

RESEARCH ROUNDUP



Hackensack
Meridian Health
Office of Research
Administration

SUMMER 2022



MESSAGE FROM THE PRESIDENT OF ACADEMICS, RESEARCH AND INNOVATION

The Hackensack Meridian Health Research Institute is the new name of our program across all our hospitals and locations in the state, reflecting increased collaboration and cooperation across the breadth of the largest health network in New Jersey. But the caliber of excellence just keeps getting better, as you can see in this quarterly update.



NOTE FROM THE VP

There are so many opportunities to improve health and science - not just for our patients, but for entire specialties beyond New Jersey, as well. We are proud of all our many breakthroughs.



HMH RESEARCH NEWS



MAVDA Group Formed, CDI and Rockefeller at Helm, After \$65M NIH Grant

A unique collaborative enterprise of academic and pharmaceutical experts in New York City and Northern New Jersey have formed a regional drug accelerator to address the urgent need to develop novel antiviral treatments for SARS-CoV-2, its variants, other coronaviruses and pandemic viruses, and as well as future viral threats.

The Metropolitan AntiViral Drug Accelerator, or MAVDA, will be funded by a three-year, \$65,141,731 million grant from the National Institutes of Health (NIH) and the National Institute of Allergy and Infectious Disease (NIAID)'s Antiviral Drug Discovery (AViDD) Centers for Pathogens of Pandemic Concern program. MAVDA combines world-class virologists and academic drug finders from Rockefeller University, Columbia University and Memorial Sloan-Kettering Cancer Center (MSK) in New York City, and the Hackensack Meridian Center for Discovery and Innovation (CDI) and Rutgers University in New Jersey, along with proven antiviral drug developers Merck, the Tri-Institutional Therapeutics Discovery Institute (Tri-I TDI), and Aligos Therapeutics. *(continued)*

KEEP GETTING BETTER

MAVDA (continued)

MAVDA's mission will be to discover, optimize and test innovative small molecule antiviral drugs to target coronaviruses (CoVs), emphasizing SARS-CoV-2, and one or more select RNA viruses with pandemic potential. The goal is to rapidly develop drugs which can be given orally, and in an outpatient setting, in the near future.

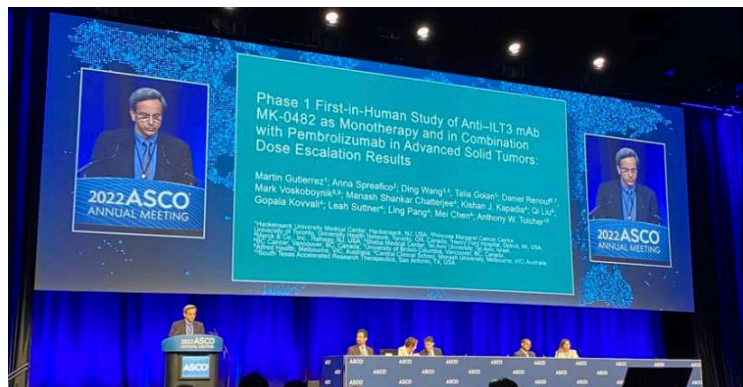
The overall program will be co-led by drug discovery expert Dr. David Perlin at the Hackensack Meridian CDI and Rockefeller University virologist and Nobel laureate, Dr. Charles Rice. The program benefits from other senior world class virologists including Dr. David Ho (Columbia) and Dr. Stephen Goff (Columbia); drug discovery experts Dr. Jingyue Ju (Columbia) and Dr. Tom Tuschl (Rockefeller); structural biologists Dr. Lawrence Shapiro (Columbia) and Dr. Dinshaw Patel (MSK); Medicinal Chemistry, Pharmacology, and drug screening experts Dr. James Balkovec (CDI), Dr. Joel Freundlich (Rutgers), Dr. Veronique Dartois (CDI), and Dr. Fraser Glickman (Rockefeller).

Key to the initiative's success is the participation of commercial partners Merck and Co.; the nonprofit Tri-Institutional Therapeutics Discovery Institute through its industrial partnership with Takeda; and Aligos Therapeutics, the sole entity based in California, all of whom have committed extensive internal resources to support the drug development goals of the MAVDA.

"This public-private partnership is how science can prepare for the next phase of SARS-CoV-2 - as well as other current and new viral threats," said David Perlin, Ph.D., the chief scientific officer and senior vice president of the CDI, and also a professor at the Hackensack Meridian School of Medicine. "Vaccines were a terrific breakthrough to help stem COVID-19 after the initial spread - but as we have learned with COVID-19 and other pandemic diseases, vaccines alone are insufficient. We need effective drugs that can be used early and distributed widely to diverse populations around the world."

"We need to think differently," said Charles M. Rice, Ph.D., the Maurice R. and Corinne P. Greenberg Professor in Virology and Head of the Laboratory of Virology and Infectious Disease at Rockefeller University, who is the recipient of the 2020 Nobel Prize in Physiology or Medicine. "Bringing all this experience and expertise into the same program, and having everyone 'pull' in the same direction, can produce some great results."

The MAVDA consortium brings together scientists who already collaborate on many anti-infective projects, chief among them the CDI's NIH Center of Excellence in Translational Research (CETR), helmed by Perlin and which includes industry participation. [READ MORE](#)



Pioneering Studies Provide New Options for Patients with Advanced Cancers: JTCC investigators report their latest research findings at ASCO

Researchers from Hackensack Meridian John Theurer Cancer Center are presenting data from 29 studies at the Annual Meeting of the American Society of Clinical Oncology (ASCO), the largest world cancer professionals meeting, being held in person in Chicago June 3-7, 2022. Abstracts of the studies can be viewed at abstracts.asco.org.

Hackensack Meridian John Theurer Cancer Center is the largest and premier cancer program in NJ, and #1 cancer program in New Jersey according to U.S. News & World Report. It is part of the Georgetown Lombardi Comprehensive Cancer Center, an NCI-designated Comprehensive Cancer Center. John Theurer is known for being one of the leading blood cancer programs in the nation and was the first center in New Jersey to offer CAR T-cell therapy, a revolutionary immunotherapy for patients with select leukemias and lymphomas.

"I am proud that our team is taking part in these amazing times in oncology, bringing our patients the next options when needed," noted Andre Goy, M.D., M.S., chairman and executive director of John Theurer Cancer Center. "As the leading cancer program in our state, we are embracing innovation, which is at the core of our mission." [READ MORE](#)

JTCC Investigators Contribute to Knowledge Base on Use of Selinexor in Multiple Myeloma (MM)

Investigators from Hackensack University Medical Center's John Theurer Cancer Center, a part of Georgetown Lombardi Comprehensive Cancer Center, are contributing to the growing knowledge base on the use of selinexor, a first-in-class, oral, selective inhibitor of nuclear export (SINE), in the treatment of multiple myeloma (MM), as reported in three recent publications. The publications, which include a review article and reports from two clinical trials, further characterize the efficacy, safety, and mechanism of action (MOA) of selinexor as well as its apparent impact on health-related quality of life (HRQOL) in patients with MM. (continued)

Myeloma (continued)

Multiple Myeloma is the second most common hematologic malignancy in the United States, accounting for roughly 2% of all diagnosed cancers and cancer-related deaths.¹ An estimated 34,470 new cases of MM will be diagnosed in the U.S. in 2022, according to the American Cancer Society.² Despite the recent introduction of numerous highly efficacious therapeutics for MM, including proteasome inhibitors (PIs), immunomodulatory drugs (IMiDs), and monoclonal antibodies (MAbs), as well as combinations thereof, all patients eventually relapse, often with more aggressive and difficult-to-treat disease. Each relapse typically results in rapid development of “triple class-refractory” (PI, IMiD, MAb) MM, as well as the evolution of “penta-refractory” disease, which is characterized by resistance to the five most commonly employed anti-MM therapies including lenalidomide, pomalidomide, bortezomib, carfilzomib, and daratumumab (or isatuximab).

“The generally poor prognosis for patients with heavily pre-treated and resistant disease underscores the need for new therapeutic approaches in multiple myeloma,” said Noa Biran, M.D., associate professor of medicine at Hackensack Meridian School of Medicine and a practicing oncologist/hematologist in the Multiple Myeloma Division of John Theurer Cancer Center. “The availability of selinexor provides these patients with an orally administered therapeutic option with demonstrated safety and efficacy and a chance for clinically meaningful benefit. With its novel mechanism of action and promising results in clinical trials thus far, selinexor will likely contribute to further advancement of multiple myeloma therapy.” [READ MORE](#)



JFK Johnson Physicians Present Groundbreaking Stroke Research at International Conference

Two Hackensack Meridian JFK Johnson Rehabilitation Institute physicians outlined their groundbreaking research on stroke care to an international audience of clinical leaders.

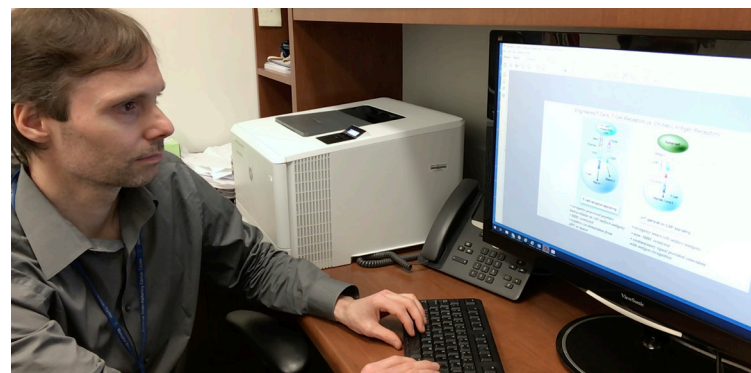
Sara Cuccurullo, M.D., and **Talya Fleming, M.D.**, were keynote speakers at the John Hopkins Medicine conference, “Recovery after Stroke: State of the Science and Future Innovations.” The physicians described how a modified cardiac rehabilitation program can significantly reduce deaths and improve outcomes for survivors of a serious stroke.

Dr. Cuccurullo is vice president and medical director of JFK Johnson and Dr. Fleming is medical director of the JFK Johnson Stroke Recovery and Aftercare Program. They addressed the physicians, nurses, therapists, and other health care specialists in the fields of neurology, physical medicine and rehabilitation, and primary care.

Dr. Cuccurullo and Dr. Fleming outlined the on-going JFK Johnson Stroke-HEART™ Trials that showed how a Stroke Recovery Program that includes medically supervised exercise, prescribed therapy, and physician follow up can reduce the chances that survivors of serious stroke will die within the year by 76 percent.

Participants in the Stroke Recovery Program also saw a 78 percent increase in their cardiovascular capacity, and steady improvement in scores related to mobility, self-care, and communication/cognition.

The Stroke Recovery Program also reduced hospital readmissions by 22 percent, potentially saving Medicare \$1.2 billion if a stroke recovery program is widely offered to stroke survivors, the research found. [READ MORE](#)



CDI Laboratory Secures NIH Funding for Thymus Immunotherapy Research

A new grant from the National Institutes of Health and the National Cancer Institute will fund a physician-scientist from the Hackensack Meridian Center for Discovery and Innovation (CDI) to investigate ways to harness the body’s natural ability to create CAR (Chimeric antigen receptor) T cells for long-term treatment of pediatric blood cancers.

The \$2.78 million grant will run over five years and will support the work of **Johannes Zakrzewski, M.D.**, who is an associate member of the CDI and a pediatric stem cell transplant attending physician at Joseph M. Sanzari Children’s Hospital at Hackensack University Medical Center and the John Theurer Cancer Center, which is part of the NCI-designated Georgetown Lombardi Comprehensive Cancer Center.

The grant, entitled “Harnessing the Thymus for Long-term Tumor Control with Hematopoietic Stem Cell- derived Naive CAR T Cells,” seeks to educate the thymus to manufacture tailored immune cells to continue to keep blood cancers in check for years after remission. (continued)

Thymus (continued)

“This is translational science. We are hoping to help patients in new critical ways in the future using the latest lab discoveries,” said Zakrzewski, who is also an associate professor in the Department of Pediatrics and in the Department of Medical Sciences at the Hackensack Meridian School of Medicine and in the Department of Oncology at Georgetown University.

“The work Johannes is doing is at the cutting edge of next-generation, cell-based immunotherapies, and this embodies the CDI’s mission to accelerate life-saving science from the bench to the bedside,” said David Perlin, Ph.D., the chief scientific officer and senior vice president of the CDI. [READ MORE](#)

JTCC Investigators Participate in Large Pivotal Trial in Frontline Mantle Cell Lymphoma

Hackensack Meridian John Theurer Cancer Center investigators participated in the large phase III multicenter SHINE study, which reported that using the drug ibrutinib (Imbruvica®) in combination with standard therapy B-R as initial treatment for mantle cell lymphoma (MCL) slowed the disease growth by 52% in older people who were newly diagnosed with the disease. The treatment could become the new standard of care for older people with mantle cell lymphoma, who may not be able to tolerate more intensive treatment regimens. The study was published in the *New England Journal of Medicine* on June 3, 2022.

“The field of mantle cell lymphoma continues to evolve: the SOC in elderly patients (i.e. over half of the mantle cell lymphoma population at diagnosis) not eligible for high dose therapy upfront - has been chemoimmunotherapy most frequently BR, though most patients relapse over time,” explained Andre Goy, M.D., M.S., chairman and executive director of John Theurer Cancer Center, who led the center’s participation in the SHINE study. “Ibrutinib was the 1st BTK inhibitor approved in MCL and has been a game changer in the r/r setting in MCL. Logically, the next step was to bring it in the frontline setting, which was the subject of the SHINE trial - which dramatically improved outcome - with after a median follow-up of 7 years, a PFS of 6.7 years in the BR+ ibrutinib arm versus 4.4 years for BR + placebo arm. This is highly significant and could easily translate into becoming the next standard of care”. [READ MORE](#)

Severe Heart Attack Mortality Dropped in Second Year of COVID-19 Pandemic, But Still High in Unvaccinated, New Data Shows

A newly published analysis in the *Journal of the American College of Cardiology*¹ of hospitalized patients with both a severe type of heart attack called STEMI (ST-elevation myocardial infarction) and coronavirus disease-19 (COVID-19) infection compares clinical outcomes for these patients during the first and second years of the COVID-19 pandemic. The study concludes

that the mortality or death rate is 25 percent lower for patients in the year 2021 compared to 2020, but that mortality remained high for patients who did not receive a COVID-19 vaccine. The authors previously reported high in-hospital mortality for STEMI patients with COVID-19 who were treated in the early phase of the pandemic.



“STEMI represent heart attacks that are caused by complete occlusion of the coronary arteries and have a very high morbidity and mortality associated with them,” said **Aditya Mehra, M.D., FACC, FSCAI**, a cardiologist at Hackensack Meridian Jersey Shore University Medical Center and study co-author. “STEMI heart attacks usually are more severe and potentially more dangerous compared to other types of heart attacks.”

COVID-19 infection significantly increases the risk for cardiac complications. The risk of myocardial infarction doubles within a week of receiving a COVID-19 diagnosis, which also is associated with higher odds of mortality. Patients who have a STEMI heart attack and COVID-19 constitute a high-risk subset of cardiac patients, with distinct clinical features including more patients who are minorities; the need for hospitalization; cardiac shock (the heart’s failure to pump enough blood to meet the body’s needs); and very high in-hospital mortality or death. [READ MORE](#)

Study Shows Sleep Disturbances During the Pandemic Were Similar between Breast Cancer Survivors and Healthy Controls

Results from the Thinking and Living with Cancer Study (TLC) showed that the development of sleep disturbances during the early months of the COVID-19 pandemic increased symptoms of depression and anxiety among older women, but the findings did not differ between women who survived breast cancer and women without cancer. It is the first study to assess sleep disturbances and mental health outcomes among cancer survivors during the pandemic.

The study, published in the journal *Cancer Medicine*, was led by researchers from Georgetown Lombardi Comprehensive Cancer Center and included collaborators from Hackensack Meridian John Theurer Cancer Center (JTCC), a part of Georgetown Lombardi, along with other investigators.

“The pandemic has significantly changed our lives with many studies showing effects on sleep, which itself is related to a wide range of physical and mental health outcomes. Our findings show that breast cancer survivors did not experience worse effects of sleep disturbance on mental health during the early phase of the pandemic compared to others. It was unexpected, but welcome, news,” said lead author Traci N. Bethea, PhD, Assistant Professor in the Office of Minority Health and Health Disparities Research and the Cancer Prevention and Control Program at Georgetown Lombardi. (continued)

Sleep *(continued)*

“We were surprised but at the same time, we weren’t surprised because someone who had been diagnosed with breast cancer may have learned coping mechanisms and received support that was already in place when the pandemic began,” explained medical oncologist Deena M.A. Graham, M.D., who led JTCC’s participation in the study. [READ MORE](#)

New Report Published Comparing Hemodynamics of Cardiac Shock in COVID-19 Patients in Pandemic’s First Vs. Second Wave

A new report by a team of cardiologists from the Heart & Vascular Hospital, Hackensack Meridian Hackensack University Medical Center that compares the hemodynamics of cardiac shock in patients with COVID-19 during the first versus the second wave of the COVID-19 pandemic was published recently in *JACC: Journal of the American College of Cardiology*.¹

The authors reported that during the first wave of the pandemic a substantial proportion of patients with COVID-19 -- 43 percent -- had shock and a low cardiac output but with a preserved ejection fraction suggesting underfilling of the left ventricle. The proportion of these patients was smaller in the second phase of the pandemic -- 29 percent. [READ MORE](#)

Hackensack University Medical Center Department of Urology Presents 26 Abstracts at American Urological Association 2022 Annual Meeting

Hackensack Meridian Hackensack University Medical Center’s Department of Urology presented 26 abstracts at the American Urological Association’s (AUA) 2022 Annual Meeting, held in New Orleans, LA, from May 13-16, 2022. Department physicians also won three first-place awards for poster and video presentations, participated in seven sessions as moderators, debaters or lecturers, and served on the faculty of two AUA instructional courses.

“Our entire team — including attendings, fellows, residents and students — is involved in pioneering research across a range of urological subspecialties, which is leading to advances in the field of urology,” said Michael D. Stifelman, M.D., Chair of Urology and Director of Robotic Surgery at Hackensack University Medical Center and Professor and Founding Chair of Urology at Hackensack Meridian School of Medicine. “Our 12 abstracts on single-port robotic surgery demonstrate our passion for innovation and distinguish us as international experts in using this groundbreaking technology.”

The department’s abstracts, sessions and courses reflect their commitment to high-quality research and the breadth of urological care services provided at Hackensack University Medical Center. [READ MORE](#)



Hackensack Meridian School of Medicine Professor and Director of Cardiac Research at Hackensack University Medical Center Named American Heart Association’s Researcher of the Year

Taya Glotzer, M.D., FACC, FHRS, has been named the American Heart Association’s (AHA) 2022 Researcher of the Year. The award is given to a researcher who is performing cutting-edge research in the field of heart disease and/or stroke. “Research is a cornerstone of the American Heart Association and acknowledging individuals who are making advancements is very important to us,” said Peter Cary, executive director for the New Jersey region with the AHA. “Dr. Glotzer and her work deserve recognition, and we are so thankful for her dedication to help people live longer, healthier lives.”

Dr. Glotzer, who is a professor of medicine at the Hackensack Meridian School of Medicine and the director of Cardiac Research at Hackensack University Medical Center, received the award at the American Heart Association’s annual gala, the New Jersey Heart Ball, on June 10.

“Dr. Glotzer is one of our supremely talented researcher-physicians,” said Robert C. Garrett, CEO of Hackensack Meridian Health. “We applaud her achievement.”

“We are so proud of Dr. Glotzer’s contributions to the great science and innovation driven by our network,” said Ihor Sawczuk, M.D., FACS, president of Academics, Research and Innovation for Hackensack Meridian Health. “Our program to promote clinicians engaging in research continues to pay dividends for our patients - and national organizations are noticing.” [READ MORE](#)

HMH Research Administrator Selected to Participate in National Focus Group



Dr. Michelle Benson, Director of Conflicts of Interest Management here at HMH, has been selected as part of an elite group of research administrators to participate in a focus group for the Office of Research Integrity (ORI). The ORI is under the auspices of the Department of Health and Human Services (DHHS) and oversees and directs Public Health Service (PHS) research integrity activities.

The formation of the focus group was part of an initiative by the ORI to rebrand themselves. Their objective is to be perceived less as a punitive body and more as a resource to assist institutions with fostering a culture of research integrity. To that end, they reached out to five nationally recognized thought leaders from different institutions in the research integrity space to provide their perspectives. Members of the group were asked to share their own experiences promoting research integrity within their respective institutions, including what interventions worked for them and what challenges they encountered. An emerging theme raised among the members of the group was to concentrate on awareness, not necessarily on more policy changes.

Dr. Benson was selected for her innovative approaches to education and for creating a relevant training program for research communities that have been adapted by the likes of Harvard Medical School, Yale University, Duke University, and others. She also has considerable experience in data forensics related to research misconduct investigations.

Dr. Benson graduated from University of Wisconsin-Madison with a Ph.D. in Materials Chemistry. Shortly thereafter, she accepted a role as Assistant Director of Research Integrity and Compliance at Columbia University working on issues related to conflicts of interest, research misconduct and research integrity. During her tenure there, she was tasked with creating a proactive program to address research integrity issues. She began the project with what she knew best: research. Dr. Benson conducted a comprehensive literature review identifying the issues related to research compliance and integrity including sloppiness, perverse incentives, and other problematic situations that seem to pervade the research culture. But identifying the issues were only half the battle; the other part was identifying and creating practical solutions that researchers could integrate into their daily practices. Through this work and her collaborative efforts to break down institutional silos, Dr. Benson was able to create an online “one-stop-shop” of resources for the Columbia community to ensure their research is not only compliant but upholds the integrity principles that are valued by researchers, institutions and the public.

“Since beginning my career within research compliance, I have witnessed firsthand what can go wrong when there is a lapse in best practices. If you look at the evolution of research regulations, they are born from the failings of research ethics and integrity. I am passionate about ensuring researchers have the tools and training necessary to uphold the highest standards for research integrity, ethics and reproducibility.”

Dr. Benson is proud that the database of resources remains widely used today and has inspired a national movement of institutions to make similar strides such that resources are made available to their local research communities. She has now been at HMH for nearly three years and as part of her role overseeing conflicts of interest, she continues to be involved in educational efforts, including raising awareness to the issues that can impact research integrity.



RESEARCH UPDATES & EVENTS

SUMMER 2022

The eResearch Upgrade Is Complete

The updated application is significantly shorter than the previous version & will cut your entry time in half (at least!)

- There is more transparency regarding study status
- The ancillary review process is easier and more transparent and will go faster
- The upgraded system has single sign-on for easy access to the system
- CITI training documentation is integrated into eResearch and will update nightly from the CITI website into all eResearch user accounts
- User accounts can now contain CVs and licenses for credentialing documentation
- The upgraded software has easier and more meaningful reporting functionality

To access the upgraded system, go to the website (<https://irbresearch.hmhn.org>) and follow instructions from there.

Information about training opportunities now that the system is up and running will be shared via separate eResearch notifications.

If you have any questions, please contact the Research Integrity Office by emailing hmhirb@hmhn.org or calling 201-880-3669.

OnCore: What It Is and Why It's Relevant to You

OnCore is the Clinical Trial Management System for all research at Hackensack Meridian Health. The OnCore team will be sending out a [newsletter](#) with helpful tips and reminders regarding the system. Please remember that OnCore is a requirement for all research studies and should be updated in real time according to the [Oncore Utilization Policy](#). To review OnCore's other policies please click [here](#) and [here](#).

If you need access to OnCore or have any other questions, please reach out to HMHOnCoreSupport@hmhn.org.

HMH Medical Library: A Universe of Medical Learning - for Free

Thousands of medical and science journals and textbooks are available to HMH team members.

Numerous databases and subscriptions to hundreds of scientific journals are at researchers' fingertips via the online resources of the HMH Medical Libraries, easily accessible at MyHMH.

From MyHMH, click "Departments," and on the next page, click "Medical Libraries." (You must be linked on campus, or have access via Citrix).

Entire books, databases, and a huge library of journals is there, providing answers for all team members with virtually any medical or science question.

The direct link is: <https://hmhlibraries.libguides.com/hmh>

In addition, the Medical Libraries have so much more to offer. Researchers can also request personalized support from a team of highly experienced and knowledgeable librarians who are eager to help you find what you need. Some of the services that the team offers include:

- Literature searches
- Copies of journal articles on request, including document delivery (also known as interlibrary loan) of articles that aren't available from journals in the libraries' collections
- Answers to reference questions

Further Access Details

Resources via MyHMH (On Campus Access):

- Medical Library resources are available on campus by using MyHMH to go to the library's home page.
- HMH Libraries home page: (<https://hmhlibraries.libguides.com/hmh>).

Resources via Citrix Receiver (Remote/Off Campus Access):

- Access Citrix Receiver at: <https://connect.hmhn.org/>.
 - The Medical Libraries tile and / or MyHMH may be included in the Apps menu.
 - The homepage for Google Chrome in Citrix Receiver is MyHMH.
- Use the Google Chrome app to access library resources in the same way as when you're using a computer on the network.

Research Education Events to Resume in September

As usual, we have paused our educational events during the July and August months. Please be sure to join us when we reconvene in the fall.

For the research education calendar, please click [here](#). We will also share details about the events through the eResearch blasts, as always.

To learn more about the different educational opportunities, please visit the [Investigator Training webpage](#).



FEATURED RESEARCHERS

SUMMER 2022



MANISHA PARULEKAR, M.D., FACP, AGSF, CMD
Director, Division of Geriatrics, HackensackUMC
Co-Director, Center for Memory Loss and Brain Health
Associate Professor, Hackensack Meridian School of Medicine

For many, the era after age 65 is the “golden years.” We have spent our lives acquiring information and expanding our knowledge bases, becoming keener experts in our fields and more learned in life’s ways. We have also invested in our relationships, establishing meaningful connections that are built on years of communication and reciprocal support. Many individuals can take the post-retirement years to relax and reap the rewards earned over many decades. But for others, aging can be more fraught. Unfortunately, advanced age is a significant risk factor for dementia, which could jeopardize everything. Dr. Parulekar, a physician-scientist, spoke to us about her experience as a geriatrician, why she is so optimistic about future treatments for dementia, and about her current research endeavors.

Could you please share a little bit about your specialty?

As a geriatrician, I provide care for patients 65 years of age and above. This includes typical primary care, such as working with patients to manage any chronic conditions, screening and preventive measures for any potential issues, and ensuring that medications are appropriate and in line with individual goals.

I also lead several quality improvement programs for older adults that ensure that we are providing patient-centered care when we schedule interventions for them. Before a patient is scheduled for a surgery or for a more challenging treatment regimen, such as chemotherapy, we evaluate them carefully both cognitively and physically. This means weighing the physiology of aging, the burden of illness, and any other risks for which the patient may be vulnerable, such as delirium.

In addition to working with the patients directly, I make an effort to

effect change for this population in other ways, as well. For example, I educate medical students and residents on the geriatric field. These trainees will all branch out into different specialties, and it is important that they are mindful of the geriatric population’s various needs, whether they become cardiologists, surgeons, or emergency physicians. I am also involved in activism and enrichment on a community level. I participate in events run by the ACT NOW Foundation, which provides support to caregivers. Additionally, I work with the NJ chapter of the Alzheimer’s Association, which offers education to clinicians and caregivers and also offers support to the latter.

Finally, I am actively engaged in research for the geriatric population. Older adults are typically not included in research studies because they often want to include the most physically fit people for clinical trials. It is important to engage in research that addresses the elderly’s needs of the older adults. We are looking for ways to better care for delirium, dementia, and to explore the physiology of aging. We want to determine what we can do to slow down pathologic changes that take place as we get older.

Over the past two years, I have increased my involvement in research. HMM officially started the dementia center in February 2020, which lended more structure to the research efforts. We had more team members with whom to collaborate, and I was able to be part of the group involved in research.

Overall, I enjoy my work very much. I feel that I gain so much from my patients and their experiences and appreciate the opportunity to serve people who are more vulnerable and at risk.

Have any significant strides been made in the field of geriatric research over the course of the last few decades? It seems that so many challenges remain.

It is true that many challenges remain. However, I would argue that real progress has been made in certain areas. First of all, the reason that we have such a large increase in the size of the aging population is because of advances in medical care as a result of research. People are living longer and are able to reach the geriatric age. We are also now able to better manage chronic conditions often associated with older adults. Furthermore, advances in technology allow us to provide better care and to allow independence longer. *(continued)*

FEATURED RESEARCHERS:

MANISHA PARULEKAR, M.D, FACP, AGSF, CMD

(Continued)

Some of the best products are smart homes and GPS trackers that allow for better monitoring, pillboxes with built-in alarms that don't shut off until patients take their medication, and LifeAlert devices.

Given how much money has gone into Alzheimer's Disease research and how limiting the findings have been, what are your thoughts on the future of a possible treatment?

Right now, we are really optimistic that something will be available soon, not in 20 years. This is especially the case now, since research is becoming much more diversified. For a long time, the scientific community took it for granted that beta amyloid plaques were responsible for memory loss; however, we now know that that may not be the full story. There are more than 200 ongoing studies looking at various aspects of the disease, its etiology, and its progression.

I am more optimistic about a treatment than if you asked me 5 years ago when everyone was focused on beta amyloid plaques. I think that the fact that we never really understood the mechanism behind the development of the disease has impeded significant progress for years. There are now more efforts put into diagnosing mild dementia, so that we can try medications at that stage, before the damage is fully done.

Another important focus of research now is studying preventative measures for dementia. They are finding that lifestyle modifications really can make a difference in terms of developing dementia. A healthy diet, cognitive and physical exercises, and managing chronic conditions, mood, and sleep have all been shown to help keep dementia at bay, or at least decrease the incidence of dementia.

Can you share with us a little about some of your current research projects?

We have a diverse portfolio of ongoing studies at our Center for Memory Loss and Brain Health. One such study involves a daily injectable for mild to moderate Alzheimer's dementia, which we are hoping will retard the degenerative process. For another study, we are looking at the efficacy of escitalopram (Lexapro), a popular antidepressant, in the management of dementia-related agitation. For a third study, we are looking at the efficacy of PET scans in the diagnosis of Alzheimer's Disease for minority groups. A fourth project involves assessing the utility of a web-based cognitive screening tool in the primary care setting for early detection of memory loss. Finally, we are studying the efficacy of electromagnetic stimulation for mild to moderate Alzheimer's dementia.

You have been at HUMC/HMH for decades at this point.

What has kept you here?

I started here at HUMC as a fellow decades ago. What has kept me here is the work environment and opportunities. Leaders here understand that older adults contribute to a significant number of hospital visits and recognize the importance of improving the quality of their experiences. There are also many opportunities here to pursue new ideas. It is exciting to think out of the box and to try new things. It is also a pleasure to be surrounded by colleagues and mentors to promote growth.

Do you have any hobbies or interests outside of work?

I love to travel; that is really what keeps me going. I make sure to schedule travel vacations at regular intervals. I like trying new food, moderate hiking, and am especially enamored with national parks.



FEATURED RESEARCHERS

SUMMER 2022

The CDI Experts: Zhang Looks to T-cells to beat Cancer at its Own Game

Cancer works by hijacking the biology of its host. The hijacking can be so complete that cancer even sabotages the body against treatments involving life-saving transplants, and those using the body's own natural immune system.

Yi Zhang, M.D., Ph.D., one of the newest scientists at the Hackensack Meridian Center for Discovery and Innovation (CDI), is studying how T lymphocytes (T cells), which are a critical component of the human immune system, contribute both to disease development and can be harnessed to cure cancer. He and his lab are pushing the envelope of this scientific niche toward several goals: cracking the riddle of transplant rejection; and creating novel drugs to boost immunotherapies against the cancer itself.

It's a new frontier for molecular medicine – and the possibilities are great. While T cells can unlock the potential of immune response to cancer, it is also the factor underlying harmful inflammation (and transplant rejection). Understanding these tipping scales can provide breakthroughs in multiple fields, says Zhang.

“T cell immunity is a double-edged sword. Better understanding T cell biology is obviously important for not only understanding pathogenesis of many diseases but also for the development of novel approaches for disease treatment,” said Zhang recently.

“The work of Yi Zhang is exciting and potentially transformative for immune intervention in disease,” said David Perlin, Ph.D., the chief scientific officer and senior vice president of the CDI. “We are fortunate to have brought him to the CDI, which is now becoming a destination for T cell biology discovery and innovation.”

Threefold Research

The work Zhang brought to the CDI last year continues to forge forward in three critical ways: in understanding graft-versus-host disease (GVHD), colloquially referred to as “rejection” of a transplant such as hematopoietic stem cell transplants (HSCTs) for certain blood cancers; the potential of a whole new cell therapy

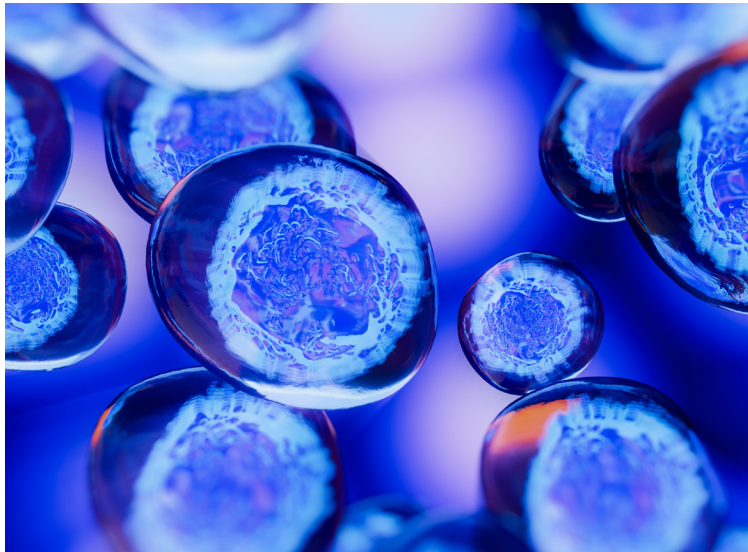
concept to battle back against GVHD; and creating novel molecular compounds to sensitize tumors/accentuate the effects of cancer immunotherapies.

T cell-based therapies are incredibly promising in oncology and other clinical applications; this is most prominently seen in the chimeric antigen receptor (CAR) T cell cancer therapies, in which labs tweak these natural immune defenders to seek out and kill cancer cells.

But the T cells, as Zhang mentioned, can sometimes be the problem leading to serious disease such as GVHD.

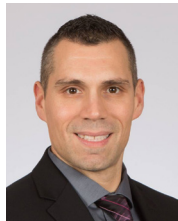
The scale can tip easily. A variety of these cells known as inflammatory effector T cells can cause the destruction of normal host tissues (such as graft-versus host disease and type 1 diabetes), whereas T cells with impaired memory potential are conversely unable to clear chronic infections or tumors.

Zhang and his team are looking at a bustling immune-system environment, where everything is connected, and prone to feedback loops. [READ MORE](#)



FEATURED RESEARCH ADMINISTRATOR

SUMMER 2022



David M. Candelmo, MBA, CRA

*Manager, Sponsored Projects
HMHN Research Institute*

Securing funding for a project is arguably the most unnerving aspect of research. The grant application itself can seem unwieldy, and the submission process involves numerous steps and intricate instructions. Furthermore, a lot is at stake: the idea, the time and effort, and potentially much more. Fortunately, David Candelmo, who oversees the Office of Sponsored Projects here at HMH, is an excellent resource. David has been administratively engaged in the research grant process for two decades and has offered valuable advice and guidance to all types of researchers, from the neophyte to the scientist who has run his own lab for many years. David sat down with us to share how his office can help researchers and some tips on how to navigate the application process as painlessly as possible.

Can you share a little bit about what you do in your current role?

I am the Manager of the Office of Sponsored Projects for the HMH Research Institute. Essentially, my group is responsible for assisting in the submission of all external grant applications. We consider ourselves a service department, and strive to alleviate the full administrative burden from the principal investigator (PI) during the grant application process. We also step in and provide budget support and additional administrative support if the grant is awarded.

All grant applications from HMH employees go through our office, where we review them and then assist with submitting them. It is very important that every application goes through our office because by submitting the application, the PI is attesting that HMH meets requirements for the grant and that the institution can support it. This is something we need to verify before the application goes out. We also check the feasibility of the projects; for example, sometimes there are matches or cost share requirements attached to awards. In those cases, we alert the PIs that if the reward is received, it may require a commitment on the department's end. Finally, we ensure that we have all of the required clearances and

qualifications and that the institution is registered to receive federal awards (SAM registration). Ultimately, our goal is to alleviate the PI's administrative burden and to minimize risk for the PI and institution.

You have been working in research grants administration for many years. How did you get into the field initially?

It is my 19th year in grants administration. My first job out of college was an entry level grants analyst position at UMDNJ, and I felt incredibly lucky to land that role. Ultimately, I made a career out of it and before I knew it, I had been working there for 9 years. It was such a great experience because I learned so much. In that role, I was involved in the post-award end of things. Then, in 2010, I transitioned to the pre-award side and helped PIs prepare applications and submit. I prefer the pre-award side as opposed to the financial side, since it allows for greater relationship building with the PI.

How has HMH been different from other places you have worked? What makes it unique?

HMH has been exceptional in the amount of growth that I have observed and of which I have been able to be a part. I joined about 7 years ago, so I have had the opportunity to help build so much. When I came aboard, there were only a handful of grants; now there are millions of dollars in grants. Dr. David Perlin of the CDI was just awarded a grant in excess of \$100 million. Being a part of this type of transformation has been such a challenging and rewarding experience.

I also think that HMH stands out from other organizations in terms of its culture and people. There is an atmosphere of excellence, and the people are great, very hard working and collaborative.
(continued)

FEATURED RESEARCH ADMINISTRATOR:
DAVID M. CANDELMO, MBA, CRA *(Continued)*

Do you have any tips for researchers who would like to pursue funding for a project, but don't know where to start?

First and foremost, contact my office as soon as possible. We will meet with you and look at funding opportunities with you. We may be able to find a new opportunity for you that you hadn't considered. For example, if you are newer to the research world, you might qualify for an early investigator award. We will also look at your goals and area of interest and possibly connect you with a subject matter expert who might be doing something similar at HHM. Connecting and sometimes even collaborating with seasoned investigators can be invaluable.

Another tip is to have a solid plan going in. Try to learn from someone else before beginning. If you are working on a particular area of science, but haven't been funded, you might want to consider reaching out to someone else who is doing the work for help structuring the proposal. One thought is to go on NIH Reporter and see who is funded in your field. Seeing what others are doing and trying to learn from them is not copying; it's good sense.

It is now more competitive than ever. Realistically speaking, you're probably not going to be awarded the first grant you ever applied for. So, you may want to start small and then move on to bigger grants over time. You don't want to go after an RO1 initially. Instead, you may want to get some initial seed funding, then apply for an early investigator award, which has a higher success rate and is more forgiving with competition. Once you have more data, you can keep moving up. I know that this is hard to do and requires a lot of patience. I can also imagine how frustrating it can be to be rejected after all the work on the application. My job is to make sure that the reason someone is rejected has nothing to do with the administrative aspect of the application.

What are some of the most common missteps that researchers make when looking for or applying for grants? What parts of the process are the trickiest?

I often see researchers who bite off more than they can chew. You need to look at the feasibility of the grant and what the Request for Proposal (RFP) is calling for. Ask yourself: can I realistically do this within the scope of opportunity? Can I meet those needs? Is my budget realistic? Read the RFP carefully and make sure you are setting out to apply for the right types of projects.

Do you have any hobbies or activities that you enjoy outside of work?

I enjoy spending time with my family, going to the gym, and working on home improvement projects.



HMSOM RESEARCH BULLETIN

SUMMER 2022

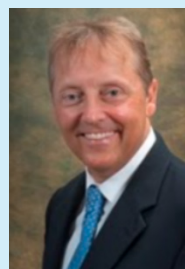
Medical Student Research Day

The Office of Research and Graduate Studies and the Hackensack Meridian Health Research Institute held the first annual Medical Student Research Day on Friday, May 6th, virtually via Zoom. A committee of School of Medicine faculty reviewed over 60 student abstract submissions with 4 students selected to further showcase their outstanding research in 15-minute oral presentations. The featured student presentations included A Community Wide Project to Look at the Role of a Free Educational Women's Health Webinar in an Insular Community (Nicole Feigenblum, M3; mentored by Mira Hellman, M.D.), Comparison of Perioperative Outcomes between Transvesical Single Port and Intravesical Multiport Robotic Assisted Simple Prostatectomy: A Single Center Study (Sreya Das, M2, mentored by Michael Stifelman, M.D.), Evaluation of the Utilization and Prognostic Value of Nonneoplastic Adjacent Kidney Pathology in Patients Undergoing Partial and Radical Nephrectomy, (Teona Iarajuli, M3; mentored by Michael Stifelman, M.D.), and Personality traits, depressions and eating behavior in individuals seeking bariatric surgery: a cluster analysis (Catherine Phalen, M2, mentored by Fortunato Battaglia, M.D., PhD). The remaining students were assigned to appropriately themed breakout rooms with similar poster topics including cancer, COVID-19, general surgery, medical education, orthopedic surgery, neurology, pathology, sports injury, and urology. Each breakout room included up to 5 student presentations. Students were each allotted 5 minutes to present their research posters, with questions and discussions by fellow students and faculty member attendees held for the end of the breakout room sessions. Student posters are stored in digital format and are available to interested parties via email request to ORGS@hmhn.org. Medical Student Research Day acknowledges the students' accomplishments and provides an opportunity for all medical students to submit an abstract, prepare a research poster, and present research in front of 100-plus faculty members.

Research Opportunities for Medical Students

As a critical component of their education, there are many Hackensack Meridian School of Medicine students seeking ways to engage in research - either as an extracurricular activity during their first 3 years of the curriculum, or for credit during Phase 3. Faculty members and investigators that become mentors benefit from the extra assistance with, and insights on, their projects while students gain valuable research skills including how to develop a hypothesis, conduct experiments, draft an abstract, create an IRB submission, collect and analyze data, build a database in REDCap, and the importance of study team collaboration. On behalf of the School of Medicine, the Office of Research and Graduate Studies would like to thank all past, current, and future investigators for providing in-depth training and insights to our medical students. Investigators interested in mentoring medical students in research, please complete the REDCap form linked here: <https://redcap.link/xi23o0mf>

This form generates a database of faculty research that is updated monthly and shared with medical students to find current Hackensack Meridian Health research opportunities. If you have any questions about this form or a research opportunity for students, please reach out to the Office of Research and Graduate Studies at ORGS@hmhn.org.



TERLECKY'S CORNER is an online source of research news, analysis, and opinion - housed on the Hackensack Meridian School of Medicine's Interprofessional Health Sciences Library website at <https://library.shu.edu/ihs>. Vice Dean of Research and Medical Sciences, **Dr. Stanley R. Terlecky** has written on various topics including CRISPR-Cas9, the Value of Negative Results, Cardiac Exosomes, and mRNA in the context of vaccine development. His most recent blogpost explores the idea of preparing antiviral vaccines well in advance of identified outbreaks. Interested readers are encouraged to explore Dr. Terlecky's engaging scientific musings.

Combatting Opioid Use Disorders - DATA Waivers

The Hackensack Meridian School of Medicine's Office of Research and Graduate Studies, in collaboration with Seton Hall University's College of Nursing and School of Health and Medical Sciences, has created a training program to educate aspiring physicians, nurse practitioners, and physician assistants in the prevention, recognition, treatment, and management of opioid use disorders. The curriculum, which focuses on medication-assisted treatment (MAT), is supported by Substance Abuse and Mental Health Services Administration (SAMHSA) grants 1H79TI081968 and TI081653, representing a collaborative effort between the three schools to combat the ongoing opioid crisis. Upon completion of the curriculum, all graduates will have met the requirements specified in the Drug Addiction Treatment Act of 2000 (DATA), and hence be eligible for the DATA-waiver upon receipt of their DEA license. While the delivery of MAT'S pharmacology, behavioral interventions, and counseling approaches requires that health care providers receive such a DATA-waiver, only a small percentage of physicians in the United States currently possess such licensure, resulting in wide geographic gaps in care - a problem the School of Medicine and our Seton Hall University partners seek to address.

Our three-part approach to training involves interactive sessions, online modules permitting students to approach content asynchronously, and clinical experiences emphasizing exposure to MAT in practice. The clinical encounters for medical students are embedded in the curriculum as part of their psychiatry clerkship.

A second SAMHSA grant aims to expand our training efforts to other institutions as well as to increase our students' exposure to communities disproportionately impacted by the opioid crisis in order to impart a deeper understanding of the social and economic conditions that impact health.

The developed medical student curriculum consists of a four-hour interactive session, eight-hours of online modules (24-hours for NP and PA students), and a ten-hour immersive clinical experience. These materials are supplemented by content delivered at our 2021 national conference entitled "Recovery from Opioid Use Disorders: State-of-the-Art Science to Advance Clinical Care," and through ad hoc lectures at our campus' Interprofessional Research Seminar Series. Guest speakers address topics ranging from practical prescribing guidelines and motivational interviewing techniques, to the impact of COVID-19 on the environment of illicit drug use. Lecturers have included physicians, social workers, and law enforcement, providing a comprehensive perspective on issues relating to opioid use, enabling us to maintain the conversation about the opioid crisis, so that students understand the necessity, urgency, and applicability of the material imparted during our formal training.



QUARTERLY QUESTION

SUMMER 2022

What type of study is the following - prospective or retrospective?

Dr. Spielman plans to study the incidence of depression in individuals with multiple sclerosis. He receives IRB approval on 8/1/2022 and predicts a study end date of a year later. He plans to include the charts of all the multiple sclerosis patients who come in during that time.

To answer the question, please click [here](#). The first person to submit the correct answer will receive a shiny new Hackensack Meridian Health mug that can be picked up at the Jurist building at HUMC or mailed to his/her home/site.