

The Pathologist

Volume 30 | April 2023

The Newsletter of Pathology and Laboratory Medicine at Weill Cornell Medicine



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Welcome from the Chairman

As we approach the end of the fiscal year, we are proud of the hard work and dedication our faculty have displayed across our divisions, and I thank each one of them for continuing to make our department a leader at Weill Cornell Medicine and among our peers at top tier academic medical organizations across the country and around the world.

Our mission has never been more important: To provide science-based diagnostic services of the highest quality in anatomic pathology, hematopathology and laboratory medicine; to pursue innovative basic and clinical research dedicated to discovering pathogenic mechanisms of human disease; and to promote an integrated scientific and clinical educational experience for pathology residents and fellows, as well as Weill Cornell medical and graduate students.

We have invested in the technologies of the future such as computational and molecular pathology and attracted world renowned scientists, students of the highest caliber, and continue to attract the brightest residents and fellows. Our faculty continue to publish very high-quality research in some of the best peer-reviewed scientific journals, pushing the boundaries of science.

We are proud of the work of our staff, at all levels, and want to showcase their ideas at leading conferences like the most recent USCAP, where we again had amazing posters, participated in panel discussions, chaired sessions, moderated discussions, led seminars, and taught classes. I have also initiated the AACR-USCAP companion meeting focused on digital pathology that has successfully run the past two years.

A great way to stay abreast of news and department updates is to follow us on our rapidly expanding social media channels on **Facebook**, **Instagram**, and **YouTube**. Our Twitter account (**@WCMCPathology**), for example, has become the fourth most popular feed among WCM's dozens of Twitter accounts. I hope you'll join us on social media and participate in the conversation.

We have openings in a range of professions and divisions, feel free to share our **career opportunities** within your professional networks.

Thank you again to all our faculty, trainees and staff for making our department such a special place.

Sincerely yours,

Massimo Loda, MD

David D. Thompson Professor and Chairman of Pathology and Laboratory Medicine
Pathologist-in-Chief, NewYork-Presbyterian Hospital/Weill Cornell Medical College

Read the Full E-Newsletter





Research Highlights: Antonio Marzio, PhD



Antonio Marzio, PhD

Assistant Professor
Pathology and Laboratory Medicine

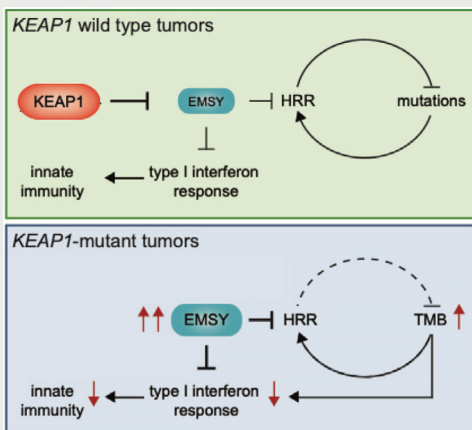


Figure 1. Model of KEAP1-dependent regulation of EMSY levels in non-small cell lung cancer (NSCLC). TMB, tumor mutational burden.

Dr. Antonio Marzio joined the Department of Pathology and Laboratory Medicine as an Assistant Professor in October 2022. Antonio is part of the Division of Cell and Cancer Pathobiology, led by Dr. Jorge Moscat. Antonio received his PhD from "SAPIENZA" University of Rome (Italy), where his graduate work, with Prof. Maurizio Gatti, centered on discovering novel genes involved in the DNA damage response (DDR). Using *Drosophila melanogaster* as a model system, Antonio learned sophisticated genetic techniques enabling the establishment of *in vivo* models able to recapitulate the complexity of organismal physiology. Antonio made pioneering contributions to our understanding of how high levels of sugar and low levels of Vitamin B6 induces genomic instability and cancer development. Fascinated by the role of DDR in cancer progression and the possibility to therapeutically exploit DDR defects, Antonio decided to join the laboratory of Dr. Michele Pagano at NYU Langone Health, who is a world-renowned expert in protein degradation and cancer, to gain expertise in the biochemical approaches required to elucidate the mechanisms of DDR signaling, including biochemical assays, protein biology and *in vivo* studies. During his training, using an interdisciplinary approach, Antonio identified the E3 ubiquitin ligase EMI1 as a modulator of PARP inhibitor (PARPi)-sensitivity in triple negative breast

cancers. This function requires the F-box domain of EMI1, through which EMI1 assembles a canonical SCF ubiquitin ligase complex that constitutively targets RAD51 for degradation (Marzio *et al.*, *Mol. Cell* 2019). Expanding his interest on the therapeutic potential of PARPis, Antonio has recently identified a molecular mechanism by which deregulation of the E3 ubiquitin ligase KEAP1 controls fundamental aspects of anti-tumor immunity and DDR in the context of NSCLC (Marzio *et al.*, *Cell* 2022). Throughout his post-doctoral training, Antonio has been supported by numerous internal and external awards, including an American Italian Cancer Foundation Fellowship, an iCARE Marie Curie Fellowship, and the Molecular Oncology and Tumor Immunology Training Program (NCI T32).

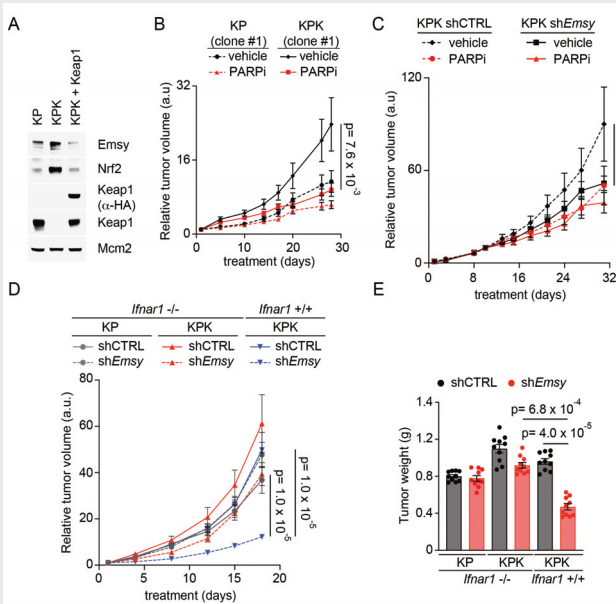


Figure 2. EMSY-dependent suppression of homologous recombination repair (HRR) and type I interferon response in KEAP1-mutant tumors. A) The indicated cell lines were collected, lysed, and immunoblotted. **(B)** The indicated cell lines were implanted subcutaneously in the flanks of C57BL/6J mice. Once tumors were measurable, the mice were treated either with vehicle or talazoparib (PARPi) for the indicated days. Tumor size was monitored twice a week. Data represent mean ± SEM; n = 10. **(C)** The indicated cell lines were implanted subcutaneously in the flanks of C57BL/6J mice. Once tumors were measurable, the mice were treated either with vehicle (shCTRL n=10; shEmys n=10) or talazoparib (PARPi) (shCTRL n=6; shEmys n=8) for the indicated days. Tumor size was monitored twice a week. Data represent mean ± SEM. **(D)** The indicated cell lines were implanted subcutaneously in the flanks of mice with the indicated genetic background. Once tumors were measurable, the mice were treated with doxycycline-containing food (n=9-10/group) to induce shCTRL or shEmys for the indicated days. Tumor size was monitored twice a week. Mice were sacrificed by the end of the treatment. Data represent mean ± SEM. **(E)** Quantification of tumor weight from tumors described in (D).

Research Focus

Perturbed proteostasis is an emerging hallmark of cancer, exhibiting aberrations in the rate of protein degradation mediated by the ubiquitin-proteasome system (UPS). Numerous studies provide evidence that dysregulations in the activity of E3 ubiquitin ligases (E3s), which mediate the selective ubiquitination and subsequent degradation of critical cellular proteins via the UPS, are associated with different aspects of tumorigenesis, cancer progression, tumor immune infiltration, and response to therapy.

[Read More](#)



Scholarly Productivity

Ethel Cesarman, MD, PhD served as a reviewer for the NIH Director's Transformative Research Awards (TRA) in 2022.

Amy Chadburn, MD and **Cynthia Magro, MD** were recipients of the Exceptional Women in Medicine, Castle Connolly 2023.

<https://pathology.weill.cornell.edu/news/exceptional-women-medicine-2023-drs-chadburn-and-magro>

Selina Chen-Kiang, PhD was the keynote speaker at the **12th International Cancer Conference** held on October 12-14, 2022 in Dublin, Ireland, on the invitation of the Trinity St. James Cancer Institute. The title of the talk was "Overcoming therapy resistance in cancer through sequential single cell RNA-seq."

Melissa Cushing, MD was appointed the Executive Vice Chair for Clinical Affairs in the Department of Pathology and Laboratory Medicine in July 2022.

Robert DeSimone, MD was nationally elected to the Transfusion Medicine Section Coordinating Committee (TMSCC) of AABB, a prestigious group that oversees AABB's transfusion medicine-related sub-committees, educational resources, and scholarly activity. He was selected to lead a data analysis related to transfusion outcomes in pregnant women for the NIH NHLBI REDS-IV-P contract grant and organized the Blood Banks Association of NYS annual meeting program in Saratoga Springs, NY on May 11-12, 2023.

Maria Diaz-Meco, PhD was appointed Chair of Tumor Host Interactions Study Section-NCI/NIH.

Nancy Du, PhD gave the talk "Identification of RHAMMB as a metastatic factor in mouse model by somatic gene transfer" at the Symposium on **World Cancer Research 2022** (SWCR2022) in Singapore in May 2022 and gave the talk "The function and regulation of MiT/TFE activation in autophagy and pancreatic ductal adenocarcinoma" at the **STARR Cancer Symposium**, Cold Spring Harbor Laboratory in May 2022.

Matt Greenblatt, MD, PhD has been selected to receive the American Society Bone and Mineral Research 2022 Fuller Albright Award.

Dr. Greenblatt's proposal to the Pershing Square Sohn Maximizing Innovation in Neuroscience Discovery (MIND) prize has been selected for funding. His idea that the skeleton is an unappreciated regulator of neurodegeneration is truly innovative. Obtaining this prize is a recognition of his research's high quality and originality.

Steven Josefowicz, PhD has been awarded the Irma T. Hirschl Career Scientist Award (2022), leadership role in Immunology and Microbial Pathogenesis graduate program.

Massimo Loda, MD hosted the Pan Prostate Cancer Group Meeting in Camogli Italy in October 2022, an international research conference devoted to the genomics of prostate cancer. He gave several international talks such as "**Role of the microenvironment in prostate cancer progression**" at Dipartimento di Medicina Sperimentale, Università di Roma "La Sapienza" in June 2022, "**Metabolic dependencies in prostate cancer: regulation and targeting of lipogenesis**" at the X^A Riunione Nazionale del Gruppo Meet-URO in Genova, Italy and "**Targeting lipid metabolism in human prostate cancer: strategies based on pre-clinical findings**" at the Lipidomics Meeting in Leuven, Belgium in October 2022. He also presented "**Prostate stromal microenvironment: A scRNASeq map of mice and men**" at the AACR Advances in Prostate Cancer Meeting in March 2023 in Denver.

Jorge Moscat, PhD had a busy year with several international and national speaking engagements. He gave the talk "Metabolic oxidation and autophagy pathways in hepatocellular carcinoma driven by p62" at the **International Liver Congress** 2022 in London, UK in 2022 and the talk "Targeting the tumor stroma to overcome immunotherapy resistance: The colorectal cancer paradigm" at the **33rd Pezcoller Symposium** on "What are the obstacles to cancer immunotherapy success?"

in Trento, Italy in 2022. He also spoke at the **Cell Research Symposium on Cancer and Immunity** in Tiantai City, China in 2022 where he gave the talk "Epithelial and stromal plasticity in mesenchymal colorectal cancer biology and immunotherapy". Finally he gave the talk, "Stroma-epithelial crosstalk in colorectal cancer biology and immunotherapy," at the **Distinguished Lectures in Cancer Research** symposium held at the University of Pennsylvania in 2022.

Jihye Paik, PhD gave the talk "The FOXO1TAD-p300-Mediated Lineage Survival Transcription Program Is a Targetable Dependency of Mantle Cell Lymphoma" at the **64th ASH Annual Meeting and Exposition** on December 10-13, 2022 in New Orleans.

The AMC (AIDS Malignancy Consortium) Executive Committee has selected **Sanjay Patel, MD** to participate in its scholar award program for a one-year term December 1, 2022 through August 31, 2023 for ongoing work in HIV/EBV-associated classic Hodgkin Lymphoma.

Dr. Patel has also started a new position as Member, Professional and Community Engagement Committee at College of American Pathologists (CAP).



Surya Seshan, MD was the keynote speaker at the Association of Indian Pathologists in North America's annual general body meeting at USCAP. The talk was titled "A lifetime of learning as a Pathologist/Renal Pathologist with Shifting Landscapes and Global Perspective."

[For Full USCAP Abstract List](#)



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Scholarly Productivity *continued*

Juan Miguel Mosquera, MD and **David Pisapia, MD** hosted colleagues from Kyoto University who wanted to learn from experiences of our Rapid Autopsy Program. They are currently establishing a program, funded by Institute for the Advanced Study of Human Biology (ASHBi; <https://ashbi.kyoto-u.ac.jp>).



Top row, 2nd from left: Juan Miguel Mosquera, MD and 3rd from left, David Pisapia, MD, with Kyoto University colleagues.

Indeterminate Cell Proliferative Disorder

"Indeterminate Cell Proliferative Disorder" video was conducted by **Cynthia Magro, MD**, Faculty Distinguished Professor in Pathology and Laboratory Medicine, Professor of Pathology and Laboratory Medicine, Professor of Dermatopathology in Dermatology, and Director of Dermatopathology.



Hanna Rennert, PhD presented at the Medical University of South Carolina in October 2022: "Internal Medicine Grand Rounds: Molecular Genetic Testing for Autosomal Dominant Polycystic Kidney Disease" and "Nephrology Grand Rounds: Somatic Mutations in PKD1 and PKD2: Do they have a role in the pathogenesis of ADPKD?"

David Rickman, PhD was an international conference speaker at the **Advances in Prostate Cancer Research (AACR)** Special Conference in March 2023 at the lineage plasticity and treatment resistance session.

Jessica Tyler, PhD organized the ASBMB conference on "The Interplay between Epigenetic Regulation and Genome Stability" in Seattle and also organized the FASEB conference on "Reversible Acetylation in Health and Disease" in Dorado, Puerto Rico.

The WCM team, composed of **Sarina Yang, PhD**, Pathology and Laboratory Medicine, in collaboration with Dr. Fei Wang's Lab and the Department

WCM Employee Service Awards: Career Milestones

We commend your support to Cornell!

Name	Yrs of Service	Employee Subgroup
Jose Jessurun	10	Faculty
Nalini Scarpa	10	Administration
Karen Collins-Rodriguez	15	Administration
Jessica Misner	15	Administration
David Rickman	15	Faculty
Steven Salvatore	15	Faculty
Theus Adams	20	Administration
Steven Bowe	20	Administration
Maurizio Di Liberto	20	Faculty
Syed Hoda	30	Faculty

of Population Health Sciences, won the machine-based learning challenge, a competition organized by the AACCC Data Analytics Committee and Washington University.

<https://www.aacc.org/cln/articles/2022/october/learning-by-doing-in-data-analytics>

Dr. Yang also became the new President of the North America Chinese Clinical Chemists Association. She was also selected to serve a 3-year term on the AACCC education committee which determines the educational content for the AACCC meeting.





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Notable Publications

Jang JY, Hwang I, Pan H, Yao J, Alinari L, **Imada E**, Zanettini C, Kluk MJ, Wang Y, Lee Y, Lin HV, Huang X, **Di Liberto M**, Chen Z, Ballman KV, Cantley LC, **Marchionni L**, **Inghirami G**, Elemento O, Baiocchi RA, **Chen-Kiang S**, Belvedere S, Zheng H, **Paik J**: A FOXO1-dependent transcription network is a targetable vulnerability of mantle cell lymphomas. *J Clin Invest* 132:e160767, 2022.

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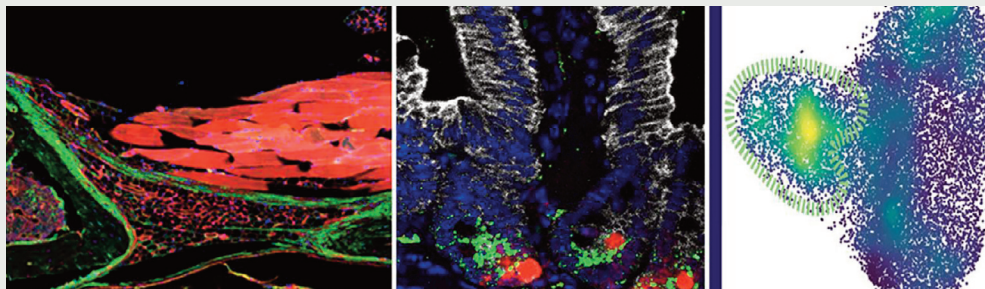
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Pederzoli F, Raffo M, Pakula H, Ravera F, Nuzzo PV, **Loda M**: Stromal cells in prostate cancer pathobiology: friends or foes? *Br J Cancer Epub ahead of print*. PMID: 36482187, 2022.

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Grimm SL, Davis CM, Ehi EA, Kelleher KM, Seo JH, Mitsiades N, Coarfa C, Pomerantz MM, **Loda M**, Ittmann M, Freedman ML, Kaochar S: The Prostate Cancer Androgen Receptor Cistrome in African American Men Associates with Upregulation of Lipid Metabolism and Immune Response. *Cancer Res* 82:2848-2859, 2022.

Cyrta J, Rosiene J, Bareja R, Kudman S, Al Zoughbi W, Motanagh S, Wilkes DC, Eng K, Zhang T, Sticca E, Mathew S, Rubin MA, Sboner A, Elemento O, Rubin BP, Imielinski M, **Mosquera JM**: Whole-genome characterization of myoepithelial carcinomas of the soft tissue. *Cold Spring Harb Mol Case Stud* 8:a006227, 2022.

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Detection of PKD1 and PKD2 Somatic Variants in Autosomal Dominant Polycystic Kidney Cyst Epithelial Cells by Whole-Genome Sequencing. *J Am Soc Nephrol* 32:3114-3129, 2021.

Smithgall MC, Murphy EA, **Schatz-Siemers N**, **Matrai C**, **Tu J**, **Baergen RN**, **Yang YJ**: Placental pathology in women vaccinated and unvaccinated against SARS-CoV-2. *Am J Obstet Gynecol* 227:782-4, 2022.

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Velu P, Cong L, **Rand S**, Qiu Y, Zhang Z, Zhang J, Guo J, Ruggiero P, Sukhu A, Fauntleroy K, **Imada E**, **Zanettini C**, **Brundage D**, **Westblade L**, **Marchionni L**, **Cushing MM**, **Rennert H**: Rapid detection of SARS-CoV-2 variants of concern by single nucleotide polymorphism genotyping using TaqMan assays. *Diagn Microbiol Infect Dis* 104:115789, 2022.

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Liu J, **Westblade LF**, Wang F, **Chadburn A**, Fideli R, Craney A, **Rand S**, **Cushing MM**, Meng J, **Zhao Z**, **Yang HS**: Distinct Laboratory Test Result Profiles Between SARS-CoV-2 and Seasonable Influenza Infected Patients. *Ann Clin Lab Sci* 52:871-879, 2022.

For Full List of Publications





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Division Highlights: Cell and Cancer Pathobiology (CCPB)

Overview & Goals

CCPB is the basic/translational research arm of the Department of Pathology with an overarching goal of unraveling the cellular and molecular mechanisms of human disease, with a particular emphasis on cancer. What distinguishes CCPB from other departments/divisions of Cell and Cancer Biology is our interest in understanding these cellular processes in the context of pathological tissues. The interface between investigators working with cellular and physiologically relevant mouse models, faculty with pathology expertise, and access to well-annotated human specimens and state-of-the-art imaging and computational technologies makes CCPB unique in its goals and research strategy.

The composition of the division is diverse to promote cross-pollination among investigators with different expertise and focus. During the last four fiscal years, CCPB has secured approximately \$20 million from active grants per year, which amounts to more than \$100

million in multi-year projects. Notably, 90% of those funds come from federal sources, mainly NIH and the Department of Defense, with close to 70% indirect costs. In the last three years, our NIH funding has doubled, catapulting us from the 31st to the 17th in terms of grant funding among Pathology departments in the U.S. (BRIMR.org).

Goals:

- Increase the effort on studies on cell plasticity and the role of the tumor stroma during cancer therapy resistance and the role of inflammation, metabolism, and epigenetics in these processes.
- Promote the interrogation of human tissue microarrays with multiplex imaging to validate findings in mouse and cell models, as well as to unravel new aspects of the carcinogenic processes with a special interest in metastasis.
- Grow in the areas of computational analysis of multiplex imaging at a single-cell level.

Newly Awarded Grants

Weill Cornell Medicine Dean's Office (Jumpstart award)

Title: A Tri-stem cell basis for calvarial mineralization and neuroinflammation

Principal Investigator: **Seoyeon Bok, PhD**

Period of Support: 07/01/2022-06/30/2025

Total Direct Costs: \$300,000

The Leukemia & Lymphoma Society (SCOR grant)

Title: Targeting Unmet Needs For B-cell Lymphomas

Principal Investigator: **Ethel Cesarman, MD, PhD**

(Project 2 Lead)

Period of Support: 10/01/2022-09/30/2027

Total Direct Costs: \$750,000 (Project 2)

National Institutes of Health (U01 grant subaward)

Title: Rapid Sample-to-Answer Diagnosis of Kaposi's Sarcoma Across Sub-Saharan Africa using KS-COMLETE

Principal Investigator: **Ethel Cesarman, MD, PhD**

Period of Support: 06/10/2022-05/31/2027

Total Direct Costs: \$361,050

National Institutes of Health (U01 grant)

Title: B cell determinants of EBV latency

Principal Investigator: **Ethel Cesarman, MD, PhD**

Period of Support: 09/09/2022-08/31/2027

Total Direct Costs: \$3,158,148

National Institutes of Health (T32 grant)

Title: Cancer Research Manpower

Principal Investigator: **Ethel Cesarman, MD, PhD**

Co-PI: **Matthew Greenblatt, MD, PhD**

Period of Support: 09/01/2022-08/31/2027

Total Direct Costs: \$1,474,686

National Institutes of Health (K99 grant)

Title: A multi-stem cell basis for craniosynostosis

Principal Investigator: **Shawon Debnath, PhD**

Period of Support: 07/01/2022-06/30/2024

Total Direct Costs: \$250,000

United States Department of Defense

Title: The skeletal stem cell basis for skeletal fragility

Principal Investigator: **Shawon Debnath, PhD**

Period of Support: 12/15/2022-12/14/2024

Total Direct Costs: \$200,000

American Society for Bone and Mineral Research

Title: A multi-stem cell basis for craniosynostosis

Principal Investigator: **Shawon Debnath, PhD**

Period of Support: 01/01/2023-12/31/2023

Total Direct Costs: \$15,000

Upcoming Event

WCM Cell and Cancer Pathobiology Symposium

September 13 - September 14, 2023

<https://pathology.weill.cornell.edu/education/wcm-cell-and-cancer-pathobiology-symposium>

CELL AND CANCER PATHOBIOLOGY SYMPOSIUM

Well Cornell Medicine

Stromal and epithelial plasticity in cancer progression and therapy resistance

September 13-14, 2023
Belfer Research Building
Weill Cornell Medicine
AUDITORIUM

Online registration:
<https://tinyurl.com/dpc6kwz7>

Well Cornell Medicine Meyer Cancer Center | **Department of Pathology and Laboratory Medicine**

Speakers:
 Minshu Bai, M.D., Weill Cornell Medicine
 Maria I. Giza-Arzo, Ph.D., Weill Cornell Medicine
 David Goodrich, Ph.D., Weill Cornell Medicine
 Jeffrey Hahnke, Ph.D., Weill Cornell Medicine
 Raghav Kalluri, M.D., University of Texas MD Anderson
 Michael Karin, Ph.D., University of California, San Diego
 Elita Khoury, Ph.D., Weill Cornell Medicine
 Ken Liu, Ph.D., Weill Cornell Medicine
 Ernest Lengyel, M.D., Ph.D., Weill Cornell Medicine
 Massimo Loda, M.D., Weill Cornell Medicine
 Jorge Moscat, Ph.D., Weill Cornell Medicine
 Peter Nabel, M.D., Weill Cornell Medicine
 Ellen Purdy, Ph.D., Weill Cornell Medicine
 David Rickman, Ph.D., Weill Cornell Medicine
 Charles B. Roth, M.D., Ph.D., Weill Cornell Medicine
 Charles Sawyers, M.D., Memorial Sloan-Kettering Cancer Center
 Robert F. Schreiber, M.D., Ph.D., Dana-Farber Cancer Institute
 Michael Shon, Ph.D., Memorial Sloan-Kettering Cancer Center
 Mara Sherman, Ph.D., Memorial Sloan-Kettering Cancer Center
 Shannon J. Turley, Ph.D., Weill Cornell Medicine
 Jurgie Weis, Ph.D., Weill Cornell Medicine

Organizers:
 Maria I. Giza-Arzo, Ph.D., Weill Cornell Medicine
 Jurgie Weis, Ph.D., Weill Cornell Medicine

National Institutes of Health (R01 grant)

Title: Receptor for hyaluronan-mediated motility isoform B (RHAMM B) in Pancreatic Cancer Metastasis

Principal Investigator: **Nancy Du, PhD**

Period of Support: 08/01/2022-07/31/2027

Total Direct Costs: \$1,143,750

Charles A. Frueauff Foundation

Title: Equipment purchase for osteoporosis research

Principal Investigator: **Matthew Greenblatt, MD, PhD**

Period of Support: 01/01/2023-12/31/2023

Total Direct Costs: \$40,000

Cornell China Center

Title: A stem cell basis for vertebral metastases

Principal Investigator: **Matthew Greenblatt, MD, PhD**

Period of Support: 07/01/2023-06/30/2024

Total Direct Costs: \$15,000

Pershing Square Foundation

Title: A bone to brain axis controlling Alzheimer's disease progression

Principal Investigator: **Matthew Greenblatt, MD, PhD**

Period of Support: 07/01/2023-06/30/2026

Total Direct Costs: \$675,000

continued





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Division Highlights *continued*

National Institutes of Health (R44 subaward)

Title: Quantitative mapping of dynamic epigenetic states in rare and stimulated immune cells
Principal Investigator: **Steven Josefowicz, PhD**
Period of Support: 08/18/2022-07/31/2023
Total Direct Costs: \$123,894

National Institutes of Health (R01 supplement grant)

Title: Epigenetic alterations and phenotypes in innate immune cells and their progenitors in PASC
Principal Investigator: **Steven Josefowicz, PhD**
Period of Support: 08/08/2022-11/30/2024
Total Direct Costs: \$177,089

STARR Cancer Consortium

Title: Mechanisms of dynamic chromatin reorganization regulating B-cell differentiation and lymphomagenesis
Principal Investigator: **Steven Josefowicz, PhD**
Period of Support: 01/01/2023-12/31/2024
Total Direct Costs: \$200,000

Burroughs Wellcome Fund

Title: Epigenetic regulation of immunity: molecular mechanisms of inflammatory priming and altered hematopoiesis
Principal Investigator: **Steven Josefowicz, PhD**
Period of Support: 07/01/2022-06/30/2027
Total Direct Costs: \$500,000

National Institutes of Health (R35 grant)

Title: Destruction of noncoding RNAs
Principal Investigator: **Benjamin Kleaveland, MD, PhD**
Period of Support: 07/01/2022-06/30/2027
Total Direct Costs: \$1,250,000

Prostate Cancer Foundation

Title: Targeting lipid metabolism and diet in patients with locally advanced prostate cancer
Principal Investigator: **Massimo Loda, MD**
Period of Support: 12/23/2022-12/22/2024
Total Direct Costs: \$1,000,000

National Institutes of Health (U54 subaward)

Title: Radiation Oncology-Biology Integration Network on Oligometastasis (ROBIN OligoMET) Center
Principal Investigator: **Luigi Marchionni, MD, PhD**
Period of Support: 08/04/2022-07/31/2027
Total Direct Costs: \$640,020

Meyer Cancer Center Collaborative Research Initiative

Title: Characterization of Alternative polyadenylation as a determinant of tumor progression and immunotherapy response
Principal Investigator: **Luigi Marchionni, MD, PhD**
Period of Support: 07/01/2022-06/30/2023
Total Direct Costs: \$50,000

National Institutes of Health (R01 grant)

Title: Cholesterol metabolism in mesenchymal colorectal cancer
Principal Investigator: **Jorge Moscat, PhD**
Period of Support: 12/09/2022-11/30/2027
Total Direct Costs: \$1,543,195

National Institutes of Health (R50 grant)

Title: Dissecting the in vivo stromal metabolic and inflammatory crosstalk in colorectal cancer
Principal Investigator: **Maria Angeles Duran Molina, PhD/Jorge Moscat, PhD** (Unit Director)
Period of Support: 8/16/2022-7/31/2027
Total Direct Costs: \$524,435

Qatar National Research Foundation

Title: Differences in methylation profiles of prostate cancer (PCa) patients with different genetic ancestry
Principal Investigator: **Juan Miguel Mosquera, MD**
Period of Support: 11/01/2022-12/31/2022
Total Direct Costs: \$300,000

National Institutes of Health (DP5 Diversity Supplement)

Title: Defining malignant hematopoiesis via single-cell multi-omics
Principal Investigator: **Anna Nam, MD**
Period of Support: 09/01/2022-08/30/2024
Total Direct Costs: \$126,126

Scipio Bioscience

Title: Identifying signatures of metastatic disease using genetically engineered mouse models (GEMMS) of locally advanced and metastatic prostate cancer
Principal Investigator: **Mohamed Omar, PhD** (Marchionni Lab)
Period of Support: 04/01/2023-03/31/24
Total Direct Costs: \$30,000

National Institutes of Health (UM1 Fellowship)

Title: The AIDS Malignancy Consortium Grant (AMC)
Principal Investigator: **Sanjay Patel, MD**
Period of Support: 09/01/2022- 08/31/2023
Total Direct Costs: \$25,000

National Institutes of Health (R01 supplement grant)

Title: Endothelial sphingolipid signaling in post-sepsis cognitive impairment
Principal Investigator: **Teresa Sanchez Garcia-Vao, PhD**
Period of Support: 06/15/2022-05/31/2025
Total Direct Costs: \$250,000

National Institutes of Health (UM1 Fellowship)

Title: The AIDS Malignancy Consortium Grant (AMC)
Principal Investigator: **Paul Simonson, MD, PhD**
Period of Support: 09/01/2022- 08/31/2023
Total Direct Costs: \$25,000

National Institutes of Health (R13 grant)

Title: 2nd Biennial ASBMB - BSC Symposium on the Interplay between Epigenetic Regulation and Genome Integrity
Principal Investigator: **Jessica Tyler, PhD**
Period of Support: 08/15/2022-07/31/2023
Total Direct Costs: \$9,600

National Institutes of Health (R43 SBIR subaward)

Title: High-resolution genomic mapping of ssDNA and associated prteins for Alzheimer's disease research
Principal Investigator: **Jessica Tyler, PhD**
Period of Support: 09/01/2022-06/30/2023
Total Direct Costs: \$88,496

National Institutes of Health (R01 subaward)

Title: Development of Targeted Antipseudomonal Bactericidal Prodrugs
Principal Investigator: **Lars Westblade, PhD**
Period of Support: 04/01/2023-03/31/2028
Total Direct Costs: \$200,000

Cornell Center for Pandemic Prevention and Response

Title: Clinical utility of viral load quantification in influenza infections
Principal Investigator: **Lars Westblade, PhD**
Period of Support: 12/01/2022-11/30/2023
Total Direct Costs: \$75,000

WCM Clinical & Translational Science Center

Title: Effects of In-Utero SARS-Cov-2 exposure and immunity on pediatric outcomes
Principal Investigator: **Yawei (Jenny) Yang, MD, PhD**
Period of Support: 07/01/2022-06/30/2023
Total Direct Costs: \$50,000

National Institutes of Health (R01 grant)

Title: UBR5's mechanisms of action in tumorigenesis and immunoregulation"
Principal Investigator: **Pengbo Zhou, PhD** (Co-PI Xiaojing Ma)
Period of Support: 03/01/2023-02/28/2028
Total Direct Costs: \$611,590

WCM Clinical & Translational Science Center

Title: WCM Clinical and Translational Science Center (CTSC)
Principal Investigator: **Pengbo Zhou, PhD**
Period of Support: 07/01/2022-06/30/2023
Total Direct Costs: \$50,000

National Institutes of Health/WCM (SPORE DRP Pilot grant)

Title: Weill Cornell Medicine (WCM) SPORE in Prostate Cancer
Principal Investigator: **Massimo Loda, MD**; PI Pilot Award: **Pengbo Zhou, PhD**
Period of Support: 10/01/2022-09/30/2023
Total Direct Costs: \$75,000





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Residents' Corner



Thank A Resident Day Appreciation event on February 24, 2023 at Randolph Beer in Brooklyn.

Left to Right: Carlos Munoz Zuluaga, Muhammad Ahmad, Hnin Ingyin, Ivo Sah Bandar, Rrita Krasniqi, Joshua Mo, Diana Vulcain, Carla Stephan, Uzayr Arif, Chandler Sy, Steven Salvatore.

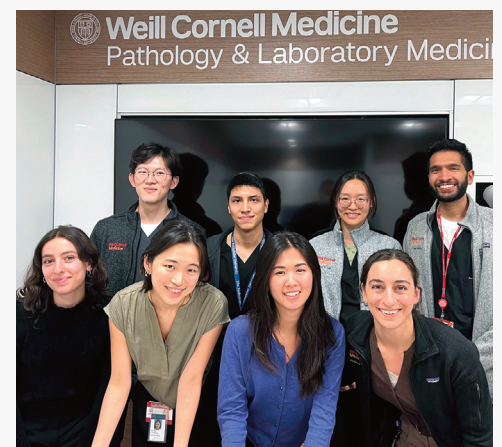


Julio Cordero joined the department in November 2022 as Residency Coordinator. He was previously at Weill Cornell in our department in various administrative roles. We welcome him back to the department.



MD, PhD February students on their pathology rotation.

Left to Right: Xiao, M.; Davis, K.; Cardakli, EM.; Doymaz, A.; Yen, SF; Wallace, TN; Fan, S.




MD, PhD January students on their pathology rotation.


Back row: Wang, E; Pachas, M; Leo, K; Nathoo, I
Front row: Dimitriadoy, S; Chen, C; Lee, Y; Lawless, V.

Weill Cornell Medicine
Pathology & Laboratory Medicine


**2023 NewYork Presbyterian/Weill Cornell Medical Center
Pathology Residency Match**



Jordan Driskill, M.D., PhD
AP/PS/P
The University of Texas
Southwestern Medical School



Khalla-Cheyenne Moreau, M.D., MPH
AP/ICP
St. George's University School of
Medicine



Claire Bise, M.D.
AP/ICP
Louisiana State University School
of Medicine



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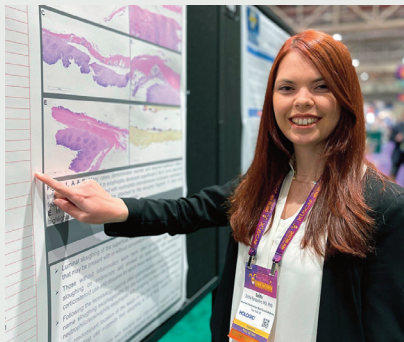
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Residents' Corner *continued*

Poster Presentations



Carlos Munoz Zuluaga, MD presented *Assessment of Size of Locally Advanced Breast Carcinoma After Neoadjuvant Chemotherapy (NACT): A Retrospective Study of 44 Cases Evaluating Extent of 'Tumor Bed' by Imaging Techniques, Gross & Microscopic Examination* at USCAP.



Selda Karaaslan, MD, PhD presented *"The Clinicopathologic Spectrum of Esophageal Biopsy Specimens Showing "Sloughing": Is It An Esophagitis, Esophagopathy or Both?"* at USCAP.



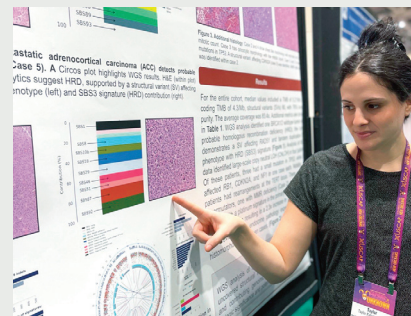
Andy Phan, MD presented *"Whole Genome Sequencing (WGS) of Locally Advanced and Metastatic Breast Carcinoma Unravels Relevant Molecular Signatures and Novel Events"* at USCAP.



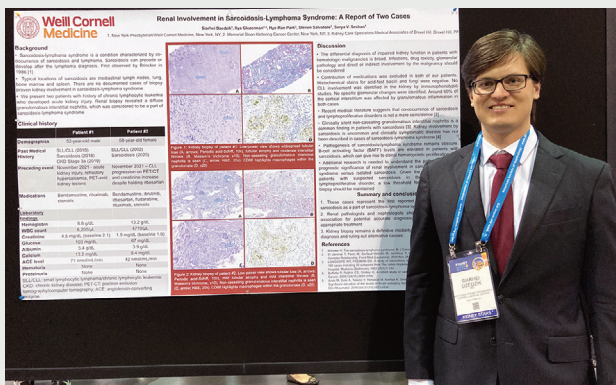
Georgi Lukose, MD presented at USCAP.



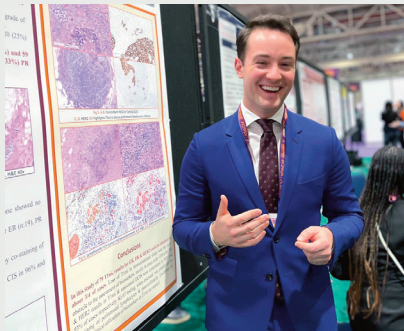
Chiefs at USCAP
Selda Karaaslan, MD, PhD (AP Chief Resident), Carlos Munoz Zuluaga, MD (CP Chief Resident), and Georgi Lukose, MD (AP Assistant Chief Resident).



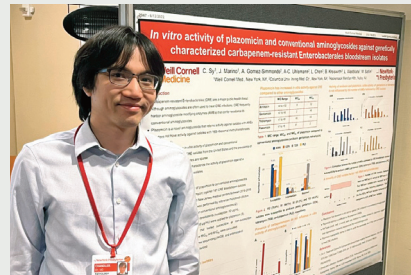
Taylor Kalomeris, DO presented *"Whole Genome Profiling of Primary and Metastatic Adrenocortical Carcinoma Unravels Significant Molecular Events"* at USCAP.



Siarhei Dzedsik, MD presented a poster at - American Society of Nephrology Kidney Week 2022 Orlando, FL on Nov 3-6, 2022.



Olivier Michaud, MD presented *"Biomarker Testing in Microinvasive Carcinoma (T1mi) of the Breast" A Study of 79 Cases Highlights Need for Clinicopathologic Guidelines* at USCAP.



Chandler Sy, MD, PhD presented *"In vitro activity of plazomicin and conventional aminoglycosides against genetically characterized carbapenem-resistant Enterobacteriales bloodstream isolates"* at USCAP.

[For Full USCAP Abstract List](#)





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Faculty Recruitment and Promotions

Welcome New Faculty



Scott Vecilla, MD, PhD joined us as Director of the Cellular Therapy Laboratories on December 1st. Dr. Vecilla was formerly the Director of the Cellular Therapy Laboratory at Memorial Sloan Kettering and the Director of Clinical Laboratories at Hospital for Special Surgery. Dr. Vecilla has over 10 years of experience in the field.



Liming Bao, MD, PhD joined us as Director of Cytogenetics on October 2022. Dr. Bao was previously the Director of Cytogenetics at the University of Colorado and before that Director of Cytogenetics at Dartmouth. Dr. Bao has over 25 years of experience in the field. We thank Dr. Amy Chadburn, Dr. Madhu Ouseph, Dr. Yi Ning, Dr. Mary Haddadin, Dr. Brynn Levy and the cytogenetics faculty at Columbia Pathology for their incredible effort in supporting the

Cytogenetics Program at Weill Cornell. The laboratory has run smoothly since Susan Mathew's retirement in early June thanks to their work and the work of the NYP management team in the Cytogenetics Laboratory.



Esther Cheng, DO rejoined the faculty in November 2022 and works at both the NYP Weill Cornell and NYP Queens campuses with an emphasis on breast pathology.



Chen Zhang, MD, PhD joined our department as Chief of Thoracic Pathology in August 2022. Her recruitment was timely since we just implemented our new cardiac transplant program. Dr. Zhang was formerly an Associate Professor at Indiana University School of Medicine and she has more than 10 years of practice specializing in cardiothoracic pathology.



Neal Lindeman, MD joined as Vice Chair of Molecular Pathology and Laboratory Medicine beginning January 30, 2023. Previously, Dr. Lindeman was the Vice Chair of Molecular Pathology at the Brigham and Women's Hospital. Dr. Lindeman has more than 30 years of experience in the field of Molecular Pathology.



Left to right: Massimo Loda, MD, Scott Vecilla, MD, PhD, Antonio Marzio, PhD, Chen Zhang, MD, PhD, Neal Lindeman, MD and Liming Bao, MD, PhD.

Promotions/Leadership Changes



Maria Diaz-Meco, PhD
Professor of Pathology and Laboratory Medicine with Tenure



Jose Jessurun, MD
Interim Chief for Gastrointestinal and Liver Pathology



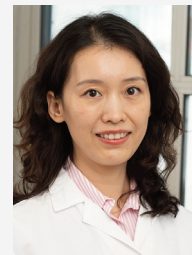
Michael Kluk, MD, PhD
Director of Molecular Hematopathology Laboratory



Jorge Moscat, PhD
Professor of Pathology and Laboratory Medicine with Tenure



Steven Josefowicz, PhD
Associate Professor of Pathology and Laboratory Medicine



Sarina Yang, PhD
Associate Professor of Clinical Pathology and Laboratory Medicine



Zhen Zhao, PhD
Professor of Clinical Pathology and Laboratory Medicine



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In Memoriam Grace Yang, MD



Grace Yang, MD

Dr. Grace Yang came to the United States in 1964 after graduation from National Taiwan University majoring in Plant Pathology to attend the University of Wisconsin at Madison. After obtaining an M.S. degree, she married and worked as an electron microscopist in research laboratories at University of Chicago, M.I.T. and Rutgers Medical School for 16 years. After an M.S. degree in Zoology from Rutgers University, she was admitted at age 40 to Rutgers (Robert Wood Johnson) Medical School and graduated in 1987. She completed her AP/CP Pathology residency training at New York University Medical Center, followed by Cytopathology fellowship at Hospital of the University of Pennsylvania. She subsequently became an Assistant Professor at Cornell University Medical College in 1992.

"*The cells don't lie*" was her mantra as a cytopathologist. As a morphologist assessing fine needle aspirations this applied to her practice on a daily basis during sign-out with a generation of residents and cytopathology fellows. To improve her practice, she was an innovator as well. She was instrumental in developing the Ultrafast Papanicolaou stain, which significantly reduced the time for evaluating fine needle aspiration smears at the time of adequacy assessment. This was reported to national acclaim by the New York Times on 4/25/1995.

"It was my dream to study fine needle aspiration slides using the microscope to help

patients." Another often used statement from Dr. Yang which showed her humanitarian side aside from being an educator. She was promoted to an Associate Professor at New York University Medical Center in 1996 and then to a professor in 2005. In this phase of her career, she remained an educator at heart along with continuing her interest in fine needle aspiration cytology. She became part-time faculty in 2011 with a final retirement in 2020.

Dr. Yang passed away peacefully surrounded by her loving husband, son, and daughter on Sunday, December 11, 2022, at NYU Tisch Hospital in New York City. She had bravely battled serious health issues over the past eleven months which she could not overcome, including autoimmune hemolytic anemia, disseminated tuberculosis, and Hodgkin's lymphoma. Dr. Yang's funeral was



Grace and her husband.

held on Saturday, December 17, 2022, at Bridgewater Funeral Home in Bridgewater, New Jersey.

Written by Momin Siddiqui, MD



Left to right: Patrick McIntire, MD, Sue Alperstein, Kartik Viswanathan, MD, PhD, Grace Yang, MD, Abha Goyal, MD, Ami Patel, MD, Momin Siddiqui, MD at the ASC Meeting in 2019.



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Department Gatherings

Rhonda Yantiss, MD, Farewell Event, September 2022



Left to right: Nalini Scarpa, Jeff Hernandez, Ann-Marie Ewell, Gina Imperato, Daniel Knowles, MD, Shefali Shah and Jessica Misner.



Left to right: Rhonda Yantiss, MD, Massimo Loda, MD and Daniel Knowles, MD.



Left to right: Diana Vulcain, Alicia Dillard, Selda Karaaslan, Nicole Mendelson, Rrita Krasniqi and Ivo Sah Bandar.

Ian Hatch Farewell, February 2023



Left to right: Chif Umejei and Ian Hatch.

Holiday Department Party, December 2022



Our Residents.



Left to right: Gina Imperato, Shefali Shah, Kristen Gonzalez, Nalini Scarpa, Hiral McCarthy, Sarina Yang, PhD and Zhen Zhao, PhD.



Left to right: Melissa Cushing, MD, and Massimo Loda, MD.



Left to right: Anna Yemelyanova, MD, James Solomon, MD, PhD, Erika Hissong, MD and Cong Shen.



Left to right: Jessica Misner, Kristen Gonzalez, Nalini Scarpa, Shefali Shah, Ann-Marie Ewell and Gloria Ramirez.

ITS Smartfest at Weill Cornell Medicine, February 2023



Left to right: Jessica Misner, Shefali Shah and Gina Imperato.



Left to right: Kristen Gonzalez, Julio Cordero and Melissa Lopez.