



CURRENTS

A Masonic Medical Research Institute Publication

Grand Lodge of New York

NEW LAB ALERT!

MMRI recruits new associate professor to expand research in cardiovascular medicine

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DR. KONTARIDIS TO CHAIR NATIONAL AMERICAN HEART ASSOCIATION COUNCIL

Learn about her new role chairing one of the largest councils at the Association

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AN EVENTFUL YEAR

A year of firsts, from our first annual 1958 Gala to our first Lupus walk, MMRI has a lot to celebrate

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Letter from our Executive Director



Maria I. Kontaridis, Ph.D.
Executive Director

This summer has been truly remarkable at MMRI! We had the pleasure of welcoming our largest cohort of Summer Fellows yet, with 19 talented young scientists joining our six labs. Their journey culminated in a graduation ceremony that showcased their research to the local community and distinguished guests.

In addition to this, we hosted three highly successful fundraising events over the last two quarters: the 1958 Gala, the area's first Lupus Walk, and a Buffalo Golf Outing. Congrats to our communications team for their hard work and success. From the science side, our publications continue to rise at an impressive rate, and our research discoveries are growing. We are also celebrating two major promotions—Dr. Zhiqiang Lin was promoted to associate professor of biomedical research and translational medicine, and Dr. Khanh Ha advanced from a postdoctoral research fellow in the McCarthy Lab to an instructor. Please join me in congratulating them both!

None of these accomplishments would be possible without the steadfast support of our community. While our scientists diligently secure federal and foundation grants, your philanthropic contributions truly make the difference. Together, we are advancing the search for cures and treatments for some of life's most challenging ailments.

Letter from our Board President



Robert Hewson, DPM
MMRI Board President

Why do we continue to request donations? The short answer is, medical research is expensive. What most people fail to realize is that federal grants from agencies like the National Institute of Health (NIH), and the Department of Defense (DOD) and other granting agencies like the American Heart Association and even New York State only cover approximately 45 percent of the real cost of research. This results in a shortfall of 55 percent, which must be made-up through philanthropic efforts.

Scientific equipment is very costly. As an example, we recently purchased a much needed and now continuously used microscope for \$1.2 million. Maintaining this equipment is technical and extremely expensive, but is imperative to our research endeavors.

Although our scientific salaries are low compared to other comparable facilities, attracting and retaining world class scientists requires a significant investment.

Given these three factors, it is little wonder why we need your help. Every donation, large or small, plays a vital role in transforming the lives of millions of people affected by illness. Please consider us in your estate planning or by donating as you see fit. We count on your support and are very appreciative of it. Thank you, from all of us at MMRI, for sharing our dream of making the world a healthier and happier place.

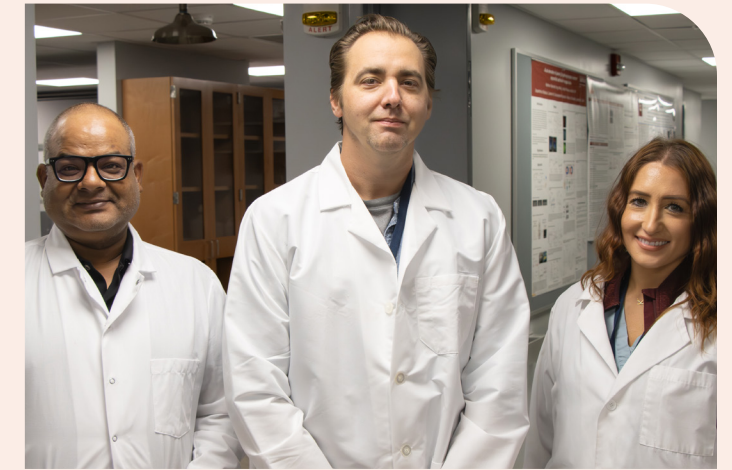
MMRI Recruits: New Associate Professor from University of Louisville to Expand Research in Cardiovascular Medicine

“MMRI is quickly becoming an internationally recognized leader in cardiovascular and biomedical research,” said Dr. Kontaridis. “With the addition of Dr. Nystoriak, we will continue to grow and succeed in our research endeavors. We are thrilled to welcome such a talented investigator to our organization.”



Matthew Nystoriak, Ph.D., has been recruited to MMRI and named associate professor of biomedical research and translational medicine. In this role, Dr. Nystoriak will spearhead a laboratory dedicated to coronary blood flow and cardiovascular medicine.

Dr. Nystoriak earned his bachelor's degree in biology and his Ph.D. in pharmacology at the University of Vermont College of Medicine, Burlington, Vermont. He then went on to complete his postdoctoral training at both the University of Washington and University of California, Davis. Prior to joining MMRI, Dr. Nystoriak was an associate professor at the University of Louisville, Louisville, Kentucky, where he served on the School of Medicine's Research Committee and was the director of the imaging and physiology core at the Center for Cardiometabolic Science. His research has been published in several prestigious scientific journals, including *Circulation Research*, *Nature Communications*, *Science Signaling* and the *Journal of Physiology*. Dr. Nystoriak has also been an invited speaker at several prominent scientific gatherings, including the American Heart Association's Scientific Sessions, the American Physiology Summit, the UC Davis Cardiovascular Research Symposium and the Microvascular Exchange Symposium.



Vipin Verma, Ph.D., Matthew Nystoriak, Ph.D., Alice Bukrinsky, M.D.

Specifically, his laboratory will research the regulation of myocardial perfusion, examining blood flow through the heart muscle and its pumping efficiency. His work will also explore the relationship between metabolism and electrical signaling in the heart, to identify novel therapeutic targets and enhance cardiovascular health and treatment options.

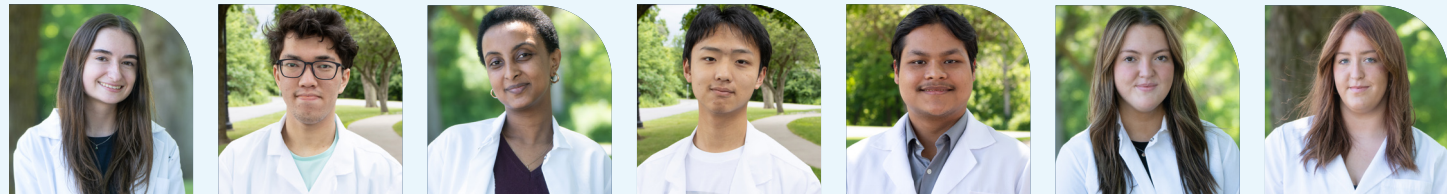
“Heart disease is the leading cause of death in the United States,” said Dr. Nystoriak. “My research is focused on understanding how various lifestyle and environmental factors affect the heart and blood vessels, which are crucial to cardiovascular health. By identifying these influences, we aim to develop life-saving treatments for the millions affected by this devastating disease. MMRI is at the forefront of cardiovascular research, and I am thrilled to contribute to this world-class institute's mission.”

2024 Summer Fellowship Program and Graduation

During the summer of 2024, MMRI welcomed 19 undergraduate students to its highly accredited Summer Fellowship program. Over ten weeks, each fellow collaborated closely with MMRI's principal investigators (PI), acquiring invaluable scientific expertise and knowledge through a rigorous curriculum. Furthermore, they gained insights into MMRI's operational endeavors through interaction with administrative executives.



Rebecca Caruso Richard Chen Dmytro Davydenko Mariah Foster Gianna Frank Hope Garramone Zhijie Han



Emily Hemstrought Alinur Jaboldinov Afomiya Kassie Houze Li Nay Linn Julia Sassower Reaghan Sassower



Alexander Seeley Owen Trela Alexandra Volo Raegan Weems Anna Zamperetti



Celebrating our Summer Fellows

To commemorate the Summer Fellows' time in the program, each student presented a summary of their work and shared about their experience with their families, friends and MMRI staff. Following their presentations, Summer Fellows engaged in a luncheon with family and peers as a celebratory conclusion to their time at the laboratory.



“

We were delighted to welcome our largest class to date into MMRI's coveted Summer Fellowship program," said Maria I. Kontaridis, Ph.D. "The halls of MMRI were bustling, and we enjoyed the culmination of their research experiences at the end of the program. The program is a testament to our mission, including our commitment to training future generations of science and medicine."

Thank you to all the generous sponsors of the program including:

- Alera Group
- Drs. Atul & Amita Butala
- Burrows Foundation
- Slocum-Dickson Foundation
- Mr. Gary T. Forrest
- The Give Back to Utica Fund/ Steven H. Oram
- Ronald and Cecelia Gouse
- R.:W.: Walter R. Leong
- The Mele Family Fund
- M&T Bank/Partners Trust Bank Charitable Fund of The Community Foundation of Herkimer and Oneida Counties
- Shakespeare Lodge #750 F. & A.M.
- Sixth Masonic District Association of Manhattan, Inc.
- UpMobility Foundation
- Utica Lodge #47 F. & A.M.

1958 Gala

SATURDAY, MARCH 23, 2024

On Saturday, March 23, 2024, MMRI held its first annual 1958 Gala at the Fort Schuyler Clubhouse in Utica, New York, to raise awareness and support for its groundbreaking medical research. The proceeds benefited the organization's innovative biomedical research in cardiovascular disease, neurocognitive disorders and autoimmunity.

The 1958 Gala took guests through an immersive journey "into the future" of medical research, as event-goers received an inside look into MMRI's newest innovations in autism, lupus, non-alcoholic steatohepatitis (NASH), post-traumatic stress disorder (PTSD) and heart disease research.

Your Impact: Whether you celebrated with MMRI at the Fort Schuyler Club or supported from afar, thank you! MMRI's inaugural 1958 Gala, chaired by John and Jackie Romano, was a HUGE success! More than 200 people came together to celebrate and learn about the groundbreaking research being conducted at MMRI. The event raised more than \$180,000 to benefit the organization's mission.



“We are so excited to be part of the city's revitalization, with plans for a new state-of-the-art campus in downtown

Utica,” said Dr. Maria I. Kontaridis, executive director. “This event was the perfect opportunity to celebrate the exciting future of MMRI. We are no longer a ‘hidden’ gem.”



“MMRI is widely recognized worldwide by scientists for its groundbreaking

research,” said Jackie Romano, chair of the 1958 gala. “Until now, few people in Utica were aware of MMRI's tremendous accomplishments and contributions to the Mohawk Valley. Not only is MMRI bringing expert scientists to live and work in our community, but it is also making life-changing medical discoveries right in our backyard. Thank you to all who came out to support MMRI. It was a night to remember.”

What's Next? This year's gala is over—but MMRI's impact isn't slowing down. With your help, MMRI can make its 2025 gala another record-setting milestone for its mission and research. **Save the date for Saturday, March 29, 2025, for the second 1958 gala!**

However you choose to support MMRI, whether through making a donation, sponsoring an event or attending MMRI events, THANK YOU!



MMRI would especially like to thank their top sponsors whose support made an immense impact.

Presenting Sponsors:

- The Fountainhead Group, Inc.
- The MMRI Board of Directors.

Red Carpet Sponsor:

- Mohawk Valley Health System

Platinum Sponsors:

- The John Brown team at Coldwell Banker Faith Properties
- Central New York Brain & Spine Neurosurgery
- Pacemaker Steel and Piping Company
- TangoSquared
- The Utica Comets.

Gold Sponsors:

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- Empower Business Strategies
- The Hayner Hoyt Corp.
- Kenneth C. Miller Mason Contractor
- Mandia International Trading Corp.
- Morehouse Appliances
- Steve Lennon and Co. Jewelers
- Volo's Auto Supply.



Lupus Walk

SATURDAY, MAY 18, 2024



MMRI, in partnership with the Lupus and Allied Diseases Association, Inc., was thrilled to have held the area's first Lupus Walk to support lupus research in Utica, New York, at the Masonic Care Community Campus. Over 350 participants from across the region joined us to walk a one or three mile course. The event began with a ribbon-cutting ceremony and press conference featuring local elected officials, followed by a delightful BBQ fundraiser. MMRI is optimistic that next year's event will be even larger, aiming to double our participation! **Be sure to save the date for next years walk! Saturday, May, 17, 2025.**



Add your name to next years T-shirt with a small sponsorship. Contact mocchionero@mmri.edu to find out how!

MMRI in the Community

Go Red for Women Luncheon

THURSDAY, MAY 2, 2024

MMRI was honored to be a part of this year's American Heart Association Mohawk Valley Go Red for Women luncheon. Dr. Kontaridis, alongside panel members Dr. Antilus, OB/GYN, and survivor Stephanie Mazloom Hammond had the privilege of inspiring and educating others.



Walk to Support Autism

FRIDAY, MAY 3, 2024

MMRI staff gathered for a two mile walk around the Masonic Care Community campus to show support for MMRI's friends at the Kelberman Center and to promote autism acceptance! Everyone at MMRI is grateful for this partnership.



Boilermaker Road Race and Expo

SUNDAY, JULY 14, 2024

Congratulations to our corporate cup team for placing third and all runners that represented MMRI: Robert Gardner, Ph.D., Crystal Jadwick, Victoria Ogrodnik, Josh Macera, Gary Aistrup, Travis Thibodeaux and Curt Fowler. (Not pictured: Michael Mayo, Matt Nystoriak, Ph.D., Owen Trela)



St. John's Weekend

JUNE 20 to 23, 2024

The 2024 St. John's Weekend was filled with hundreds of Masonic community members and their families from across the state for a grand celebration of Freemasonry that included live music, parades, vendor tents, MMRI's Ladies Breakfast, tours of the facility and of course, plenty of food!

MMRI leadership and board members began the weekend by attending Thursday night's White Party, where they had a fantastic prime rib dinner.

On Friday, members of the Masonic community enjoyed a Ladies Breakfast at MMRI, hosted by Cathy Hewson, Hallie Schneeweiss and Cathy Boccabella. This year's distinguished speaker, Dr. Chase Kessinger, engaged the group with his research on post-traumatic stress disorder.

On Saturday, event-goers participated in guided tours of the MMRI facility led by its researchers, who spoke about their science projects with poster presentations and interactive science displays — an enjoyable experience that was also educational!



Members of Pyramid Lodge presenting a check of \$500 to MMRI.

Thank you to our donors

MMRI had the pleasure of recognizing several donors for their generosity. Contributions like these are vital to the success of MMRI's research. Small ceremonies were held to honor these incredible donations.

Vine of Life: Donations of \$5,000 or more



MMRI board of directors presented a Vine of Life in memory of Grayce Shultz, the beloved wife of Richard Shultz, grand secretary. Mrs. Shultz will be deeply missed, and MMRI's thoughts and prayers are with Shultz and his family during this difficult time.



A special donation was made to our autism fund from Nicholas Isabella, who donated the funds entrusted to him by Gregory R. Stahura. The Francis Lewis Lodge, was presented with a Vine of Life in memory of Gregory R. Stahura.

Golden Heart: Donations of \$2,500 - \$4,999



Masons of Mariner's Lodge No. 67 of Manhattan, New York, were recognized with a Golden Heart for their generous donation of \$2,500.

(From left to right):

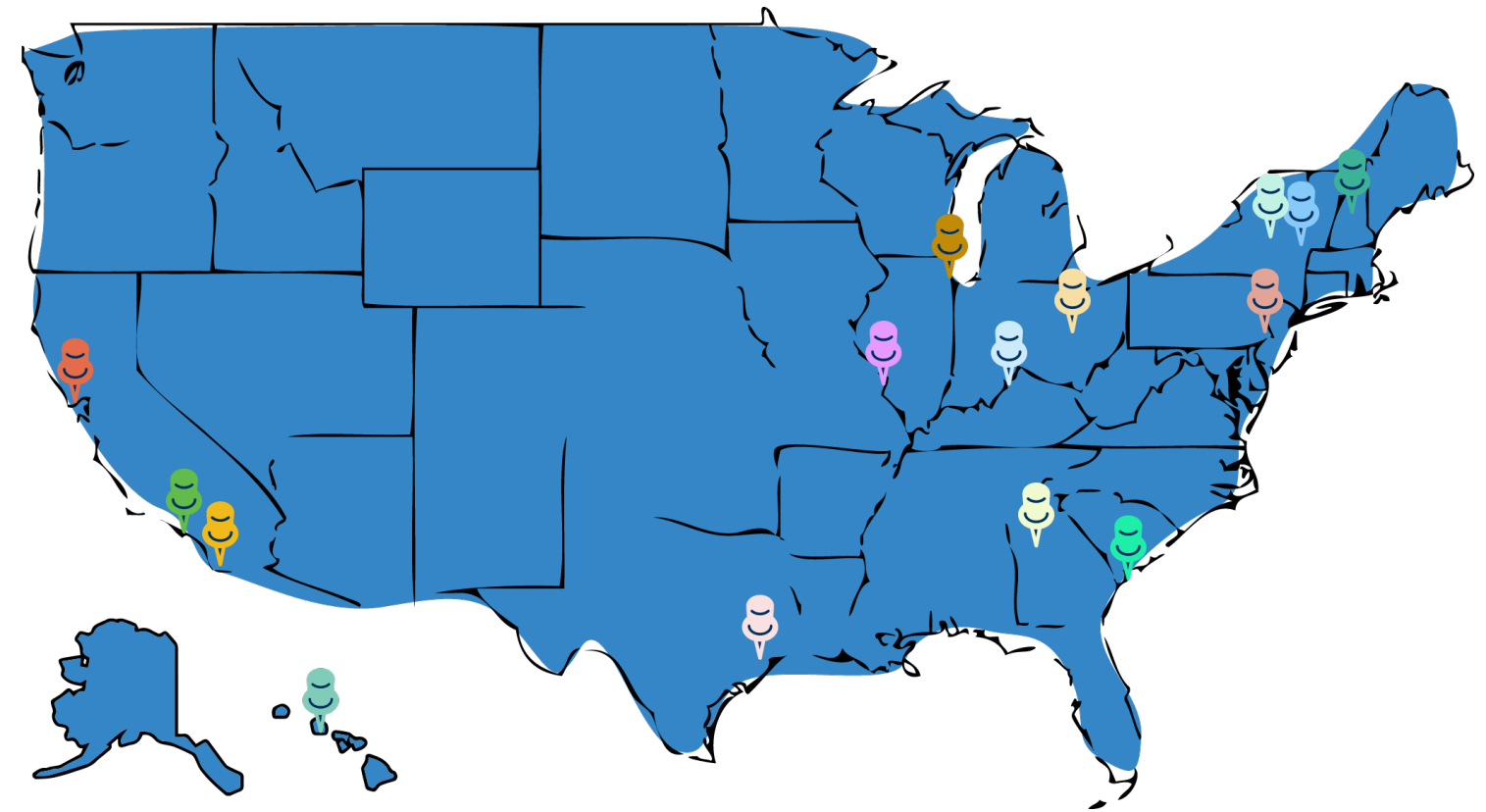
Paul G. Huck Esq., Alvaro F. Quiroga-Sanchez, Andrew J. BeauChamp, Maria I. Kontaridis Ph.D., Robert A. Hewson DPM, Michael Sachs, Samuel L. Kinsey, Dinar, David F. Schneeweiss, Fahimul Islam, James D. Swan Jr.

Where did MMRI Scientists go this year?

An important duty of every successful scientist is to share their innovative findings with their peers at seminars and conferences. Several of MMRI's principal investigators were busy doing just that this year!

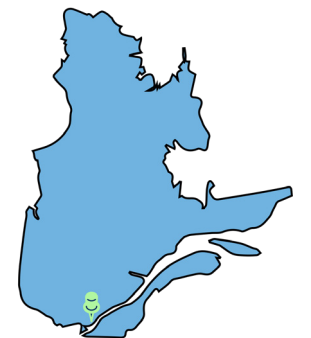
- 2023 **Maria I. Kontaridis, Ph.D.** University of Göttingen/Göttingen, Germany (virtual)
Phosphatases in Diabetes, Obesity, and in Cardiovascular Disease Function Heart Science Seminar Series at Deutsches Zentrum für Herz-Kreislauf-Forschung
- 2023 **Maria I. Kontaridis, Ph.D.** Global Talents in Science 5th International Symposium (virtual)
Myeloid-specific Regulation of RhoA in Cardiac Fibrosis Invited Keynote Speaker: Research Advancements for Enabling Precision Medicine in Cardiovascular Disease
- 2023 **Maria I. Kontaridis, Ph.D.** Boston, Ma (virtual)
Boston Children's Hospital, Office of Faculty Development Invited Speaker: Getting Your K Award Funded: Constructing the Career Development Plan and Mentor's Statement
- 2023 **Maria I. Kontaridis, Ph.D.** Philadelphia, PA
American Heart Association Scientific Sessions Invited Speaker, Moderator and Abstract Reviewer
- 2023 **Jason McCarthy, Ph.D., Chase Kessinger, Ph.D.** San Diego, CA
ACR Convergence: Where Rheumatology Meets
- 2023 **Maria I. Kontaridis, Ph.D.** University of Louisville School of Medicine, Louisville, KY
The importance of signaling modulations in obesity, heart disease and fibrosis Invited Speaker: Environmental Medicine Grand Rounds (EMGR)

- 2024 **Maria I. Kontaridis, Ph.D.** Albany College of Pharmacy and Health Sciences (virtual)
The Importance of Signaling Modulations in Obesity, Heart Disease, and Fibrosis Invited Speaker: Monthly Seminar Series
- 2024 **Maria I. Kontaridis, Ph.D.** University of Hawaii Cancer Center, Honolulu, HI
Myeloid-specific Regulation of RhoA in Cardiac Fibrosis Invited Speaker: 7th Annual International Hawaii Cardiovascular Symposium, John A. Burns School of Medicine
- 2024 **Maria I. Kontaridis, Ph.D.** The Ohio State University Columbus, OH
The importance of signaling modulations in obesity, heart disease and fibrosis Invited Distinguished Speaker: Research in Progress Seminar Series The Dorothy M. Davis Heart & Lung Research Institute
- 2024 **Zhiqiang Lin, Ph.D.** Sonesta Resort, Hilton Head, SC
Metabolic Physiology Meeting Poster Presentation
- 2024 **Chase Kessinger, Ph.D.** Chicago, IL
Vascular Discovery: From Genes to Medicine - Scientific Sessions
- 2024 **Maria I. Kontaridis, Ph.D.** San Francisco, CA
American Heart Association Scientific Sessions Chair of the Meeting: Provided Opening and Closing Remarks; Introduced Opening Address Speaker, Keynote Speaker, and Closing Speaker
- 2024 **Maria I. Kontaridis, Ph.D.** Utica University, Utica, NY
Cardiomyocyte-specific deletion of PTP1B protects against high-fat diet induced cardiac dysfunction and obesity Invited Speaker: Asa Gray Biological Seminar Series Cardiovascular Sciences
- 2024 **Zhiqiang Lin, Ph.D.** Utica, NY
Unleashing the Power of Cell & Gene Therapy Panelist



- 2024 **Maria I. Kontaridis, Ph.D.** Texas A&M Institute of Biosciences and Technology, Houston, TX
The Importance of signaling modulations in obesity, heart disease and fibrosis Invited Speaker: Kelsey Lecture Seminar Series
- 2024 **Maria I. Kontaridis, Ph.D.** Colby Sawyer College, New London, NH
Inter-organ Communication Discussion Leader and Moderator: 2024 Gordon Research Conference on Cardiac Regulatory Mechanisms
- 2024 **Maria I. Kontaridis, Ph.D., Tongbin Wu, Ph.D.** Chicago, IL
Session 7: Pathophysiologic Axes Beyond the Heart Invited Speaker: American Heart Association (AHA), Basic Cardiovascular Sciences (BCVS)
- 2024 **Maria I. Kontaridis, Ph.D., Zhiqiang Lin, Ph.D.** Long Beach, CA
Myeloid-specific Regulation of RhoA in Cardiac Fibrosis Invited Plenary Speaker and Moderator: 43rd International Society for Heart Research (ISHR) North American Section (NAS) 2024 Society Conference

- 2024 **Maria I. Kontaridis, Ph.D.** Emory University School of Medicine, Atlanta, GA
The Importance of signaling modulations in obesity, heart disease and fibrosis Invited Speaker: Cardiovascular Biology Seminar Series
- 2024 **Maria I. Kontaridis, Ph.D.** Center for Cardiovascular Research at Washington University School of Medicine, St. Louis, MO
The Importance of signaling modulations in obesity, heart disease and fibrosis Invited Speaker: Center for Cardiovascular Research (CCR) Seminar Series
- 2024 **Tongbin Wu, Ph.D.** Hotel Bonaventure Montreal, QC, Canada
Weinstein Cardiovascular Development and Regeneration Conference



Welcome New Staff

New Associate Professor of Biomedical Research and Translational Medicine

Matthew Nystoriak, Ph.D.

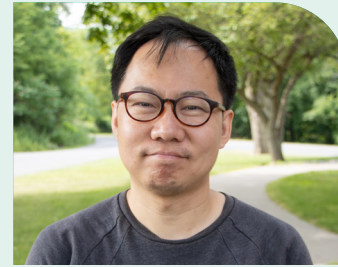
Dr. Nystoriak will oversee a laboratory dedicated to cardiovascular medicine. Specifically, he will research how blood flow to the heart is regulated by crosstalk between intermediary metabolism and electrical signals in cells of the vasculature.



Maddelyn Hoehn

Research Assistant

In this role, Hoehn assists the senior researchers in the McCarthy laboratory with conducting research related to molecular imaging and target drug delivery.



Enxu Li, Ph.D.

Postdoctoral Fellow

Dr. Li will assist Dr. Wu with carrying out research on post-transcriptional regulation of heart development and diseases focusing on cardiovascular physiology.



Josh Macera

Research Assistant

In this role, Macera will assist Dr. Kessinger in research related to post-traumatic stress disorder.



Abhishek Mishra, Ph.D. Lyndsay Schoen

Postdoctoral Fellow

Dr. Mishra will work under Dr. Kontaridis to research heart failure and potential regenerative therapies for adults.



Multi-Media Associate

Schoen will assist the marketing and communications team with writing and designing materials for communications.



Ricky Spight

Facilities Associate

In this role, Spight will care for the MMRI grounds and keep the facility secured on the weekends.



Jennifer Stiffler

HR Generalist

Stiffler manages a wide range of HR functions, including recruitment, employee relations, benefits administration and compliance with labor laws.



Randy Tulloch

Facilities Associate

In this role, Tulloch cares for the MMRI grounds and keeps the facility secured.



Jianxun (Greg) Wang, Ph.D.

Research Scientist

Dr. Wang will work under Dr. Kontaridis to research lupus alongside Dr. Le Sommer.



Promotion of Khanh Ha, Ph.D., to Instructor

MMRI is pleased to announce Khanh Ha, Ph.D., has been named instructor at MMRI.

“We are delighted to announce the promotion of Dr. Ha to instructor,” said Maria Kontaridis, Ph.D., executive director. “He has demonstrated leadership qualities, initiative and a strong work ethic that align with the values and goals of our organization.”

In this role, Ha will work under Jason McCarthy, Ph.D., associate professor of biomedical research and translational medicine and scientific operations director at MMRI, to research the synthesis of novel imaging agents and grow MMRI’s coveted Summer Fellowship Program to new heights.

“I am beyond thrilled to receive this promotion and look forward to taking on new responsibilities and challenges,” said Dr. Ha.

Maria I. Kontaridis, Ph.D., to Head National Council for the American Heart Association



Maria I. Kontaridis, Ph.D.
Executive Director

On Monday, July 1, 2024, Maria Kontaridis, Ph.D., became the chair of the American Heart Association’s Basic Cardiovascular Sciences (BCVS) Council. BCVS is one of the largest councils at the Association and one of the largest organizations in cardiovascular sciences globally, with about 5,000 members from more than 45 countries.

Its mission is to promote basic science research and education, with the goal of understanding the mechanisms of regulation of heart function, to allow for more effective, better targeted therapeutic strategies to treat cardiovascular diseases. The council places special emphasis on integrating molecular/cellular and physiological approaches to address problems

in functional genomics, cell signaling, myocardial biology, circulatory physiology, pathophysiology and peripheral vascular disease.

The Leadership Committee actively participates in the publication of scientific statements or guidelines that are integral to our community; identifies and supports areas of cutting-edge research science; prioritizes initiatives that address social determinants of health to reduce disparities in cardiovascular outcomes; and plays a key role in planning the many conferences of the American Heart Association, especially the most important gathering of scientists in the cardiovascular field, Scientific Sessions. This year’s Sessions will take place in Chicago, where the Association will celebrate its 100th birthday.

Dr. Kontaridis has received several research grants from the American Heart Association in her career and was the vice chair of the Leadership Committee from 2022 to 2024. She also joined the board of directors of the American Heart Association of the Mohawk Valley in July, 2024.

“

I am deeply honored to serve as the BCVS Council Chair, to promote the mission and vision of the American Heart Association. I look forward to working with the council members and with my research colleagues across the country to find ways to reduce the incidence of heart disease and stroke, to help foster a healthier society and to support medical professionals in their quest for knowledge,” said Dr. Kontaridis.

In the News



MMRI Recruits new Associate Professor

Covered by: Newswire, KGET.com, Binghamton Homepage, PIX11, WIVB.com and Daily Sentinel.

New Research Lab at Masonic Medical Research Institute focuses on Heart Health

Covered by: Spectrum Local News



19 Students to Take Part in MMRI Summer Fellowship Program

Covered by: WKTV, Newswire, ABC27 EIN Presswire, Utica Chamber of Commerce, Daily Sentinel and CNY Business Journal

MMRI Graduates Largest Summer Fellowship Cohort in Utica

Covered by: Daily Sentinel and WKTV

Educating Future Scientists

Dr. Chase Kessinger visited E.R. Hughes Elementary School, New Hartford, New York, to share about his work as a scientist for Career Day! First and fourth grade students interacted with magnets and nanoparticles in glass tubes and received wristbands and future MMRI scientist stickers! MMRI loves inspiring young minds to get engaged with science!



Visiting Speaker Series

MMRI is thrilled to host scientists from around the country as part of its invited speaker series. Since February, three scientists have traveled to Utica, New York, to share their research with the staff of MMRI. All three speakers research cardiovascular medicine. The featured speakers include Bin Zhou, Ph.D., Charles Murray, Ph.D. and Asa Gustafson, Ph.D.



Dr. Bin Zhou



On February 15, 2024, Dr. Bin Zhou, professor of pediatrics at the University of Chicago, Chicago, Illinois, visited MMRI to speak about his research, which is focused on endocardium cells in the heart, cell population in the coronary arteries in

the heart walls and how they link to underlying molecular mechanisms. His findings relate to endocardium biology, heart development, heart disease and coronary artery disease.

“

Biotechnology has faced a lack of improvements over the past few years,” said Dr. Zhou. “MMRI has the potential to improve the weaknesses in biotechnology.”

Dr. Charles Murray



On May 15, 2024, Charles Murray, Ph.D., from the University of Washington, Seattle, Washington, visited MMRI to discuss his research in heart regeneration techniques. Dr. Murray explained that through heart disease, the heart pump (made of

muscle) can be damaged, losing cells and causing heart failure. His research focuses on using stem cells to create heart cells in limited quantities at a pharmaceutical level. This task has yet to be completed but will change the trajectory of patients’ clinical courses.

“

With heart disease as the number one cause of death, innovation for heart regeneration is crucial,” said Dr. Murray.

Dr. Asa Gustafson



On June 26, 2024, Asa Gustafson, Ph.D., from the University of California, San Diego, California, discussed her research on the aging heart and the role of mitochondria. Dr. Gustafson’s work largely studies disposal pathways disrupted by heart

disease. Her work also studies how the disposal pathways can cause further damage to the muscle as it ages.

“

MMRI has amazing facilities with all of the resources to help simplify a difficult field,” said Dr. Gustafson.

Publications

Comparative analysis of two independent Myh6-Cre transgenic mouse lines.

Davenport A, Kessinger CW, Pfeiffer RD, Shah N, Xu R, Abel ED, Tucker NR, Lin Z. *Journal of Molecular and Cellular Cardiology Plus*, Volume 9. 2024 Jul 3. 100081, ISSN 2772-9761, <https://doi.org/10.1016/j.jmccpl.2024.100081>.

A recent study led by Dr. Zhiqiang Li, assistant professor of biomedical research and translational medicine, tested two experimental models commonly used to study how specific cardiac genes impact heart function. Dr. Lin's findings demonstrate that one model is superior to the other for studying heart-specific effects. These findings have large implications for future research to determine how specific genes impact cardiac development and disease progression without affecting other tissues in the body. These findings, published in the *Journal of Molecular and Cellular Cardiology*, are important for heart-related biomedical studies, the foundation for developing cardiovascular medicine.

SHP2 as a primordial epigenetic enzyme expunges histone H3 pTyr-54 to amend androgen receptor homeostasis.

Chouhan S, Sridaran D, Weimholt C, Luo J, Li T, Hodgson MC, Santos LN, Le Sommer S, Fang B, Koomen JM, Seeliger M, Qu CK, Yart A, Kontaridis MI, Mahajan K, Mahajan NP. *Nat Commun*. 2024 Jul 4;15(1):5629. doi: 10.1038/s41467-024-49978-4. PMID: 38965223; PMCID: PMC11224269.

Ketogenic diet-induced bile acids protect against obesity through reduced calorie absorption.

Li X, Yang J, Zhou X, Dai C, Kong M, Xie L, Liu C, Liu Y, Li D, Ma X, Dai Y, Sun Y, Jian Z, Guo X, Lin X, Li Y, Sun L, Liu X, Jin L, Tang H, Zheng Y, Hong S. *Nat Metab*. 2024 Jun 27. doi: 10.1038/s42255-024-01072-1. Epub ahead of print. PMID: 38937659.

Detection and Eradication of a Demodex Infestation in Specific Pathogen-free High-barrier Laboratory Mouse Facility Housing Immunocompromised Animals.

Le Sommer S, Sun Y, Legler L, Nelson K, Coon L, Bohler D, Kontaridis MI. *J Am Assoc Lab Anim Sci*. 2024 Jun 22. doi: 10.30802/AALAS-JAALAS-23-000092. Epub ahead of print. PMID: 38908907.

Ultrathin-strut versus thin-strut stent healing and outcomes in preclinical and clinical subjects.

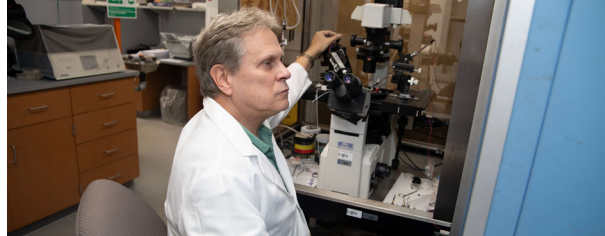
Ikegami R, Piao Z, Iglesias JF, Pilgrim T, Ha K, McCarthy JR, Castellanos MI, Kassab MB, Albagdadi MS, Mauskapf A, Spicer G, Kandzari DE, Edelman ER, Libby P, Heg D, Joner M, Tearney GJ, Jaffer FA. *EuroIntervention*. 2024 May 20;20(10):e669-e680. doi: 10.4244/EIJ-D-23-00563. PMID: 38776143; PMCID: PMC11100507.

Lineage-Specific Mesenchymal Stromal Cells Derived from Human iPSCs Showed Distinct Patterns in Transcriptomic Profile and Extracellular Vesicle Production.

Winston T, Song Y, Shi H, Yang J, Alsudais M, Kontaridis MI, Wu Y, Gaborski TR, Meng Q, Cooney RN, Ma Z. *Adv Sci (Weinh)*. 2024 May 17:e2308975. doi: 10.1002/advs.202308975. Epub ahead of print. PMID: 38757640.

Cardio-rheumatology: the cardiovascular, pharmacological, and surgical risks associated with rheumatological diseases in women.

Le Sommer S and Kontaridis MI. *Canadian Journal of Physiology and Pharmacology*. e-First <https://doi.org/10.1139/cjpp-2023-0420>



MMRI Scientists Contribute to Recently Published Manuscript on Long QT Syndrome (LQTS)

LQTS causes fast, chaotic heartbeats (arrhythmias) that can lead to the development of sudden cardiac death (SCD). Scientists from Old Dominion University, Norfolk State University and MMRI recently published a manuscript in which they identified two different inherited mutations in the KCNH2 gene, or the human ether-a-go-go related gene (hERG), which are linked to the development of LQTS. To date, mutations in 15 genes have been identified to cause this disorder, with mutations in KCNH2, a gene encoding a cardiac potassium channel, thought to contribute to ~45% of all cases. Interestingly, the severity of LQTS in individuals can be variable; some develop severe arrhythmias, such as Torsade de Pointes (TdP), whereas others remain asymptomatic for years. Here, scientists discovered that the two novel mutations in the KCNH2 gene, which came from two different individuals, presented with severe arrhythmias and LQTS, emphasizing the significance that mutations in the KCNH2 may have in causing LQTS. Taken together, this study emphasizes the need to screen for mutations causal to LQTS, specifically for KCNH2. Early diagnosis and management may serve to save lives consequent to serious and life-threatening cardiac arrhythmias.

“This collaboration between MMRI and other institutions demonstrates the importance of MMRI and its significance to the advancement of scientific knowledge and continuing the important contributions of MMRI,” said Dr. Robert Goodrow Ph.D. Research Associate; Electrophysiology Core Manager.

Old Dominion University scientific staff include Anthony Owusu-Mensah (corresponding author), Victoria Lam, and Michel Audette; Norfolk University scientific staff include Bright Tsevi and Makarand Deo; and MMRI scientific staff who contributed to this paper include **Dr. Robert Goodrow, Dr. Ryan Pfeiffer, Jackie Treat, Dr. Joyce Bernardi, and Dr. Jon Cordeiro.**

Join MMRI's Cornerstone Society

The Masonic Medical Research Institute's (MMRI) Cornerstone Society is a prestigious group of philanthropic leaders dedicated to advancing medical research. Members of this elite society choose to support MMRI through estate planning, financial arrangements, or other deferred gifts. These contributions often enable individuals to make an even greater impact than ever imagined.

I am honored and privileged to be a member of MMRI's esteemed Cornerstone Society. Joining this society was an easy decision for my wife Cathy and I because we deeply believe in the transformative power of medical research. MMRI leads pioneering research in cardiovascular disease—the number one cause of death in the United States. Additionally, MMRI conducts groundbreaking research in neurocognitive disorders, including autism and PTSD, as well as autoimmune diseases such as lupus.

For my wife and I, knowing our legacy is entrusted to such a reputable institution offers profound comfort. As long-time supporters of MMRI, we feel it is our duty to support such an important institution. Ensuring the sustainability of MMRI means that it can continue making significant impact on countless lives. Our family's legacy, through MMRI, will perpetuate this vital work for generations to come.

There are numerous ways to become a member of this transformative society. Options include bequests in wills or trusts, naming MMRI as a beneficiary in retirement plans, establishing charitable gift annuities, and more. These contributions often come with significant tax benefits, allowing MMRI to plan with confidence for the future. I encourage you to consider joining this impactful society. It is a simple yet profoundly meaningful way to contribute to humanity. I can confidently say that MMRI is an institution worthy of your legacy.

With warm regards,

- Robert Hewson, DPM
MMRI Board President



Robert Hewson, DPM
MMRI Board President

“Thanks to MMRI's relentless efforts, we are moving closer to uncovering the causes of these conditions and, for many, a potential cure.”



Scan this QR code to watch a video and learn more about the Cornerstone Society.



Exclusive Cornerstone Society pin.

Benefits of a Membership:

In addition to knowing your contribution will impact millions of lives now and into the future, becoming a Cornerstone Society member offers additional benefits such as:

- Invitations to an exclusive reception which is a perfect time to connect with other like-minded philanthropic leaders.
- Personal phone calls with MMRI updates and its accomplishments.

Set up a time to discuss your legacy.



Contact development director, Pamela G. Matt, Esq. at pmatt@mmri.edu or 315.624.7476



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Autism Research at MMRI:

Through cutting-edge research initiatives, Dr. Maria Kontaridis and her team are uncovering new insights into the complex genetics of ASD by analyzing the DNA of children diagnosed with autism. They are making leaps and bounds here at MMRI, identifying novel genes that can potentially lead to new drug targets for the treatment of patients with autism.

My Family's Story - Pasquale (Pat) Imbimbo Jr.

Autism Spectrum Disorder (ASD) can present significant difficulties for individuals and families. With my oldest son, John, challenges started as soon as he was born. At just 22 days old, he had his first open heart surgery due to complications from his condition. Jameson and Dominic are my 15-year-old twins. Jameson cannot communicate at all; he is non-verbal and struggles. Dominic can talk, but in "cartoon speak." Although he is 15 years old, he behaves like he is only five. **My wife and I strive to provide them with a better life, which is why we started our farm: to give them meaningful work opportunities. However, we cannot do the science part. That is where MMRI comes in.**

How Can You Help?



Pasquale (Pat) Imbimbo Jr.

It's as simple as supporting the life-changing medical research at MMRI. Your donation can mean a higher quality of life for people like Pat's three boys and countless other families affected by autism around the world! Together, we can accelerate the pace of discovery and innovation.

WATCH ONLINE!
Scan this QR code
to hear Pat's story.

