

The PMI Times

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



September - December 2022

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News & Updates



The Department of Pathology, Microbiology and Immunology celebrated Halloween at the Riverbanks Zoo! It was an enjoyable day with ghosts and goblins and all sorts of creative costumes. The PMI Department joined together for our Recognition and Appreciation Celebration Luncheon October 31, 2022. Our celebration was held in the Ndoki Lodge at Riverbanks Zoo and Gardens, Columbia, SC. We had a delightful experience with the Riverbanks Zoo animals and gardens, gorgeous fall colors and scenery. The luncheon was most enjoyable, with delicious food. We enjoyed the day honoring all our faculty, postdocs, staff, and students who excelled and received monumental awards throughout the year! All enjoyed a wonderful

time talking, strengthening our friendships, laughing and enjoying our recognition and appreciation time together.

Together with a group of women leaders, Dr. Carole Oskeritzian was invited as a guest speaker by the USC's Provost's Advisory Committee on Women's Issues (PACWI) to a lunch & learn session with the Graduate Student Association at the Russell House on November 1, 2022.

Dr. Carole Oskeritzian was competitively selected to participate in the 2022 Association of American Medical Colleges (AAMC) Mid-Career Women Faculty Leadership Development Seminar, Indian Wells, CA, December 6-9, 2022.

Dr. Swapan Ray serves as an Academic Editor for journals: Journal of Food Biochemistry, Cells, and Brain Science.

Dr. Prakash Nagarkatti and Dr. Mitzi Nagarkatti co-authored an invited article titled, "What is inflammation? Two immunologists explain how the body responds to everything from stings to vaccination and why it sometimes goes wrong", published in the Conversation Nov. 7, 2022. <https://theconversation.com/what-is-inflammation-two-immunologists-explain-how-the-body-responds-to-everything-from-stings-to-vaccination-and-why-it-sometimes-goes-wrong-193503>

Dr. Prakash Nagarkatti was featured in Roll Call by Gopal Ratnam, October 12, 2022, "Underfunded states to get boost in high-tech research money". <https://rollcall.com/2022/10/12/underfunded-states-to-get-boost-in-high-tech-research-money/>

Dr. Angela Murphy served as a reviewer for NIH/NCI Transition to Independence awards on October 19-20, 2022.

Dr. Swapan Ray served as a grant reviewer for the Florida Department of Health (FLDOH) James and Esther King Biomedical Research Program, October, 2022.

Dr. Swapan Ray served as a mentor for the Black Graduate and Professional Student Luncheon on USC's main campus, November 3, 2022.

Dr. Swapan Ray attended the 2022 Oktoberfest – A Symposium on Teaching, at the University Conference Center, October 21, 2022.

Dr. Swapan Ray's undergraduate research student Amanda Manea, who is an Honors College Senior with Mathematics and Biological Sciences double major, has been selected based on her academic and research achievements by the USC Columbia for submitting applications for the Marshall and Rhodes Scholarships, UK.

Dr. Carole Oskeritzian served as a grant reviewer (R01s and R21s) for the NIH/NIAID Hypersensitivity, Allergies and Mucosal Immunology (HAMI) - ZRG1 IIDB 57 virtual study section on November 9-10, 2022.

Dr. Carole Oskeritzian served as a grant reviewer for the NIH/NIAID Asthma and Allergic Diseases Cooperative Research Centers (AADCRC) – ZAI1-JTS-I-J1 virtual study section to review U19 applications on December 14-15, 2022.

The USC SOMC Women in Science and Medicine (WiSaM) committee chaired by Dr. Carole Oskeritzian hosted the inaugural SOMC Social Hour November 3rd in the Dean's Board Room. The event attended by over 20 SOMC and Prisma Health students, staff and faculty members who networked sharing baked goods, soft drinks, and conversations.

In partnership with Dean Hall and the Offices of Development, Student Engagement and Student WiSaM coordinated the inaugural *USC SOMC World Holiday Celebration*, with hot cocoa, cookies and the of our multicultural tree on November 29.

USC School of Medicine Columbia
World Holiday Celebration
You're invited!
Celebrate the winter season with traditions from around the world!
Start conversations while enjoying hot cocoa and cookies, and enjoy the SOMC Multicultural Tree
VA Campus, Garden Courtyard
behind Building 3 from 4:30-6 PM
November 29, 2022
Affairs,
lighting

A warm welcome to Dr. Manikandan Palrasu, Ph.D. Mani joined PMI as a Research Assistant Professor in January 2022. He joins us from KOR Life Sciences/VikorScientific LLC, Charleston, South Carolina where he was a Scientist (Molecular Biologist). Mani was also an Assistant Scientist at the University of Miami. Mani will be working in the Nagarkatti lab.

Publications

Bullard BM, McDonald SJ, Cardaci TD, VanderVeen BN, Murphy EA. Non-Pharmacological Approaches for Improving Gut Resilience to Chemotherapy. *Current Opinion in Supportive & Palliative Care*. 2022 Sep 1;16(3):151-160.

VanderVeen BN, Cardaci TD, Madero SS, McDonald SJ, Bullard BM, Price RL, Carson JA, Fan D, Murphy EA. 5 fluorouracil disrupts skeletal muscle immune cells and impairs skeletal muscle repair and remodeling. *Journal of Applied Physiology*. 2022 Oct 1;133(4):834-849.

Unger CA, Aladhami AK, Hope III MC, Pourhoseini S, Nagarkatti M, McGuinness OP, Murphy EA, Velázquez KT, Enos RT. Congenital adiponectin deficiency mitigates high-fat-diet-induced obesity in gonadally intact male and female, but not in ovariectomized mice. *Scientific Reports*. 2022 Oct 5;12(1):16668.

Singh NP, Yang X, Bam M, Nagarkatti M, Nagarkatti P. 2,3,7,8-Tetrachlorodibenzo-p-dioxin induces multigenerational alterations in the expression of microRNA in the thymus through epigenetic modifications. *PNAS Nexus*. 2022 Dec 9;2(1):pgac290.

Cunningham P, Patton E, VanderVeen BN, Unger C, Aladhami A, Enos RT, Madero S, Chatzistamou I, Fan D, Murphy EA, Velázquez KT. Sub-chronic oral toxicity screening of Quercetin in mice. *BMC Complementary Medicine and Therapies*. 2022 Oct 23;22(1):279.

McDonald SJ, Cranford TL, VanderVeen BN, Cardaci TD, Velázquez KT, Enos RT, Chatzistamou I, Fan D, Murphy EA. miR155 deficiency reduces breast tumor burden in the MMTV-PyMT mouse model. *Physiological Genomics*. 2022 Nov 1;54(11):433-442.

McDonald SJ, VanderVeen BN, Bullard BM, Cardaci TD, Madero SS, Chatzistamou I, Fan D, Murphy EA. Surgical wounding enhances pro-tumor macrophage responses and accelerates tumor growth and lung metastasis in a triple negative breast cancer mouse model. *Physiological Reports*. 2022 Nov;10(21):e15497.

Bullard BM, VanderVeen BN, McDonald SJ, Cardaci TD, Murphy EA. Cross talk between the gut microbiome and host immune response in ulcerative colitis: nonpharmacological strategies to improve homeostasis. *Am J Physiol Gastrointest Liver Physiol*. 2022 Dec 1;323(6):G554-G561.

VanderVeen BN, Cardaci TD, McDonald SJ, Madero SS, Unger CA, Bullard BM, Enos RT, Velazquez KT, Kubinak JL, Fan D, Murphy EA. Obesity reduced survival with 5-Fluorouracil and did not protect against chemotherapy-induced cachexia or immune cell cytotoxicity in mice. *Cancer Biology and Therapy*. 2022 Dec 31;23(1):1-15.

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*. In press.

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. *Nutrients*. In press.

Visintin R, Ray SK. Intersections of Ubiquitin-Proteasome System and Autophagy in Promoting Growth of Glioblastoma Multiforme: Challenges and Opportunities. *Cells*. 2022 Dec 15;11(24):4063.

Bawazir M, Amponnawarat A, Hui Y, Oskeritzian CA, Ali H. Inhibition of MRGPRX2 but not FcγRI or MrgprB2-mediated mast cell degranulation by a small molecule inverse receptor agonist. *Front Immunol*. 2022;13:1033794.


Haque TT, Taruselli MT, Kee SA, Dailey D, Pondicherry N, Zellner M, Stephenson D, Straus DB, Jackson KG, Chumanovich AP, Fukuoka Y, Schwartz LB, Oskeritzian CA, Chalfant CE, Martin RK, Ryan JJ. Fluoxetine restrains allergic inflammation by targeting an FcγRI-ATP positive feedback loop in mast cells. *Sci Immunol*. In Press.

Barman PK, Shin JE, Lewis SA, Kang S, Wu D, Wang Y, Yang X, Nagarkatti PS, Nagarkatti M, Messaoudi I, Benayoun BA, Goodridge HS. Production of MHCII- expressing classical monocytes increases during aging in mice and humans. *Aging Cell*. 2022 Oct;21(10):e13701.

Wilson ED, Ray SK. Inhibition of autophagy for instigating temozolomide for increasing induction of apoptosis in glioblastoma. In: *Horizons in Cancer Research* (ed., Watanabe HS), 2022 Vol. 84, Nova Science Publishers, New York, NY, p. 173-190.

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. 47th Annual UNC Lineberger Comprehensive Cancer Center Postdoctoral-Faculty Research Day, Chapel Hill, NC. October 13, 2022.



McDonald SJ, Bullard BM, VanderVeen BN, Cardaci TD, Madero SS, Chatzistamou I, Fan D, Murphy EA. Emodin protects against surgical wounding-induced breast tumor growth and metastasis. Three Minute Thesis, University of South Carolina, Columbia, SC. November 11, 2022.

Oskeritzian CA, Meggett K, Wheeler C, Foertsch M, Riggi K, Foster Z, Weis M, Paudyal-Nepal B, Pancholi S, Hawkins N, Hucks J, Anderson R, Douglass M, Garner, S, Alston M'K, Valente C, Cunningham P, Roark K, Henry Player L, Wilczynski S. Meaningful change: enabling intersectional conversations by establishing new communication platforms. 2022 Annual AAMC Learn Serve Lead Meeting, November 11-15, Nashville, TN.