Dear Friends,

The last two years have both been banner years for the Masonic Cancer Center, with many achievements and advancements. 2018 marked the 20th anniversary of our designation as a Comprehensive Cancer Center by the National Cancer Institute. It also was time for us to reapply to the National Cancer Institute through the rigorous, peer-reviewed process of submitting the Cancer Center Support Grant as we do every five years. I’m pleased to report that we not only succeeded in our re-designation as an NCI comprehensive cancer center, but also earned our highest rating to date: ‘Outstanding.’

One initiative that drove our ‘Outstanding’ rating was the launch of the Minnesota Cancer Clinical Trials Network. The network has increased the availability of clinical trials to rural Minnesotans, created research capacity and jobs statewide, and created lasting collaborations with care organizations throughout Minnesota. Together with our partners – M Health Fairview, Mayo Clinic, Essentia Health CCRP, Metro Minnesota Community Oncology Research Consortium, and Sanford Health, we are informing the public about risks and rewards of participating in clinical trials and to-date, have enrolled more than 350 rural Minnesotans.

Our researchers continue to be on the vanguard of cancer research. In the fall of 2019, we opened a number of first in human, tri-specific killer engager immunotherapy clinical trials. Our expertise in Natural Killer (NK) cells, led by Deputy Director and immunologist, Dr. Jeffrey Miller, has propelled us to be a leader in the field, attracting industry and other collaborators for multi-site clinical trials. Pioneering BMT researcher, Dr. John Wagner, led the formation of the Institute for Cellular, Gene, Immunotherapy (ICGI). The institute is building on existing strengths at the University of Minnesota and speeding translation of innovation to clinical care.

With better, more precise treatments come increased cancer survival rates. There are more than 15 million cancer survivors in the world today, each living with the systemic impacts of their cancer treatments. The Masonic Cancer Center doubled down on prioritizing our investment in survivorship research by creating a role for a Director of Cancer Survivorship Services and Translational Research in 2019, naming Dr. Anne Blaes to that position. She and her team of multi-disciplinary researchers together study cancer survivorship and translate the findings into better cancer care and follow-up.

Included with these many highs was a very big low for our team and for me personally. The Masonic Cancer Center lost one of our greatest supporters and dear friend, Judy Erdahl, to metastatic breast cancer. Her philanthropic foundation, Team Judy, has long supported and raised funds for metastatic breast cancer research at the Masonic Cancer Center. Judy will be missed, but we will not let her legacy fade. We will continue to work for cures, to research for more todays and even healthier tomorrows.

Whether you are a long time friend of the Masonic Cancer Center or have just recently learned about Minnesota’s Cancer Center, all of our members appreciate your help; we cannot solve the problem of cancer alone and we would not exist without your support and advocacy. More information can be found at YourCancerCenter.cancer.umn.edu. As always, I welcome your comments or questions by email at ccinfo@umn.edu.

Sincerely,

Douglas Yee, MD
Director, Masonic Cancer Center
During the summer of 2019, John Wagner, MD, established the Institute for Cell, Gene, and Immunotherapy (ICGI).

Wagner has been a key contributor to establishing the University’s international clinical leadership in blood and marrow transplantation and cell therapy. He is a professor of pediatrics, Co-Director of the Center for Translational Medicine, and Program Co-Leader of Transplant Biology and Therapy within the Masonic Cancer Center. He led the Department of Pediatrics Division of Blood and Marrow Transplantation for 16 years, but is now focusing his efforts on ICGI.

ICGI aims to accelerate the development and testing of novel cell, gene and immune-based therapeutics that hold promise in the treatment of cancer and other life-threatening diseases. The Institute builds on existing strengths at the Masonic Cancer Center and the University of Minnesota, further developing high-tech core capabilities, and connecting to industry partners with access to new technologies to speed the translation of innovation to clinical care.

“This institute is a key part of our strategy to advance interdisciplinary clinical translational research, grow new partnerships with industry, and increase external research funding — all in the pursuit of transforming health and health care,” said Jakub Tolar, MD, PhD, Vice President for Clinical Affairs.

Wagner also serves as Co-Associate Director of Clinical Research in the Masonic Cancer Center and is charged with strengthening the research and regulatory expertise required in this rapidly developing field of clinical research. Cancer trials evaluating novel cell, gene and immunotherapies will be managed by the Cancer Center’s Clinical Trials Office and aligned with ICGI.

Shernan Holtan, MD, Associate Professor of Medicine, Division of Hematology, Oncology and Transplantation and a Hematologist/Oncologist with M Health Fairview, was appointed as the Medical Director of the newly formed CGI team of the Masonic Cancer Center’s Clinical Trials Office.

Holtan is a clinical/translational investigator whose research focuses on personalized immune monitoring, inflammation resolution, and the role of wound healing-associated growth factors in graft-versus-host disease. Her clinical trial portfolio, along with Dr. Wagner’s, align well with the new ICGI research focus.

“These new cell-based treatments and immunotherapies are increasingly complex, often with complicated manufacturing schemes, and require new modes of delivery and patient care monitoring requirements,” said Wagner. “To be leaders in this area, we need specialized teams managing the entire process from trial inception through conduct and reporting of results.”

“Our goal in the CTO is to make novel therapies accessible for patients, to take these extraordinary new treatments and one day make them part of the standard of care for patients with life-threatening illnesses,” Dr. Holtan said. “We have built a great team at the CTO-ICGI to manage these ICGI trials.”

“We touch almost every department within the Medical School, and the collaborative nature allows us to think outside of the box and hopefully bring the basic science studies from the ICGI to clinical trials within the CTO-ICGI at a faster clip. We want to change people’s lives for the better and break down walls in the research world,” said Holtan.

Shernan Holtan, MD

John Wagner, MD
Tobacco Research: A Cancer Research Collaboration

Tobacco research is one of the key research areas for both the University of Minnesota and the Masonic Cancer Center. It is a true testament to the collaborative nature of research at the Masonic Cancer Center. In fact, tobacco research touches nearly ten different disciplines and schools across the University of Minnesota, spanning tobacco use, cancer causation, toxicants in tobacco products and sometimes between individual brands.

Stephan Hecht, PhD

Specifically, Hecht and Stepanov’s research focuses on human exposure to the carcinogens in tobacco products. “There is an enormous chemical diversity across tobacco products,” Stepanov said. “It varies significantly between different tobacco product groups, such as cigarettes and smokeless tobacco, and even within products and sometimes between individual brands.”

In one study, Stepanov examined e-cigarette users’ biological samples, looking for the cancer-causing chemical N-nitrosonornicotine (NNN). Stepanov measured NNN, a chemical linked to oral cavity and esophageal cancer, in study participants’ urine and saliva. While e-cigarette participants’ urine was free of NNN, 16 out 20 e-cigarette users had NNN present in their saliva. Even though e-cigarette users’ NNN levels were generally lower than in traditional cigarette smokers, some individuals had comparable levels. The presence of NNN in e-cigarette users points to the potential long-term risks of e-cigarette use, especially for young people who have never smoked.

Although e-cigarettes are gaining popularity, although not completely harmless,” Stepanov said. “While e-cigarettes don’t have the same levels of carcinogens or cancer risk as cigarettes, they are not completely harmless.”

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Another important, and perhaps unexpected, area of tobacco research at the Masonic Cancer Center is communications. Messaging is important to smoking cessation strategy success and requires messages to be tailored to individual populations.

Dr. Joseph collaborated with ClearWay Minnesota and the American Indian Cancer Foundation to evaluate a campaign called Keep Tobacco Sacred. Tobacco is integral in American Indian culture and practices, so the smoking cessation methods or messaging typically used in other populations has not been effective and can be perceived as offensive to American Indians. This Keep Tobacco Sacred campaign encourages American Indians to keep tobacco as part of traditions while reducing and quitting commercial tobacco use.

Another leading figure in tobacco communication research is Sherri Jean Katz, PhD, an assistant professor at the Hubbard School of Journalism and Mass Communication. Katz is an expert in health communication and has worked in the area of tobacco research at the Masonic Cancer Center. "Sherri’s research focuses on the messaging of warning labels on e-cigarettes to reduce use by adolescents. A recent study compared perceptions of different labeling concepts, such as claims of reduced risk relative to cigarettes (which are allowed with FDA approval) and package elements, such as flavor images, among Twin Cities high school students.

The tobacco industry is constantly evolving to create new products, nicotine delivery systems, and marketing strategies. However, Masonic Cancer Center tobacco researchers will continue to collaborate to identify carcinogens, reduce the harm and addiciveness of tobacco, determine cessation methods, and push for regulation to improve public health in the U.S. and around the world.

Robert Turesky, PhD, Professor of Medicinal Chemistry in the College of Pharmacy at the University of Minnesota, has been appointed as the Masonic Chair in Cancer Causation.

Turesky is well known for his participation in the World Health Organization’s (WHO) International Agency for Research on Cancer (IARC) report linking processed and grilled meats to increased incidence of colorectal cancer. His research focuses on hazardous chemicals found in food, tobacco smoke, and medicinal herbs which metabolize in our bodies and cause genetic damage that can lead to cancer.

The way chemicals in our food and environment interact with our tissues has implications for our health, said Douglas Yee, MD, Director of the Masonic Cancer Center. “Dr. Turesky’s work demonstrating the way certain chemicals could cause cancer will lead to new strategies to detect these substances and minimize human exposure to them to prevent cancers.”

Turesky is the Director of the Analytical Biochemistry shared resource at the Masonic Cancer Center. He has also served on the Scientific Advisory Board of the United States Environmental Protection Agency (EPA) and as Division Director of Chemistry at the National Cancer Institute to evaluate a campaign called Keep Tobacco Sacred in other populations. This Keep Tobacco Sacred campaign encourages American Indians to keep tobacco as part of their culture and practices, so the smoking cessation methods or messaging typically used in other populations has not been effective and can be perceived as offensive to American Indians.

Turesky’s research focuses on what happens in the body when people ingest heterocyclic aromatic amines (HAAs) and polyaromatic hydrocarbons (PAHs). HAAs are chemicals which form from the reaction of biochemistry in muscle tissue with diverse molecules, including the cooking of grilled and fried meats. PAHs are chemicals that form when meat is smoked, charred, or cooked over an open flame. Some of these chemicals are also found in tobacco smoke. Turesky’s research shows that higher temperatures and longer cooking times lead to higher levels of HAAs and PAHs in meats. Upon ingestion, enzymes in our bodies then change these chemicals into reactive intermediates that can damage DNA.

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Turesky earned a Bachelor of Science in Biochemistry at the University of Massachusetts, and went on to receive his PhD in Nutrition and Food Science from the Massachusetts Institute of Technology (MIT). He was formerly on the faculty of the State University of New York at Albany, and prior to that worked at the Nestle Research Center in Lausanne, Switzerland.

The Chair in Cancer Causation was funded by the Minnesota Masonic Charities’ transformational accelerated investment of $25 million in 2018. This incredible infusion of funds is accelerating the pace of research into cancer prevention and precision care at the Masonic Cancer Center.
Masonic Cancer Center, University of Minnesota, Receives ‘Outstanding’ Rating from the National Cancer Institute

MINNEAPOLIS/ST. PAUL (07/31/18)

The Masonic Cancer Center, University of Minnesota has received an overall rating of ‘Outstanding’ from the National Cancer Institute (NCI), as well as a renewal of its five-year Cancer Center Support Grant and reconfirmation of its comprehensive status.

“As the only NCI-designated comprehensive cancer center in the Twin Cities, our renewal of this designation acknowledges that we have the right people and research direction,” said Douglas Yee, MD, breast cancer researcher, medical oncologist with M Health Fairview and director of the Masonic Cancer Center. “By building research teams, we aim to deliver the most advanced cancer care, prevention strategies, and survivorship initiatives from a deep bench of research and a strong collaborative relationship with M Health Fairview, our clinical partner.”

Every five years, the Masonic Cancer Center must compete for its designation and funding, and in the newly released review, it not only succeeded, but improved its overall score from ‘Excellent’ to ‘Outstanding’, earning its highest score to date. The score improvement will drive additional funding which will further groundbreaking research in the causes of cancer, cancer prevention, survivorship, tobacco control research, and innovative strategies to treat cancer including immune- and cellular therapies.

Since 1998, the Masonic Cancer Center has been recognized as an NCI-designated comprehensive cancer center, indicating its preeminent scientific leadership, resources, and the depth and breadth of their research in basic, clinical and population sciences.

“As cancer physicians and researchers, our goal is to change cancer in the same way tuberculosis was changed a generation ago,” said Jakub Tolar, MD, PhD, vice president for Clinical Affairs and Masonic Cancer Center member. “We achieve this by combining innovation and care delivery in a way that improves the outcomes of the disease. The continued success of the Masonic Cancer Center shows the value of our work, as well as the skill and expertise we offer in cancer research, prevention and treatment.”

The Masonic Cancer Center will continue to lead the Minnesota Cancer Clinical Trials Network (MNCTN), which provides even better access to cancer clinical trials for all Minnesotans, in collaboration with Essentia Health, M Health Fairview The Hormel Institute, Mayo Clinic Cancer Center, Metro-Minnesota Community Oncology Research Consortium and Sanford Health. By bringing cancer clinical trials to those living in Greater Minnesota, MNCTN increases access to life-changing and potentially life saving therapies and treatments, strengthens healthcare systems, creates more equitable access to care and works to improve cancer outcomes throughout the state.

“We’re thankful for all university and hospital staff, donors, legislators and our community for the phenomenal outpouring of support toward for the Masonic Cancer Center,” said Dr. Yee.
There are more than 15 million cancer survivors in the world today, each living with the systemic impacts of their cancer treatments. Survivorship research focuses on the myriad of issues cancer treatments cause and seeks to maximize patient quality of life after the therapy.

The Masonic Cancer Center is prioritizing survivorship research by appointing Anne Blaes, MD, Hematologist and Oncologist for M Health Fairview and Associate Professor of Medicine at the Medical School, to be the inaugural Director of Cancer Survivorship Services and Translational Research. In her new role, Blaes will bring multi-disciplinary researchers together to study cancer survivorship and translate the findings into better cancer care and after care.

“As a breast cancer oncologist, I’ve focused on ensuring that my patients live longer without having to worry about breast cancer again. But as we become more successful at achieving this goal, many people switch from being a cancer fighter to a cancer survivor,” said Douglas Yee, MD, Director of the Masonic Cancer Center.

“As we become more successful at achieving this goal, many people switch from being a cancer fighter to a cancer survivor,” said Douglas Yee, MD, Director of the Masonic Cancer Center.

“More people are beating cancer, continuing to research survivorship and finding the best standards and practices is crucial to patient success. Dr. Blaes is the best doctor to lead our efforts.”

Cancer survivors may face complications long after cancer, including cardiac issues, chronic illnesses, accelerated aging, obesity, and secondary cancers. Blaes, who currently serves as the Director of the M Health Adult Long Term Follow-Up Clinic for Cancer Survivors, is researching methods of improving outcomes for cancer survivors and reducing the prevalence of post-treatment complications. In her new role, she’ll engage clinicians and clinical staff in survivorship education and lead their research involvement to improve the lives of current and future patients.

“There are pockets of survivorship research being done at the University of Minnesota, but we need to bring it all together so we can find out where we are at, what we are missing, and how we can fill any gaps,” said Blaes.

Blaes has co-led the Masonic Cancer Center’s annual Cancer Survivorship Conference for the past five years, bringing together cancer survivors and their friends and families from across the state for support and education from clinicians and researchers in the field. The 2019 conference welcomed nearly 400 attendees.

“Our next step is to host a clinician-based survivorship conference,” said Blaes. “This would galvanize the survivorship research at the University of Minnesota and, by bringing in colleagues from across the country, would solidify our role as a national leader in cancer survivorship.”

Blaes received a Bachelor’s degree at the University of Notre Dame, and her MD degree from Loyola University of Chicago Stritch School of Medicine. She came to the University of Minnesota for her residency and was named chief resident. She completed her fellowship and Master’s in Clinical Research in the Division of Hematology and Oncology before joining the faculty. Most recently, Blaes was appointed Section Head of Medical Oncology.

Blaes was named a Top Doctor by both Mpls. St. Paul Magazine and Minnesota Monthly for numerous years and has received many teaching awards. Blaes’s research has been supported by the Minnesota Masonic Charities as an Eastern Star Scholar, a Masonic Scholar, and a BIRCWH Scholar. Her research interests include quality of life, cardiac complications of chemotherapy, and the late effects of cancer therapy in cancer survivors, particularly breast and colorectal cancer survivors.

Anne Blaes, MD
University of Minnesota Medical School Researchers Discover New Therapy for Prostate Cancer Patients

JAN 28, 2019

Masonic Cancer Center members Aaron LeBeau, PhD, Assistant Professor in the Department of Pharmacology and Branden Moriarity, PhD, Assistant Professor in the Department of Pediatrics at the University of Minnesota Medical School received the Prostate Cancer Foundation Challenge Award to further their work identifying new therapies for prostate cancer. This is the first Challenge Award in the history of the Prostate Cancer Foundation solely awarded to investigators at the University of Minnesota.

LeBeau’s and Moriarity’s research focuses on using the patient’s own immune system to fight prostate cancer. Currently, cells known as T cells are used as a therapy to kill invading cancer cells and help give the patient’s immune system a boost. But LeBeau and Moriarity have developed a way to use Natural Killer (NK) cells, which are found in the body and can kill tumor cells. Using a chimeric antigen receptor (CAR) for targeted activation, the CAR NK cells will hunt down and eliminate drug-resistant prostate cancer cells. NK cells don’t require the same donor matching that T cells do, which could cut down the cost of CAR NK cell therapies compared to CAR T-cell therapies, making it a more accessible therapy.

“Using cutting-edge genome engineering technology, we have developed methods to generate CAR NK cells from NK cells in the blood,” said Moriarity.

“All of this innovative work is being done at the University of Minnesota. Our goal is to have a CAR NK cell therapy into the clinic for prostate cancer patients within a few years,” said LeBeau. “We believe that it will prolong the life expectancy of, or even cure, men with aggressive prostate cancer.”

The Challenge Award seeks to fund cross-disciplinary teams of investigators in strategic areas as they strive towards a solution of a significant problem in prostate cancer research. Other than skin cancer, prostate cancer is the most common cancer in American men, according to the American Cancer Society. Estimates for prostate cancer deaths in 2019 in the U.S. are more than 31,500.

Research Brief: Largest Study of Childhood Cancer after IVF - UMNews

In the past three decades, in vitro fertilization (IVF) has gone from an experimental procedure to being more common. Pregnancies enabled by IVF frequently have more difficulties, with children born earlier and smaller even among singleton births.

University of Minnesota researchers conducted the largest study of childhood cancer after conception by IVF to date. This population-based cohort study had nearly 2.5 times the number of children conceived by IVF than prior studies of the subject in Scandinavia and the United Kingdom. The results were recently published in JAMA Pediatrics.

Researchers first linked records of live births reported to the Society for Assisted Reproductive Technology Clinic Outcome Reporting System between 2004 and 2013 to the birth and cancer registries of 14 states, comprising 66 percent of births in the United States and 75 percent of IVF-conceived births. These records were then linked to the cancer registries of the same states to find cancers diagnosed between 2013 and 2015. Researchers then randomly selected 10 children conceived naturally for each child conceived by IVF. The final dataset consisted of 275,686 IVF children and 2,266,847 naturally conceived children.

“The most important takeaway from our research is that most childhood cancers are not more frequent in children conceived by IVF,” said Logan Spector, a professor in the Medical School and Masonic Cancer Center member. “There may be an increased risk of one class of cancers in children; however, due to the nature of our study, we could not distinguish between IVF itself versus the parents’ underlying infertility. Overall, these results are reassuring to parents who’ve had children through IVF.”

The study found:
- the overall cancer rate (per 1,000,000 children) of IVF children was about 17 percent higher than for non-IVF children;
- the rate of hepatic tumors was over 2.5 times higher among IVF children than non-IVF children;
- the rates of other specific cancers did not differ between the two groups;
- there were no associations of childhood cancer with specific IVF treatment techniques.
More than 16,000 women die from ovarian cancer each year in the United States. Ovarian cancer is often called the “silent killer” because the symptoms are so vague that women are often not diagnosed with ovarian cancer until the disease has progressed to advanced stages.

Currently, no blood test exists that is adequately sensitive or specific enough to be used to screen women in the general population for ovarian cancer. Studies have shown that using just one protein biomarker at a time is not sufficient to screen women’s blood for ovarian cancer.

For this reason, Amy Skubitz, PhD, a professor in the University of Minnesota Medical School and Masonic Cancer Center member, and her team at the Ovarian Cancer Early Detection Program, have been using a new technology developed by the Swedish company Olink in which a patient’s blood can be tested for the presence of 92 proteins at once. Their findings were recently published in the journal Cancer Prevention Research.

In earlier studies using a small number of blood samples, Skubitz’s team had shown this technology worked well for the known ovarian cancer biomarker, CA125. Examining 150 blood samples from women with and without ovarian cancer, Skubitz’s team quantified the levels of 92 cancer-related proteins in each patient’s blood.

“The results from this study take us one step closer to developing a blood-based test for ovarian cancer detection,” said Skubitz. “Ongoing studies in the Ovarian Cancer Early Detection Program are focused on using blood samples from women with early stages of ovarian cancer, as well as from women with benign gynecological diseases.”

Due to the low prevalence of ovarian cancer in the general population, a screening test must be both highly sensitive and highly specific. Therefore, many more blood samples will need to be tested in this platform to determine whether it will hold up for early stages of ovarian cancer. This study focused on serous ovarian cancer, which is considered the most prevalent and the most deadly ovarian cancer. Thus, future studies will also need to include the various other major subtypes of ovarian cancer.

A customized platform that is comprised of ovarian cancer-specific proteins may enable this technology to identify early stages of the disease, which would mean less extensive surgery and less toxic chemotherapy for women diagnosed with ovarian cancer. Detecting ovarian cancer in its earliest stages will translate into a significant improvement in the survival of patients.

The study was funded by the Minnesota Ovarian Cancer Alliance.
New Digital Pills Allow University of Minnesota Medical School Doctors to Monitor Patients at Home

There’s an app for just about everything these days. Now thanks to a new treatment option offered at the University of Minnesota, there’s even one for cancer.

These new technologies, known as digital medicines, are allowing doctors to monitor their patients, even after they leave the hospital. M Health Fairview is the first in the world to apply digital medicines to cancer care.

“When we give people chemotherapy in the clinic with an intravenous drug, we’re able to assess the dose and timing and make sure they’re well enough to continue getting the treatment,” said University of Minnesota Physicians oncologist/hematologist Edward Greeno, MD, a professor at the University of Minnesota Medical School’s Department of Medicine in an interview with the Washington Post. “But when you send them home with a bottle of pills, you don’t know when they’re taking them or if they’re well enough to take them.”

Dr. Greeno, who also directs the oncology service line for University of Minnesota Health, told the Star Tribune, “the technology could significantly improve cancer care because the timing and dosage of chemotherapy is critical.”

Dr. Greeno, along with other doctors at the Masonic Cancer Clinic at the M Health Fairview Clinics and Surgery Center, have begun prescribing pills embedded with small, ingestible sensors. The sensors, designed by Proteus Digital Health, are only the size of a grain of sand, but can track a wealth of information that is helpful for doctors including heart rate, activity level and sleep cycle.

Once the pill is ingested, it sends the data to a small patch on the patient’s abdomen, which then connects to a mobile app that both the patient and their doctor can access.

This new technology will allow doctors to ensure patients are taking their medications as prescribed. Physicians can automatically tell how many pills a patient has left in their prescription, which helps them better manage refills and potentially save money for the patient. The technology can also give a sense of comfort to some patients, helping them take a more active role in managing their medication.

Digital medicine technology has been used to help patients manage medications for a variety of diseases, including diabetes and hypertension, but never before in cancer.

University of Minnesota First in U.S. to Offer New Targeted Therapy for Recurrent Brain Tumors

M Health Fairview is the first health system in the United States to begin offering GammaTile Therapy, a new approach to treating recurrent brain tumors. GammaTile Therapy is an FDA-cleared, surgically targeted radiation therapy (STaRT™) that is designed to delay tumor regrowth for patients with brain tumors.

The first patient was treated by University of Minnesota Physician, Clark C. Chen, MD, PhD, head of the Department of Neurosurgery at the University of Minnesota Medical School.

“At M Health Fairview, our mission is to advance new, safe, and effective therapeutic options for the many brain tumor patients who did not respond to the standard-of-care therapies,” Chen said. “Moreover, the University of Minnesota Medical School’s Department of Neurosurgery has a long-standing history of contribution in radio-biologics. To be the first institution in the U.S. to offer the GammaTile Therapy is particularly satisfying in this context.”

Aggressive brain tumors tend to be resistant to current treatments and nearly always recur. Outcomes for patients with brain tumors have improved very little over the past 30 years. GammaTile® is an FDA-cleared for patients with recurrent brain tumors. GammaTile consists of a bioresorbable, conform-
able 3D-collagen tile embedded with a Cesium radiation source. GammaTile is placed at the time of surgery so that it immediately begins to target residual tumor cells with radiation while limiting the impact on healthy brain tissue.

“I am optimistic that GammaTile will impact the clinical outcome for our brain tumor patients, particularly when combined with appropriate medical therapy,” explained Chen.

GammaTile Therapy offers some advantages over other treatments for patients undergoing surgery for recurrent brain tumors. A course of External Beam Radiation Therapy (EBRT), for example, requires daily treatments for up to six weeks; in contrast, patients treated with GammaTile Therapy require no additional trips to the hospital or clinic. Additionally, many patients may not be candidates for EBRT at the time of tumor recurrence because the risk of additional EBRT outweighs the potential benefits. Finally, those patients who may be candidates for EBRT typically have to wait four weeks or more for surgical wound healing before beginning treatment, allowing residual, microscopic tumors to grow during this waiting period.

“We apply radiation therapy exactly where it is needed, without harming surrounding tissue, and patients do not need to come back for ongoing radiation treatments,” said Radiation Oncologist Margaret Reynolds, MD, assistant professor in the Department of Radiation Oncology at the University of Minnesota Medical School who was involved with the first patient case at the University of Minnesota Medical School.

Dr. Chen has conducted research that supports the efficacy of radiation treatment immediately after resection. Published in the Journal of Neuro-Oncology, Chen’s study showed that patients with glioblastoma, the most common form of primary brain cancer in adults who received immediate postoperative radiation exhibited improved survival relative to those who did not.

“I am pleased to be able to offer a more targeted radiation therapy to my patients,” said Kathryn D. Euserben, MD, head of the Department of Radiation Oncology at the University of Minnesota Medical School.

“This new targeted approach may help reduce the burden of ongoing radiation treatment and help my patients and their caregivers experience a better quality of life,” added Euserben.

Additional data supporting the efficacy and safety profile of the therapy for patients with recurrent, previously treated meningioma were published last month in the Journal of Neurosurgery (JNS), the official journal of the American Association of Neurological Surgeons.

“We are honored to be working with the brain tumor specialists at the University of Minnesota – given the health system’s deep expertise and leadership in brain tumor treatment and neurosurgery – to deploy GammaTile Therapy for the purpose of improving the lives of patients with brain tumors,” said Matt Likens, president and CEO of GT Biotech.

“In turn, the engineered NK cell product called FT500, is manufactured from a human induced pluripotent stem cell (iPSC) that has been genetically engineered to enhance its anti-tumor activity. In the US, it is the first-ever clinical trial of an iPSC-derived cell therapy for blood cancers.

The laboratories of Masonic Cancer Center member Bruce Walcheck, PhD, Professor and member, the trial is testing the safety and activity of an NK cell product called FT500.

“This new targeting molecule, with its ability to coat tumor cells and kill them,” said Walcheck. “In turn, the engineered NK cells more efficiently attach to anti-body-coated tumor cells and kill them.”

“We potentially have an unlimited source of very similar, reproducible cancer fighters,” said Claudius Bramante, MD, PhD, Professor of Medicine at the U of M Medical School, member of the Masonic Cancer Center, and lead researcher of this clinical trial. “This is opening a whole new door in cellular therapy.”

FT506 is the third first-in-human cancer treatment trial that has opened at the University of Minnesota in the last month.

A separate clinical trial, opened exclusively at the M Health Fairview University of Minnesota Medical Center, will evaluate GTB-3550 in patients with resistant or relapsing AML.

“Building on over a decade of successful trials using NK cell infusions from related donors to kill tumors, this new TriKE™ molecule, with its modification to target AML, doesn’t need a related donor’s cells to work,” said lead researcher Eric Warlick, MD, Associate Professor of Medicine in the Division of Hematology, Oncology and Transplantation at the U of M Medical School and a Masonic Cancer Center member.

“The success of the Phase I trial could lead to the development of a broad pipeline of TriKE™ therapies that could be used against a variety of cancer targets.”

In addition, another clinical trial recently opened at the U of M and is a cell-based cancer immunotherapy for the treatment of advanced solid tumors. Run locally by Manish Patel, DO, Associate Professor of Medicine at the University of Minnesota Medical School and a Masonic Cancer Center member, the trial is testing the safety and activity of an NK cell product called FT500.

“If this trial is successful, it will provide a novel form of therapy that we will be able to pull off the shelf for patients with cancer and it will serve as a useful platform for making more effective treatments in the future,” said Patel.
With little more than a box of Dixie cups and a few cases of wine in hand, a highly motivated group of women have raised their glasses to make a difference in breast cancer research.

“If you’re in my age group,” says spokesperson Kate Bryant, “you’ve probably lost friends to breast cancer. We’re mad, sad, and frustrated. We don’t want any more of our wonderful friends and sisters to die from this disease.”

Team Judy—named in honor of the women’s friend Judy Erdahl, who passed away in August 2019 after a long battle with metastatic breast cancer—has raised more than $210,000 since 2012. Every dollar supports what Bryant calls “an amazing, world-class, star-studded research center right in our backyard”—the Masonic Cancer Center, University of Minnesota.

The group’s fundraising strategy is centered on fun and simplicity. They host a series of casual events, inviting friends to gather (typically at Bryant’s backyard) for a Dixie cup of wine. Everyone makes a donation to the Team Judy Fund for Metastatic Breast Cancer Research, which funds seed research grants at the Masonic Cancer Center.

“People think research programs are only looking for million-dollar donations,” Bryant says. “But small grants used to explore new therapies, new treatments, new ideas… That’s how we can help.”

The friends intend to carry their mission forward in Erdahl’s honor.

“I feel fortunate to have known Judy,” says Masonic Cancer Center director Douglas Yee, MD. “Judy was the rare individual who used her personal story to inspire and motivate others; she realized that what happened to her was unacceptable and we have to work so much harder to make sure we can eliminate metastatic breast cancer.”

Make a gift to the Team Judy Fund for Metastatic Breast Cancer Research at give.umn.edu/give/to/teamjudy.

For years afterward, Petinga, who moved to the Twin Cities after his treatment, felt exhausted. Muscle weakness and memory loss affected him daily. He researched his symptoms and began to suspect his intense treatment may have severely affected his testosterone production—a hypothesis that proved to be correct.

Relieved to understand the reason for his lingering side effects, Petinga was determined to help other cancer survivors navigate life after treatment. That led him to Charles Ryan, MD, a physician-scientist interested in understanding the effects of treatment on cancer survivors and holder of the B.J. Kennedy Chair in Clinical Medical Oncology at the Masonic Cancer Center, University of Minnesota.

A successful entrepreneur, Petinga donated $500,000 in early 2019 to accelerate research into the short- and long-term effects of cancer treatment.

“I hope my story can help minimize the severity of treatment for others and reduce their long-term side effects,” he says. “I hope that my being an advocate for survivors will allow them to live better lives.”
Faith Check on Cancer

Cracking the mysteries of the human microbiome—those teeming communities of bacteria, fungi, and viruses that live on and within each of us—remains one of medicine’s most exciting frontiers. At the Masonic Cancer Center a new series of studies funded by philanthropy delves deeper into the mystery, looking at the connection between the gut microbiome and cancer.

Each person’s gut microbiome is an entirely unique environment influenced by genetics, diet, and life experiences. It’s even considered its own organ. Scientists now know that a healthy microbiome can help promote health, ward off potentially harmful organisms that enter the body, and boost overall health. But how the microbiome influences cancer development and treatment is still unknown.

“‘It’s intuitive that microbes in the gut might have something to do with colon cancer, and that’s one area we’re studying more deeply,’” says gastroenterologist and Masonic Cancer Center member Alexandre Khoruts, MD. “Patients receiving chemotherapy for leukemia are always also treated with potent antibiotics, and their microbiomes are literally decimated, causing severe, life-threatening complications. What if we could repair the microbiome?”

Khoruts and colleague Timothy Starr, PhD, lead a team that’s hoping to answer several questions about the microbiome’s relationship with cancer. Their research got a $12 million lift from the inaugural Chainbreaker ride, a grassroots bike tour in Minnesota that raised money to support Masonic Cancer Center research. The Chainbreaker Breakthrough Cancer Research Grant funded seven studies falling into two main areas: the role of the microbiome in people who undergo intensive chemotherapy or blood or marrow transplant, and the relationship between the microbiome and colon cancer.

In a Chainbreaker-funded clinical trial, Khoruts’ team will try to normalize patients’ microbiomes as quickly as possible after blood or marrow transplant by giving them “microbiota transplant” capsules; another group of patients will receive placebo pills for comparison.

They’ll place those microbiomes into mice, then test to discover whether the human microbiomes affect the growth of mouse cancer. If they find that the healthy microbiota is protective against cancer, they will then give the mice a form of restorative microbiome therapy. While the Chainbreaker-funded work at the U is in early stages, Khoruts is 15 years into his microbiome research. His team is grateful to the Minnesota Colorectal Cancer Research Foundation, Mezin-Koats colorectal Cancer Research Fund, and Achieving Cures Together. Together, all of which have also supported his work. His team is grateful to the Minnesota Colorectal Cancer Research Foundation, Mezin-Koats colorectal Cancer Research Fund, and Achieving Cures Together. Together, all of which have also supported his work.

Philanthropy delves deeper into the mystery, looking at the connection between the gut microbiome and cancer.

Shariel Mohamed, the imam at the Dar Al-Hijrah Mosque in Minneapolis, and Masonic Cancer Center researcher Rebekah Pratt, PhD, have partnered on a number of health-related projects in Twin Cities’ Somali community. But their work took on a new focus when they learned of startling statistics.

“Reasons for foregoing screenings are complex and varied. Lack of health literacy and knowledge about cancer can be obstacles, and first-generation immigrants especially aren’t in the habit of visiting doctors for preventive checkups or screenings. But Pratt and Mohamed are most interested in faith-based reasons for foregoing screenings. Muslim understandings about the Muslim faith prevent many women from getting screened for breast and cervical cancer, in particular. Some feel it is inappropriate to show their bodies to medical providers. Others think that developing cancer is a matter of fate and that screening is an attempt to bypass Allah or God’s will,” says Mohamed.

With support from Minnesota Masonic Charities, Pratt and Mohamed realized the theory that religion can be an important asset, rather than a barrier, in promoting breast and cervical cancer screening among Somali women. Guided by Mohamed’s expertise as an Islamic scholar and faith leader, they developed messages based on the Muslim faith that offer support for preventive screening. Mohamed then shared those messages with a group of 30 local Somali women and 12 male religious leaders.

Both the women and men had overwhelmingly positive responses to the messages promoting breast and cervical cancer screening. Those who were already inclined to view screening positively said they felt more confident about it. Those who initially had reservations about screening indicated that the messages changed their view.

“Our initial assumption was that the participants would be hesitant and not ready to discuss topics like this,” Mohamed says. “But perhaps the atmosphere, the fact that we held these workshops in the mosque, helped people feel safe. Maybe they feel that if the mosque promotes this, it’s OK to talk.”

“With the rise in colorectal cancer screening rates, it’s more important than ever to understandings about the Muslim faith prevent many women from getting screened for breast and cervical cancer, in particular. Some feel it is inappropriate to show their bodies to medical providers. Others think that developing cancer is a matter of fate and that screening is an attempt to bypass Allah or God’s will,” says Mohamed.

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PHILANTHROPY

Backed by a Generation of Research, Childhood Cancer Survivors are Living Well Decades After Treatment

Thanks to ongoing advances in cancer diagnosis and treatment, there are now an estimated 16.9 million cancer survivors in the United States, according to the National Cancer Institute. That number represents nearly 5 percent of the country’s population—and it is steadily increasing. Today, more than 80 percent of people with pediatric cancers (those diagnosed at age 19 or younger, generally speaking) survive. That’s good news, of course. The bad news is that all cancer treatments—chemotherapy, radiation, blood and marrow transplant, and surgery—can lead to late effects. The type and severity of such late effects can depend on the kind of cancer treatment(s), the patient’s age at the time, and other individual factors. But typically, the younger a person is at the time of treatment, the more severe the late effects can be.

That underscores how critical the growing field of cancer survivorship care has become and how important the decades-old cancer survivorship program at the Masonic Cancer Center, University of Minnesota continues to be. Today Anne Blaes, M.D., director of Cancer Survivorship Services and Translational Research for the Masonic Cancer Center, and colleagues are not only treating cancer. They’re looking far beyond restoring physical health to preventing or mitigating “late effects” of cancer treatment, which can include heart problems, new cancers, bone frailty, hormone imbalances, infertility, and memory or learning issues.

The team is also helping survivors address common quality-of-life issues they may face after treatment, such as experiencing lasting depression and anxiety, coping with financial fallout, finishing school, beginning or resuming a career, confronting changes in family dynamics, and more.

Blaes and her team are working on a couple of mobile apps aimed at helping patients make the most of follow-up care and connect with other survivors for support. They’re also investigating how and why many survivors experience a multitude of chronic health conditions at earlier-than-expected ages.

These efforts are supported by the Minnesota Lions’ new Lions Childhood Cancer Foundation, which has pledged to raise $100,000 to advance survivorship research and care at M Health Fairview University of Minnesota Masonic Children’s Hospital. Children’s Cancer Research Fund and the University of Minnesota Foundation are matching the Lions’ donation. Support this work at give.umn.edu/giveto/lions.

Brooklyn Vaith recently celebrated one year as a cancer-free kid. Her care team will keep a close watch for late effects and connect her family with any resources they should need.

(Photos courtesy of Michelle Vaith)
Since its launch in 2018, the Minnesota Cancer Clinical Trials Network (MNCCTN), has enrolled more than 400 Minnesotans on prevention, symptom management, and cancer treatment protocols near their homes in Greater Minnesota.

The network, funded by the Minnesota legislature as part of the University of Minnesota’s McDrive Program, is a partnership between several of the state’s largest healthcare systems to bring cutting-edge cancer clinical trials closer to home for more Minnesotans.

MNCCTN has helped 18 partner sites to establish and maintain the necessary infrastructure to offer cancer clinical trials to their patients. These partners include: Masonic Cancer Center, Mayo Clinic Cancer Center, M Health Fairview, Essentia Health, Metro-Minnesota Community Oncology Research Consortium, Sanford Health, and the Hormel Institute.

“Our partners and sites have worked hard to bring clinical trial access to people across Minnesota. We all really believe in the value of clinical research and its positive impacts on people’s lives by advancing cancer care and prevention.”

In addition to improving access to the latest in clinical research, the MNCCTN has also supported economic growth initiatives by creating seven jobs at the administrative hub, engaged 24 physicians and investigators, supported some of the effort of 24 research coordinators and nurses, contracted with 2 laboratory and pharmacy staff, and funded part of the salaries of 31 regulatory and administrative staff. MNCCTN support has also included facilities upgrades, equipment purchases such as freezers and centrifuges, and training and mentoring of staff to learn how to conduct clinical research.

MNCCTN participants have enrolled onto 41 unique clinical trials. These trials include both MNCCTN managed trials from research partners, the Masonic Cancer Center, Mayo Clinic Cancer Center, M Health Fairview, and the Hormel Institute, as well as trials from the National Community Oncology Research Programs, a National Cancer Institute-funded program delivering access to national trials. Actively enrolling sites include: Albert Lea, Aitkin, Austin, Cambridge, Deer River, Detroit Lakes, Fosston, Grand Rapids, Hibbing (2), Mankato, Monticello, Park Rapids, Princeton, Sandstone, Thief River Falls, Virginia, and Worthington. The 19th site, in Ort neutrille, is slated to open in early 2020 and sites 20 through 27 are planned to open by the end of 2021.

Another element of MNCCTN’s success has been educating Minnesotans about clinical trials and the opportunities available to cancer patients in their local communities. MNCCTN staff and partner organizations have sought out opportunities to connect with Minnesotans, such as hosting interactive education tables at events such as FarmFest, the Minnesota State Fair, and health and wellness fairs statewide.

“Looking ahead, MNCCTN will continue to focus on opening up new sites and expanding access, as well as increasing the number and types of trials available at these sites,” Rahne said. “We hope to further engage researchers at the University of Minnesota and other research partners to develop studies specifically tailored to challenges in greater Minnesota and continue to help build a culture of comfort with research at sites and around the state.”

“MMCORC, with the help of MNCCTN’s support, has expanded patient access to oncology clinical trials that previously didn’t exist,” Michele Lacy, Administrative Director of MMCORC, said. “Serving our sites, departments work together to keep forward motion going in clinical research has been very rewarding. We look forward to increasing the clinical trial awareness in this type of community and growing a more comprehensive program for all.”

Looking ahead, MNCCTN’s goals include paying special attention to how clinical research could help the younger cancer patient population within rural Minnesota, recognized as AYA (adolescents and young adults, 15-39 years old). Often overlooked, this population experiences survival disparities compared to other age groups and is considered a vulnerable population by the National Cancer Institute.

MNCCTN is a partnership with five of the largest healthcare providers in the state: Essentia Health, M Health Fairview, Mayo Clinic Health System, Sanford Health, and the focus of the program, Minnesota Community Oncology Research Consortium (MMCORC).

MMCORC is a nonprofit research program sponsored by the National Cancer Institute (NCI) as well as participating hospitals and clinics. MMCORC’s goal is to connect community cancer specialists, physicians, and other health care professionals to cancer clinical trials. This mission line up perfectly with the MNCCTN’s goals to reduce barriers to rural patients’ participation in clinical trials and bring cancer clinical trials directly to Greater Minnesota.

MMCORC’s MNCCTN sites include the Monticello Cancer Center and Cambridge Medical Center. By the end of 2019, MMCORC enrolled 50 Minnesotans onto clinical trials. These trials include three MMCORC studies. MMCORC was the first MNCCTN partner to open MMCORC’s first therapeutic trial, Exemestane, in late 2019 (double check once actually open) at the Monticello Cancer Center.

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To learn more about the MNCCTN, visit mn cancerc clinical trials.umn.edu.
CPSR
The Masonic Cancer Center’s Comparative Pathology Shared Resource (CPSR), led by Dr. Gerry O’Sullivan, provides pathology support and expertise to Masonic Cancer Center members who use laboratory animals in their research. Comparative pathology involves the comparison of diseases in animals as they relate to those in humans, with the goal of better understanding human disease. Although many human diseases occur naturally in animals, disease in animals also may be induced to mimic human disease.

CPSR offers support from the initial stages of the experiment (study design and preparation of research grant) through the final stages (assisting with manuscript preparation after the results have been analyzed). They offer technical support for tissue collection, processing, and preparation of histological sections, as well as pathology support for interpretation and imaging of the tissues. CPSR is located on the University of Minnesota St. Paul Campus in the College of Veterinary Medicine.

For more information on the Comparative Pathology Shared Resource, please go to https://www.cancer.umn.edu/for-researchers/shared-resources/comparative-pathology

Masonic Cancer Center Leadership

Executive committee
Douglas Yee, MD, Director
Jefrey Miller, MD, Deputy Director; co-leader, Immunology Program
Anja Belinsky, PhD, Associate Director, Basic Shared Resources; co-leader, Genetic Mechanisms Program
Sanne Falchion, MBA, FACHE, Associate Director, Administration
Dorothy Hataikawa, PhD, Associate Director, Cancer Prevention and Control
Bodhanath Korany, MD, MBA, Associate Director, Clinical Affairs & Clinical Research
David Largaespada, PhD, Associate Director, Basic Sciences
Christopher Pennell, PhD, Associate Director, Education and Community Engagement
Jill Singfried, PhD, Associate Director, Translational Research
Yip Shenau, PhD, co-leader, Immunology Program
Masato Yamamoto, MD, PhD, co-leader, Genetic Mechanisms Program
Lisa Peterson, PhD, co-leader, Genetic Mechanisms Program
Frank Onckley, MD, PhD, FACS, co-leader, Carcinogenesis and Chemoprevention Program
Anne Joseph, MD, MPH, co-leader, SPECS (Screening, Prevention, Etiology, and Cancer Survivorship) Program
Karen Kuntz, ScD, co-leader, SPECS (Screening, Prevention, Etiology, and Cancer Survivorship) Program
Heather Nelson, PhD, co-leader, SPECS (Screening, Prevention, Etiology, and Cancer Survivorship) Program
Carol Lange, PhD, co-leader, Cellular Mechanisms Program
James McCarthy, PhD, co-leader, Cellular Mechanisms Program
John Wagner, MD, co-leader, Transplant Biology and Therapy Program
Daniel Weissbrod, MD, co-leader, Transplant Biology and Therapy Program
Edward Greene, MD, Director, Oncology Service Line
Sarah Cooley, MD, MS, Director, Investigator Initiated Clinical Research, Director, Cancer Research Translational Initiatives (CRTI)
Brenda Weigel, MD, MS, Medical Director, Clinical Trials Office

Shared resource leadership
Jinhua Wang, PhD, Director, Cancer Informatics Shared Resource
Timothy Holland, PhD, Director, Misuse Genetics Laboratory, Shared Resource
Christopher Pennell, PhD, Director, Flow Cytometry Shared Resource
Martin Fekete, PhD, co-Director, Translational Therapy Shared Resource
John Wagner, MD, co-Director, Translational Therapy Shared Resource
Eric Hendrickson, PhD, co-Director, Genome Engineering Shared Resource
Brandon Moriarty, PhD, co-Director, Genome Engineering Shared Resource
Betsy Houch, PhD, co-Director, Cancer Genomics Shared Resource
Mark Kirstein, PharmD, Director, Clinical Pharmacology, Shared Resource
Chop Le, PhD, Bioinformatics Shared Resource
M. Gerard O’Sullivan, MVB, PhD, Diplomate ACVP & ECVP, Director, Comparative Pathology Shared Resource
Robert Torok, PhD, Director, Analytical Biochemistry, Shared Resource
New Leaders

Masonic Cancer Center welcomes new leadership

Anja Bielinsky, PhD
Associate Director for Basic Shared Resources Dr. Bielinsky is a Professor in Biochemistry, Molecular Biology and Biophysics with a research focus in the regulation of DNA replication. She also co-leads the Genetic Mechanisms Program and was recently named Associate Dean for Foundation Science at the UMN Medical School.

Christopher Pennell, PhD
Associate Center Director for Community Engagement and Education. Dr. Pennell is an Associate Professor in the Division of Gastroenterology, Hepatology and Nutrition and has a research interest in gene and viral therapy. He joins Dr. Bielinsky to co-lead the Genetic Mechanisms Program.

Vito Quarta, MD
Professor of Surgery and Radiation Oncology, co-Director, Helen Diller Family Comprehensive Cancer Center

Patricia Bielinsky, MD
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Sarah Coulie, MD
Cancer Research Translational Initiatives Director Dr. Coulie is an Associate Professor of Medicine in the Division of Hematology, Oncology, and Transplantation, with a research interest in Natural Killer (NK) cells. She leads the Cancer Research Translational Initiatives (CRI) which supports researchers translating their work from bench to bedside by offering a comprehensive infrastructure and coordinated integration of services from MCC shared resources to quickly develop and implement highly complex Phase I clinical trials.

Martin Felices, PhD
Translational Research Shared Resource co-leader Dr. Felices is an Associate Professor in the Division of Hematology, Oncology, and Transplantation, with a research interest in signal transduction. He joins John Wagner, MD, to co-lead the Translational Research Shared Resource which includes the Translational Therapy Laboratory (TTL) and sophisticated resources to quickly develop and implement highly complex Phase I clinical trials.

Sarah Cooley, MD
Cancer Research Translational Initiatives Director Dr. Cooley is an Assistant Professor of Medicine in the Division of Hematology, Oncology, and Transplantation, with a research interest in Natural Killer (NK) cells. She leads the Cancer Research Translational Initiatives (CRI) which supports researchers translating their work from bench to bedside by offering a comprehensive infrastructure and coordinated integration of services from MCC shared resources to quickly develop and implement highly complex Phase I clinical trials.

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Jinhua Wang, PhD
Translational Research Shared Resource co-leader Dr. Wang is a Professor in the Institute for Health Informatics with a research interest in computational analysis for high-throughput cancer genomics projects. He leads the Cancer Informatics Shared Resource with oversight for Cancer BioInformatics as well as Clinical Informatics Shared Services.

Timothy Hallstrom, PhD
Mouse Genetics Laboratory Shared Resource leader Dr. Hallstrom is an Assistant Professor in the Division of Pediatric Blood and Marrow Transplantation, with a research interest in the cellular mechanisms controlling the red blood cell (RBC) protein. He directs production of CRISPR/Cas9-altered mice with the Genome Engineering Shared Resource.

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Investigator-Initiated Clinical Trials

Protocol #2015SL507
A Phase I Trial Testing NAM Expanded Haploidentical or Mismatched Related Donor Natural Killer (NK) Cells Followed by a Short Course of IL-2 for the Treatment of Relapsed/Refractory Multiple Myeloma and Relapsed/Refractory CD20+ Non-Hodgkin Lymphoma
Veronica Bachanova, MD, PhD
Heme/BMT

Protocol #2016LS153
Open Label Dose Escalation Trial of an Adaptive Natural Killer (NK) Cell Infusion (FATE-NK002) With Subcutaneous IL-2 in Adults With Refractory or Relapsed Acute Myelogenous Leukemia (AML)
Sarah Cooley, MD
Heme/BMT

Protocol #2016LS156
CliniMACS CD34+ Autologous Hematopoietic Stem Cell Transplantation as a Treatment for Multiple Myeloma
Margaret MacMillan, MD, MSc
Heme/BMT

Protocol #2017NTLS119
Physical Activity in Children Completing Treatment for Leukemia: How Does It Relate to Other Symptoms?
Carrie Earthman, PhD
Pediatric Oncology

Protocol #2015OC182
Autologous Hematopoietic Cell Transplantation for Multiple Myeloma and Non-Hodgkin Lymphomas (NHL)
Armin Rashidi, MD, PhD
Heme/BMT

Protocol #2015LS149
Umbilical Cord Blood Transplantation Using a Myeloablative Preparative Regimen for the Treatment of Hematological Diseases
Claudio Brunstein, MD, PhD
Heme/BMT

Protocol #2016LS154
Transplantation of Umbilical Cord Blood from Unrelated Donors in Patients With Hematological Diseases Using a Non-Myeloablative Preparative Regimen
Claudio Brunstein, MD, PhD
Heme/BMT

Protocol #2016LS058
Phase II/II Study of Human Chorionic Gonadotropin and Epidermal Growth Factor Supplementation (Pregnyl®) to Support Tolerance and Repair As Adjunct Therapy in High-Risk or Refractory Acute Graft-Versus-Host Disease
Shane Holman, MD
Heme/BMT

Protocol #2016NTLS044
The Role of Gut Microbiota in Conditioning-Induced Inestinal Barrier Damage in Patients Undergoing Stem Cell Transplantation
Celalettin Ustun, MD
Pediatric Heme/BMT

Protocol #2015NTLS038
Immune Monitoring During ASP2215 Therapy in Relapsed Refractory Acute Myeloid Leukemia (AML)
 Ou Wangli, MD
Heme/BMT

Protocol #2015LS152
Allogeneic Hematopoietic Stem Cell Transplantation Using Reduced Intensity Conditioning (RIC) for the Treatment of Hematological Diseases
Heather Steflanski, MD, PhD
Pediatric Heme/BMT

Protocol #2015LS154
Study of Epidermal Grafting Using the CeluTome Epidermal Harvesting System for the Treatment of Individual Lesions in persons with Epidermolysis Bullosa
Karin Sadak, MD, MPH, MSc
Pediatric Oncology

Protocol #2015LS154
The Development of Data Capture Methodologies in Pediatric Cancer Patients Treated with Targeted Agents and Immunotherapies: Leveraging the Research Infrastructure of a Childhood Cancer Survivor Program
Cara Ertman, PhD
Solid Tumor

Protocol #2015LS156
Study of Epidermal Grafting Using the CeluTome Epidermal Harvesting System for the Treatment of Individual Lesions in persons with Epidermolysis Bullosa
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Zohar Sachs, MD, PhD, Medical School - Department of Medicine - Division of Hematology, Oncology, and Transplantation
New Researchers

Emily Greengard, MD
Pediatrics

Clark Chen, MD, PhD
Neurosurgery

Kenneth Beckman, PhD
Biomedical Genomics Center

Susan M. Wall, JD
Medicine

Constantin Aliferis, MD, MS, PhD, FACMI
Institute for Health Informatics

Aaron Sarver, PhD
Institute for Health Informatics

Hangbo Pang, PhD
Pharmaceutics

Alessio Giubellino, MD PhD
Laboratory Medicine and Pathology

Dorayya El-Ashry, PhD
Laboratory Medicine and Pathology

Ingunn Stromnes, PhD
Microbiology and Immunology

Jinhua Wang, PhD
Institute for Health Informatics

Britt Erickson, MD
Obstetrics, Gynecology, and Women’s Health

Alexander Khoruts, MD
Gastroenterology, Hepatology, and Nutrition

Boris Winterhoff, MD, MS
Obstetrics, Gynecology, and Women’s Health

Armin Rashidi, MD
Hematology, Oncology, and Transplantation

Frank Cichocki, PhD
Hematology, Oncology, and Transplantation

Sherman Holton, MD
Hematology, Oncology, and Transplantation

Rita Perlingiero, PhD
Medicine, Cardiovascular Division
Masonic Cancer Center researchers are frequently recognized for their advances and expertise. Some examples include:

Kenny Beckman, PhD, received an Innovation Award from the Office of Technology Commercialization

Abbie Begnaud, MD, appointed to the American College of Chest Physicians Tho-racic Oncology Steering Committee

Tanya Freedman, PhD, received the Dean’s First-RO1 Recognition, RO1 AR075966 from NIH / NAMS, and the Travel Award at the Immunoreceptors and Immunotherapy FASEB Science Research Conference

Melissa Geller, MD, MS, FACOG, gave the Dean’s Distinguished Lectureship for 2019

Gunda Georg, PhD, appointed Regents Professor in 2018

Stephen Hecht, PhD, Keynote Lecture, International Conference on Frontiers in Environmental and Occupational Medicine, Kaohsiung Medical University, Taiwan, List-ed in AACR Landmarks in Cancer Research 2017. Tobacco-Specific Nitrosamines, JNCI JD, 819-824 (1978), was University of Minnesota Medical School Dean’s Distin-guished Research Lecturer, 2017, award-ed American Chemical Society Minnesota Section, Minnesota Award, Pamela Jacobson, PharmD, FCCP awarded the Sara Evans Faculty Woman Scholar Leader award

Ryan Langlois, PhD, received the Cesar Milestyn Young Investigator Award from the International Cytokine and Interferon Soci-ety

Michael Lindén, MD, PhD, elected to the position of “Senior Councilor for Advoca-cy” for the International Clinical Cytometry Society

Michael McAlpine, PhD, made Kuhrme-er Family Chair Professor, featured in PC Magazine’s 5 Amazing Projects That Will Change the Future of Healthcare and Na-tional Geographic’s 12 Innovations that will Revolutionize the Future of Medicine, was the Henry Maso Award Keynote, received the George W. Taylor Award for Distin-guished Research, was in the Guinness World Records for 3D Printed Bionic Ear (2018)

David McKenna, MD, awarded the 2017 AABB President’s Award for advancing cellular therapeutics

Bradley S. Miller, MD, PhD, was awarded the Clinical Care Award at the University of Minnesota Medical Center in 2018

Branden Mioriary, PhD, received the Innovator in Translational Research Award, University of Minnesota, Department of Pediatrics, received the Mid-West TRIO Program’s TRIO Achiever Award, as well as the University of Minnesota’s Early Innovator Award

Vicki Morrison, MD, appointed as a chair of the Board of Directors and Publica-tions Committee for International Society of Geriatric Oncology (SIOG), became mem-ber of American Society of Clinical Oncol-ogy (ASCO): Appropriate Chemotherapy Dosing for Obese Adult Patients with Can-cer: American Society of Clinical Oncology. Clinical Practice Guideline Update

Laura J. Niedernhofer, MD, PhD, was awarded the Vincent Cristofalo Rising Star Award in Aging Research from the Ameri-can Federation for Aging Research

David Odde, PhD, Medtronic Endowed Professor for Engineering in Medicine, made the Associate Director for Strategic Re-search Initiatives, Institute for Engineering in Medicine, UMN. Elected Fellow for the Inter-national Academy for Medical and Biological Engineering, Elected Fellow for the American Association for the Advancement of Science, was a Page Morton Hunter Distinguished Lecturer, Dep’t. of Bioengineering, Clemson U.

Chris Pennell, PhD, received Leaders for a Cure Award from the Vince Lombardi Cancer Foundation

David Potter, MD, PhD, invited speaker sixth Mexican college for the investigation of cancer, in Puebla, Mexico

Arpit Raw, MD, received the 2020 Alli-ance Scholar Award for his research on “re-sponse-adaptive imaging strategy in metastatic castration-resistant prostate cancer” from the Alliance in Clinical Trials in Oncology. He is the first UofM/MCC faculty to have received this award

Nelson Rhodus, DMD, MPH, inducted into the Royal College of Surgeons of Edinburg, received the Lifetime Achievement Award for Research from the American Academy of Oral Medicine

Logan Spector, PhD, made Chair of the Childhood Leukemia International Consortium Rachel Vogel, PhD, awarded the American Cancer Society Research Scholar Award, awarded the CTSI Biostatistics and Bioinfor-matics Mentor of the Year Award
Sharon Allen, MD, PhD, was awarded a $3M R01 from NCI for her research study entitled “Bupropion for the prevention of postpartum smoking relapse.”

Silvia Balbo, PhD, in collaboration with Peter Vithala, PhD, Director, MCC An- lexic Bioethics Shared Resource, was awarded a $2M R01 from the NCI entitled “The DNA adductome of lung carcinogenesis.”

Anja Blinkman, PhD, was awarded a $1.8M R01 from NIGMS for her study entitled “The role of DNA damage and repair on the dynamic regulation of polycomb proteins.”

Wei Chen, PhD, was awarded a new $1.6M R01 from the NCI entitled “The development of Quantitative Deuterium MRI imaging for Human Brain Tumor Application at Ultra-high field.”

Yibin Deng, PhD, and Zrum Delan, PhD, were awarded a $1.75M R01 from the NCI entitled “Targeting eIF4A1-dependent HK2 as a source of neoantigens for NF1-associated malignant peripheral nerve sheath tumor immunotherapy.”

Yibin Deng, PhD, and Luc Dehman, Dep, were awarded a new $1.8M R01 from the NCI entitled “APOBEC mutagenesis in breast cancer.”

Fikadu Kassa, PhD, was awarded a $1.5M R01 from NCI for his study entitled “REI Kinase Signaling as a Key Switch Toward the Neuroendocrine Phenotype.”

Caroli Lange, PhD, Julie Ortonand, PhD, and Fabrice Schwerroger, PhD were awarded a new $2.5M from the NCI entitled “SRC-3/PELP1 complexes drive stem-like phenotypes in luminal breast cancer.”

Rubert Morris, PhD, and his team were awarded a new P01 grant for $8.3M from the NCI entitled “4P2BEC-mutations in breast carcinogenesis.”

Stephen Neu, PhD, was awarded a $3M grant from the NCI for his study entitled “Clinical Trial of Watercress in Deminization of Environmental Toxins and Carcinogens.”

Stephen Sjodin, PhD, was awarded two new R01s from NIAID totaling $5.3M for two different research projects studying the factors that regulate the survival and activation of mature T-cells in the peripheral lymphoid system that engage in immune responses.

Frederick Korkie, PhD, was awarded a $1.7M R01 from the NCI entitled “Lung cancer prevention and treatment by targeting ALDH1 and CD44 expressing putative lung cancer stem cells.”

David Largergs, PhD, was awarded $1.5M from NCI Mesoth Harfunding for his study entitled “Recurrent tumor specific transcripts as a source of neoan- tigens for NCI targeted malignant peripheral nerve sheath tumor immunotherapy.”

Arthur Lavel, PhD, was awarded $1.7M from the NCI for his study entitled “Targeting CXCL12 for imaging and ther- apy in prostate cancer.”

David Macquarie, PhD, was awarded a new $1.6M R01 from the NCI entitled “Reprogramming TMR tumors immuno- therapy”, collaborating with A. N. B. Nordenskiöld, a new strategy of Immunotherapy.

Lisa Peterson, PhD and her team of researchers was awarded $4.5M over 4 years from the NIH to establish a Human Health Exposure Analysis Resource (HHEAR) bringing together highly talented scientists from the University of Minnesota and the Minnesota Department of Health to provide a national resource for exploring environmental, lifestyle, and related factors that can affect human health.

Lucie Turcotte, MD, MPH, was awarded an SRSK NCI Career Development Award (K08) for her research project entitled “Treat- ment Modifications, Outcomes and Provider Decision Making in the Management of Subsequent Breast Cancers Among Survivors of Childhood Cancer.”

Robert Turner, PhD, was awarded a $2.5M R01 from NCI for his study entitled “DNA adductome of human bladder from the tobacco exposome.”

Rachel Vogel, PhD, was awarded a $730K grant from the American Cancer Society entitled “Wearable Device Intervention to Improve Sex Behaviors in Mississippi Residents.”

Jamie Musilinos, VMD, PhD, was awarded a $600K translational grant to generate the understanding of the mechanism of action of a novel immunotherapy strategy called “Combining Oncolytic VSV and IL-18 Superkine.”

Robert Turesky, PhD, was awarded a $2.3M R01 from NCI for his research project entitled “The role of chemokines and chemokine receptor 2 in prostate cancer.”

Stephen Jameson, PhD, was awarded $5.5M from the NCI for his study entitled “Clinical Trial of Watercress in Deminization of Environmental Toxins and Carcinogens.”

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The MCC Impact Board advises and supports the leadership in mission, programmatic direction, community interactions, outreach, public relations, and advoca-