

MMRI History

Freemasonry's longstanding commitment to the health and quality of life for all humanity is evident and clear here in Utica, NY.

Following the war, the Grand Lodge of New York, under the leadership of Grand Master MW Gay H. Brown, established a foundation that would serve and benefit humankind as a whole, without regard to Masonic affiliation or any other restriction. Brother Raymond C. Ellis, the appointed chairman of the committee, together with his eminent advisors, Drs. Currier McEwen, Dean of New York University College of Medicine, and George W. Woodford, Medical Director of the Home Life Insurance Company of New York, identified that rheumatic diseases and related degenerative ailments were among the most serious confronting medical science at the time.

Indeed, findings from a national survey conducted by the United States Public Health Service confirmed that the prevalence for rheumatic diseases was the highest in the nation, exceeding 6.8 million cases at that time. Moreover, although cardiovascular disease came in second, with a prevalence of more than 3 million, it was found that a large percentage of these cases actually originated from recurring attacks of rheumatic fever in childhood.

Interestingly, despite this high incidence of rheumatic fever and associated diseases, there was virtually no substantial, long-range program of basic medical research conducted to find causes or therapies for the disease. Consequently, the committee recommended establishing a medical research foundation, with its primary focus on rheumatic fever in children and a secondary emphasis on

arthritic ailments and related degenerative diseases in adults. The Masonic Foundation for Medical Research and Human Welfare was born on October 23, 1947, with Raymond C. Ellis (President), H. Douglas Van Duser (Vice- President), Samuel Kaltman (Secretary), Malcom D. Simpson (Treasurer), James H. Brice, Charles E. Froessel, William Klingenstein, Walter S. McNab, and James Persons as its original Board of Directors.

Officers and Board Members received expert advice and counsel from two groups established within their bylaws: a Medical Advisory Council, who screened research grant applications for relevancy and effectiveness, and a Medical Review Panel, who examined the actions of the council, forwarding them to the Board along with any other recommendations. The Panel also served as an independent advisory body to the Board on all medical matters. Drs. McEwen and Woodford assisted in establishing these advisory groups.

Like any charitable organization, the newfound challenge facing the Foundation was generating funds to support its efforts. In the spring of 1948, Grand Master Brown facilitated the first (of many) Masonic Brotherhood campaigns in New York, raising nearly \$500,000 to support the Foundation's causes. As the Foundation itself did not have its own laboratory, it allocated funds to various medical colleges in New York that were conducting research consistent with the Foundation's goals. In 1949, its first full year of operation, the Foundation awarded seven grants totaling \$203,196 for rheumatic fever and arthritis research; grants were given to Columbia University College of Physicians

and Surgeons, Irvington House, New York University Bellevue Medical Center, Syracuse University and Rheumatic Fever Foundation, University of Buffalo School of Medicine, University of Rochester School of Medicine, Cornell University Medical School and Arthritis Clinic at New York Hospital. These inaugural grants continued through 1955 and totaled nearly \$1.4 million in support of the Board's resolve, to confine activities to research rather than to treatments, except where treatments were incidental to research. The Board was convinced that the limited dollars the foundation had would have far greater impact if invested in finding causes and cures for diseases. Indeed, the Foundation's significant philanthropic funding of rheumatic disease research became quickly known throughout the medical community and publications for the supported research efforts illuminated the need to eradicate rheumatic fever.

Shortly after the Foundation's research programs launched, discussions emerged regarding use of cortisone and adrenocorticotrophic (ACTH) hormones for treatment of rheumatic diseases; in 1950, two clinician scientists from Mayo Clinic, Drs. Philip Hench and Edward Kendall, were awarded the Nobel Prize for their work in the development of cortisone. The Foundation's Board invited the Nobel Laureates to a televised medical conference in New York City, during which they were presented certificates of achievement. An 11-year-old girl, who a year earlier had been crippled with arthritis, was also present at the conference. She was one of the first children to receive the experimental treatments at New York University Bellevue Medical Center under a research program supported by the Masonic Foundation. Indeed, in Dr. McEwen's 1952 annual report, it was noted that 108 foundation supported scientific articles

had been published and 32 more were in preparation from the course of the seven years of intensive research supported by the Masonic Foundation. There is little doubt that this research support was instrumental in identifying that hemolytic streptococcus infection was causal to rheumatic fever, and helped describe the preventative measures needed to reduce the overall prevalence of the disease.

In the next years, the lessened need to focus on rheumatic disease allowed the Foundation to concentrate on new challenges in the medical field. Specifically, the Board considered opening its own research facility. Former President Ellis, having stepped down from his position at the Foundation in 1952 when he was elected Deputy Grand Master for New York, both conceived and championed the notion of the Foundation building its own medical research laboratory. The proposal was met with a number of questions, including how such an undertaking might be funded, where it would be located, and whether its research should continue to be in the field of rheumatic diseases or, rather, be expanded into other areas of interest. Based on its past commitment and generosity of support, there was confidence that the Masonic Fraternity would support the project financially. With regards to the location, consensus was that the location would be on the campus of the Masonic Home in Utica, NY; the land was readily available there and the proximity of the Upstate Medical Center in Syracuse offered the potential of maintaining some degree of collaboration with a major medical center. More importantly, with its location in the central part of the state, a laboratory in Utica meant it would be accessible to Masons from all over New York, thousands of whom visited the Masonic Home one or more times annually, allowing them to visit the lab more easily and readily.

Identification of types of research that would be supported by such a venture required medical and scientific knowledge. The Board also did not want duplicate research efforts already underway by other agencies. As such, the Medical Advisory Board recommended pursuit of a long-range research program in gerontology, the study of the aging process itself. The research program would encompass studying the aging, from the chemical and physical changes that create visible signs of aging, to how these could be predicted, delayed or even avoided.

In 1955, a special committee of the Foundation's Board was appointed to confer with the Trustees of the Masonic Hall and Asylum Fund to determine the land available on the Masonic Home campus for the proposed laboratory and whether such land could be purchased from the Trustees. The Trustees identified a 2-acre area of land available that was approximately 500 yards west of the Tompkins Memorial Chapel. Since the corporate bylaws did not allow the Trustees to sell any part of the property, they graciously offered to lease the proposed site to the Foundation for \$1 per year for 99 years, with the stipulation that the Trustees had the right to approve the type of building constructed.

As well, and at the same time, the Board successfully identified John Murray Steele, MD, Professor of Medicine at New York University College of Medicine and Director of New York University Research Service at Goldwater Memorial Hospital, as the first Director of Research (DOR) for the new laboratory. A former Associate in Medicine of the Rockefeller Institute, his professional affiliations included being a member of the National Advisory Council, the Oklahoma Medical Research Advisory Committee and Gerontological Society, and a Director of the

New York Heart Association. He was, without question, one of the most accomplished and respected researchers in the country at that time.

Dr. Steele worked closely with the architect in designing the most modern and efficient research facility possible. Ground for the newly minted laboratory was broken on June 18, 1955, St. John's Day. On April 7 of the following year, the cornerstone was laid by Grand Master Ellis and New York Governor Averell Harriman delivered the principal address.

On June 21, 1958, the Grand Lodge of Free and Accepted Masons of the State of New York completed the construction of the laboratory, fulfilling their long standing commitment to charitable work in improving the health and quality of life for all humanity. Grand Master Lloyd Jones officially turned the facility over to the President of the Masonic Foundation, David R. Cunnison. By then, the Masons of New York and their friends had contributed over \$1 million to build the structure. Governor Harriman was again a special guest and presented the address.

Even before completion of the laboratory building, Steele worked to recruit scientific professionals to staff the facility. Shortly after the dedication, Norman Olsen, Ph.D., a distinguished biologist from Vanderbilt University moved to Utica. Working closely as a team, the two scientists established research programs, developed administrative procedures and recruited additional personnel. Eighteen months after the dedication, Steele resigned his position as DOR at the MMRL to administer a key research program for the United States Department of Health at Goldwater Memorial Hospital in New York City.

The search for Steele's successor was J.G. Fred Hiss, M.D., a prominent cardiologist in Syracuse and a member of the laboratory's Board. Dr. Hiss asked an acquaintance, Gordon K. Moe, M.D., Ph.D., who was Professor and Chairman of Physiology at Upstate Medical Center of the State University of New York at Syracuse, for assistance. Dr. Moe readily agreed and identified two potential candidates. When both declined the offer, Moe indicated he would be interested in the position. Among his many credentials, he chaired the Research Committee of the American Heart Association, served as consultant to both the U.S. Public Health Service and the World Health Organization, and was widely published in cardiovascular research journals. Moe, however, set as a condition for taking the position, that the Board accept his definition of gerontology as "any experiment performed on any living organism between conception and death." The Board accepted and unanimously voted him in as the new DOR effective May 1960.

As a second stipulation to Moe's appointment, a friend and professional associate of Moe's joined the laboratory as Associate Director of Research. Verner J. Wulff, Ph.D. was a specialist in neurophysiology and a Professor of Zoology and chairman of that department at Syracuse University. Together, Moe and Wulff shaped the laboratory even before their arrival. They consulted on issues such as space utilization, building modifications, and equipment needs. Wulff was also instrumental in convincing the Board to seek operating income outside Masonic funds, an effort that paid off in making the laboratory operational from the start.

Moe also worked closely with Olsen for a short time, as the two knew each other and were classmates at the University of Minnesota and taught together at the University of Michigan.

However, on July 6, 1960, Olsen and his family died in a tragic house fire. Consequently, the Olsen Memorial Fund was created, honoring Dr. Olsen and his research on the effect of diet on age-related increases in blood pressure. Initially established by Olsen's colleagues, the fund grew as a bequest by his parents, and assisted students studying at the laboratory and at other institutions.

The laboratory's professional staff grew under Moe's leadership, with six more scientists added by the end of 1963. Drs. Jaok Han, Carlos Mendez and Joseph Falzone, all cardiologists, joined in 1960, 1961 and 1962, respectively. Dr. Mildred E. Behrens, specializing in vision, and Dr. Richard S. Tuttle, a specialist in hypertension, also joined in 1961. 1963 welcomed Dr. Harvey V. Samis, an expert in gerontological biochemistry.

In the late 1960s, the work of the laboratory was noticed by the Grand Chapter, State of New York, Royal Arch Masons. Initially, the organization provided annual grants to support postdoctoral fellows working in cardio-pulmonary physiology. After a few years, however, the chapter assumed an even more active role and pledged \$150,000 to finance construction of a wing to the laboratory's main building. That addition, known as the Royal Arch Masons Wing, was completed and dedicated in 1974.

Moe was a great leader and a great scientist. In collaboration with J.A. Abildskov, M.D., a colleague and good friend of Moe's in the Department of Medicine at Upstate Medical Center, the two developed a mathematical model of atrial fibrillation that became the standard for understanding fibrillation. The accomplishment was the first of a series of achievements for the lab, where they would change the face of medicine for the time. For over 25 years, Moe led a staff that

continued to grow in size and capability, forging a legacy that encompassed scientific and medical discoveries, an ingenious wit and an endearing sense of humor. His “open door” policy and direct communication with staff encouraged dialogue surrounding research results, ideas for experiments not yet underway, and progress reports. Under Moe’s tutelage, the laboratory also established education and training programs for future researchers and scientists. In 1960, together with Wulff, he established the laboratory’s Summer Fellowship Program, which is still going strong today, providing opportunities for college and exceptional high school students to participate in research projects under staff guidance. Beginning in the 1960s, and continuing through to today, the laboratory has been a recruitment and training center for both predoctoral and postdoctoral fellows, as well as for students from around the world, many of whom have gone on to become highly respected researchers, scientists and physicians.

The 1970s through early 1980s were a particularly exciting time for laboratory’s experimental cardiology research efforts. The discoveries made during this period branded the lab a premier institution in the field of cardiac electrophysiology. In the late 1970s, research in developing a blood substitute began, ultimately leading to a substitute being developed and patented. In addition, a cancer program was initiated, establishing outgrowth for the laboratory’s focus on aging.

Interestingly, it wasn’t until January 16, 1976, with unanimous approval by the Board of Directors, that the institute assumed its formal name of “Masonic Medical Research Laboratory (MMRL)” From its inception in 1947 until 1974, it had operated under the title, “Masonic Foundation for Medical Research and Human Welfare.” From 1974 to

1976, the name was shortened to “Masonic Foundation for Medical Research.” Because the new name called for a new symbol, artist Tom Yacovella, who had grown up at the adjacent Masonic home, designed the logo incorporating the Masonic square and compass inside a blood drop, surrounded by the laboratory’s name. A few years later, when it was felt that the blood drop was confused with Red Cross initiatives, a new design was generated. William Borman, who retained the circular form and surrounding name, replaced the blood drop with the Masonic logo set within an Erlenmeyer flask, and placed it over a global grid.

During this time, additional expansion and improvement of the physical building also occurred. In 1987, the Max L. Kamiel Library and the Guy R. Vandermosten Computer Facility were completed. Named in honor of Kamiel, a past President and member of MMRL’s Board, the library upgrade was made possible by contributions from the Third King’s District of the New York State Masons. Vandermosten was a District Deputy Grand Master of the First Nassau Masonic District who provided MMRL with its first computers, software and technical support. After his death in 1986, the Guy R. Vandermosten Memorial Fund was created, initiated by donations from Karen Kim Gehring and Mr. and Mrs. Gregory Gehring, to complete the computer facility. In addition, in June 1985, one of the main building’s most stunning and inspirational features, the Raymond C. Ellis tree of humanity, was dedicated. The tree, which still adorns the lobby, acknowledges major supporters of the laboratory and pays tribute to one of its founding fathers. It serves as a centerpiece of the laboratory Endowment and Action Fund, a key development campaign from the late ’80s and early ’90s. As well, members of the Grand Chapter of Royal Arch Masons continued their special interest

in the laboratory and contributed \$300,000 to fund a second-story addition to the Royal Arch Masons Wing, which was completed and dedicated in 1988.

Areas of research at the MMRL during the 1980s encompassed heart, aging, hypertension, cancer, vision and blood initiatives. However, during this time, the focus started to shift more exclusively towards studies in the heart. The vision program, in fact, terminated with the retirement of Wulff as Associate Director of Research in 1984. The summer of that year also marked the end of an era for the lab, with the retirement of Dr. Gordon Moe.

In May of 1984, Moe was honored for his accomplishments at an International Symposium on Amelia Island, Florida, attended by many of the world's most distinguished electrophysiologists. Organized by Drs. José Jalife and Douglas Zipes, it was called the most significant scientific event of the decade in the field of cardiology.

Gordon Moe passed away on October 24, 1989, a loss not only for MMRL, but for the scientific community as a whole. In his honor, the Cardiac Electrophysiology Society established the Gordon K. Moe Lectureship and MMRL created the Gordon K. Moe visiting Professorship. In addition, MMRL established a Chair in Experimental Cardiology, to be awarded to a member of the scientific staff who would be designated the "Gordon K. Moe Scholar."

In the 1990s, MMRL gained further momentum in scientific discoveries. Researchers contributed to advancements in the understanding, treatment and cures for those suffering from abnormal heart rhythms due to AV nodal tachycardia became available. Strides were also made

in the understanding and treatment of life-threatening Long QT Syndrome, a hereditary disease that can result in sudden death of children and young adults. Most notably, in 1996, MMRL scientists were part of a global team that discovered a potential treatment for individuals at high risk of developing Brugada Syndrome, a disease named after Pedro and Joseph Brugada, who first described it in 1992, and which was thought to account for a significant number of sudden cardiac death cases. The laboratory's contributions to understanding the disease led to a National Geographic feature of the MMRL in a television program dealing with the disease.

In 1995, MMRL further expanded its research efforts and created the Molecular Biology Program to complement and dovetail the pioneering electrophysiological research MMRL had conducted over the previous years. Due to its excellent reputation, MMRL and its Cardiology Program saw unparalleled grant support in the 1990s for its research efforts. Among the most notable grants received was a \$1.9M heart disease research award in 1993 from the NIH, the largest grant MMRL had received up to that time. Not long after, another NIH grant totaling \$2.04M for heart disease research to assess the contribution of heterogeneities in normal vs abnormal heart functions was received.

Additional evidence of the laboratory's contributions to the field were seen in 1994, when the MMRL ranked among the top 8% of all organizations in the country earning grants from the NIH. As well, the Masonic Grand Lodge of Florida designated the laboratory its "flagship charity," establishing another welcomed source of support for its research efforts.

It was in this decade too, on November 10, 1996, three months before his 100th birthday,

Raymond Ellis, the laboratory's visionary and lifelong champion, passed away.

To remain at the forefront of research, in 2002, MMRL announced the establishment of a Molecular Genetics Program. In conjunction with this initiative, the laboratory assembled a talented team of investigators to elucidate the genetic mutations associated with cardiac arrhythmias and sudden cardiac death, particularly in infants, children and young adults. Ramon Brugada, M.D., a world-renowned cardiologist and molecular geneticist from Baylor School of Medicine was recruited to lead the program. Complementing the laboratory's electrophysiology and molecular biology programs, the initiative targeted a more patient-focused individualized approach.

Like other cardiovascular programs at MMRL, the new effort was supported by extramural grant funds from NIH and the American Heart Association (AHA). The laboratory received three major awards from NIH and eight from the AHA, a record number for an institute of its size. To accommodate the Molecular Genetics Program, as well as the Molecular Biology Program, a \$2M wing to the laboratory was constructed. The cornerstone was set on June 21, 2003, and the new addition officially opened the following April. \$800,000 in federal funding was secured by regional elected officials. The effort was also supported by a \$300,000 grant from The Community Foundation of Herkimer & Oneida Counties, Inc.

Within its first year, the Genetics Program identified a new clinical entity responsible for sudden cardiac death, termed short QT Syndrome, to an ion channel defect in the heart. The identification of the genetic basis for the disease permitted investigators at MMRL to study potential new candidate

drugs for the treatment of this syndrome. The Molecular Genetics Program also instituted genetic screening at MMRL for familial arrhythmic syndromes, becoming a certified CLIA/CLEP-approved laboratory by the New York State Department of Health.

In order to address the ongoing need to develop and maintain funding, in 2007, an MMRL National Advisory Board was formed to include corporate and civic leaders, as well as medical and scientific professionals who could offer advice and assistance in identifying potential sources of support. Theodore C. Max, M.D., a retired vascular surgeon, and F. Eugene Romano, CEO of Pacemaker Steel and Piping, Inc., became the first co-chairs of the board.

One research highlight from this decade focused on the laboratory's role in providing the first direct evidence linking sudden infant death syndrome (SIDs) to an abnormal heart rhythm. The evidence, based on work conducted at MMRL and with colleagues in Italy, was published in the July 2000 issue of *The New England Journal of Medicine*. A \$1.73M grant from the NIH helped support that research. As a testament to their contributions to the field, MMRL researchers were invited to write the chapters dealing with mechanisms of the heart for the leading medical textbook, *Hurst's the Heart*. Together with colleagues at the Mayo Clinic and the University of Amsterdam, MMRL scientists also co-edited *Electrical Diseases of the Heart*, a major textbook that earned praise from *The New England Journal of Medicine*. In 2008, MMRL researchers had contributed 56 articles, including original peer-reviewed manuscripts, book chapters and abstracts.

MMRL's expanding international reputation continued to attract collaborators. In 2005, research in live human heart tissue began as

a result of groundbreaking cooperation with the Mohawk Valley Heart Institute, a clinical entity only five miles away. Tissues removed from patients as part of surgical procedures at the Heart Institute were provided to the laboratory for research purposes. In late 2006, MMRL, together with a worldwide consortium, discovered another gene mutation responsible for sudden cardiac death. The findings were published in the January 2007 issue of *Circulation*.

By 2010, MMRL had close working relationships with over 36 clinical groups throughout the world. These relationships included not only basic and clinical researchers, but pharmaceutical and biotechnology companies as well. Scientists also served as consultants to biotechnology companies, as well as to the Food and Drug Administration, to help define the mechanisms responsible for abnormal rhythms of the heart.

A New Path for Discovery

On January 1, 2018, to chart a scientific path for the Institute's next 60 years, the Board of Directors hired Dr. Maria Kontaridis to be the new DOR. Just the fourth DOR in Masonic Medical Research Laboratory's storied history, and the first woman to serve in that role, Dr. Kontaridis came from Harvard Medical School (HMS), where she was an Associate Professor of Medicine, and the Director of the Basic Cardiovascular Research Program at Beth Israel Deaconess Medical Center (BIDMC), one of the nation's preeminent academic medical centers.

"Through her extensive leadership and research expertise, Dr. Kontaridis' vision will position the MMRI as one of the top cardiac research centers in the country and around the world," said David F. Schneeweiss,

President of the MMRL Board of Directors. "We look forward to this exciting new chapter in the history of MMRI, and together we will make our internationally recognized programs truly world class."

Dr. Kontaridis received her undergraduate degrees (B.A. and B.S.) from the University of Florida in Classics and Chemistry, and subsequently, went on to Yale University where she obtained her master's degrees in Pharmacology ('99) as well as Biomedical and Biological Sciences ('01), and her Ph.D. ('02). In 2003, Dr. Kontaridis left Yale and continued her work as a postdoctoral fellow at the BIDMC. Her work as a postdoctoral fellow garnered extramural support from the American Heart Association (AHA) and the National Institutes of Health (NIH). In 2007, Dr. Kontaridis was promoted to Instructor, and in 2008, she was recruited to the Department of Medicine, Division of Cardiology at BIDMC at Harvard Medical School.

Dr. Kontaridis' research focuses on the fundamental mechanisms underlying both congenital heart disease and end-stage heart failure, and the processes that lead to abnormal development, aberrant signaling and disease onset. Her work has, so far been awarded grants totaling over 7.5 million dollars, with funding supported by the Milton Foundation, the Children's Cardiomyopathy Foundation, the Saving Tiny Hearts Foundation, the Penn Center for Orphan Disease Research and Therapy, the Harvard Stem Cell Institute, the Alliance of Lupus Research and the National Institutes of Health, as well as having garnered support from industry and pharmaceutical companies. In December of 2010, Dr. Kontaridis was appointed Fellow of the American Heart Association.

"I am honored to have the opportunity to lead the Masonic Medical Research Laboratory during this pivotal time in its history," said Dr. Kontaridis. "MMRL is already an internationally recognized center for cardiac electrophysiology research, and it is my goal to expand upon its reputation in this area of research and build additional areas of expertise in the cardiovascular space. Over the next few years, we will be bringing on new teams of researchers in cardiac development, metabolism and heart failure, as well as establish collaborations with the top universities and hospitals from our area and around the country."

"Dr. Kontaridis' background includes an impressive body of cutting edge research and leadership skills which make her particularly well suited to lead a world class research institution such as MMRL," said Dr. Michael Kelberman MD, FACC, Director of Research at Central NY Cardiology and Director of Clinical Cardiology at Mohawk Valley Health System. "Hiring Dr. Kontaridis is an extraordinary win for MMRL, and will help ensure that Utica, NY remains at the forefront of cardiac research worldwide for many years to come."

"The appointment of Dr. Kontaridis is great news for MMRI and the Mohawk Valley," said Scott H. Perra, President/CEO of the Mohawk Valley Health System (MVHS). "I look forward to welcoming Dr. Kontaridis and working with her as we develop the relationship between MMRL and MVHS and look to the future with the creation of a new regional healthcare campus."

At BIDMC, Dr. Kontaridis was actively involved in the administration of her department; she co-organized the departmental seminar series and the annual Cardiology Retreat. She also served as a member of the Cardiology Fellowship Selection Committee, the

Committee for the Advancement of Women Faculty in the Department of Medicine, and as Chairman of the Research Safety Committee at BIDMC.

Dr. Kontaridis also served as a member of the Harvard Medical School Biomedical and Biological Sciences Faculty Program, where she had a joint appointment in the Department of Biological Chemistry and Molecular Pharmacology and with the Leder Human Biology and Translational Medicine Program of Harvard Medical School. Dr. Kontaridis was also the immediate Past-Chair of the Joint Committee on the Status of Women at Harvard Medical School.

At her request upon appointment, the MMRL was renamed in early 2018 as the Masonic Medical Research Institute (MMRI). It celebrated its 60th Anniversary on June 21st by unveiling a Phase I renovation, totaling \$10 million and entailed gutting and rebuilding the second and third floors of laboratory. The result was 6,800 square feet of new laboratory space that now accommodates approximately 6 research teams and a new full-barrier vivarium. For this project, the Mohawk Valley Regional Economic Development Council (MVREDC) identified the multi-year, transformational project at MMRI as a priority project. Moreover, thanks to a total of \$950,000 in REDC grants, MMRI completed Phase I in summer of 2018. The modernization of the 60-year-old cardiac research center transformed the Institute into a 21st century interdisciplinary, translational research facility. Areas of focus now are on heart disease, diabetes and obesity, autoimmune disease, and cancer, and have allowed for the recruitment of new talent and innovation to MMRI, as well as to the greater Mohawk Valley community.

In addition to the philanthropy of the Masonic Brotherhood, additional resources to the lab helped support its newly invigorated infrastructure. \$175,000 was provided by the Royal Arch Masons as a dedication for a microscopy suite, and \$500,000 was generously provided by Senator Griffo's office from the state of New York, to purchase new equipment needed to advance cardiovascular research efforts.

Dr. Kontaridis has a clear, exciting new vision for MMRI's future research endeavors. In defining the scope of the Institute's potential, her plans involve expanding the focus of MMRI to encompass areas of cardiovascular research, including congenital heart disease, hypertrophic and dilated cardiomyopathy, heart failure, inflammation, stem cells, genetics, electrophysiology, diabetes and obesity, and metabolism. As well, she hopes to expand outside the scope of the cardiac research space to include research in areas in autoimmune disease, gastrointestinal disease, and cancer. There is no doubt that Dr. Kontaridis' vision will enhance MMRI's reputation as one of the top cardiac research centers in the country and around the world.

Dr. Kontaridis' emphasis on translational research opens new possibilities for partnership with neighboring academic institutions, as well as with the Mohawk Valley Health System's (MVHS) new downtown hospital. An expanded collaboration between MVHS and the MMRI began on January 20, 2017, when MMRI Board President David F. Schneeweiss and MVHS President and CEO Scott H. Perra, signed a Memorandum of Understanding (MOU), the first step in exploring an expanded partnership between the two organizations.

The ultimate goal of the MOU was to establish an environment where MMRI research

scientists working at the lab bench and MVHS clinicians working at patients' bedsides could collaborate and create new and innovative research and clinical benefits for Mohawk Valley residents, as well for health care patients throughout New York State and beyond. Current plans include research space located within the hospital that will allow MMRI researchers and MVHS clinical staff to collaborate in ways that were previously hindered by physical separation.

In order to compete with the best academic and research centers in the country, MMRI must be able to attract top flight talent to Utica, and to do that will require additional investment in equipment and facilities.

Laboratory space with up-to-date technology and modern equipment are pillars of support that every premier researcher needs in order to achieve clinical breakthroughs. By offering newly renovated lab space and state of the art equipment, Dr. Kontaridis has already demonstrated success and delivered on her initial recruitment efforts. She has attracted researchers (faculty and postdoctoral fellows) from some of our Nation's top academic and research institutions, including Dr. Jason McCarthy, an Associate Professor from Massachusetts General Hospital (MGH) and HMS, Dr. Zhiqiang Lin, an Assistant Professor from Boston Children's Hospital and HMS, Dr. Chase Kessinger, an Instructor from MGH, Dr. Coralie Poizat from San Diego State University, Dr. A. Gulhan Ercan-Sencicek, an Instructor from Yale University, Dr. Bing Xu, a Post-doctoral Fellow from Cedars-Sinai Medical Center, Dr. Khanh Ha, a Post-doctoral Fellow from MGH and HMS, and Dr. Muthiah Muthunayanan, a Post-doctoral Fellow from MGH and HMS.

The potential continued growth of our facilities and the needs of the Institute

continue to evolve as news of the multi-million renovations and expansion projects at MMRI spread to prominent researchers all over the country. Due to this widespread and growing interest, at a recent spring Board meeting, the MMRI Board of Directors acknowledged the Institute's potential and approved additional spending for a second phase to the original renovation plans. With the second and third floor renovation project now completed, the Board approved additional spending for the renovation of 5,500 square foot of basement and sub-basement space, as well as the installation of a modern glasswash and autoclave area. This new project repurposes under-utilized space within the existing laboratory and sets the stage for a new Phase II expansion that will begin in the late fall of 2018. Consequently, with the approval of a new Phase II project, the overall MMRI renovation budget has expanded from the initial \$11.2 million to \$26.2 million in capital and recruitment costs (\$15M above the initial Phase I expansion), to allot for the relocation and equipment needs of the new scientist recruits.

The Phase I and II efforts will ensure that MMRI has the short-term capabilities to achieve scientific and technological research excellence within the next few years, as well as long-term capabilities for the Institute's priorities for years to come. At the conclusion of the Phase II project, the Institute will have exhausted every available square foot of its existing footprint. Therefore, future needs will have to be accommodated by new construction, a Phase III project. Taking into consideration the tremendous national and international interest that has been generated by the "rebirth" of the MMRI, and as the Board prepares for the future, it is anticipated that within a few short years the Institute will need even more space. Therefore, plans for Phase III have already begun. In the next four to five

year period, our preliminary plans anticipate the need to construct a new, modern research wing consisting of 20,000 to 24,000 square feet of laboratory and administrative space. To this end, such an expansion would double our newly renovated lab space and planned workforce, thereby establishing our facility as a major regional life sciences employer with average wages well above the regional median, and in an industry with commercial applications that may even further enhance the economic development potential of our local economy. Finally, guided by Masonic values and beliefs that each person has a responsibility to help make the world a better place, the Board of Directors and Dr. Kontaridis have developed a business model that involves a four pronged strategy of modernization, recruitment, discovery and commercialization. There is little doubt about the potential discoveries that lie ahead for the MMRI and its esteemed team of devoted researchers.

Over its 60 year history, MMRI scientists have contributed to the development and/or implementation of the pacemaker, implantable cardioverter defibrillator (ICD), automatic external defibrillator (AED), catheter ablation therapy and a wide variety of drugs used to treat heart disease. MMRI is one of only a handful of institutes worldwide whose research has been so influential and essential to the study of experimental cardiology. In the last decade, death from cardiovascular disease has significantly decreased, and the MMRI has played an integral part in this extraordinary achievement. As MMRI's impact worldwide continues to grow, so will the importance of its work. The first 60 years have only set the stage for the next 60, years that will be even more extraordinary and will be sure to bring life-saving benefits to all of humanity.