



Center for Clinical and Translational Science e-Newsletter

Center News

Inaugural Marguerite S. Lederberg Annual Lecture

By Editorial Staff

The inaugural Marguerite S. Lederberg Annual Lecture was held on September 7, 2022. The lecture is named in honor of Dr. Marguerite S. Lederberg. Dr. Lederberg was a distinguished pediatrician and psychiatrist at Memorial Sloan Kettering Cancer Center and a pioneer in the field of psycho-oncology, including the many bioethical issues raised by the care of patients with cancer. To honor her memory, her children established The Marguerite S. Lederberg Annual Lecture in the Seminars in Clinical Research Series at The Rockefeller University

Hospital to create a permanent tribute to their mother focusing on the bioethical aspects of science and medicine.

Neil A. Hanchard, MBBS, DPhil, Stadtman Investigator at the Center for Precision Health Research, National Human Genome Research Institute at the National Institutes of Health, was the inaugural speaker for the lecture. Dr. Hanchard's presentation, Diversity Origin Stories: Expanding the Landscape of Genetic Variation in Human Disease through Research and Engagement in Africa, was the perfect start for the

inaugural Marguerite S. Lederberg Annual Lecture and the 2022 - 2023 lecture series.

Dr. Hanchard's research focuses on integrating population genetics with quantitative multi-omics to explore complex childhood disease traits such as Pediatric HIV, Sickle Cell Disease, and Severe Malnutrition in African populations.

The lecture was well attended by Clinical Scholars, members of the Rockefeller community and Dr. Lederberg's family.



Drs. Sarah Schlesinger, Barry Collier, and Neil Hanchard Clinical Scholars and members of the Lederberg Family

Maija Williams, MPH Promoted to Chief Operating Officer of the Hospital

By Editorial Staff



The Rockefeller University Hospital is proud to announce the promotion of Maija Williams to the position of Chief Operating Officer of the Hospital. Since

joining Rockefeller University in 2006, Maija has managed the Center for Clinical and Translational Science (CCTS) and the administrative responsibilities of

the Rockefeller University Hospital. She has played a vital role in the successful renewals of the Rockefeller University NIH NCATS Clinical and Translational Science Award grant since 2006, which have brought more than \$135 million in grant funds to Rockefeller.

Maija oversees all administrative and operational duties of Rockefeller University Hospital and the CCTS, including financial analysis and strategy, human resource management, facilities management, business development and marketing, and

contract negotiations with sponsors and strategic partners. She also leads strategic planning and direction to provide Clinical Scholars, staff, and scientists solutions that significantly impact the success of their education and research. She also works directly with the New York State Department of Health, New York City Department of Health and Mental Hygiene, and the Greater New York Hospital Association on Hospital compliance and quality assurance activities.

Maija has been recognized by her peers

New Clinical Scholars Join the Center for Clinical and Translational Science

By Editorial Staff

We are pleased to announce that Drs. Charlie Buffie and Mira Patel are serving as the chief Clinical Scholars for the academic year 2022 - 2023. Dr. Buffie is a member of the Brady Laboratory, and his research focuses on metagenomic analyses of bioactive metabolites produced by native intestinal bacteria. Dr. Patel is a member of the Tavazoie Laboratory and her research focuses on the role of immunosurveillance in mechanisms of cancer progression and metastasis, particularly as it relates to germline genetic variants that may predispose to metastatic disease.

We are also pleased to welcome seven new Clinical Scholars who joined the Center for Clinical and Translational Science on July 1, 2022.

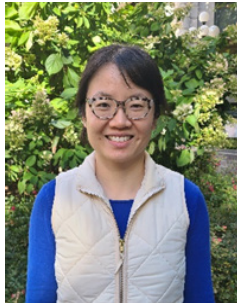


Tamar Berger, MD

Mentor: Agata Smogorzewska, MD, PhD
Laboratory of Genome Maintenance

Research Interest: Dr. Berger's research interests are the epidemiology of hematological malignancies and biomarker characterization for early cancer detection.

Biography: Dr. Berger received her MD and MHA from the Ben Gurion University of the Negev in Be'er Sheva, Israel. Dr. Berger completed her Internal Medicine residency and Hematology fellowship at Rabin Medical Center in Israel. Dr. Berger served as a senior Hemato-oncologist at Rabin Medical Center, Davidoff Cancer Center, focusing on treating patients with plasma cell disorders.



Xiaojing Huang, MD, PhD

Mentor: Paul Cohen, MD, PhD
Laboratory of Molecular Metabolism

Research Interest: Dr. Huang's research interests are systems biology and developing metabolomics technologies.

Biography: Dr. Huang received both her MD and PhD from Washington University School of Medicine in St. Louis. She completed her Internal Medicine residency at Barnes-Jewish Hospital in St. Louis, and is currently a Radiation Oncology resident at Memorial Sloan Kettering Cancer Center.



Matthew Kudelka, MD, PhD

Mentor: Elaine Fuchs, PhD
Robin Chemers Neustein Laboratory of Mammalian Cell Biology and Development

Research Interest: Dr. Kudelka's research interests are post-translational modifications of proteins in health and disease and developing novel cancer therapies.

Dr. Kudelka received his MD and PhD from the Emory University School of Medicine. He completed his Internal Medicine residency at New York Presbyterian-Weill Cornell. Dr. Kudelka is currently a Medical Oncology/Research Fellow at Memorial Sloan Kettering Cancer Center.



Ryan Q. Notti, MD, PhD

Mentor: Thomas Walz, PhD
Laboratory of Molecular Electron Microscopy

Research Interest: Dr. Notti's research interests are structural biological approaches to address fundamental questions in oncology and design of new therapeutics, with a focus on the treatment of sarcomas.

Biography: Dr. Notti received his MD from Weill Cornell Medical College and PhD from Rockefeller University. Dr. Notti completed his Internal Medicine residency at New York Presbyterian-Weill Cornell.

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New Clinical Scholars Join the Center for Clinical and Translational Science



Amihai Rottenstreich, MD

Mentor: Barry Collier, MD

Allen and Frances Adler Laboratory of Blood and Vascular Biology

Research Interest: Dr. Rottenstreich's research interest is hematologic aspects of reproductive medicine, focusing on improving methods to prevent pre-eclampsia in pregnancy.

Biography: Dr. Rottenstreich received his MD from the Technion – Israel Institute of Technology in Israel. He completed his residency in the Department of Obstetrics and Gynecology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel.



Leon L Seifert, MD

Mentor: Charles Rice, PhD

Laboratory of Virology and Infectious Disease

Research Interest: Dr. Seifert's research interests are liver diseases and liver cirrhosis. He is particularly focused on the hepatitis B infection, a viral disease that affects ~250 million people worldwide.

Biography: Dr. Seifert received his MD from Westfälische Wilhelms-Universität Münster in Germany. He completed the residency program in internal medicine and gastroenterology at University Hospital Münster.



Zijun Wang, MD

Mentor: Michel Nussenzweig, MD, PhD

Laboratory of Molecular Immunology

Research Interest: Dr. Wang's research interests is the evolution of antibody responses to virus infection and vaccination, which includes SARS-CoV-2, HIV-1 and HBV.

Biography: Dr. Wang received her MD and PhD from Xiangya School of Medicine, Central South University in China. She completed the dermatology residency program at Second Xiangya Hospital of Central South University

Meet the Scholar: Charlie Buffie, MD, PhD

By Editorial Staff



Charlie Buffie joined the Clinical Scholars program in July 2020 in the Laboratory of Genetically Encoded Small Molecules. He received his

MD and PhD from Cornell University in the Tri-Institutional MD-PhD Program. He completed his Internal Medicine residency at New York-Presbyterian, Weill Cornell Medical Center in the Medical Research Track, and his fellowship in the division of Gastroenterology & Hepatology. Dr. Buffie is the 2022-3 Co-Chief Clinical Scholar.

How did you get interested in research? Were you always interested?

It is hard to pinpoint the time precisely, but one of my earliest memories of my interest in scientific research occurred during middle school. As part of a math project, I was introduced to genetics, which is when I learned about Gregor Mendel's life and work. I found the process by which he made his discoveries inspirational. I became fascinated by the biology and mathematics of heritable traits. This fascination, in turn, led to a range of interests in biology and medicine.

How did you come to Sean Brady's Lab?

I followed Sean's work for many years before joining his lab as part of the Clinical Scholars program. My graduate thesis work focused on the intestinal

microbiome. As Sean became interested in applying his expertise to this field, I became particularly excited about the possibility of working with him and his group as a postdoctoral fellow. We met several times throughout my clinical training to develop project ideas. I joined his lab as a Clinical Scholar near the end of my fellowship training in Gastroenterology and Hepatology.

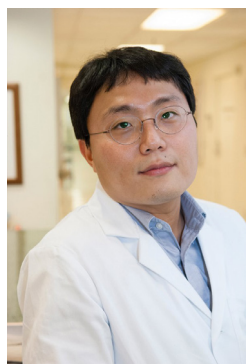
What is your current research?

My current work focuses on studying bioactive metabolite production by bacteria residing in the gastrointestinal (GI) tract. In many ecosystems, including the GI tract, bacteria influence other organisms via the molecules they produce, but accessing and identifying these molecules can be challenging. My work seeks to define microbiota-derived

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Meet the Graduate: Jaehwan Kim, MD, PhD

By Editorial Staff



Jaehwan Kim received his medical degree and PhD from Korea University, Seoul, Korea, and completed his dermatology training at Korea University Hospital in Ansan, Korea. He was a

clinical instructor at Korea University Hospital, Seoul, Korea, and completed a dermatology clinical research fellowship at St George Hospital, Sydney, Australia. Dr. Kim joined Rockefeller University as a Clinical Scholar in the Laboratory of Investigative Dermatology in May 2013. Dr. Kim was mentored by Drs. James Krueger and Michelle Lowes. Dr. Kim is currently an Assistant Professor at the University of California, Davis.

How did you get interested in research? Were you always interested?

As a medical school student in South Korea, I struggled to memorize all the disease pathogenesis and treatment guidelines. The information I had to memorize was mostly summaries of published papers and guidelines from the United States that were translated into Korean. I thought it would be cool if I could be the one who investigates the diseases on the frontline rather than being the one who summarizes the knowledge afterward. To me, research was the frontline that I admired.

How did you come to Krueger's Lab?

When I was looking for research opportunities in the United States, Rockefeller University Clinical Scholars Program was the only program that offered research time, education, and salary to foreign medical school graduates. I believe it is still true in 2022. I applied to the Clinical Scholars Program on the website and selected Krueger's lab, because I saw him at a Korean dermatology conference as an invited speaker. My application was returned because I had no research plan discussed with a mentor. I did not expect that my application would be

considered. However, someone in the Clinical Scholars Program reviewed my application and discussed my application with Dr. Krueger. I clearly remember the day I received an email asking me to research the Asian variant of psoriasis in Krueger's lab through the Clinical Scholars Program. It was the most significant breakthrough in my career. I sincerely appreciate the person who looked at my Clinical Scholar Program application with a blank research plan and saw the potential in me.

What is your current research, and how is your NIH grant going to assist with the research?

My current research aims to provide personalized treatment to psoriasis patients to cure the disease without subsequent recurrence. To achieve this goal, I am setting up an independent research laboratory to develop personalized algorithms to predict treatment response and recurrence with individual patients' genomic data. My NIH K23 research project is a clinical trial to understand how regulatory immunity may be modified through IL-23 inhibition in psoriasis. I hope to understand the molecular mechanisms for immune tolerance modification in psoriasis through this study.

What were your expectations when you joined the Clinical Scholars program, and were they met?

Since my major goal was to run an independent laboratory, I expected to experience all the steps happening in the laboratory. In this sense, 'learning science by doing science' was the perfect fit for me. I enjoyed the do-it-yourself culture in Krueger's lab with easily approachable experts nearby. The structured educational curriculum of the Clinical Scholars program balanced my education.

What were memorable learning opportunities as a Scholar?

I learned how to write grant proposals by writing CTSA Pilot grants with Michelle Lowes. I also learned how to run clinical trials by developing protocols with Donna Brassil and

Rhonda Kost. I learned genomic data analysis and R coding from Sandra Garcet and Mayte Suárez-Fariñas. My R code folder name is still 'Mayte.' I took an immunology course with Dr. Daniel Mucida, and it was challenging. All the learning experiences and challenges helped me grow as a Scholar, and I continuously use what I learned to this day as a PI of my laboratory.

What has been the most educational, interesting, and/or surprising aspect of being in the Clinical Scholar program?

The most surprising aspect of being in the Clinical Scholars program was securing three years for my research without worrying about the funding or limitation of resources. This advantage became an obstacle when I left Rockefeller University since I was accustomed to the level of support that I had in the Clinical Scholar program.

If someone asked you to describe the Clinical Scholar program in one sentence, what would it be?

Rockefeller University Clinical Scholar program is an enormous opportunity for physicians who want to do translational research.

Having graduated and in a new institution and position, what are the takeaways you would share with a junior Scholar?

When you are looking for a new institution and position, do not spend too much time listening to their vision, as it may not be as important as what is written in your contract. Also, if avoidable, do not try to transfer a K grant before you receive a notice of award. It is possible to do so but it will give you a nightmare for over a year. Lastly, if you plan to pursue your research career connected to the VA system, feel free to reach out to Jose Aleman (NYU) or me (UC Davis).

Adrianna Damato, MS, CPM, CRC, New Manager, Clinical Research Facilitation Office

By Rhonda Kost, MD & Maija Williams, MPH



The Rockefeller University Center for Clinical and Translational Science welcomes Adrianna Damato as the manager of the Clinical Research Facilitation Office. Adrianna will lead the facilitation staff in working with investigators developing clinical research protocols involving human participants. She has had extensive experience in neighboring academic

medical institutions in managing and conducting clinical research trials in a wide array of therapeutic areas. Her priority will be to work with the Clinical Research Coordinators in the Facilitation Office in educating Clinical Scholars and other investigators in the key elements of conducting clinical studies at the highest level of participant safety and research quality and integrity.

Adrianna completed a master's in science from Fordham University focusing on clinical research methodology with a concentration in pediatric cardiac transplant recipients' medication

adherence. She is certified as a clinical project manager by the Association of Clinical Research Professionals and holds a certification as a clinical research coordinator. Adrianna is driven by her passion for increased access to quality clinical research for populations that have traditionally not had access.

Adrianna's office is on the first floor of the Hospital building in room 126, and she can be reached via email at adamato@rockefeller.edu. Please stop by and say hello. Please feel free to stop by and say hello.

2016 Heilbrunn Nurse Scholar, Dr. Paule Joseph, Receives 2022 Brilliant New Investigator Award and Inaugural American Academy of Nursing/National Academy of Medicine Fellowship

By Bernadette 'Candy' Capili, PhD, NP-C



Dr. Paule Joseph received two awards reflecting her outstanding achievements. First, she was awarded the 2022 Brilliant New Investigator Award from the Council of

the Advancement of Nursing Science based on her accomplishments since receiving her PhD. The second was her selection as a Fellow at the National Academy of Medicine (NAM). The American Academy of Nursing (AAN) partnered with NAM on this fellowship to advance interprofessional collaboration and to recommend sound policy on pressing issues related to public health.

The purpose of the AAN NAM Fellowship program is to provide talented nurse scholars with an opportunity to experience and participate in evidence-based public health studies that improve the access of care to patients in domestic and global health care systems.

Dr. Joseph is a Lasker Clinical Investigator at the National Institutes of Health (NIH)/National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute of Nursing Research (NINR). She is also an alumna of the 2016 Heilbrunn Nurse Scholar program. Dr. Joseph is an internationally known chemosensory-trained nurse scientist whose research on taste and smell disorders has proven highly relevant during the

COVID-19 pandemic when many patients reported suffering loss of taste and smell. Her work also explores the intersection between chemosensation, environment, culture, dietary norms and behaviors, and the food industry as they relate to substance use disorders and obesity. Dr. Joseph also develops outreach and training initiatives that promote diversity, equity, inclusion, and access in biomedical research both within and outside the NIH.

The Heilbrunn Family Center for Research Nursing congratulates Dr. Joseph on these well-deserved recognitions for advancing nursing research.

Heilbrunn Nurse Scholar – Cassandra Godzik – Fulbright Award

By Bernadette 'Candy' Capili, PhD, NP-C



Heilbrunn Nurse Scholar Awardee (2021) Cassandra Godzik, PhD, APRN, PMHNP-BC, CNE, a Dartmouth-

Hitchcock Medical Center & Dartmouth College T32 Research Fellow, was recently selected to participate in the United States Post-doctoral Fellows Fulbright

Israel program. Dr. Godzik's research and clinical practice as a psychiatric nurse practitioner has focused on the home sleep environment of adults in the community in non-assisted living, nursing homes, or other residential facilities.

The Heilbrunn award supports her research focusing on older adults in rural communities in the Northeastern U.S. through survey development and virtual health technologies. She will continue this research at the University of Haifa alongside sleep researcher and psychologist Dr. Tamar Shochat.

Godzik's planned research project is entitled "Investigation of the underlying mechanisms that contribute to older adults' poor gait and motor functioning in the context of insomnia." For more about her upcoming studies and travel, please visit: <https://fulbright.org.il/node/459>. We are very proud that Dr. Godzik is receiving this recognition and will be able to expand her research internationally.

2020 Heilbrunn Nurse Scholar, Dr. Hongjin Li, receives NIH/National Center for Complementary & Integrative Health R34 award

By Bernadette 'Candy' Capili, PhD, NP-C



Dr. Hongjin Li received a R34 award from the National Institutes of Health/National Center for Complementary & Integrative Health. Dr. Li is an assistant professor at the

University of Illinois-Chicago and a 2021 Heilbrunn Nurse Scholar.

The title of her study is Feasibility of Implementing Acupuncture into a Federally Qualified Health Center to Alleviate Multiple Symptoms Among Breast Cancer Survivors Receiving Endocrine Therapy. Dr. Li's study focuses on patients receiving care from a federally qualified health center and breast cancer survivors. Nearly 94% of breast cancer survivors experience one or more symptoms during or after endocrine therapy. Joint pain, hot flashes, sleep disturbance, fatigue, depression, and

anxiety are the most common concurrent symptoms, some of which can persist for 5 to 10 years. These symptoms negatively affect adherence to treatment and compromise people's functional status, quality of life and work functioning. Acupuncture is a single therapy with few side effects that address multiple symptoms. The effect of acupuncture on multiple symptoms among breast cancer survivors receiving endocrine therapy has not been investigated.

Further, implementation-focused acupuncture research focuses on privately insured settings and ignores social determinants of health. There is an urgent need to remove barriers and ensure equal access to this evidence-based treatment among breast cancer survivors with limited access to acupuncture. Federally qualified health centers (FQHC) provide care to people who experience significant barriers to health care access. This research study has two aims: (1) to test the feasibility and acceptability of implementing acupuncture within an FQHC oncology clinic as a way to manage

multiple symptoms (pain, hot flashes, fatigue, sleep disturbance, depression, anxiety) among breast cancer survivors receiving endocrine therapy, and (2) to use a mixed methods approach to identify barriers and facilitators associated with the implementation of acupuncture within an FQHC.

The long-term goal is to facilitate the widespread implementation, dissemination, and utilization of acupuncture for symptom management among medically underserved breast cancer survivors receiving endocrine therapy in FQHCs nationwide and ultimately to promote broader insurance coverage for acupuncture. The proposed research is significant because of its potential to ensure equal access to acupuncture, an evidence-based intervention. Results will provide the foundation for a larger multi-site hybrid effectiveness-implementation trial of integrating acupuncture into services provided at FQHCs for breast cancer survivors.

2021 Heilbrunn Nurse Scholar, Dr. Sara Mithani, receives the 2022 Biomedical Laboratory Research and Development Career Award

By Bernadette 'Candy' Capili, PhD, NP-C



Dr. Sara Mithani received the Biomedical Laboratory Research and Development Career Award sponsored by the South Texas Veterans Health Care System - Department of Research and Development.

Dr. Mithani is an assistant professor at the University of Texas Houston and a 2021 Heilbrunn Nurse Scholar.

The title of her study is Molecular

Mechanisms Associated with Insomnia and Response to Cognitive Behavioral Therapy for Insomnia. This award provides her with 75% protected research time.

Her proposal focuses on insomnia among service members and veterans. Sleep disturbance among service members is especially prevalent in individuals with a history of traumatic brain injury. Long-term untreated insomnia can lead to various adverse health concerns such as mood and neurologic conditions, chronic pain, cardiovascular disease, and diabetes. Although cognitive behavioral therapy is the gold standard treatment for insomnia, not all individuals respond to

the treatment. This research will use RNA sequencing to examine the mechanisms associated with cognitive behavioral therapy effectiveness in military service members with insomnia and a history of traumatic brain injuries. Improving sleep is the first critical step in optimizing and enhancing rehabilitation approaches in veterans, and the results could provide tractable solutions to strengthen existing rehabilitation or identify novel therapeutic strategies. Dr. Mithani's study will also have equal representation for men and women, which can further inform gender-specific care in the military and Veteran health care system.

Maija Williams, MPH (continued)

with leadership roles in professional societies, and currently serves as the Chair of the HealthCare Leaders of New York Diversity & Inclusion Committee and the Governing Councilor for the American Public Health Association in the Health Administration Section. She is also the Chair Elect of the Association for Clinical and Translational Science Research Operations & Administration Special Interest Group.

As Chief Operating Officer, Maija will provide her vision, leadership, and operational management skills to guide the Rockefeller University Hospital and the CCTS in the execution of growth-focused strategies while streamlining operations for efficiencies. In addition, Maija will continue to ensure integrity in data management, mining, and analysis, while ensuring compliance with the

requirements of granting organizations, regulatory agencies, collaborating institutions, and strategic partners.

Please join us in congratulating Maija on her very well-earned and well-deserved promotion.

Clinical Scholars Visit Scenes of New York City: *The Elie and Sarah Hirschfeld Collection Exhibition* at the New York Historical Society

By Editorial Staff

The Clinical Scholars visited the Scenes of New York City: The Elie and Sarah Hirschfeld Collection exhibition at the New York Historical Society on August 10, 2022. Dr. Sarah Schlesinger arranged for a special tour by Marilyn Kushner, PhD, Curator and Head, Department of Prints, Photographs, and Architectural Collections. The exhibition features artists Theresa Bernstein, Keith Haring, Reginald Marsh, LeRoy Neiman, Norman Rockwell, and Mark Rothko, among others. Many works feature New York City icons: its buildings, bridges, parks, landmarks, and people. The Scholars shared their impressions of the artwork with Dr. Kushner, leading to lively discussions on the interpretation of colors and brushstrokes, and the connections between art and medicine. The event was followed by a dinner where the Scholars continued the discussion of the art and New York.



Clinical Scholars Visit the New York Academy of Medicine Rare Book Room

By Editorial Staff

On May 24th and September 28th, 2022 the Clinical Scholars visited The Rare Book Room at the New York Academy of Medicine. The Rare Book Room has one of the world's most important collections of books and other materials detailing the history of medicine dating back to the 16th century and earlier. Arlene Shaner, MA, MLS, Historical Collections Librarian, provided the Scholars with a broad array of manuscripts and books spanning more than 300 years, including books with magnificent illustrations in anatomy, dermatology, gastroenterology, and neurology. Clinical Scholar Dr. Yelina Alvarez commented, "It was a truly unique and amazing experience. Arlene has such a vast knowledge of the collection, which is exquisitely preserved. One of my favorite books was the Andreas Vesalius 1543 monumental and iconic atlas of human anatomy, *De Humani Corporis Fabrica*, written in Latin, Greek and Hebrew, which laid the foundation for modern anatomy and medicine. I will definitely return."



Clinical Scholars Program Celebrates New Graduates

By Editorial Staff

On June 2, 2022, the Center for Clinical and Translational Science celebrated the graduation of five Clinical Scholars with a dinner celebration in the Kellen BioLink. It was the first in-person graduation in two years, and the celebration was a wonderfully warm and inspiring event, with friends, and family members. Mentors spoke about their Scholars and Scholars shared their experiences in the program. Dr. Sarah Schlesinger, Director of the Clinical Scholars program, welcomed the participants with inspiring words about the Scholars' achievements and the pride that the entire CCTS leadership has in the Scholars. Dr. Barry Collier, Co-Director of the program, concluded the festivities by congratulating the Scholars and their families.

Dr. Dana Bielopolski's research focused on the effect of different components of metabolic syndrome, including obesity and hypertension, on kidney function. Her research results are relevant to health policy, adherence to lifestyle modifications, and early intervention to prevent end organ damage resulting from hypertension and obesity. Dr. Bielopolski is Senior Nephrologist and Head of Research at the Nephrology Institute at the Rabin Medical Center in Petah Tikva, Israel.

Dr. Rachel Niec studied the role of intestinal lymphatic vasculature in regulating stem cell activity and epithelial function. Dr. Niec will continue her research as an Instructor in Clinical Investigation at Rockefeller University in the Fuchs lab. She will also be caring for patients in the Inflammatory Bowel Disease Center at Weill Cornell Medical Center. Dr. Niec is the recipient of a 2022 Burroughs Wellcome Career Award for Medical Scientists.

Dr. Yael Renert Yuval's research focused on identifying the molecular features of multiple inflammatory skin diseases, including hidradenitis suppurativa, atopic dermatitis, and alopecia areata, with the goal of further improving their therapy. Dr. Yuval is now an Attending Pediatric Dermatologist and Director of Research at the Schneider Children's Medical Center in Petah Tikvah, Israel.

Dr. Ying Wang, as a member of the Birsoy Lab, identified SLC25A39, a mitochondrial membrane carrier of unknown function, as a regulator of glutathione (GSH) transport into mitochondria. SLC25A39 promotes mitochondrial GSH import and is necessary for cell proliferation in vitro and red blood cell development in mice. Dr. Wang is Head of Cell Metabolism and Medium Development at Wildtype, a San Francisco-based, cultivated seafood company.

Dr. Jeffrey Wong's research in Dr. Ravetch's lab focused on understanding aspects of antibody immunobiology and how it can be harnessed to develop better antibody-based cancer therapies. Dr. Wong is now the Medical Director of Oncology Early Clinical Development at Genentech.



Drs. Sarah Schlesinger, James Krueger, Yael Renert Yuval, Dana Bielopolski, Rachel Niec, and Barry Collier.



Back: Drs. Barry Collier, Dana Bielopolski, Rhonda Kost, and Sarah Schlesinger
Front: Drs. Elaine Fuchs, Rachel Niec, Yael Renert Yuval, and James Krueger

Natalie Schlesinger, New Project Manager in the Clinical Research Support Office

By Rhonda Kost, MD



M s . N a t a l i e Schlesinger joined the Clinical Research Support Office in August 2022 as the Center for Clinical Translational Science Project Manager to support Dr Rhonda Kost's Collaborative Innovation grant, Empowering the Participant Voice (EPV). Natalie received her Bachelor of Arts in Public Health from the University of Rochester in 2020. Prior to joining Rockefeller, Natalie worked in managed care, managing contracts and fee for service negotiations with physicians and hospitals, and supporting the development of value-based care relationships.

As Project Manager, she will help achieve the project's primary aim, which is to streamline collection of participants' feedback about their research participation experiences using the revised Research Participant Perception Surveys. Working closely with Dr. Kost, she will engage the Rockefeller community to increase awareness of the project, maintain the [EPV](#) webpage, and work with the five collaborating sites to support and document implementation of the each site's implementation of the survey. In the coming year she will engage other institutions as early adopters of the project infrastructure to expand the EPV Consortium.

When asked what she is looking forward, Natalie's said "I look forward to

building relationships and collaborating with colleagues in Rockefeller University Center for Clinical and Translational Science. Under Dr. Kost's supervision, I hope to help investigators at Rockefeller evaluate their participants' feedback to enhance their research. I will also promote the uptake of the survey and analytical tools by other institutions to expand the EPV Consortium. I am excited to be part of this impactful project, which helps improve the research experience for participants." Natalie is located on the 1st floor of the hospital building, room 123 and can be reached via email at nschlesinger@rockefeller.edu.

New Pilot Grants Awarded

By Editorial Staff

The Rockefeller University Center for Clinical and Translational Science (CCTS), the Shapiro-Silverberg Fund for the Advancement of Translational Research, and The Maurice R. and Corinne P. Greenberg Center for the Study of Inflammation, Microbiome, and Metabolism supported 28 pilot projects out of a total of 30 applications that were submitted this year. CCTS Clinical Scholars received 10 pilot awards. This year's total of \$650,000 awarded brings the grand total of pilot project funding to \$11,638,712 since the program began under the initial CTSA grant in 2006. A total of 558 different pilots have been funded to 49 different laboratories.

Clinical Scholars

Name of Investigator: **Tamar Berger**

Lab (Department or Agency): Smogorzewska Laboratory

Title of Pilot Project: *Influence of Genome Instability on the Immune Activation Landscape*

Abstract: Fanconi anemia (FA), is a genomic instability syndrome arising from an inherited inability to repair DNA interstrand crosslinks. Together with other ongoing studies in the lab, the result of the pilot study will identify new therapeutic options for Fanconi anemia patients.

Name of Investigator: **Amichai Berkovitz**

Lab (Department or Agency): Simon Laboratory

Title of Pilot Project: *Genome Wide Association Studies in Fibrolamellar Carcinoma*

Abstract: Fibrolamellar hepatocellular carcinoma is a rare liver cancer that occurs primarily in adolescents and young adults. Our lab had earlier shown that the disease is caused due to a single somatic deletion that produces a fusion oncokinase. Results from the pilot study may potentially lead to discovery of sequences associated with susceptibility to the disease. Based on such a discovery, screening for the disease could allow intermittent imaging such as ultrasound tests to detect and treat the disease at an early stage.

Name of Investigator: **Xiaojing Huang**

Lab (Department or Agency): Paul Cohen Laboratory

Title of Pilot Project: *Proteomic Signatures of Response to Immune Checkpoint Blockade in Metastatic Sarcoma*

Abstract: Immune checkpoint blockade (ICB) has revolutionized the treatment of cancer, but response to this type of therapy is not universal. The pilot study will leverage network building algorithms adapted from transcriptomics analyses to not only find these signatures, but also examine the underlying biological pathways that connect them. Validation of these pathways will form the basis for future experimentation, with the eventual goal of identifying novel therapeutic targets to aid those patients who do not benefit from current forms of immunotherapy.

Name of Investigator: **Matthew Kudelka**

Lab (Department or Agency): Fuchs Laboratory

Title of Pilot Project: *Functional Landscape of Glycosylation in Squamous Cell Carcinoma*

Abstract: Squamous cell carcinoma is a major cause of death worldwide. Despite advances in cancer genetics, alterations in post-translational modifications are poorly understood. This pilot study is to identify a new mechanistic basis for human cancer and to prioritize novel drug targets for clinical translation.

Name of Investigator: **Amihai Rottenstreich**

Lab (Department or Agency): Collier Laboratory

Title of Pilot Project: *Genetic, Laboratory and Clinical Factors Associated With Low-Dose Aspirin Failure in the Prevention of Preeclampsia*

Abstract: Hypertensive disorders of pregnancy (including gestational hypertension and preeclampsia) are among the leading causes of pregnancy complications and maternal deaths worldwide. They also increase the risks to the babies. Numerous prophylactic interventions have been investigated to reduce the rate of gestational hypertensive disorders. It is currently well-established that administration of low-dose aspirin is the most beneficial prophylactic approach. Nevertheless, aspirin failure is not uncommon. The genetic, laboratory, and clinical factors associated with low-dose aspirin failure in the prevention of preeclampsia are largely unknown. The presence of a single nucleotide variant in the PAR4 receptor expressed on platelets is associated with increased platelet function and possibly with aspirin failure.

Name of Investigator: **Leon Louis Seifert**

Lab (Department or Agency): Rice Laboratory

Title of Pilot Project: *A Norway Rat Hepacivirus Model to Study the Comorbidity of Non-Alcoholic Steatohepatitis in Infection-Associated Fibrosis and Hepatocellular Carcinoma*

Abstract: Inflammation promotes the development of liver fibrosis and cirrhosis (LC) in chronic liver disease (CLD), resulting in the development of hepatocellular carcinoma (HCC). Chronic hepatitis C virus (HCV) infection and non-alcoholic steatohepatitis (NASH), are important causes of CLD. The NASH-NrHV rat model could represent a powerful tool for investigating the effects of comorbidities on virus-mediated hepatic inflammation and HCC development in a clinically relevant model.

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New Pilot Grants Awarded (continued)

Name of Investigator: **Zijun Wang**

Lab (Department or Agency): Nussenzweig Laboratory

Title of Pilot Project: *Effects of mRNA Vaccination on Immunological Memory to SARS-Cov-2 and Its Variants in the Elderly*

Abstract: Vaccines work by eliciting an immune response, ideally protective antibodies and consequent immunological memory that mediates protection from infection or disease. Clinical trials of mRNA-based vaccines for SARS-CoV-2 have confirmed their ability to provide robust protection against COVID-19. However, the new dominant Omicron lineage that is phylogenetically distinct from the previously globally dominant SARS-CoV-2 variants, has a remarkable ability to evade pre-existing immunity induced by vaccine and/or infection, and therefore triggered a new global COVID-19 wave of infection. There is evidence showing that immune function declines with age, with elderly humans show decreased humoral immunity to vaccines. The pilot study will be important for guiding strategies aimed at improving vaccine efficacy in the elderly population.

Rockefeller University Community

Name of Investigator: **Yi Hao Chan**

Lab (Department or Agency): Casanova Laboratory

Title of Pilot Project: *Inherited Deficiency Of Human Tmeff1: A Brain Specific Restriction Factor For HSV-1*

Abstract: Herpes simplex virus-1 (HSV-1) is a common virus that can cause rare incidences of herpes simplex encephalitis (HSE). The preliminary data shows that TMEFF1 blocks HSV-1 entry into cortical neurons. In-depth investigation of the pathophysiological basis of TMEFF1 deficiency underlying HSE will reveal cellular and molecular mechanisms by which TMEFF1 restricts HSV-1 infection in the brain, guiding the development of new, potent anti-HSV-1 therapeutics.

Name of Investigator: **Ezgi Hacisuleyman**

Lab (Department or Agency): Darnell Laboratory

Title of Pilot Project: *Longitudinal Study of Patients with Prolonged and Recurrent SARS-Cov-2 Infections*

Abstract: COVID-19, caused by severe acute respiratory syndrome coronavirus 2, SARS-CoV-2, has been declared a pandemic since March 2020. The aim of the pilot project is to take an unbiased approach to monitor the SARS-CoV-2 positive cases over time to identify 1) the time for re-infections with a new variant in our cohort and 2) how the virus evolves in people who test positive for long periods. These molecular methodologies combined with matched clinical data will pave the way to better manage infections in the community and provide clinical guidance for healthcare providers.

Name of Investigator: **Seon-Hui Hong**

Lab (Department or Agency): Rice Laboratory

Title of Pilot Project: *Underlying Mechanism of the Attenuation of Yellow Fever Virus 17D.*

Abstract: Yellow fever virus is the causative agent of yellow fever (YF), a life-threatening disease characterized by severe hepatitis, renal failure, and hemorrhage shock with 50% mortality rate. The knowledge gained from the pilot study will be applied to develop safer vaccines for rare individuals who suffer severe adverse events after YF 17D vaccination and a vaccine platform for other flavivirus vaccine development.

Name of Investigator: **Max Klaas**

Lab (Department or Agency): Tuschl Laboratory

Title of Pilot Project: *Studying COVID-19 Vaccine mRNA Prevalence in the Circulation*

Abstract: Novel mRNA vaccines administered during the COVID-19 pandemic starting in 2020 have revolutionized vaccination technologies. In this pilot study we will study the acute effects of an mRNA vaccination on plasma exRNAs, and correlate its prevalence with plasma exRNA alterations over time, potentially delineating effects resulting from the vaccine's extended presence in the circulation.

Name of Investigator: **Yue Liu**

Lab (Department or Agency): Paul Cohen Laboratory

Title of Pilot Project: *Obesity-Shaped Immune Regulation of Breast Cancer*

Abstract: Obesity is associated with increased risk of breast cancer recurrence and mortality. Breast cancer develops in close proximity to mammary adipose tissue, which undergoes dramatic remodeling in obesity, implying a critical role of local crosstalk in obesity-accelerated cancer. Immune cells play key roles in both obesity and cancer development. This pilot study will investigate whether and how obesity regulates the anti-tumor immune response and will provide the first spatiotemporal picture of the immune landscape in obesity-accelerated breast cancer, which will improve our understanding of tumor immunology in a tissue-specific context and from an organismal point of view. Building upon this comprehensive immune profiling, studying the underlying mechanisms has the potential to identify novel therapeutic targets to improve cancer immunotherapy for obese individuals.

Name of Investigator: **Zhiyong Liu**

Lab (Department or Agency): Casanova Laboratory

Title of Pilot Project: *Inherited Human RIPK3 deficiency: Molecular and Cellular Mechanisms of Herpes Simplex Encephalitis*

Abstract: Herpes simplex virus-1 (HSV-1) encephalitis (HSE) is a rare and life-threatening complication of HSV-1 infection. It is the most common viral encephalitis in Western countries. This pilot study will shed light on novel molecular and cellular mechanisms of HSE pathogenesis, which will open new therapeutic avenues for the affected patients.

New Pilot Grants Awarded (continued)

Name of Investigator: **Wenbin Mei**

Lab (Department or Agency): Tavazoie Laboratory

Title of Pilot Project: *Identification of Human Germline Variants that Modulate Breast Cancer Progression*

Abstract: Cancer is a leading cause of death and a major public health burden in the developed world and many developing countries. One key challenge in cancer treatment is interpatient heterogeneity, where patients with the same subtype of cancer experience distinct clinical outcomes. This pilot study will identify PCSK9 as a therapeutic target in breast cancer and also uncover germline variants as biomarkers to identify patients who are at high risk for metastatic relapse and cancer-associated death for treatment with adjuvant systemic therapy. This work can also provide new insights into hereditary factors' contribution to a major human disease.

Name of Investigator: **Marina Scherthanner**

Lab (Department or Agency): Fuchs Laboratory

Title of Pilot Project: *Investigating the Role of Lymphatic-Derived IL-33 During Intestinal Homeostasis and Inflammation*

Abstract: Intestinal stem cells (ISCs) are essential for maintaining epithelial turnover and barrier integrity, and mediating tissue repair. To do so they depend on finely coordinated signaling cues from cells in their microenvironment (niche). The pilot study holds therapeutic promise by clarifying the seemingly pleiotropic function of IL-33 in inflammatory bowel disease and revealing additional modes of ISC modulation in health and disease.

Name of Investigator: **Bernardo Sgarbi-Reis**

Lab (Department or Agency): Mucida Laboratory

Title of Pilot Project: *Identification of $\gamma\delta$ T Cell Targets in Human Colorectal Cancer*

Abstract: Colorectal Cancer (CRC), which arises from the single layer of epithelial cells in the intestinal wall, is among the deadliest cancers in the world. $\gamma\delta$ T cells constantly interact with and surveil the epithelium and can control CRC tumor formation by production of cytotoxic associated molecules. By defining surface molecules differently expressed in tumor and adjacent non-tumor areas we will define potential $\gamma\delta$ T cell targets by utilizing available data bases to predict ligand-receptor interaction patterns such as CellPhoneDB, CellTalkDB, and CellChatDB.

Name of Investigator: **Zhaoyue Zhang**

Lab (Department or Agency): Friedman Laboratory

Title of Pilot Project: *Protein Level Decides the Metabolic Fate of Low-Glycemic Ketogenic Diets*

Abstract: Food intake and energy expenditure are tightly regulated to maintain homeostatic control of body weight and metabolism. While genetic factors play a key role to regulate weight, diet can also influence weight with low glycemic ketogenic diets leading to weight loss. My research systematically analyzed the effect of ketogenic diets in different mouse models and revealed a potential mechanism for its efficacy, which I hypothesize may relate to a liver-brain axis that controls food intake when animals are fed low-glycemic ketogenic diets.

Meet the Scholar: Charlie Buffie, MD, PhD (continued)

molecules that influence susceptibility to infectious and inflammatory diseases in the GI tract using a variety of methods, including phenotypic screening, bioinformatics, and animal models,

What were your expectations when you joined the Clinical Scholars program and were those expectations met?

In addition to having the opportunity to work with Sean, I expected to receive training and mentorship in clinical and patient-oriented translational research. The Clinical Scholar program met and exceeded my expectations.

What were your expectations and goals as Chief Scholar?

It has been a pleasure to get to know so many developing physician-scientists through the program. I entered the

program in 2020, so until recently, much of our interaction has been via virtual meetings (Zoom). Now that we can meet safely in-person more frequently, a major goal is to make the most of these opportunities to engage formally and informally.

What has been a learning opportunity or teaching moment as a Scholar?

The weekly "tutorial" sessions run by the Scholars truly provide a surprising range of learning opportunities. Scholars often bring their diverse expertise and interests to these sessions to everyone's benefit.

What has been the most educational, interesting, or surprising aspect of being in the Clinical Scholars program?

A pleasant surprise has been how many alumni of the program return to give

seminars and informal sessions with the current Scholars. This engagement enhances the sense of community the program fosters for young physician-scientists.

If someone asked you to describe the Clinical Scholars program in one sentence, what would it be?

The Clinical Scholars program is an optimized and adaptable platform to launch a career in translational biomedical research.

What are your next steps/career goals when you graduate from the program?

My goal is to continue developing a patient-oriented human microbiome research program as a physician-scientist gastroenterologist at an academic medical center.

Rockefeller Historical Vignette: New Effective Therapies for Psoriasis Based on Proving That it Is an Autoimmune Disease

By Elizabeth (Betsy) Hanson



The thick red, scaly patches of psoriasis appear when cells called keratinocytes grow more quickly than normal and pile up on the surface of the skin. Thirty years ago conventional wisdom held that this common, painful, and disabling skin disease was mainly a problem of cell proliferation. But there were a few clues pointing to the possibility that psoriasis could be an autoimmune disease—a disease in which the body's immune system attacks its own tissues. With both laboratory work and studies of patients in the Rockefeller Hospital, James Krueger followed these clues, and in 1995 published widely acknowledged proof that psoriasis is an autoimmune disease. Because the skin is more easily studied than the sites of inflammation in chronic autoimmune diseases such as rheumatoid arthritis and inflammatory bowel disease, this finding opened the door to using psoriasis as a model for such type 1 autoimmune diseases, with broad implications for these other diseases as well. It also led to highly effective new therapies for psoriasis.

In the late 1980s when Krueger began to study the contribution of inflammation to psoriasis, he discovered a strong link

between the presence of immune system cells known as CD8+ T-lymphocytes in psoriasis lesions and the persistence of the disease. But he couldn't tell whether these cells caused the disease or were a secondary effect. So Krueger and his collaborators employed a fusion protein that was lethal to the T-lymphocytes but harmless to skin cells, or keratinocytes. In a study carried out at the Rockefeller Hospital, he administered the protein to patients with psoriasis. In eight out of ten patients the scaly patches cleared or improved and levels of T-lymphocytes were markedly reduced, showing conclusively that psoriasis is an autoimmune disease.

With bench-to-bedside research Krueger and colleagues have since pioneered a number of successful psoriasis treatments, including those that: selectively deplete activated T cells; block early T cell activation signals; block T cell mitogenic receptors; alter T cell differentiation toward regulatory cells; and antagonize specific inflammatory cytokines, including cytokines of Th17 T-cells. Krueger's group also has developed a therapy that uses a type of ultraviolet light (312 nm UVB) with strong immunomodulatory properties, and they continue to study its immunosuppressive mechanisms. In laboratory studies conducted alongside clinical work, Krueger's group uses a variety of techniques to define the molecular pathways that control normal and pathogenic cellular immune responses.

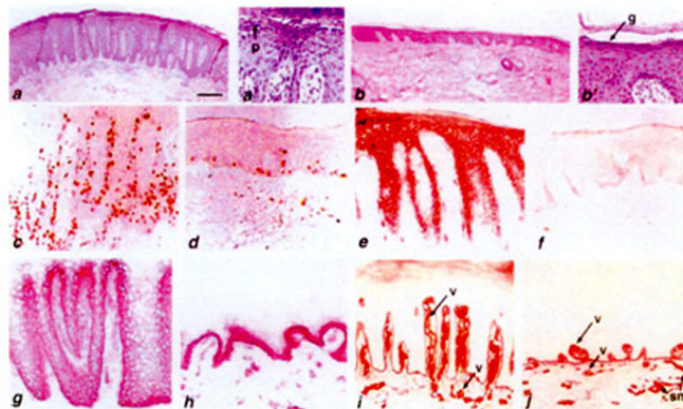
Note added in 2022: Krueger's work evolved to show the dependence of psoriasis on the cytokines IL-23 and IL-17, leading to 7 now approved therapies that target different isoforms of these cytokines. Today, psoriasis is the most successfully targeted autoimmune disease, with the ability to reverse

pathogenic inflammation in almost anyone afflicted with this disease.

James G. Krueger received the AB from Princeton University (1979), the PhD from The Rockefeller University (1984), and the MD from Cornell University Medical College (1985). In 1985 he came to Rockefeller as a guest investigator in the Laboratory for Investigative Dermatology, and has been at the university since. He was appointed assistant professor in 1990, associate professor and head of lab in 1995, and professor in 2003. Krueger also holds positions at The Rockefeller University Hospital, where he was named associate physician in 1989, physician in 1995, and senior physician in 2003.

In 2006 Krueger became co-director of the Center for Clinical and Translational Science, established by a Clinical and Translational Science Award (CTSA) from the National Center for Research Resources of the National Institutes of Health. Krueger was medical director and program director of the CTSA's predecessor program, the General Clinical Research Center, from 1996 to 2006. Krueger was named Rockefeller's D. Martin Carter Professor in Clinical Investigation in 2004. His achievements have been recognized with the Ahrens Award for Clinical Research from the Association for Patient-oriented Research (2006). He is also a recipient of two awards from the American Skin Association: a Distinguished Achievement Award and the Psoriasis Research Achievement Award, both granted in 2001.

Krueger is a member of the American Society for Clinical Investigation and the Association of American Physicians. He was selected to receive the Astellas Public Health Award in 2010, given by the American Academy of Dermatology.



Reversal of molecular markers of epidermal and vascular pathology after DAB IL-2 treatment. From Nature Medicine, 1995, 1: 442-447