
- University of South Carolina Libraries webinar "Copyright in the Classroom" (1 February 2022)
- Bellevue Literary Review (BLR)/Harvard Business School (HBS) Club of New York virtual panel discussion "The Healing Power of Art - How Creativity and Beauty Help Cure the Ill" (26 January 2022)
- University of South Carolina Center for Teaching Excellence (CTE) workshop "Developing Quality Formative Assessments" (24 January 2022)
- International Association of Medical Student Educators (IAMSE) webinar "Integrating Basic Science in the Clerkships: Innovative Strategies and Persistent Challenges" (20 January 2022)
- International Association of Medical Student Educators (IAMSE) webinar "Practical Tips for Connecting With Students" (18 January 2022)
- University of South Carolina Center for Teaching Excellence (CTE) workshop "Closing the Assessment Loop: How to Leverage Assessment Results to Improve your Academic Program" (13 January 2022)

The Medical Student Interest Group (MSIG) for Pathology, with faculty advisor Dr. Catroppo and M2 Class Officers, Ms. Maelee Williamson and Ms. Megan Martin, offered the following noon lunch talks (with Starbucks and Chick-Fil-A gift cards, as well as Medical Laboratory Professionals Week promotional pens distributed to all attendees):

10 February 2022 Dr. Jerad Gardner of the Geisinger Medical Center on "A Day in the Life of a Pathologist" and "How Facebook (and a Rare Cancer) Changed my Life".

29 March 2022 Dr. Michael Prystowsky, Chair of the Association of Pathology Chairs' Undergraduate Medical Education Committee and Professor and Chair, Department of Pathology at the Albert Einstein College of Medicine, on "Medical School to Practicing Pathologist".

Publications

Xue D, Older EA, Zhong Z, Shang Z, Chen N, Dittenhauser N, Hou L, Cai P, Walla MD, Dong SH, Tang X, Chen H, Nagarkatti P, Nagarkatti M, Li YX, Li J. Correlational networking guides the discovery of unclustered lanthipeptide protease-encoding genes. *Nat Commun.* 2022 Mar 28;13(1):1647.

Mohammed AD, Mohammed Z, Roland MM, Chatzistamou I, Jolly A, Schoettmer LM, Arroyo M, Kakar K, Tian Y, Patterson A, Nagarkatti M, Nagarkatti P, Kubinak JL. Defective humoral immunity disrupts bile acid homeostasis which promotes inflammatory disease of the small bowel. *Nat Commun.* 2022 Jan 26;13(1):525.

Alharris E, Mohammed A, Alghetaa H, Zhou J, Nagarkatti M, Nagarkatti P. The Ability of Resveratrol to Attenuate Ovalbumin-Mediated Allergic Asthma Is Associated With Changes in Microbiota Involving the Gut-Lung Axis, Enhanced Barrier Function and Decreased Inflammation in the Lungs. *Front Immunol.* 2022 Feb 21;13:805770.

Yang X, Rutkovsky AC, Zhou J, Zhong Y, Reese J, Schnell T, Albrecht H, Owens WB, Nagarkatti PS, Nagarkatti M. Characterization of Altered Gene Expression and Histone Methylation in Peripheral Blood Mononuclear Cells Regulating Inflammation in COVID-19 Patients. *J Immunol.* 2022 Apr 15;208(8):1968-1977.

Sougiannis AT, VanderVeen BN, Chatzistamou I, Kubinak J, Nagarkatti M, Fan D, Murphy EA. Emodin reduces tumor burden by diminishing M2-like macrophages in colorectal cancer. *Am J Physiol Gastrointestinal Liver Physiol.* 2022 Mar 1;322(3):G383-G395. *Selected for a Press Release.

McDonald SJ, VanderVeen BN, Velazquez KT, Enos RT, Fairman CM, Cardaci TD, Fan D, Murphy EA. Therapeutic Potential of Emodin for Gastrointestinal Cancers. *Integrative Cancer Therapies.* Jan-Dec 2022;21:15347354211067469.

Chaki S, Alkanfari I, Roy S, Amponnawarat A, Hui Y, Oskeritzian CA, Ali H. Inhibition of Orai channel function regulates Mas-related G protein-coupled receptor-mediated responses in mast cells. *Front Immunol.* 2022;12:803335.

Visintin R, Ray SK. Specific microRNAs for modulation of autophagy in spinal cord injury. *Brain Sci.* 2022; 12:247.

Haque A, Das A, Samantaray S, Matzelle D, Capone M, Wallace G, Husarik AN, Taheri S, Reiter RJ, Varma A, Ray SK, Banik NL. Premarin reduces neurodegeneration and promotes improvement of function in an animal model of spinal cord injury. *Int J Mol Sci.* 2022; 23:2384.

Busbee PB, Bam M, Nagarkatti M, Nagarkatti PS. Dysregulated p53 in PTSD patients results in downregulation of miRNA let-7a that promotes an inflammatory Th17 phenotype. *Front Immunol.* 2022 Jan 4;12:815840.

Murphy EA, Velazquez KT. (2022) The Role of Diet and Physical Activity in Influencing the Microbiota/Microbiome. In *Diet, Inflammation, and Health*. Elsevier. Pages 693-745.

Presentations

Saxena A, Mitchell C, Staley S, Wilson K, Rutkovsky A, Wisniewski PJ, Dopkins N, Nagarkatti M, Nagarkatti P, Busbee PB. AhR expression of Vil1-expressing colonic epithelial cells is essential for I3C-mediated protection against colitis. Congress of Crohn's and Colitis (virtual). January 20-22, 2022.

Dr. Prakash Nagarkatti and Dr. Mitzi Nagarkatti hosted the 2022 Annual Meeting NIH Center for Dietary Supplements and Inflammation, COBRE Phase 2, Virtual External Advisory Committee Meeting Tuesday, March 8, 2022. The presenters from PMI were:

- Dr. Jason L. Kubinak, Target Faculty: Humoral Immunity Regulates Bile-Acid-Induced Immune Tolerance in the Small Intestine.
- Dr. Philip Brandon Busbee, Target Faculty: AhR expression on specific immune cells and colonic epithelial cells essential for I3C-mediated protection against colitis.
- Dr. Xiaoming Yang, Pilot Project: Role of lncRNA AW112010 in inflammation.

Also presenting at the COBRE meeting, Dr. Kiesha Wilson, NIH Mosaic K99-R00 grant awardee:

- Dr. Kiesha Wilson, K99 Project: Role of macrophages in CBD mediated attenuation of SEB-induced ARDS”.

McDonald SJ, VanderVeen BN, Bullard BM, Cardaci TD, Madero SS, Chatzistamou I, Fan D, Murphy EA. Surgical wounding accelerates tumor growth and metastasis in a murine breast cancer model. 37th Annual W. Morgan Newton Research Symposium. Columbia, SC. March 11, 2022.

Kakar K. Regulation of Neuroinflammation by Delta-8-Tetrahydrocannabinol in an Experimental Model of Multiple Sclerosis. Biomedical Graduate Student Seminar Series. March 21, 2022.

Kase BE, Liese AD, Zhang J, Murphy EA, Zhao L, Steck SE. The Development and Evaluation of a Literature-based Dietary Index for Gut Microbiota. UofSC Nutrition Symposium. Columbia, SC. March 31, 2022.

Rutkovsky C, Neamah W, Singh N, Weyer C, Hall A, Abdulla O, Nagarkatti P, Nagarkatti MS. Myeloid-Derived Suppressor Cells Induced by TCDD Demonstrate Involvement of Key Immunosuppressive Genes. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Hall-Johnson M, Rutkovsky AC, Wisniewski JP, Singh NP, Chatzistamou I, Weyer CE, Nagarkatti P, Nagarkatti M. Analysis of miRNA Expression in the Mouse Testes after Exposure to TCDD Reveals Suppression of Critical Spermatogenic and Reproductive Genes Responsible for Reproductive Success. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Holloman B, Nagarkatti M, Nagarkatti PS. Immune Cell Profiling of LPS-Induced Acute Lung Injury in Mice Treated with I3C Reveals Downregulation of CCR and CXCR Chemokine Receptors Associated with Trafficking of Myeloid Cell Populations. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Cannon A, Wilson K, Miranda K, Nagarkatti PS, Nagarkatti M. Effects of TCDD on Concanavalin A-mediated activation of immune cells: An evaluation of immune cell phenotypes and molecular signatures by scRNASeq. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Bose D, Saha P, Seth R, Nagarkatti M, Nagarkatti P, Chatterjee S. Prolonged Broad Spectrum Antibiotic Use Exacerbates Gut Dysbiosis and Gastrointestinal Inflammation in Symptom Persistence Gulf War Illness Murine Model. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Kakar K, Nagarkatti M, Nagarkatti P. Delta-8-tetrahydrocannabinol Attenuates Neuroinflammation in an Experimental Model of Multiple Sclerosis through Regulation of miRNA-Mediated Signaling Pathways. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Sultan M, Nagarkatti P, Nagarkatti M. The Protection Mediated by Endocannabinoid Anandamide Against Staphylococcus Enterotoxin B-induced Acute Respiratory Distress Syndrome is Regulated Through microRNA that Trigger Pro-apoptotic Genes in Immune cells. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Singh NP, Yang X, Nagarkatti M, Nagarkatti P. TCDD induces transgenerational alterations in the thymocyte genes through epigenetic modifications in microRNA and histones. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Yang X, Bam M, Nagarkatti PS, Nagarkatti M. Altered Histone and DNA Methylation in the Peripheral Blood Mononuclear Cells in Sepsis Patients Results in a Proinflammatory Response. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Wisniewski PJ, Rutkovsky A, Wilson K, Dopkins N, Sultan M, Nagarkatti PS, Nagarkatti M. In Silico Analysis Identifies MiRNA-Regulated Pathways of Disease in Anti-CD-40-Induced Colitis. Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA. March 27-31, 2022.

Gregory K, Zhao L, Eberth J, Felder T, Murphy EA, Steck SE. Proportion of Cancer Survivors in the United States Who Are Meeting Healthy Lifestyle Guidelines. South Carolina Academy of Nutrition and Dietetics. Columbia, SC. April 1, 2022.

Manea A, Al-Sammaraie N, Ray SK. Thymoquinone and fenretinide in combination effectively inhibited growth of human glioblastoma T98G and U87MG cells. 94th Annual Meeting of the SCAS (SC Academy of Science) and SCJAS (SC Junior Academy of Science). UofSC, Aiken. April 2, 2022.

Mitchell C, Staley S, Saxena A, Wilson K, Nagarkatti M, Nagarkatti P, Busbee PB. AhR expression on rorc-expressing immune cells is essential for I3C-mediated protection against colitis and IL-22 production by ILC3s. 94th Annual Meeting of the SCAS (SC Academy of Science) and SCJAS (SC Junior Academy of Science). UofSC, Aiken. April 2, 2022.

Staley S, Nagarkatti M, Nagarkatti P, Busbee PB. The role and regulation of *Bacteroides acidifaciens* during colitis. 94th Annual Meeting of the SCAS (SC Academy of Science) and SCJAS (SC Junior Academy of Science). UofSC, Aiken. April 2, 2022.

McDonald SJ, Cranford TL, VanderVeen BN, Cardaci TD, Fan D, Murphy EA. miR155 deficiency reduces breast tumorigenesis in a transgenic breast cancer murine model. Experimental Biology Annual Meeting. Philadelphia, PA. April 2-5, 2022.

Al-Sammarraie N, Ray SK. An affordable and physiological antagonist of bone morphogenetic protein signaling protected VSC4.1 motoneurons in cell culture model of spinal cord injury. 13th Annual James E. Clyburn Health Equity Lecture meeting. Columbia Metropolitan Convention Center. April 14, 2022.

McDonald SJ, Bullard BM, VanderVeen BN, Cardaci TD, Madero SS, Chatzistamou I, Hofseth LJ, Murphy EA. Panaxynol suppresses tumor burden and alleviates colitis symptoms in an AOM/DSS colitis associated colorectal cancer murine model. UofSC Discover Day. Columbia SC, April 22, 2022.

NeSmith MN, VanderVeen BN, Cardaci TD, Madero SS, McDonald SJ, Bullard BM, Fan D, Murphy EA. The effects of emodin on chemotherapy-induced skeletal muscle atrophy. UofSC Discover Day. Columbia, SC. April 22, 2022.

Bullard BM, McDonald SJ, VanderVeen BN, Cardaci TD, Madero SS, Hofseth LJ, Murphy EA. Panaxynol alleviates DSS-induced acute ulcerative colitis. UofSC Discover Day. Columbia, SC. April 22, 2022.

Kase BE, Liese AD, Zhang J, Murphy EA, Zhao L, Steck SE. The Development and Evaluation of a Literature-based Dietary Index for Gut Microbiota. UofSC Discover Day. Columbia, SC. April 22, 2022.

Gregory K, Zhao L, Eberth J, Felder T, Murphy EA, Steck SE. Proportion of Cancer Survivors in the United States Who Are Meeting Healthy Lifestyle Guidelines. UofSC Discover Day. Columbia, SC. April 22, 2022.

Cannon A, Wilson K, Miranda K, Nagarkatti PS, Nagarkatti M. Effects of TCDD on Concanavalin A-mediated activation of immune cells: An evaluation of immune cell phenotypes and molecular signatures by scRNASeq. UofSC Discover Day. April 22, 2022. **First place award winner in the Graduate Student Poster Session C at UofSC's Discover Day.**

Carter TH, Nagarkatti P, Nagarkatti M. THC decreases bone marrow-derived macrophage activation in a dose-dependent manner. UofSC Discover Day. April 22, 2022. **First place award winner in the Postdoctoral Scholars Poster Session C at UofSC's Discover Day.**

Wilson K, Nagarkatti PS, Nagarkatti M. Single-cell RNA landscape of lungs from *Staphylococcus enterotoxin B*-induced acute respiratory distress syndrome (ARDS) reveals effects on various cell types. UofSC Discover Day. April 22, 2022. **First place award winner in the Postdoctoral Scholars Poster Session B at UofSC's Discover Day.**

Varsha KK, Zhong Y, Yang X, Nagarkatti P, Nagarkatti M. TLR-9 agonist CpG activates macrophages and modulates expression of microRNAs involved in cancer drug resistance and various signaling pathways. UofSC Discover Day. April 22, 2022.

Kakar K, Nagarkatti M, Nagarkatti P. Delta-8-tetrahydrocannabinol Attenuates Neuroinflammation in an Experimental Model of Multiple Sclerosis through Regulation of miRNA-Mediated Signaling Pathways. UofSC Discover Day. April 22, 2022.

Staley S, Busbee PB. The role and regulation of *Bacteroides acidifaciens* during colitis. UofSC Discover Day. Columbia, SC. April 22, 2022.

Saxena A, Mitchell C, Staley S, Wilson K, Rutkovsky A, Wisniewski PJ, Dopkins N, Nagarkatti M, Nagarkatti P, Busbee PB. I3C-Mediated protection against colitis dependent on AhR expression on *Vil1*-expressing colonic epithelial cells. UofSC Discover Day. Columbia, SC. April 22, 2022.

Mitchell C, Saxena A, Staley S, Hailey M, Nagarkatti P, Nagarkatti M, Busbee PB. Role of AhR in Sex Differences Observed in Colitis. UofSC Discover Day. Columbia, SC. April 22, 2022.

Al-Sammarraie N, Ray SK. Noggin inhibited bone morphogenetic protein 4 (BMP4) and prevented induction of apoptosis in motoneuron VSC4.1 cell culture model of acute spinal cord injury. UofSC Discover Day. Columbia, SC. April 22, 2022.

Visintin R, Ray SK. Use of miR-15a for downregulating Rictor and Akt3 to promote autophagy and survival of VSC4.1 motoneurons in cell culture model of acute spinal cord injury. UofSC Discover Day. Columbia, SC. April 22, 2022.

Manea A, Al-Sammarraie N, Ray SK. Targeting autophagy and telomerase to enhance induction of apoptosis in different human glioblastoma cells. UofSC Discover Day. Columbia, SC. April 22, 2022.

Fuseler JW, Hobensack MJ, Kumte NI, Chatzistamou I, Oskeritzian CA. Mast cells as prospective drivers of early prostatic transformation. World Congress on Cancer Research and Therapy. Paris, France. April 25-26, 2022. Hybrid Format.