

What's New in Medicine, the newsletter of the Joan and Sanford I. Weill Department of Medicine at Weill Cornell Medicine, provides the latest updates on the department's research breakthroughs, new faculty recruits, and honors and awards. *To submit information for consideration for future newsletters, please contact Suzanne Ross directly at suross@med.cornell.edu.* 

## Message from the Chair



As we enter the month of April, it is clear that the pandemic is persisting and the acuity of patient care necessary on our campuses will be significant. Additionally, we remain in the midst of a racial crisis. I would like to thank all of those who took time out of their days last week to observe a moment of silence in support of our Asian and Asian-American friends, family, and colleagues who have experienced or witnessed racism and violence.

The Weill Department of Medicine continues to uphold its commitment in fighting racism and injustice on all levels. We do this every day in the care we provide to our patients, the research we carry out, and the educational programs we advance. Still, we need to do more. To that end, the department continues its work with its racial justice task force as we strive

to lead our community by example.

I would like to thank everyone for their continued efforts as we move forward and hopefully to a better place in the next few months.

Tony

Anthony Hollenberg, M.D. Sanford I. Weill Chair

## News



# Dr. Longman and Colleagues Publish Critical Findings on a Type of Gut Bacteria and Crohn's Disease

Investigators found that patients with Crohn's disease have an overabundance of an inflammation-producing gut bacteria. A metabolite produced by this bacteria interacts with the immune system cells in the lining of the intestine. <u>Read more</u>



## Dr. Cerchietti and Colleagues Publish Novel Advance on Lymphoma Tumors and their Microenvironments in *Cancer Discovery*

Dr. Leandro Cerchietti and colleagues have published a paper in *Cancer Discovery* that has revealed a critical connection between lymphoma tumors and their microenvironments, which consist of different ecosystems of cells and treatment responsiveness. <u>Read more</u>



#### Dr. Melnick and Team Identify a Gene Critical in B Cell Immune Response

Dr. Ari Melnick and team have published a breakthrough finding in Nature Immunology that has identified Smc3 as a critical gene in the development of the body's immune response (B cells). Read more



# Dr. Schwartz Co-Senior Author on Pivotal Publication in *Nature*: Lung Pathology in COVID-19

In a collaborative study, investigators have implemented advanced technology and analytics to map, at single-cell resolution, the cellular landscape of diseased lung tissue in severe COVID-19 and other infectious lung diseases. <u>Read more</u>

#### Four WDOM Faculty Receive the 2021 ASCI Council Young Physician-Scientist Award

Four faculty in the WDOM have received the ASCI Council Young Physician-Scientist Award. This prestigious award recognizes physician-scientists who are early in their first faculty appointment and have made notable achievements in their research. <u>Read more</u>

## COVID-19 Community Education and Empowerment Internship for Undergraduate STEM Students

This exciting new program on COVID-19 for STEM students will cover many areas, including the dissemination of information about COVID-19 and vaccination for diverse communities, vaccine science, and approaches for community education. <u>Read more</u>

## **News Flashes**

Congratulations to WDOM faculty who recently received a promotion:
 Dr. David A. Berlin, Professor of Clinical Medicine, Division of Pulmonary and Critical Care Medicine
 Dr. Rekha Babu Kumar, Associate Professor of Clinical Medicine, Division of Endocrinology, Diabetes and Metabolism
 Dr. Elizabeta Cristina Popa, Associate Professor of Clinical Medicine, Division of Hematology and Medical Oncology
 Dr. Carry Reid, Jr., Professor of Medicine (and the Irving Sherwood Wright Professor in Geriatrics), Division of
 Geriatrics and Palliative Medicine

Dr. Harjot Kaur Singh, Associate Professor of Clinical Medicine, Division of Infectious Diseases

- Congratulations to **Dr. David Artis** on receiving two new grants from the National Institutes of Health (NIDDK). Both grants are R01s and run through 2025: *Neuro-immune regulation of intestinal inflammation* and *Neuropeptide-mediated regulation of antihelminth immunity*. Dr. Artis is the Director of the Jill Roberts Institute for Research in Inflammatory Bowel Disease and the Michael Kors Professor of Immunology, Division of Gastroenterology and Hepatology, WDOM.
- As Dr. Andrew J. Dannenberg begins his retirement on March 30, 2021, the Weill Department of Medicine expresses
  its appreciation for his 33 years of service in the Division of Gastroenterology and Hepatology. Dr. Dannenberg was
  recruited to the division in 1988 as an Assistant Professor of Medicine and swiftly moved up the ranks to Professor of
  Medicine. He was appointed as the Henry R. Erle, M.D. Roberts Family Professor of Medicine in 2000. Dr.
  Dannenberg was the Founding Director of the former Weill Cornell Cancer Center and, in recent years, served as the
  Associate Director of Cancer Prevention at the Sandra and Edward Meyer Cancer Center. Dr. Dannenberg is a member
  of the American Society for Clinical Investigation, the Association of American Physicians, and the American
  Association for Cancer Research. We wish Dr. Dannenberg well in his next chapter.
- **Dr. Susana Morales** was interviewed on <u>MetroFocus (PBS)</u> regarding COVID-19 education efforts in the community. Also participating in the discussion were Davon Russell, President of the Women's Housing and Economic Development Corporation, and Marcella J. Tillett of the Brooklyn Community Foundation. Dr. Morales is the Vice Chair for Diversity and Associate Professor of Clinical Medicine, Division of General Internal Medicine, WDOM.
- Congratulations to Dr. Madeline R. Sterling, Assistant Professor of Medicine, Division of General Internal Medicine, WDOM, who has been selected by the NIH's National Heart, Lung, and Blood Institute (NHLBI) as one of the clinicianscientists to be featured for Women's History Month in March. This honor is part of <u>NHLBI Celebrates Women</u> <u>Scientists (2021)</u> and will include Dr. Sterling's critical work on home health aides and healthcare delivery for adults with chronic conditions. <u>Read more</u>
- On the heels of receiving the <u>2021 Emerging Leader Award</u> from The Mark Foundation for Cancer Research, **Dr**.
   Eftychia Apostolou has published a paper in *Molecular Cell* that has provided potential new routes for stem cell therapy and cancer treatment based on new findings examining the "cell identity crisis." Funded by the NIH and the Tri-Institutional Stem Cell Initiative, the breakthrough paper was a collaborative effort involving Weill Cornell Medicine, Memorial Sloan Kettering Cancer Center, and The Rockefeller University. Dr. Apostolou is an Assistant Professor of Molecular Biology in Medicine in the Division of Hematology and Medical Oncology and a member of the Sandra and Edward Meyer Cancer Center. <u>Read more</u>

- As reported on March 31, 2021 in <u>Awards and Honors Across Weill Cornell Medicine</u>, three faculty in the WDOM have become members of The World Health Organization's new Science Council, which will provide guidance on the organization's science and research strategy. The three faculty are **Dr. Harold Varmus**, the Lewis Thomas University Professor, WDOM Administration, who has been appointed to chair of the nine-member council; **Dr. Jean Pape**, the Howard and Carol Holtzmann Professor in Clinical Medicine, Division of Infectious Diseases; and **Dr. Salim Abdool Karim**, Adjunct Professor of Medicine, Division of General Internal Medicine.
- Did you know that we have an <u>Employee Recognition Program</u> to recognize the dedication of our "STAR Employees"? Check out this year's <u>Super Star winners</u> and <u>nominate a non-physician employee</u> for an award today!
- The WDOM is saddened to report that **Dr. Mary Jeanne Kreek** passed away on March 27, 2021. Dr. Kreek served as an Adjunct Associate Professor of Medicine in our Division of Gastroenterology and Hepatology. Dr. Kreek was the Patrick E. and Beatrice M. Haggerty Professor and Head of the Laboratory of the Biology of Addictive Diseases, as well as a Senior Physician, at The Rockefeller University Hospital. A pioneer in the biology of addiction research, she made seminal contributions that led to methadone's successful use as a treatment for heroin addiction. Dr. Kreek was the recipient of numerous honors, including the Lifetime Science Award from the National Institute on Drug Abuse of the National Institutes of Health (2014).

## **Research Paper Highlights**

#### Endocrinology, Diabetes & Metabolism

Redmond IP, Shukla AP, Aronne LJ. Use of Weight Loss Medications in Patients after Bariatric Surgery. Curr Obes Rep. 2021 Jan 25. doi: 10.1007/s13679-021-00425-1. Epub ahead of print. PMID: 33492629.

Yeh T, Yeung M, Mendelsohn Curanaj FA. Managing Patients with Insulin Pumps and Continuous Glucose Monitors in the Hospital: to Wear or Not to Wear. Curr Diab Rep. 2021 Jan 15;21(2):7. doi: 10.1007/s11892-021-01375-7. PMID: 33449214; PMCID: PMC7810103.

Chukir T, Mandel L, Tchang BG, Al-Mulla NA, Igel LI, Kumar RB, Waitman J, Aronne LJ, Shukla AP. Metformin-induced weight loss in patients with or without type 2 diabetes/prediabetes: A retrospective cohort study. Obes Res Clin Pract. 2021 Jan-Feb;15(1):64-68. doi: 10.1016/j.orcp.2020.12.005. Epub 2020 Dec 30. PMID: 33386253. [Comprehensive Weight Control Center]

#### **Gastroenterology & Hepatology**

Doron I, Leonardi I, Li XV, Fiers WD, Semon A, Bialt-DeCelie M, Migaud M, Gao IH, Lin WY, Kusakabe T, Puel A, Iliev ID. Human gut mycobiota tune immunity via CARD9-dependent induction of anti-fungal IgG antibodies. Cell. 2021 Feb 18;184(4):1017-1031.e14. doi: 10.1016/j.cell.2021.01.016. Epub 2021 Feb 5. PMID: 33548172; PMCID: PMC7936855.

Viladomiu M, Metz ML, Lima SF, Jin WB, Chou L; JRI Live Cell Bank, Guo CJ, Diehl GE, Simpson KW, Scherl EJ, Longman RS. Adherent-invasive E. coli metabolism of propanediol in Crohn's disease regulates phagocytes to drive intestinal inflammation. Cell Host Microbe. 2021 Feb 2:S1931-3128(21)00032-9. doi: 10.1016/j.chom.2021.01.002. Epub ahead of print. PMID: 33539767.

Hajifathalian K, Tafesh Z, Rosenblatt R, Kumar S, Homan EA, Sharaiha RZ, Cohen DE, Brown RS Jr, Fortune BE. Effect of Statin Use on Cancer-related Mortality in Nonalcoholic Fatty Liver Disease: A Prospective United States Cohort Study. J Clin Gastroenterol. 2021 Feb 17. doi: 10.1097/MCG.000000000001503. Epub ahead of print. PMID: 33606428.

Dohlman AB, Arguijo Mendoza D, Ding S, Gao M, Dressman H, Iliev ID, Lipkin SM, Shen X. The cancer microbiome atlas: a pan-cancer comparative analysis to distinguish tissue-resident microbiota from contaminants. Cell Host Microbe. 2021 Feb 10;29(2):281-298.e5. doi: 10.1016/j.chom.2020.12.001. Epub 2021 Jan 6. PMID: 33382980; PMCID: PMC7878430. [Jill Roberts Institute]

#### **Geriatrics & Palliative Medicine**

Luth EA, Pan CX, Viola M, Prigerson HG. Dementia and Early Do-Not-Resuscitate Orders Associated With Less Intensive of End-of-Life Care: A Retrospective Cohort Study. Am J Hosp Palliat Care. 2021 Jan 20:1049909121989020. doi: 10.1177/1049909121989020. Epub ahead of print. PMID: 33467864.

Shalev A, Henderson CR Jr, Gutierrez I, Mullen E, Reid MC. The Prevalence and Potential Role of Pain Beliefs When Managing Later-Life Pain. Clin J Pain. 2021 Apr 1;37(4):251-258. doi: 10.1097/AJP.0000000000000909. PMID: 33323790.

Prigerson HG, Kakarala S, Gang J, Maciejewski PK. History and Status of Prolonged Grief Disorder as a Psychiatric Diagnosis. Annu Rev Clin Psychol. 2021 Feb 1. doi: 10.1146/annurev-clinpsy-081219-093600. Epub ahead of print. PMID: 33524263.

#### Hematology & Medical Oncology

Zappasodi R, Serganova I, Cohen IJ, Maeda M, Shindo M, Senbabaoglu Y, Watson MJ, Leftin A, Maniyar R, Verma S, Lubin M, Ko M, Mane MM, Zhong H, Liu C, Ghosh A, Abu-Akeel M, Ackerstaff E, Koutcher JA, Ho PC, Delgoffe GM, Blasberg R, Wolchok JD, Merghoub T. CTLA-4 blockade drives loss of Treg stability in glycolysis-low tumours. Nature. 2021 Mar;591(7851):652-658. doi: 10.1038/s41586-021-03326-4. Epub 2021 Feb 15. PMID: 33588426.

Pelham-Webb B, Polyzos A, Wojenski L, Kloetgen A, Li J, Di Giammartino DC, Sakellaropoulos T, Tsirigos A, Core L, Apostolou E. H3K27ac bookmarking promotes rapid post-mitotic activation of the pluripotent stem cell program without impacting 3D chromatin reorganization. Mol Cell. 2021 Mar 9:S1097-2765(21)00142-8. doi: 10.1016/j.molcel.2021.02.032. Epub ahead of print. PMID: 33730542.

Bardia A, Messersmith WA, Kio EA, Berlin JD, Vahdat L, Masters GA, Moroose R, Santin AD, Kalinsky K, Picozzi V, O'Shaughnessy J, Gray JE, Komiya T, Lang JM, Chang JC, Starodub A, Goldenberg DM, Sharkey RM, Maliakal P, Hong Q, Wegener WA, Goswami T, Ocean AJ. Sacituzumab Govitecan, a Trop-2-Directed Antibody-Drug Conjugate, for Patients with Epithelial Cancer: Final Safety and Efficacy Results from the Phase 1/2 IMMU-132-01 Basket Trial. Ann Oncol. 2021 Mar 16:S0923-7534(21)00883-8. doi: 10.1016/j.annonc.2021.03.005. Epub ahead of print. PMID: 33741442.

#### **Infectious Diseases**

Derry HM, Johnston CD, Burchett CO, Siegler EL, Glesby MJ. Gait Speed Is Associated with Cognitive Function among Older Adults with HIV. J Aging Health. 2020 Dec;32(10):1510-1515. doi: 10.1177/0898264320943330. Epub 2020 Jul 22. PMID: 32697615; PMCID: PMC7768797.

Stevenson EM, Ward AR, Truong R, Thomas AS, Huang SH, Dilling TR, Terry S, Bui JK, Mota TM, Danesh A, Lee GQ, Gramatica A, Khadka P, Alberto WDC, Gandhi RT, McMahon DK, Lalama CM, Bosch RJ, Macatangay B, Cyktor JC, Eron JJ, Mellors JW, Jones RB; AIDS Clinical Trials Group A5321 Team. HIV-specific T cell responses reflect substantive in vivo interactions with antigen despite long-term therapy. JCI Insight. 2021 Feb 8;6(3):e142640. doi: 10.1172/jci.insight.142640. PMID: 33400687; PMCID: PMC7934865.

Trzebucki AM, Westblade LF, Loo A, Mazur S, Jenkins SG, Calfee DP, Satlin MJ, Simon MS. Real-world implementation and impact of a rapid carbapenemase detection test in an area endemic for carbapenem-resistant Enterobacterales. Infect Control Hosp Epidemiol. 2021 Feb 15:1-4. doi: 10.1017/ice.2021.6. Epub ahead of print. PMID: 33583476.

Hau DK, Ambrose EE, Smart LR, Kayange NM, Peck RN. Linkage to Care Intervention to Improve Post-Hospital Outcomes Among Children with Sickle Cell Disease in Tanzania: A Pilot Study. J Pediatr. 2021 Jan 29:S0022-3476(21)00082-2. doi: 10.1016/j.jpeds.2021.01.048. Epub ahead of print. PMID: 33516678. [Center for Global Health]

#### **Medical Ethics**

Gabbay E, Fins JJ, Banja J, Evans T. Congee for the Soul. Hastings Cent Rep. 2021 Jan;51(1):10-12. doi: 10.1002/hast.1212. PMID: 33630323.

Chandler JA, Cabrera LY, Doshi P, Fecteau S, Fins JJ, Guinjoan S, Hamani C, Herrera-Ferrá K, Honey CM, Illes J, Kopell BH, Lipsman N, McDonald PJ, Mayberg HS, Nadler R, Nuttin B, Oliveira-Maia AJ, Rangel C, Ribeiro R, Salles A, Wu H. International Legal Approaches to Neurosurgery for Psychiatric Disorders. Front Hum Neurosci. 2021 Jan 13;14:588458. doi: 10.3389/fnhum.2020.588458. PMID: 33519399; PMCID: PMC7838635.

Resnick KS, Fins JJ. Professionalism and Resilience After COVID-19. Acad Psychiatry. 2021 Mar 2:1–5. doi: 10.1007/s40596-021-01416-z. Epub ahead of print. PMID: 33649940; PMCID: PMC7920636.

#### **Nephrology & Hypertension**

Kliger AS, Silberzweig J. COVID-19 and Dialysis Patients: Unsolved Problems in Early 2021. J Am Soc Nephrol. 2021 Feb 26:ASN.2020121766. doi: 10.1681/ASN.2020121766. Epub ahead of print. PMID: 33637517.

Malha L, Mueller FB, Pecker MS, Mann SJ, August P, Feig PU. COVID-19 and the Renin-Angiotensin System. Kidney Int Rep. 2020 Mar 27;5(5):563-565. doi: 10.1016/j.ekir.2020.03.024. PMID: 32292865; PMCID: PMC7118533.

Lee JR, Silberzweig J, Akchurin O, Choi ME, Srivatana V, Lin J, Liu F, Malha L, Lubetzky M, Dadhania DM, Shankaranarayanan D, Shimonov D, Neupane S, Salinas T, Bhasin A, Varma E, Leuprecht L, Gerardine S, Lamba P, Goyal P, Caliendo E, Tiase V, Sharma R, Park JC, Steel PAD, Suthanthiran M, Zhang Y. Characteristics of Acute Kidney Injury in Hospitalized COVID-19 Patients in an Urban Academic Medical Center. Clin J Am Soc Nephrol. 2021 Feb 8;16(2):284-286. doi: 10.2215/CJN.07440520. Epub 2020 Sep 18. PMID: 32948642; PMCID: PMC7863636.

#### **Pulmonary & Critical Care Medicine**

Opron K, Begley LA, Erb-Downward JR, Freeman C, Madapoosi S, Alexis NE, Barjaktarevic I, Graham Barr R, Bleecker ER, Bowler RP, Christenson SA, Comellas AP, Cooper CB, Couper DJ, Doerschuk CM, Dransfield MT, Han MK, Hansel NN, Hastie AT, Hoffman EA, Kaner RJ, Krishnan J, O'Neal WK, Ortega VE, Paine R 3rd, Peters SP, Michael Wells J, Woodruff PG, Martinez FJ, Curtis JL, Huffnagle GB, Huang YJ. Lung microbiota associations with clinical features of COPD in the SPIROMICS cohort. NPJ Biofilms Microbiomes. 2021 Feb 5;7(1):14. doi: 10.1038/s41522-021-00185-9. PMID: 33547327; PMCID: PMC7865064.

Niederman MS, Folaranmi T, Buchwald UK, Musey L, Cripps AW, Johnson KD. Efficacy and effectiveness of a 23-valent polysaccharide vaccine against invasive and noninvasive pneumococcal disease and related outcomes: a review of available evidence. Expert Rev Vaccines. 2021 Feb 20:1-13. doi: 10.1080/14760584.2021.1880328. Epub ahead of print. PMID: 33478306.

Aronson KI, Ali M, Reshetynak E, Kaner RJ, Martinez FJ, Safford MM, Pinheiro LC. Establishing content-validity of a diseasespecific health-related quality of life instrument for patients with chronic hypersensitivity pneumonitis. J Patient Rep Outcomes. 2021 Jan 14;5(1):9. doi: 10.1186/s41687-020-00282-x. PMID: 33443657; PMCID: PMC7809073.

#### **Regenerative Medicine**

Lu TM, Houghton S, Magdeldin T, Durán JGB, Minotti AP, Snead A, Sproul A, Nguyen DT, Xiang J, Fine HA, Rosenwaks Z, Studer L, Rafii S, Agalliu D, Redmond D, Lis R. Pluripotent stem cell-derived epithelium misidentified as brain microvascular endothelium requires ETS factors to acquire vascular fate. Proc Natl Acad Sci U S A. 2021 Feb 23;118(8):e2016950118. doi: 10.1073/pnas.2016950118. PMID: 33542154; PMCID: PMC7923590.

#### Rheumatology

Chen AY, Wolchok JD, Bass AR. TNF in the era of immune checkpoint inhibitors: friend or foe? Nat Rev Rheumatol. 2021 Mar 8. doi: 10.1038/s41584-021-00584-4. Epub ahead of print. PMID: 33686279.

Lakhanpal A, Smith MH, Donlin LT. Rheumatology in the era of precision medicine: synovial tissue molecular patterns and treatment response in rheumatoid arthritis. Curr Opin Rheumatol. 2021 Jan;33(1):58-63. doi: 10.1097/BOR.00000000000767. PMID: 33229974.

Showers CR, Nuovo GJ, Lakhanpal A, Siegel CH, Aizer J, Elreda L, Halevi A, Lai AR, Erkan D, Magro CM. A Covid-19 Patient with Complement-Mediated Coagulopathy and Severe Thrombosis. Pathobiology. 2021;88(1):28-36. doi: 10.1159/000512503. Epub 2020 Nov 2. PMID: 33137805; PMCID: PMC7705934.

Suzanne Ross Associate Director of Communications Weill Department of Medicine Weill Cornell Medical College <u>suross@med.cornell.edu</u>