The Lymphoma Research Foundation's (LRF) YouTube channel offers a wide variety of educational videos to help the lymphoma community learn about lymphoma. These videos provide disease-specific information, as well as education regarding diagnosis, treatment options, clinical trials, and other resources for people dealing with a lymphoma diagnosis.

Visit YouTube.com/c/LymphomaResearch to watch and subscribe.
# TABLE OF CONTENTS

## [ FEATURES ]

### Curiosity in Pursuit of a Cure
LRF grantee Abner Louissaint, MD, PhD has been interested in studying things since he was a child. His inquisitiveness followed him through his adult years and was a catalyst for his desire to pursue a career in the study of lymphoma.

12

### Meet the 2022 Career Development Award, Postdoctoral Fellowship, and Follicular Lymphoma Priority Research Grantees
The 17 Career Development Award, Postdoctoral Fellowship, and Follicular Lymphoma Priority Research Grants include projects exploring numerous disease subtypes treatments, including rare disease states like T-cell lymphomas, as well as novel therapeutics, including chimeric antigen receptor (CAR) T cell therapy.

18

### Advocating For Answers
After 20 years of living with lymphoma, Lois Rosenblum knows firsthand the importance of a strong support system and advocating for your health. Following an initial diagnosis of follicular lymphoma in 2002 and several disease transformations since then, she’s passionate about supporting the work that the Lymphoma Research Foundation (LRF) does to power cutting-edge research to treat and defeat lymphoma.

28

## [ DEPARTMENTS ]

### Community Impact
Philanthropy in Action

4

### From the Field
Where Are They Now?
U.S. Food and Drug Administration Updates

16

### Living With Lymphoma
Patient Perspectives

26
VIRTUAL
EDUCATION PROGRAMS

Despite COVID-19, there is no interruption in our commitment to providing up-to-date patient education for lymphoma. While in-person educational events have been postponed, the Lymphoma Research Foundation (LRF) is using digital platforms to deliver virtual patient education programs around the country, including Virtual Ask the Doctor About Lymphoma Lymphoma Workshops and the North American Educational Forum on Lymphoma, for people with lymphoma and their loved ones.

Whether you are newly diagnosed, want detailed information about your lymphoma subtype, are looking for ongoing support, or seeking help with long-term survivorship, LRF is here to help.

Visit [lymphoma.org/programs](http://lymphoma.org/programs) to register and learn more.

<table>
<thead>
<tr>
<th>Spring Virtual Education Programs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6.1</strong></td>
<td>Ask the Doctor About Treatment Options and Clinical Trials</td>
</tr>
<tr>
<td><strong>6.11</strong></td>
<td>Midwest Lymphoma Workshop</td>
</tr>
<tr>
<td><strong>6.20</strong></td>
<td>Caregiving for a Loved One with Lymphoma Webinar</td>
</tr>
<tr>
<td><strong>6.28</strong></td>
<td>Update on Hodgkin Lymphoma Webinar</td>
</tr>
<tr>
<td><strong>10.28-10.30</strong></td>
<td>National Educational Forum on Lymphoma</td>
</tr>
</tbody>
</table>
While incredible strides have been made in the study of lymphoma and chronic lymphocytic leukemia (CLL), many patients remain vulnerable to experiencing a relapse, late effects of treatment, or diminished quality of life. We recognize that supporting innovative research is the only way to advance our understanding of lymphoma and lay the foundation for improved patient care. That is why we remain committed to finding cures through an aggressively funded research program for lymphoma and CLL scientists.

This year—with your dedicated support—we were able to fund more than $5 million in research grants, supporting 29 researchers from the nation’s leading medical and academic institutions. This investment ensures the best and brightest scientific minds can pursue careers in blood cancer research.

In this issue of Pulse, we are excited to introduce you to our Clinical Investigator Career Development Award (CDA) and Postdoctoral Fellowship grantees. The CDAs and Postdoctoral Fellowships are cornerstones of our early career investigator program, providing grants to scientists with the greatest potential to contribute to our understanding of the disease and the development of new lymphoma therapies and diagnostic tools. Grantee projects span numerous disease subtypes, including rare disease states like T-cell lymphomas, as well as novel therapeutics, including chimeric antigen receptor (CAR) T cell therapy. Projects exploring the needs of specific patient populations, including adolescents/young adults and military veterans, have also been selected for funding.

The Foundation has also awarded multi-year grants to five international experts studying one of the most common forms of lymphoma as part of its Jaime Peykoff Follicular Lymphoma Initiative. Established in 2020, the Initiative is poised to transform the follicular lymphoma (FL) treatment landscape—a subtype of lymphoma with no known cure. In this issue, we profile one of the 2022 Jamie Peykoff grantees, Abner Louissaint, MD, PhD of Massachusetts General Hospital, a global hematology expert with his sights set on revolutionizing the treatment of FL. Dr. Louissaint describes the work his lab is pursuing to help categorize FL and how his Lymphoma Research Foundation-funded research project will help to support these efforts.

We are more confident than ever that we will find a cure for lymphoma—something we would not be able to achieve without your support. Thank you all for your dedication to our shared mission.

Sincerely,

Meghan Gutierrez
Chief Executive Officer
SHOW YOUR LOVE CAMPAIGN SUPPORTS 600 NEW PATIENT AID GRANTS

This February, Lymphoma Research Foundation (LRF) supporters came together to show their love for lymphoma patients by raising $61,000 as part of our annual Show Your Love campaign. The funds raised help to power LRF’s Patient Aid Grant Program, which is 100% funded by individual donors and provides critical assistance to patients struggling with financial toxicity caused by costs related to cancer care. This year’s gifts were made even more impactful when they were matched by a generous group of LRF donors, helping twice as many lymphoma patients offset costs related to their treatment and ensuring no patient has to choose between paying for basic necessities or receiving life-saving care.

Visit lymphoma.org/showyourlove to support the Foundation’s Patient Aid Grant Program today.

TEAM TRI RAISES MORE THAN $10,000 TOWARD $50,000 GOAL

After losing his mother to lymphoma, Dan Anderson gathered seven friends to create Team Tri as a way of honoring his mother’s memory and spreading awareness for the need for lymphoma research funding. The Gainesville, Florida-based group is planning on competing in triathlons across the country this year, with the ultimate goal of qualifying for the 2022 Ironman World Championship while also raising $50,000 for LRF. They’re already off to a blazing start, with team member David Gonzalo finishing first in his age group in the LifeSouth Race Weekend’s half marathon this past February and raising $10,000 to date.
LSU PIRATES SUPPORT THE LRF MISSION

On February 23, students from Louisiana State University hosted a Pirate Party to raise awareness and funds for LRF. The LSU “Crew for a Cure” team was one of many teams of college students across the country competing in the Public Relations Student Society of America’s (PRSSA) annual Bateman Case Study Competition, which this year focused on promoting LRF’s Adolescent and Young Adult Initiative. Together Hannah, Marie, Rebecca, and the entire LSU team raised $2,160 to make lymphoma walk the plank.

START A FACEBOOK FUNDRAISER

It’s easy to rally your community and start a Facebook Fundraiser in support of the Lymphoma Research Foundation (LRF).

STEP 1
Visit the Facebook Fundraiser Page and click the “raise money” button.

STEP 2
When asked “Who are your raising money for?” select LRF by searching “Lymphoma Research Foundation” in the search bar.

STEP 3
Name your campaign, select your goal amount and end date, and let your friends know why you’re fundraising for LRF.

STEP 4
Share your fundraising campaign with friends, family, and your community on Facebook.
The popularity of endurance events, such as marathons, bike races, and triathlons, has risen steadily over the past 25 years—and with an increased interest in health, fitness, and competition amid the pandemic, that number is expected to continue to increase.

According to the *Sports Business Journal*, there are an estimated 7 million new runners in the U.S. since the onset of the pandemic, and cycling sales have increased roughly 75%, for a total of about $1 billion in sales.

This growing interest in fitness and competition is spilling over into the fundraising world, in the best possible way. According to the 2020 Blackbaud Peer-to-Peer Fundraising Study, individuals continued to support organizations across the country through endurance events, even amid the COVID-19 pandemic. In 2020, endurance events’ participants made an average online donation of $985.32.

The Lymphoma Research Foundation (LRF) has seen a similar increase in interest from its donors. In the past year, participation in endurance events through the LRF’s Fundraise Your Way program has more than doubled. The Fundraise Your Way program allows anyone to support LRF in a way that makes the most sense for them. With the assistance of a Team LRF staff member, individuals can turn their interests, such as endurance events, into a meaningful way to raise funds and awareness for LRF.

One of those teams, LRF Triathlon, is led by R. Dan Anderson. As a young boy, Anderson lost his mother, Marcia, to diffuse large B-cell lymphoma (DLBCL)—an aggressive form of non-Hodgkin lymphoma. In an effort to distract himself from his grief, he followed his cycle-enthusiast father into the world of triathlons and became enamored with the camaraderie and friendships that the community offered.

*Continued on the next page*
“It just made sense to utilize a sport that brings people together as a platform to support LRF’s critical mission.”
In 2020, Anderson realized that he could use his passion for triathlons to do good and formed LRF Triathlon. He created the team to not only honor the relentless dedication that his mother demonstrated toward life, but also to raise awareness and critical funds for lymphoma.

“While I know I can’t change my personal situation, I feel a palpable obligation to help change the future for other families touched by this disease,” he says. “It just made sense to utilize a sport that brings people together as a platform to support LRF’s critical mission.”

Since forming the team, Dan has made a huge splash on social media, leading to collaborations and sponsorships with large companies and organizations. Their hope is to participate in 15 endurance events in the coming year in an attempt to eventually bring LRF to the world stage in Kona, Hawaii, at the Ironman World Championship in October 2022 or 2023. So far, the team has raised more than $10,000 toward its $50,000 goal.

Anderson hopes they can surpass that goal before the year’s end and become a top fundraiser for the Foundation.

“This endeavor has taken a tremendous amount of work to not only get started but to maintain,” he says. “It has been so rewarding and I would not be able to do it without every single member of our LRF Triathlon Team.”

“We are so grateful to donors like Dan who are passionate about raising funds and awareness for lymphoma through unique and exciting fundraisers,” says Laura Wallenstein, Chief Philanthropy Officer at LRF. “It is teams like LRF Triathlon that motivate the Foundation to create more and new opportunities for endurance event competitors to support our mission.”

In fact, due to increased interest from volunteers over the past few years, LRF has secured spots in several 2022 endurance events throughout the country, including the TD Five Boro Bike Tour, Twin Cities Marathon, and world-famous New York City Marathon.

“We are thrilled to be able to form a community for endurance competitors through our Team LRF program,” says Wallenstein. “We know great things are in store for the future of endurance fundraisers and hope that this fundraising vehicle continues to grow.”

To participate in an endurance event in support of LRF, please visit lymphoma.org/fundraiseyourway.
Fundraise Your Way is the Lymphoma Research Foundation’s (LRF) community fundraising program—a way to turn an event into a fundraiser for lymphoma. Each year, thousands of volunteers across the country turn their talents and interests into unique fundraising events to support the LRF’s mission of eradicating lymphoma and serving all those impacted by this blood cancer.

Fundraisers can range anywhere from:
- Facebook Fundraiser
- Bake Sale
- Fashion Show
- Tribute Fundraiser
- Bike Ride
- Marathon

There’s no limit to how you can fundraise and make an impact on the lymphoma community. Visit lymphoma.org/fundraiseyourway to get started today!
PLANNED GIVING:
THE LEGACY A DONOR LEAVES BEHIND
When you include the Lymphoma Research Foundation (LRF) in your estate plan, you are investing in the most promising research that has the greatest potential to dramatically improve the lives of those impacted by lymphoma. Thank you for ensuring LRF can serve those touched by this disease well into the future and, ultimately, eradicate lymphoma.

To learn more, contact Kate LeBoeuf at 646 531 5184 or kleboeuf@lymphoma.org, or visit lymphoma.org/legacy.

Commit to your future impact today.

Just over 15 years ago, Bob Werner and his late wife Florence received news that would change his life. His son, Michael, had gone to the doctor to have a lump checked out—a lump that was ultimately diagnosed as lymphoma.

Upon receiving his diagnosis, Michael began researching his lymphoma using sources all over the world. In that process, he found the Lymphoma Research Foundation (LRF) and got involved with the organization. Michael eventually became a board member in 2007 and chair of the LRF Board of Directors in 2016, a role in which he served until 2020.

While chair of the board, Michael recruited his father, Bob, to review LRF’s fundraising model. Bob, a retired engineer and scientist living in Aventura, Florida, brought 45 years of business experience to the non-profit world as a volunteer. After his review, Bob strongly advocated for creating an LRF Planned Giving program as a new addition to the organization’s fundraising efforts. Planned Giving programs enable savvy donors to make charitable contributions from their financial or estate plans. It’s also known as legacy giving or gifts from your will.

Today, Bob is a member of the Foundation’s Mason Society for legacy donors. “I would urge anybody who wants to support LRF to consider a gift from their will or estate,” says Bob. “Yes, a cash gift is always wonderful. If you can do it now, great—but planned gifts can be a very meaningful contribution that can help support LRF’s future work.”

“Bob’s guidance and counsel has been critical to the Foundation’s fundraising success throughout the years,” says Laura Wallenstein, LRF Chief Philanthropy Officer. “The impact he has made on LRF will be felt for years to come, and we are grateful for his continued commitment as we strive to raise more funds than ever for lymphoma research.”

Bob came to LRF out of concern for his son, but he continues to work with and donate to the organization out of an admiration for LRF’s impact on lymphoma research. Together, Bob and Michael worked to support Foundation research, advocacy, and LRF Scientific Advisory Board efforts to change lives. Bob hopes his estate gift helps advance cures for lymphoma and ensures a brighter future for other families touched by this blood cancer. ☺
Abner Louissaint Jr., MD, PhD Director of Hematology at Massachusetts General Hospital (MGH) and Associate Professor of Pathology at Harvard Medical School, has always been interested in studying and classifying things. In fact, one of his earliest memories as a child was sighting and categorizing local birds and insects in the fields in and around Long Island, New York, where he spent his formative years. His inquisitiveness followed him through his adult years and was a catalyst for his desire to pursue a career in the study of lymphoma as a pathologist and investigator.

Cultivating Curiosity
Growing up, Dr. Louissaint’s parents always encouraged him to follow his dreams and be the best he could be—something he says has guided him throughout his career to date. He knew early on that he wanted to pursue a career in medicine due to a desire to both take care of others and make an impact on treatment for patients. However, it was during a high school summer research program at Villanova University that he learned about the career of the physician scientist, and he knew immediately that was what he wanted to be.

While in medical school, Dr. Louissaint’s favorite medical school classmate, study partner—and future wife—suggested he try a rotation in pathology at Cornell, and that’s when everything clicked.

“During that pathology rotation, I discovered a connection and a passion that surpassed my experiences in all the other areas of medicine I had tried up until then,” said Dr. Louissaint. “I love the diagnostic aspect of medicine, and pathology focuses on the diagnostic problem and solving the mystery of identifying the disease—from that rotation on, it was pathology for me.”

Dr. Louissaint completed his residency in anatomic and clinical pathology and subsequently his fellowship in hematopathology at MGH in Boston. Upon completion of his fellowship at MGH, Dr. Louissaint joined the MGH Pathology faculty as a hematopathologist. He simultaneously initiated an independent research program with the mentorship of and collaboration with Dr. David M. Weinstock at the Dana-Farber Cancer Institute. Dr. Louissaint has recently established his own laboratory at the MGH as part of the Molecular Pathology Unit, focused on modeling lymphoma and studying the genetics and pathogenesis of both indolent (e.g., follicular lymphoma) and more clinically aggressive B-cell lymphomas.

Aside from the science, Dr. Louissaint says that hematopathology—the study of cancers and other diseases affecting the blood cells and related solid tissues—allows for collaboration between him and several of his peers, which he finds exciting. “What I love about hematopathology—other than the fascinating images that you see under the microscope and the ability to integrate these images with other molecular data to solve the diagnostic mysteries of medicine—is that it requires a close communication with a team of oncologists, pathologists, and scientists, all thinking about each case in three-dimensional ways to come up with a diagnosis,” he says. “I’m a people person, and it’s these necessary interactions you have with the other members of the team on a daily basis that really drew me into the field.”

After attending Washington University in St. Louis, with a focus in biology and English literature, Dr. Louissaint pursued an MD/PhD in the Weill Cornell Medical College/The Rockefeller University/Memorial Sloan Kettering Tri-Institutional MD-PhD Program, where he earned a PhD in neuroscience, studying the biology and underlying brain plasticity in songbirds.
Categorizing Follicular Lymphoma

Dr. Louissaint’s introduction to lymphoma research started with studying a common type of non-Hodgkin lymphoma (NHL) called follicular lymphoma (FL), when he was a junior faculty member. Typically, follicular lymphoma occurs in older patients around 60 to 70 years old, but as Dr. Louissaint was completing his fellowship, he encountered a number of follicular lymphoma cases that occurred in unusually young patients—children and adolescents. The younger patients that developed this type of lymphoma, however, had what appeared to be a higher grade or more aggressive type of lymphoma under the microscope. Interestingly, in children, unlike what is typically seen in adult-FL patients, the disease tended to remain localized to one lymph node and did not act like an aggressive lymphoma. Amazingly, they responded very well even with removal of just the involved lymph node.

“I began seeing in our consult material some cases of this type of lymphoma in patients who were 20 to 40 years of age, who were often treated with aggressive chemotherapy due to the more high-grade appearance under the microscope, which can sometimes lead to secondary morbidity,” explained Dr. Louissaint. “I set out to try to discover how we can distinguish between the extremely benign set of follicular lymphomas that required no chemotherapy from similarly appearing high-grade follicular lymphoma, which required chemotherapy.”

Dr. Louissaint and his team examined different clinical features, immune markers, and morphologic features and discovered that the lymphomas that appeared to behave well and could be cured without chemotherapy, lacked the typical chromosomal rearrangements and had more proliferating cells than seen in typical follicular lymphoma. These specific features appeared and at the same time, to predict the good behavior, whether it was in a child or in a 30-year-old. While the findings were promising, they were not enough to define a new subtype, which motivated Dr. Louissaint to try to better define the molecular features that would definitively separate these two types. What he discovered was that the follicular lymphomas that were well behaving did not have the mutations found in the typical follicular lymphoma. Instead, they had their own distinct mutations in genes of the mitogen-activated protein (MAP) kinase pathway.

These studies by Dr. Louissaint and others made it clear that pediatric-type follicular lymphoma was in fact a separate disease independent of age, and it is now considered a distinct disease in the WHO Classification. It also means that both children and adults with this disease can more easily be diagnosed, and it is now clear that chemotherapy is no longer indicated for these patients.

“The fact that our work was foundational to this discovery was particularly meaningful to me because I want to make discoveries that are going to impact patients,” said Dr. Louissaint. “Now, when people are diagnosed with this disease, which we called ‘pediatric type follicular lymphoma,’ they are no longer being treated with aggressive chemotherapies. Most of the patients with this subtype are doing really well without chemotherapy, so it’s incredibly rewarding to see it impact actual patients.”

Continuous Search for a Cure

While this discovery was Dr. Louissaint’s entry into the field, what keeps him motivated to do more is that there is still no cure for the traditional form of follicular lymphoma. Many patients with this disease can live with it for decades, but in some patients, it can be more aggressive and not responsive to chemotherapy. In other patients it will transform into a much more aggressive form of lymphoma called diffuse large B-cell lymphoma (DLBCL), which usually requires more intensive types of treatment.

“The problem is that even though the majority of patients do okay and can find ways to live with the disease, there’s always this risk of it transforming,” says Dr. Louissaint. “The issue is we don’t fully understand the biology, and while we know well the mutations associated with follicular lymphoma, we still cannot predict which cases will transform at the time of diagnosis, and how this is happening. We have a long way to go!”

Following his discoveries with pediatric-type follicular lymphoma, Dr. Louissaint became even more focused on finding cures for typical follicular lymphoma and better therapeutic algorithms and predictive capabilities. This turned his attention to modeling lymphoma.

“Lymphomas are like snowflakes in that each case is different. With the growing number of potential therapies, our modeling work will enable us to test the various drugs on identical tumors to have a better sense of what therapy is likely to perform best with a particular patient.”

Dr. Louissaint feels that one of the roadblocks to understanding lymphoma is that there are still very few models to study. Typically, when studying something in medicine, you need a living model—either an animal model or a model in a culture dish. Until now, it’s been extremely challenging to culture follicular lymphoma because of the number of cell types it contains. Similarly, there are few models of follicular lymphoma and
none that contain all of the different combinations of mutations seen in human follicular lymphoma. This is what drove Dr. Louissaint to focus on developing a mouse model for lymphoma.

“One development I’m very excited about is that we’ve developed the first patient-derived xenograft (PDX) mouse model in which fragments of human lymphoma from surgical biopsies can be implanted and grown in immunodeficient mice,” said Dr. Louissaint. “These models will help us test different established and novel therapies for individual follicular lymphomas, and understand which therapies work on which lymphomas, why, and develop biomarkers that can be used to predict what therapies may be effective on a case-by-case basis for future individual patients. We are using sequencing technologies in these models will help us understand the biology of follicular lymphoma and how the cancer cells interact with and depend on the normal immune cells within the tumor. Then perhaps we can learn ways to target these dependencies. Ultimately, we hope this work will ultimately lead to potentially novel and better therapies for follicular lymphoma.”

Other areas of Dr. Louissaint’s laboratory are focused on finding curative therapies for more aggressive lymphomas and incurable lymphomas, such as ALK-positive large B-cell lymphoma and plasmablastic lymphoma, which are uncommon but highly aggressive and typically have a very poor prognosis.

“It's a great honor to be one of the first recipients of a Follicular Lymphoma Priority Research Grant among so many talented researchers.”

Dr. Louissaint recognizes that additional investment in research is crucial to his continuing to advance cures for lymphoma. He is grateful to organizations like the Lymphoma Research Foundation (LRF), which make it possible for him to continue his vital work through initiatives such as the Jaime Peykoff Follicular Lymphoma Initiative.

Established in 2020 through the generosity of the Peykoff Family and Niagara Cares, the Jaime Peykoff Follicular Lymphoma Initiative is poised to transform the follicular lymphoma treatment landscape for tens of thousands of patients by harnessing the LRF’s unique resources, convening the world’s experts in follicular lymphoma research and patient care, and driving direct investment in clinical research.

Through this initiative, Dr. Louissaint is a 2022 LRF Follicular Lymphoma Priority Research Grant recipient and has been identified as part of the next generation of researchers poised to make a meaningful impact on lymphoma discoveries and treatments. Dr. Louissaint’s LRF research project builds upon his work in developing models for lymphoma. Using these models, Dr. Louissaint’s research is focused on understanding how lymphoma cells interact with the healthy cells around them. He hopes that unraveling these processes will help identify the mechanisms that promote lymphoma cell survival, identify new possible targets for therapeutic intervention, and illuminate why some cases of FL resist treatment.

“It’s a great honor to be one of the first recipients of a Follicular Lymphoma Priority Research Grant among so many talented researchers,” said Dr. Louissaint. “This initiative not only puts much-needed research money toward the study of follicular lymphoma, but it brings researchers together to encourage collaboration and mentorship, accelerating the pace of discovery to change patients’ lives. I can do my work today only because of the strong mentorship I’ve received, and I stand on my mentors’ shoulders as we continue to make new discoveries. And in turn, I feel a responsibility to pay it forward and mentor the next generation of researchers so that our collective discoveries continue and can be more and more impactful.”
The Lymphoma Rounds program provides a virtual forum for practicing physicians from academic and community medical centers to meet on a regular basis and address issues specific to the diagnosis and treatment of their lymphoma patients. Physicians network, share best practices, and learn the latest information on new therapies and advances in the management of lymphoma through interactive case studies presented by lymphoma experts. This activity is supported by educational grants from AbbVie, Inc., AstraZeneca, BTG International Inc., Pharmacyclics LLC, an AbbVie Company and Janssen Biotech, Inc., administered by Janssen Scientific Affairs, LLC, Pfizer, and TG Therapeutics.

Join us for an additional virtual CME-Certified Activity: Treatment Sequencing and Adverse Events Management
The enduring portion of our CME-certified activity, Targeted Therapies in CLL/SLL: Treatment Sequencing and Adverse Events (AE) Management, is now live. This activity has been designed to help healthcare providers keep pace with recommended AE management strategies and emerging data for treatment sequencing in patients with CLL/SLL.
To receive continuing education (CE) credit, participants must complete the post-test and program evaluation.

Register for an upcoming CME program at lymphoma.org/hcpeducation/
When did you become interested in the study of lymphoma?
I became interested in hematology at an early age, watching my mother at work. She was a bone marrow and hematology technician at a New York City hospital for over 45 years. After school, I would go to the lab and watch blood cells under the microscope, and since then, knew that I wanted to learn more about blood. I was exposed to lymphoma in more depth as a hematology/oncology fellow at Memorial Sloan Kettering. I realized then that lymphoma is a vast field of many diseases with unique behavior and treatment that affects patients along the entire age spectrum. I loved the diversity of disease biology and the rapid development of new treatments. Over time, I have had wonderful mentors that have helped guide my career towards opportunities to grow my expertise and interest.

At what point in your career did you receive funding from the Lymphoma Research Foundation (LRF)?
I received a Lymphoma Research Foundation (LRF) Lymphoma Scientific Research Mentoring Program (LSRMP) award when I was a junior faculty member—a few years into my faculty appointment.

What scientific project were you working on as part of your LRF research grant?
My project focused on finding novel treatments for patients with early-relapsing follicular lymphoma (FL), which is an ongoing focus of my research.

How has the treatment landscape for lymphoma/chronic lymphocytic leukemia (CLL) changed since you first started conducting your research?
The treatment landscape has changed towards the better, with numerous effective and promising treatments being studied and approved for patients with all types of lymphoma. As a lymphoma doctor, this is one of the most gratifying things to witness and share with patients. Some of the treatments considered standard now were only being studied in clinical trials a few years ago. These include oral targeted drugs and anti-CD19 CAR T cell therapy which are changing practice and standards of care.

How has your participation in the Lymphoma Scientific Research Mentoring Program (LSRMP) impacted the work that you are doing today?
I am very grateful to the LRF for my acceptance into the program at an important point in my career where that type of support was very pivotal. While the exact project that I proposed then was not executed exactly in the way it was originally designed, the feedback and advice I received helped frame my thinking about future projects that have led to much of the work I am currently doing in follicular lymphoma. The experience also introduced me to several leaders in the field, which led to many opportunities that evolved for me in the next few years.

Was the support and grant funding you received from LRF vital to advancing/dedicating your career to studying lymphoma?
It definitely was vital to advancing my career. The LRF is known to be a highly patient-centric organization that supports research and funding opportunities to help advance the field forward. As such, receiving funding from the LRF is a form of recognition the work you do is of value, has impact, and the potential to improve patient care. LRF funding helps to promote further research funding, career opportunities, and collaborations, which are important in career development, particularly early on. Additionally, support from the LRF helps to establish your expertise in the field of lymphoma.

There has been much progress made in predicting outcomes for FL. Can you describe your work in FL? What characteristics have you identified that may distinguish favorable vs. unfavorable outcomes in FL?
My work in follicular lymphoma started with the identification of a high-risk group of patients with poor outcomes if they have early disease recurrence. From this work, many other studies have followed that corroborated these findings and led to a worldwide effort to better understand how this happens. We have identified that some clinical factors such as male gender, poor health (known as performance status), and a Follicular Lymphoma International Prognostic Index (FLIPI) score are more associated with early disease progression. Many biologic markers, such as changes in gene expression or certain mutations, have also been associated with favorable or unfavorable outcomes.
How has your involvement with LRF evolved since receiving an early career grant?
Since then, I have been asked to participate as a speaker at the LRF several times. I have given patient talks on several topics, which is a wonderful opportunity to share my expertise and work to help patients in the community. Additionally, in the last year I have been invited to participate as a faculty member/mentor in the LSRMP. Having been a recipient of this award a few years ago, this was a humbling and exciting experience that permitted me to share my journey thus far as a lymphoma researcher, and help mentor junior faculty and fellows.

You are involved with both LRF’s LSRMP as a member of the faculty now, as well as Women in Lymphoma—how are you working with both organizations to empower female lymphoma scientists?
One of my strong passions is advancement of women in science. I believe that the LRF is a wonderful platform to help support women lymphoma researchers by cultivating a community of supportive and successful women scientists that can be a resource for career advancement, research, and collaboration. The LRF is also a terrific opportunity to support peer mentorship among women lymphoma scientists. The Women in Lymphoma organization is a global organization committed to supporting and advocating for greater leadership of women in lymphoma, globally. We have over 400 members worldwide that share our mission. I am honored to be chair-elect of the organization for the coming year. Under the outstanding leadership of Drs. Judith Trotman and Ann LaCasce, and many others, the Women in Lymphoma organization facilitates the education of women in lymphoma through a dedicated webinar lecture series run by our internationally renowned members. We also advocate for and promote equal representation at conferences, on panels, in leadership committees, and in research, and we promote opportunities for women in lymphoma, globally.

Why is LRF’s mission and focus on lymphoma-specific research and research programming important? Put another way: how would the lymphoma community be impacted if there was no LRF?
The LRF is the only organization that I know of with this level of deep dedication to lymphoma as a disease. At every level, the LRF has impacted our field: in patient-centered disease awareness, funding research to help find cures, faculty development and collaboration opportunities, and an unparalleled devotion to increasing the pipeline of trainees into lymphoma research. There is no other organization like it!

What research or projects are you currently pursuing that you would like to share with our readers?
I continue to be strongly involved in follicular lymphoma research. I am very excited about recent work we just published showing how patients with follicular lymphoma respond to treatment after several prior lines of therapy. This work included several hundred patients treated with newer drugs in a contemporary setting. This research is very promising because it provides a better understanding of treatment patterns and outcomes for patients multiply treated for follicular lymphoma. We believe this might provide new benchmarks for future clinical trials in relapsed follicular lymphoma.

What are you most excited about in the field of lymphoma research today? Why?
My next goal is to address the treatment of patients with follicular lymphoma based on risk so that we can direct stronger therapies to patients who need it the most, and consider gentler or shorter treatments for patients with a good prognosis. I am hopeful that we will soon be able to use biomarkers, such as circulating tumor DNA or other mutations at the time of a patient’s diagnosis, that can help guide these decisions in a more precise way.

LATEST U.S. FOOD AND DRUG ADMINISTRATION (FDA) APPROVALS
The U.S. Food and Drug Administration (FDA) is responsible for the approval of drugs, including biological products, for human use in the United States.

AXICABTAGENE CILIOEUCEL (YESCARTA)
April 1, 2022—a chimeric antigen receptor (CAR) T cell therapy, for adult patients with certain types of large B-cell lymphoma (LBCL), including Diffuse Large B-cell lymphoma (DLBCL), who are refractory to first-line chemoimmunotherapy or relapse within 12 months of first-line chemoimmunotherapy.
In April, the Lymphoma Research Foundation (LRF) announced its 2022 grant class—29 research grants awarded to scientists based at many of the world’s leading cancer research institutions—totaling more than $5.7 million in innovative lymphoma and chronic lymphocytic leukemia (CLL) research.

LRF maintains a strong commitment to supporting early career investigators, ensuring they can build a successful career in the field of lymphoma research. This commitment is illustrated in the more than one dozen grants awarded to early career investigators this year. They include four dynamic Clinical Investigator Career Development Awards (CDA), which support physician investigators at the level of advanced fellow or junior faculty member who will contribute to the development of new lymphoma therapies and diagnostic tools. Also included are eight Postdoctoral Fellowship Grants, designed to support investigators at the level of advanced fellow or postdoctoral researcher in laboratory or clinic-based research with results and conclusions that must be relevant to the treatment, diagnosis, or prevention of lymphoma.

“The benefits of early career awards include ensuring that scientists obtain a depth of knowledge in a field like lymphoma, which otherwise proves difficult—if not impossible—to pursue mid-career or later,” said LRF Chief Executive Officer Meghan Gutierrez. “As public funding for such grants decreases and therefore becomes more competitive, the need for private foundations is more critical than ever before.”

Also this year, LRF funded the inaugural Follicular Lymphoma Priority Research grants, part of the Jaime Peykoff Follicular Lymphoma Initiative. Established in 2020 through the generosity of the Peykoff Family and Niagara Cares, the $10 million Initiative is poised to transform the follicular lymphoma (FL) treatment landscape for tens of thousands of patients by harnessing the Foundation’s unique resources, convening the world’s experts in FL research and patient care, and driving direct investment in clinical research. Five FL Priority Research grants were funded in 2022 and an additional five grants will be awarded in 2023.
Relapsed or refractory follicular lymphoma (FL) is considered an incurable lymphoma malignancy, with most patients needing lifelong treatment. Loncastuximab tesirine is an antibody-drug conjugate that targets CD19 on the surface of lymphoma cells and has shown encouraging results in early clinical trials. Dr. Alderuccio’s LRF research project will establish an innovative clinical trial implementing dual antibody treatment in relapsed/refractory FL, with the goal of using loncastuximab tesirine in combination with rituximab to achieve complete metabolic response. “We hope this study will lead to the development of a highly effective and safer therapy in FL,” he says.

Dr. Alderuccio is a member of the Experimental and Translational Research Program at the University of Miami Sylvester Comprehensive Cancer Center, where he is interested in utilizing quantitative image analysis for risk stratification and evaluation of novel therapies in lymphoma. He received his MD from Instituto Universitario de Ciencias de la Salud—Fundación Barceló in Buenos Aires, Argentina, before deciding to move to the United States to pursue a career in clinical research and drug development in oncology. “This decision entailed starting all over again in medical training. … Despite some initial struggles, I had the opportunity to learn from outstanding mentors that clearly nourish my career as a clinical investigator in lymphoma,” says Dr. Alderuccio.

Over the next decade, Dr. Alderuccio hopes to develop an academic career as a clinical investigator, developing novel treatment strategies for lymphoma that improve availability, efficacy, and tolerability. “I have a primary interest to integrate PET/CT-based data in predictive models for treatment selection coupled with drug development in lymphoma,” he says.

Peripheral T-cell lymphomas are a rare and challenging group of malignancies to treat. Mutations in the isocitrate dehydrogenase 2 (IDH2) enzyme have been identified in a subgroup of patients with angioimmunoblastic T-cell lymphoma (AITL), which preliminary evidence suggests may be treatable with IDH2 inhibitors. Expanding on these early results, Dr. Epstein-Peterson’s LRF research aims to develop novel IDH2 inhibitors to treat AITL patients with these specific underlying mutations. “At the same time, we will seek to understand the implications of IDH2 mutations in the context of AITL in more detail, which may provide more general insights into molecular-based treatments for AITL,” he says.

Dr. Epstein-Peterson earned his MD from Harvard Medical School and is currently a postdoctoral fellow at Memorial Sloan Kettering Cancer Center. He was named an LRF Scholar in 2021 as a part of the LRF Lymphoma Scientific Research Mentoring Program. While he entered his fellowship training with an open mind, Dr. Epstein-Peterson has always been interested in hematologic malignancies. He notes that during his training he was struck by the diversity of ways these diseases affect patients and how they are treated. “There is no ‘one-size-fits-all’ approach for treating lymphomas, and I appreciate this challenge,” says Dr. Epstein-Peterson.

Through his work with the LRF, Dr. Epstein-Peterson hopes to develop a career as both a clinical and clinical-translational researcher in lymphoma, with a special interest in T-cell and cutaneous lymphomas. “I enjoy participating in clinical trial development and execution but also appreciate partnering with our scientific collaborators to link clinical developments with scientific ones and find this synergy extremely rewarding,” he says. He notes that these developments in clinical treatment options challenge clinicians to integrate all of the available evidence to establish the best treatment options for individual patients.

For the last two decades, follicular lymphoma (FL) has been treated with traditional chemotherapy. While effective, this treatment is not considered curative and can cause a host of short- and long-term side effects. Immunotherapy with bispecific antibodies, which bring lymphoma cells into close contact with tumor-killing immune cells, has the potential to revolutionize FL treatment. The bispecific antibody mosunetuzumab has shown promising results in the setting of pre-treated FL. Now, through his LRF research, Dr. Falchi will test
the efficacy of mosunetuzumab in treatment-naïve FL. “Utilizing mosunetuzumab as the first treatment will be more beneficial than following chemotherapy because an immune system not weakened by chemo will kill lymphoma cells more efficiently,” he explains.

Dr. Falchi is an assistant attending at Memorial Sloan Kettering Cancer Center and an instructor of medicine at Weill Cornell Medical College in New York City. He first became interested in lymphoma research during his medical training at the University of Perugia in Italy, and subsequently when on to complete a leukemia fellowship at The University of Texas MD Anderson Cancer Center in Houston, Texas.

Since joining the lymphoma faculty at Memorial Sloan Kettering Cancer Center, his research has focused on developing immunotherapies for B-cell non-Hodgkin lymphoma. Over the next decade, he hopes to develop an internationally recognized lymphoma immunotherapy program made up of clinical and translational investigators as well as trainees. “I want to cultivate healthy and productive relationships with like-minded colleagues at other academic institutions to create a permanent think-tank that promotes innovative, sustainable, and impactful immunotherapy lymphoma research,” he says.

Some patients with chronic lymphocytic leukemia (CLL) respond poorly to treatment due to genetic changes that affect primary DNA damage repair (DDR) mechanisms targeted by currently approved agents. Instead, the CLL cells in these patients rely on alternative DDR pathways for survival. Dr. Hu’s LRF research is therefore aimed at evaluating the efficacy of novel DDR inhibitors (RP-3500 and olaparib) to target the remaining mechanisms of leukemia-cell survival in these patients, with the goal of improving response rates and survival in CLL patients.

Dr. Hu is an assistant professor of hematology and hematologic malignancies at the Huntsman Cancer Institute at the University of Utah. He is also a 2020 LRF Lymphoma Clinical Research Mentoring Program scholar (now known as the Lymphoma Scientific Research Mentoring Program). “The mentorship and feedback I received during that program from lymphoma experts immensely improved the scientific rigor of my clinical trial,” he says.

Dr. Hu is inspired by his work with patients with lymphoma and CLL and the challenges they face as they experience relapsing disease. “It’s always difficult to see patients go through standard approaches of treatment, incur a relapse of their disease, and me having very little to offer them,” he says. “Designing new therapies that could improve the outcomes of CLL patients and potentially induce a cure is not only challenging and exciting, but also incredibly rewarding.” Building on the experiences from his LRF research, Dr. Hu hopes to develop an expertise in treating DDR-deficient CLL and lymphoma and hopes to one day lead large-scale clinical trials that can establish new standards of care for patients with CLL and lymphoma.

Dr. Hu’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

Interactions between tumor cells and healthy cells leads to the formation of a tumor microenvironment that can affect response to treatment. These relationships are bidirectional: Pressure from healthy immune cells can lead to the selection of genetic mutations in tumor cells that promote immune escape, and genetic alterations that occur in tumor cells may affect the cells around them. Dr. Aoki’s LRF research project aims to investigate these relationships and better understand the influence of tumor mutations on the tumor microenvironment in non-Hodgkin lymphoma. “Studying the entire ‘ecosystem’ of cancer and surrounding normal cells holds the promise to identify novel immunotherapy drug targets and to pave the way for innovative clinical trials,” he says.

Dr. Aoki is a postdoctoral researcher in the Department of Pathology and Laboratory Medicine at the University of British Columbia Centre/Lymphoid Research in Vancouver and a 2021 LRF Scholar. He earned his MD from Chiba University in Chiba, Japan, and subsequently went on to pursue a PhD from Nagoya University in Nagoya, Japan. His postdoctoral research is focused on understanding how genetic mutations in lymphoma cells influence the cells around them, as well as response to treatment. “The goal is to translate findings into biomarkers that can provide information about the prognosis of patients and to develop novel personalized treatments with higher cure rates and less toxicity,” he explains.
Dr. Aoki hopes to leverage his LRF research experiences to become a physician-scientist focused on translation research in lymphoma. He is particularly interested in developing prognostic biomarkers to guide the individualization of treatment, and development of targeted therapies for lymphoid malignancies.

Dr. Aoki’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

Dr. Cohen is a postdoctoral fellow at the Perelman School of Medicine at the University of Pennsylvania. He first became interested in the role of immunotherapy in cancer treatment during his PhD training at the Memorial Sloan Kettering Cancer Center, where he learned how tumor cells can influence the immune environment around them. His work in the Center for Cellular Immunotherapies has inspired his commitment to understanding how these processes affect treatment outcomes in lymphoma. “I come to work every day surrounded by absolute leaders in the field of cellular therapies,” he says.

Dr. Cohen hopes to build on his experiences as an LRF researcher to pursue a career in drug development, with the ultimate goal of bringing new therapies into the clinic. “The rapid pace with which the field of cellular therapies is moving is mind-blowing,” he says. “I look forward to being involved in bringing therapies closer to patients.”

Chimeric antigen receptor (CAR) T cell therapy is a form of immunotherapy that modifies a patient’s own immune cells to recognize and kill tumor cells. Anti-CD19 CAR T cell therapy has shown promise in patients with non-Hodgkin lymphomas but also targets healthy CD19-expressing B cells. Depletion of B cells can leave patients vulnerable to infections such as COVID-19. Dr. Cohen’s LRF research focuses on developing a novel CAR T cell therapy that targets the VH4-34 B cell receptor that is found exclusively on lymphoma cells. Through this research, he hopes to develop a novel CAR T therapy that specifically targets lymphoma cells while sparing healthy B cells, thereby avoiding severe immunosuppression.

Dr. Cohen hopes to leverage his LRF research experiences to become a physician-scientist focused on translation research in lymphoma. He is particularly interested in developing prognostic biomarkers to guide the individualization of treatment, and development of targeted therapies for lymphoid malignancies.

Dr. Cohen’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

Burkitt lymphoma (BL) is a rare but highly aggressive form of lymphoma that primarily affects children and young adults. While many patients are effectively cured with aggressive chemotherapy, a small subset of patients show resistance to standard treatments and experience incurable relapses. Dr. Corinaldesi’s LRF research aims to uncover the genetic and transcriptomic differences that differentiate curable and refractory BL to support the development of better treatment options for these patients. “Understanding the biological differences behind the diverse BL responses to current therapy will pave the road toward the identification of effective targeted therapies,” she explains.

Dr. Corinaldesi earned her PhD from Tor Vergata University of Rome in Italy. She is currently a postdoctoral research scientist in the Institute for Cancer Genetics at Columbia University in New York, where she uses genome-wide approaches to study B cell development and malignant transformation. “Understanding the pathogenesis of lymphomas is very challenging and intriguing from a scientific point of view,” she says. “Trying to solve this biologically complicated puzzle triggered and reinforced my commitment to research.”

Through her LRF research, Dr. Corinaldesi hopes to contribute to the progress being made in immunotherapies and the personalization of treatment in lymphoma. “Lymphomas are heterogeneous tumors and there are no risk factors that have been specifically identified to prevent them,” she says. “However, the exceptional progress on targeted therapy and immunotherapy gives me hope for the future.”

The tumor microenvironment, comprised of both tumor cells and healthy cells, may play a role in growth and proliferation of malignant cells. Dr. Ferreira’s LRF research, funded under the Foundation’s larger follicular efforts, aims to characterize interactions in the lymph node microenvironment in follicular lymphoma (FL), where
he believes healthy cells may contribute to proliferation of lymphoma cells. By defining these relationships, Dr. Ferreira hopes to illuminate new possible therapeutic targets in FL treatment. “These cells do not divide as frequently as cancer cells, so they are less prone to mutations and therefore less likely to develop resistance to drugs,” he explains. “For these reasons, we think targeting the microenvironment could improve outcomes for treating patients with FL.”

Dr. Ferreira is a postdoctoral research fellow at the Brigham and Women’s Hospital at Harvard Medical School. He earned his PhD from University College London, but his interest in hematologic diseases began long before that. “In preschool, I lost a friend to aggressive leukemia,” he shares. “It has been therefore an exciting journey and a great honor to be able to directly study the mechanisms of one of these diseases.” Through his research studying the tumor microenvironment, Dr. Ferreira hopes to provide novel insights into the molecular basis of FL that will support the development of more effective treatment options.

Dr. Ferreira hopes to one day lead his own academic research lab where he can continue his research studying cell signaling and tumor microenvironment interactions in B cell lymphomas. He expects that someday his research may also be used to guide targeted lymphoma treatment by understanding differences in individual responses to novel therapies.

CHROMOSOME Breaks that result in a fusion between the NPM1 and TYK2 genes are found in a rare subtype of lymphoma known as ALK-negative anaplastic large cell lymphoma (ALCL). Individuals with these mutations have very poor prognoses. Through his LRF research, Dr. Liang seeks to characterize the role of the NPM1-TYK2 gene fusion in the development of ALCL. By better understanding these processes, Dr. Liang hopes to identify potential therapeutic targets for patients with ALCL, for whom effective treatment options are currently lacking.

Dr. Liang first became interested in cancer research while earning his Master of Research at Imperial College London, which led him to pursue a PhD from the Medical University of Vienna. During this time, he was able to work closely with industry partners in preclinical studies of cancer therapeutics. He is now a postdoctoral fellow at the University of Pennsylvania.

Dr. Liang is currently a Hematology and Oncology Fellow at The University of Texas MD Anderson Cancer Center. He earned his MPH from The Ohio State University before pursuing his MD at Baylor College of Medicine in Houston. He first became interested in the field of oncology during his time in graduate school, where he was able to shadow and mentor in the oncology clinic. “Seeing the relationships that he built with his patients and the lasting impact he was making on their lives was the calling I needed to hone my career path,” he says. “Since that moment, every career and research decision I have made was in the hopes it would take me one step closer to becoming an oncologist.”

Leveraging his experiences from his LRF research, Dr. Reville hopes to become an independent physician-scientist leading his own research group. “I hope to be in a position...
where I am leading a diverse team of dedicated individuals tackling difficult and critical questions that will advance our understanding of hematologic malignancies and improve the lives of patients with lymphoma,” he says.

Dr. Reville is excited by novel therapies that have emerged in the lymphoma treatment landscape but emphasizes that there is more work to do to improve the treatment experiences of all patients with lymphoma.

Dr. Reville is also a 2022 LRF Scholar through the Lymphoma Scientific Research Mentoring Program for this research project.

DAVID RUSSLER-GERMAIN, MD, PHD
WASHINGTON UNIVERSITY SCHOOL OF MEDICINE Postdoctoral Fellowship Grant

Although genetic mutations can drive the development of cancer, many healthy white blood cells intentionally alter their DNA to generate diverse antibody responses to infections. Dysregulation of this activity may cause the mutation of other genes, however, and may lead to the development of malignancies, such as follicular lymphoma (FL). In his LRF research, Dr. Russler-Germain aims to study how mutations in a gene known as ZNF608 may contribute to the formation of lymphoma. “From our preliminary understanding of ZNF608, we hypothesize it plays a key role in protecting B cells from inappropriate activation of the machinery normally used by immune cells to alter their DNA in response to infections,” he explains. “Loss of ZNF608 may promote acquisition of mutations and lead to accelerated development of lymphoma.”

Dr. Russler-Germain is a Hematology and Oncology Fellow at Washington University School of Medicine in St. Louis, where he also earned his dual MD/PhD studying genetic and epigenetic mutations in acute myeloid leukemia (AML). During his clinical training, he became motivated to pursue a career as a physician-scientist in lymphoma research, driven by the diverse challenges clinicians and patients face with treatment. “The ability to integrate our growing understanding of lymphoma biology with an evolving armamentarium of therapeutic strategies drew me to and motivates me to dedicate my career to helping advance the field and improving the lives of patients with lymphoma,” he says.

Through his LRF research, Dr. Russler-Germain hopes to contribute to the greater knowledge of how lymphoma forms and the underlying biology that drives diverse trajectories within these diseases. “The lymphoma research field is making incredible strides in understanding the complex consequences of the DNA mutations that drive lymphomagenesis, including impact on treatment susceptibility,” he says. “Through generous contributions from patients, the field has built amazing repositories of primary samples to probe for clues into how lymphomas arise and how they can best be treated.”

Many patients with mantle cell lymphoma (MCL) achieve complete remission with novel chimeric antigen receptor (CAR) T cell therapies, but some cancer cells remain that may eventually lead to relapse. Using a novel and highly sensitive technique for isolating these remaining tumor cells, known as Pick-Seq, Dr. Xu’s LRF research aims to characterize residual lymphoma cells after CAR T cell therapy. “Defining the specific vulnerabilities of residual MCL cells after CAR T cell therapy may inform advanced therapies that target the remaining cancer cells precisely, and thus improve outcomes for patients who are not cured by CAR T cell therapies,” she explains.

Dr. Xu earned her PhD from Peking University in Beijing, where she began studying pathways targeted by traditional oncology therapies. As a postdoctoral research fellow at the Dana-Farber Cancer Institute at Harvard Medical School, her research has focused on the underlying biology of lymphoma, including the identification of novel targets for therapy. Through her training, she has been motivated by her interactions not only with clinicians and scientists but also with patients and their families. “Applying what I have learned and researched to come up with innovative and effective solutions for patients and their families has motivated my desire to do translational research over the course of my career in blood cancer,” she says.

Dr. Xu hopes that her LRF research will lay the groundwork for a career leading a translational research laboratory focused on the identification of novel therapeutic targets in lymphoma. She is excited by the approval of CAR T cell therapies in MCL and the incredible response but notes that there is more work to be done to understand residual disease. She says that these kinds of studies have the potential to provide meaningful improvements in the lives of patients and hopes they may eventually help lead to a cure.
**Follicular Lymphoma Priority Research Grant**

**STEPHEN ANSELL, MD, PHD**

MAYO CLINIC, ROCHESTER
Peykoff Initiative Investigator

In addition to lymphoma B cells, a variety of other immune cells are found in the lymph nodes of patients with follicular lymphoma (FL), including diverse populations of T cells. Dr. Ansell’s LRF research aims to characterize how these populations of cells are altered in FL and the role they play in both the antitumor response and growth of FL cells, with the goal of understanding how these cells are associated with patient outcomes.

Dr. Ansell is currently a professor of medicine in the Mayo Clinic College of Medicine and Science in Rochester, Minn., and serves as a consultant in the Division of Hematology and is chair of the Lymphoma Group. He earned his medical degree and PhD from the University of Pretoria in South Africa. His research focuses on understanding the underlying biology of non-Hodgkin lymphomas and characterizing the role of the tumor microenvironment in lymphoma cell growth and survival. “I have always been curious as to why immune cells can be highly prevalent in biopsy specimens from FL but yet do not eradicate the tumor,” he says. Dr. Ansell hopes that his LRF research will help establish new insights on the role of the immune system in FL.

As a physician-scientist, Dr. Ansell believes that effective treatment of lymphoma is dependent on both basic and translational research. “Advances in the treatment of follicular lymphoma depend on improving our understanding of the disease, including genomics, immunology, and the FL microenvironment,” he explains. “As advancements occur, it is critical for the FL research community to test the best ideas in early phase clinical trials and use those clinical trials to in turn learn more about FL.”

**TODD FEHNIGER, MD, PHD**

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE
Peykoff Initiative Investigator

Natural killer (NK) cells are a type of immune cell that fight infections and cancer cells. Using advanced techniques for single-cell analysis, Dr. Fehniger’s LRF research aims to study NK cells in patients with follicular lymphoma (FL) to understand why these cells do not effectively clear lymphoma cells and develop strategies to enhance their anti-tumor effects. Leveraging these insights, Dr. Fehniger plans to initiate a clinical trial program investigating the efficacy of a novel chimeric antigen receptor (CAR) memory-like NK cell therapy for FL. “Through this scientific lens, we expect to identify new avenues of FL immunotherapy,” he says.

Dr. Fehniger is a professor of medicine at the Washington University School of Medicine in St. Louis. He began his medical training at The Ohio State University, where he earned his MD and PhD. He first became interested in the role of immunotherapy to treat lymphoma as an oncology fellow under the direction of former LRF Scientific Advisory Board member Dr. Nancy Bartlett. “I became obsessed with immunotherapy—harnessing the immune system to fight lymphoma,” he says. His current research focuses on using antibodies to direct NK cells to attack lymphoma cells, with the hope that one day immunotherapy strategies can be used to help cure patients with lymphoma.

As a physician-scientist, Dr. Fehniger believes that effective treatment of lymphoma is dependent on both basic and translational research. “Advances in the treatment of follicular lymphoma depend on improving our understanding of the disease, including genomics, immunology, and the FL microenvironment,” he explains. “As advancements occur, it is critical for the FL research community to test the best ideas in early phase clinical trials and use those clinical trials to in turn learn more about FL.”

**ABNER LOUISSAINT, MD, PHD**

MASSACHUSETTS GENERAL HOSPITAL
Peykoff Initiative Investigator

Follicular lymphoma (FL) is unique among lymphomas in that there are many interactions between tumor cells and the healthy immune cells in their environment. Although it’s known that this communication is important for tumor cell survival, studying these interactions has been difficult. Using a novel model in which human lymphoma cells are grown in mice, Dr. Louissaint’s LRF research aims to understand how lymphoma cells communicate with other tissues in the environment. “We hope to discover new and more effective ways to treat FL by strategically disrupting this communication between lymphoma cell and the microenvironment,” he explains.

Dr. Louissaint is an Associate Professor of Pathology at Harvard Medical School. He completed his medical training at Weill Medical College of Cornell University in
New York, where he also earned his PhD. He first became interested in lymphoma research as a junior pathologist while studying the genetic causes of a unique type of lymphoma that occurs in children known as pediatric-type FL. “While studying this and other variants of FL, I became interested in creating patient-derived xenograft models of lymphoma to study the biology of lymphoma,” he says.

Using these models, Dr. Louissaint’s research is now focused on understanding how lymphoma cells interact with the healthy cells around them. He hopes that unraveling these processes will help identify the mechanisms that promote lymphoma cell survival, identify new possible targets for therapeutic intervention, and illuminate why some cases of FL resist treatment. “By doing so, we hope to learn how to better predict which patients may respond poorly to therapy and/or progress to more aggressive disease,” he says.

DAVID SCOTT, MBCHB, PHD
BC CANCER
Peykoff Initiative Investigator

The disease course for follicular lymphoma (FL) is highly variable, and while many patients respond to treatment, some may experience relapse or evolution of disease into a more aggressive form of lymphoma. By studying genetic mutations, gene and protein expression, and interactions between lymphoma cells and their environment, Dr. Scott’s LRF research aims to develop tools that can reliably predict patient outcomes and guide treatment decision-making. “We anticipate that this work will identify new groups within FL that differ in their response to treatment and their propensity to transform into an aggressive lymphoma,” he explained. “The hope is that these groups will be driven by pathways that can be targeted with new therapies so we can match patients to treatment more accurately and improve their outcomes.”

Dr. Scott received his medical and PhD training at the University of Auckland in New Zealand. He is currently a clinician-scientist at the BC Cancer, Vancouver, and an associate professor at The University of British Columbia and serves on the LRF Scientific Advisory Board. He was first drawn to FL research by the complex clinical behavior of the disease and the challenges this poses in predicting patient outcomes. “Clearly, we are studying a highly mixed group of tumors, and I strongly believe that there is a clinically important structure to be discovered,” he says.

Despite the complex nature of the disease, Dr. Scott expressed hope for the future of FL treatment. “FL research is moving very fast with a better understanding of the tumor cell biology and the interactions with normal cells,” he says. “We are now starting to see the matching of treatments to tumor biology.”

HANS-GUIDO WENDEL, MD
MEMORIAL SLOAN KETTERING CANCER CENTER
Peykoff Initiative Investigator

Mutations in epigenetic regulators of gene expression are common in follicular lymphoma (FL), which result in altered expression of hundreds of genes. Through collaborative efforts with clinical and research leaders at Memorial Sloan Kettering Cancer Center, Dr. Wendel’s LRF research aims to characterize the changes in gene expression that contribute to the formation of FL. By understanding these changes, Dr. Wendel hopes to identify therapeutic targets that can expand the treatment landscape against FL.

Dr. Wendel is a faculty member and professor at Memorial Sloan Kettering Cancer Center. He completed his medical training at the University of Aachen in Germany before completing his postdoctoral research at Cold Spring Harbor Laboratory in Cold Spring Harbor, N.Y. His research focuses on leveraging mutational data in lymphoma to identify novel treatment targets. “The mutation data provide us with the ‘construction blueprint’ of lymphoma cells and they also tell us about vulnerabilities in lymphoma cells that we can target,” he explains.

Research from Dr. Wendel’s lab has already led to the development of novel lymphoma therapies, including small molecule inhibitors, bispecific antibodies, and chimeric antigen receptor (CAR) T cell therapies, that are currently in clinical trials.

Dr. Wendel is inspired by the commitment of the members of his research group and the work of basic scientists around the world. “As scientists, we don’t work in isolation, and much of our work is inspired by fundamental research that precedes our own work,” he says. “I am especially committed to and benefitting from training graduate students and postdoctoral fellows for successful academic and life science careers.”
A clinical trial is a carefully designed research study conducted to answer specific questions about new ways to prevent, diagnose, treat, or manage a disease or the side effects caused by a new or existing treatment. Clinical trials are important for advancing research and can provide patients with access to the most cutting-edge treatments.

However, according to a study in the *Journal of Clinical Oncology*, approximately 20% of cancer clinical trials fail because of insufficient patient enrollment, which hinders progress to improve cancer care. Low participation rates are due to several different factors, including apprehension or misconceptions about the clinical trial process. Lymphoma Research Foundation Associate Director of Support Services and Helpline specialist, Izumi Nakano, answers some common questions about clinical trials to help better understand the process and what to think about when considering enrolling in one.
What are some of the possible benefits of participating in a clinical trial?
Some of the possible benefits of participating in a clinical trial include having access to a new treatment that is not available to people outside the trial as well as a clinical research team that will watch you closely. If the treatment being studied is more effective than the standard treatment, you may be among the first to benefit. Lastly, the clinical trial may help scientists learn more about the treatment and lymphoma—and help people in the future.

What are some of the possible risks associated with participating in a clinical trial?
A clinical trial can sometimes require more time and medical attention than traditional care. This can include doctor visits, phone calls, more treatments, a hospital stay, or a more complicated treatment regimen. (Always ask your doctor for information about the specific trial you are considering.) In addition, the treatment might not work or might cause side effects. And even if a new approach helps some patients, it might not help you specifically.

Will I receive a placebo instead of the therapy being tested?
During clinical trials, some groups may receive a placebo (a substance with no therapeutic impacts) to serve as a control to measure if the treatment being tested has its intended effect. However, placebos are very rarely given in trials for cancer patients. If a placebo were to be a part of a study, it would typically be given in addition to the standard treatment. You would be notified as part of the informed consent process before treatment begins if a placebo is being used.

Will I be a “guinea pig”?
Patients sometimes fear that they’ll be receiving untested, unmonitored treatments when they agree to participate in a clinical trial. This isn’t the case—before any patients are enrolled, clinical trials go through multiple rounds of testing for safety and efficacy. Patients are supported and monitored closely by doctors throughout for any potential side effects.

Are clinical trials a “last resort”?
A common worry is that clinical trials are the last resort for patients after standard treatments have failed to have their intended effect. Clinical trials are not the last resort but rather a way for patients to receive the latest therapies that are currently being studied and to help advance new treatment options. In fact, there are some clinical trials for first-line treatments in newly diagnosed patients to learn whether these treatments may be more effective than the standard of care.

Will enrolling in this trial preclude me from having certain treatments in the future, or vice versa?
Some questions patients and their loved ones may want to ask their doctor are:

- What is the purpose of this clinical trial?
- Why are you recommending this clinical trial for me?
- Who is sponsoring this trial?
- Who has reviewed and approved this clinical trial?
- Does this clinical trial include the use of a placebo?
- How long will the study last? Where will it take place?
- What are the risks involved?

How do I find the right clinical trial for me?
Researching a potential clinical trial can feel like a daunting task. LRF’s Clinical Trials Information Service (CTIS) can help you with the process by searching for trials that might be suitable for you based on the medical information that you provide. You can also visit clinicaltrials.gov to find a database of ongoing clinical trials as well as more information on each unique trial. Most importantly, make sure to discuss with your physician any potential clinical trials that you may be interested in.

Once I begin a clinical trial, am I allowed to leave?
Yes—even after a clinical trial is underway, you can still leave at any point, for any reason.

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**CLINICAL TRIALS INFORMATION SERVICE**

The LRF Helpline is available to assist patients and their loved ones better understand their lymphoma diagnosis so that they can feel empowered to make the most informed decisions about their treatment and long-term care. The Helpline is available in every language and can also connect patients to financial assistance resources, and legal and insurance help.

Contact the LRF Helpline at 800 500 9976 or helpline@lymphoma.org, Monday-Friday, 9:30 a.m.-7:30 p.m., Eastern Standard Time (EST).
It all started with a natural curiosity and an online search in 2002. Lois Rosenblum, then 64 and recently retired from a career helping displaced workers and refugees find work in the San Francisco Bay Area, had received abnormal results from a routine annual blood test. Her doctor informed her that she had iron deficiency anemia and prescribed medication to treat it. Lois took the medication as directed, but when her condition failed to improve, her doctor simply urged her to take more of it.

Never afraid to ask questions and determined to be her own health advocate, Rosenblum asked to see the test results for herself, and her doctor sent them via mail to her home.

“I didn’t understand what the results meant when I first saw them, so I looked them up online,” Rosenblum explains. “I learned that I didn’t have iron deficiency anemia and that instead, I had ‘anemia chronic disease.’ I needed to find out what the disease was.”

She returned to her doctor to show him her findings, and he referred her to a hematologist. After a bone marrow biopsy, Lois was given the news that she had a subtype of non-Hodgkin lymphoma (NHL) called follicular lymphoma (FL).

“A very good friend of mine had lymphoma years ago and died of it when she was just 49 years old, so I knew it was serious,” says Rosenblum. “At first, I was shocked
that I had a life-threatening illness because I had always been active and healthy, biking and skiing regularly with my family.”

FL is typically a slow-growing or indolent form of NHL that arises from B-lymphocytes, making it a B-cell lymphoma. FL accounts for 20% to 30% of all NHL cases and is usually not considered to be curable, but more of a chronic disease.

“Rather than feel sorry for myself, I told my children and friends right away and set about to learning as much as I could about my type of lymphoma,” says Rosenblum. “I picked up a flyer at my doctor’s office and that’s how I first heard about the work of the Lymphoma Research Foundation (LRF).”

Eager for Answers

Rosenblum’s doctor originally wanted her to start chemotherapy right away, but since she was feeling otherwise fine and experiencing no symptoms, she decided to seek out a second opinion. Her doctors worked together on her treatment plan and ultimately opted to place her on “active surveillance,” also known as “watch and wait.” With this strategy, patients’ overall health and disease are monitored through regular checkups and various evaluating procedures, such as laboratory and imaging tests. Active treatment starts if the patient begins to develop lymphoma-related symptoms or shows signs that the disease progressed, based on testing during follow-up visits.

Two years later, Rosenblum’s hemoglobin levels began to drop precipitously, and her doctors decided it was time to begin treatment. In the hopes of avoiding chemotherapy for as long as possible, she began rituximab (Rituxan®). This treatment kept her lymphoma at bay for several years, but each time she received an infusion, she experienced a serious infusion reaction, which caused extreme pain in her lower back. Luckily, over time, she and her doctors found a way to give Rosenblum steroids before the infusion and to administer the Rituxan® very slowly over the course of an entire day, which helped avoid an infusion reaction.

After receiving various treatments to keep her lymphoma in check, including CVP chemo (a combination of cyclophosphamide, vincristine, and prednisolone) and bendamustine, some of the most frightening moments Rosenblum experienced were when she suddenly started collapsing for no reason in 2012. Not assuming her symptoms were lymphoma related, she sought out a neurologist who suggested that she see a physical therapist. However, after falling at her physical therapy appointment, her therapist urged her to seek out another diagnosis. Realizing this was a very serious development, Rosenblum met with an oncologist who was an expert on central nervous system lymphoma (CNS). Following a spinal tap, she received confirmation that her indolent follicular
“Lymphoma research is so important because there are still lymphomas out there for which there are no cures. That’s why Jerry and I are passionate about supporting lymphoma research, and more specifically follicular lymphoma research, that can help identify the most significant areas of unmet needs in the treatment of this disease.”

Commitment to a Cure

Now, 20 years since her initial diagnosis, Rosenblum is still asking questions and has turned her curiosity toward lymphoma research. She and her husband Jerry are dedicated and generous supporters of the Lymphoma Research Foundation (LRF)—helping to fund LRF Scholar Manali Kamdar, MD and contributing to the Foundation’s new Jaime Peykoff Follicular Lymphoma Initiative.

“Lymphoma research is so important because there are still lymphomas out there for which there are no cures,” says Rosenblum. “That’s why Jerry and I are passionate about supporting lymphoma research, and more specifically follicular lymphoma research, that can help identify the most significant areas of unmet needs in the treatment of this disease.”

Rosenblum and her husband have also attended several LRF educational programs and encourage other lymphoma patients to turn to LRF for information and support.

Through all the ups and downs, Rosenblum says that she was able to remain positive and engaged throughout her journey due to never having to face it alone. She says the support she received from her healthcare team, family, and friends—including her devoted husband—and the many advancements being made to treat and defeat blood cancer have made all the difference.

“What’s really exciting is that my doctor tells me that there’s been so much research done in follicular lymphoma in the last few years that there are several new treatment options to choose from for those newly diagnosed—that is very encouraging and gives me much hope for the future!”
As a Circle of Hope partner, you will join a group of committed donors who support the Lymphoma Research Foundation (LRF) on a monthly basis. This will ensure LRF can respond to the needs of our community and further groundbreaking research year-round.

To join the Circle of Hope, go to lymphoma.org/circleofhope to make your monthly commitment. For more information about this monthly giving program, please contact the development team at development@lymphoma.org.

No matter what else happens in our world, three things remain constant:

LRF, your support, and our collective commitment to continue the research to find a cure.

Become a Circle of Hope Partner: Make a Difference in Our Community

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The Lymphoma Research Foundation's volunteer Scientific Advisory Board, comprised of 45 world-renowned lymphoma experts, guides the Foundation's research activities, seeking out the most innovative and promising lymphoma research projects for support.
<table>
<thead>
<tr>
<th>UPCOMING EVENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swirl Chicago, A Wine Tasting Event</td>
<td>6.2</td>
</tr>
<tr>
<td>Minnesota Lymphoma Walk</td>
<td>6.4</td>
</tr>
<tr>
<td>National Cancer Survivors Day</td>
<td>6.5</td>
</tr>
<tr>
<td>Midwest Lymphoma Workshop</td>
<td>6.11</td>
</tr>
<tr>
<td>Caring for a Loved One with Lymphoma Webinar</td>
<td>6.20</td>
</tr>
<tr>
<td>Update on Hodgkin Lymphoma Webinar</td>
<td>6.28</td>
</tr>
<tr>
<td>Ask the Doctor: Information for Newly Diagnosed Patients</td>
<td>7.6</td>
</tr>
<tr>
<td>Naperville Lymphoma Walk</td>
<td>7.29</td>
</tr>
<tr>
<td>Chicago Lymphoma Walk</td>
<td>7.31</td>
</tr>
<tr>
<td>LRF Annual Gala</td>
<td>9.29</td>
</tr>
</tbody>
</table>

Want to receive information about Lymphoma Research Foundation events happening in your area? Visit [lymphoma.org/emails_signup](http://lymphoma.org/emails_signup) to select your email preferences and stay up to date with the latest from the Foundation.
The Jaime Peykoff Follicular Lymphoma Initiative, made possible by the generosity of the Peykoff Family and Niagara Cares, is a $10 million Initiative poised to transform the follicular lymphoma treatment landscape for tens of thousands of patients by harnessing the Lymphoma Research Foundation’s (LRF) unique resources, convening the world’s experts in follicular lymphoma research and patient care and driving direct investment in clinical research.

We invite you to express your support by making a gift in honor of all those whose lives will be touched by this groundbreaking work.

Please visit lymphoma.org/flinitiative to make a donation today, or contact Kate LeBoeuf, Associate Director of Major Gifts to learn more about how you can make an impact on this initiative.