

Meeting the Task Head-on: Addressing COVID-19

The Lupus Research Alliance would be remiss if we did not acknowledge the tremendous toll that COVID-19 has had on people across our country—especially people with underlying health concerns ... like many in the lupus community.

Today, there is much hope on the horizon and much that we can learn—and even gain—from this pandemic. For all the harm COVID-19 has caused, it certainly brought lupus to the forefront of America’s collective consciousness.

Just a few months ago, lupus remained a relatively unknown disorder outside the community living with the disease and those dedicated to treating it. Today, COVID-19 has raised greater interest in the need to understand a hyper-responsive immune system—the very quest the Lupus Research Alliance has been engaged in for more than two decades.

Our expertise is invaluable. The LRA focuses on understanding why the immune system malfunctions ... why the over-zealous immune response attacks healthy tissue.

So, at this moment in time where lupus and COVID-19 intersect, let’s take a moment to celebrate the power of science!

We deeply appreciate your support ... and your unwavering commitment to making lupus a disease of the past.

You enable the LRA to provide funding to the world’s most brilliant scientists, moving their innovative ideas forward.
Thank you.

Lupus News Corner

Virtual Events Were Real-ly Successful!

While the pandemic made it impossible for the LRA to hold in person fundraising events, we still achieved great success thanks to the determination of our supporters to fund crucial lupus research.

- Likewise, our “virtual gala” - bolstered by superstars like **Lady Gaga** and **Selena Gomez** - raised an astounding \$3.3 million and was attended by thousands around the world! Broadway star **Norm Lewis**; host of NBC’s *Sunday Today* and Co-Host of *Morning Joe* **Willie Geist**; broadcaster **Brenda Blackmon**; Former NYC Mayor **Michael R. Bloomberg**; and Super Bowl Champion **Willie Colon** also greatly contributed to the evening’s festivities.



- We are grateful to LRA Board member and lupus advocate, **Molly McCabe**, for hosting our first-ever virtual **Pour for A Cure- Taste Wine and Fight Lupus** event on December 3rd in support of our 2020 virtual gala. The Lupus Research Alliance, in partnership with **Handwritten Wines of Yountville, California**, gathered supporters together for an intimate and educational virtual wine tasting experience. Participants had the unique opportunity to talk one-on-one with expert Handwritten Wines Sommelier **Ellen Brown**, as well as take a Virtual Tour of the Tasting Room while sampling Handwritten Wines.



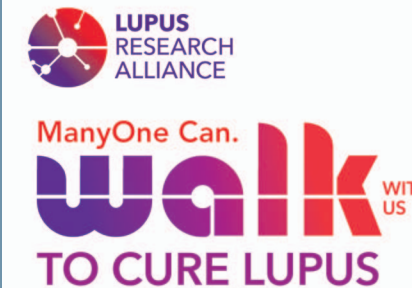
This event was so well-received, the LRA will be hosting another wine tasting early in 2021. For more information, please email: PourForACure@lupusresearch.org

- At our one outdoor event this fall, supporters masked up for the fifth annual **Willie Colon Charity Golf Outing** crafted by Tito’s Handmade Vodka held in honor of Willie Colon’s mom, Jean Davis, who had recently passed away.



- Our signature **Walk with Us to Cure Lupus** virtual event raised more than \$1 million. “Walkers” tuned in from home to a virtual stadium where they united, viewed a dynamic presentation and enjoyed activities. The event was presented by **GSK**.

Visit lupusresearch.org to make a donation, learn more about lupus and our funded lupus research, or find out about our *Walk with Us to Cure Lupus* program.



100% of all donations goes to support lupus research programs because the Lupus Research Alliance Board of Directors funds all administrative and fundraising costs.

For the latest, up-to-date information about lupus you can join our online community on:

- facebook.com/lupusresearchalliance
- twitter.com/lupusresearch
- youtube.com/lupusresearchorg
- pinterest.com/lupusresearch
- instagram.com/lupusresearchalliance
- lupusresearch.org/community



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A MESSAGE FROM KEN FARBER

Dear Friends,

I’m sure you agree—2020 was a year like no other.

Yet, despite the challenges presented by COVID-19, the **Lupus Research Alliance (LRA)** managed—*thanks to loyal supporters like you*—to find creative solutions to keep the lupus community and our pioneering research where they belong: front and center.



Kenneth M. Farber

I’m proud to say that at the very onset of the pandemic, the LRA acted quickly with utmost care to disseminate the most critical, up-to-date information to those most at risk. Immediately, we began posting regular updates on our website designed to inform and allay fears. We also created the helpful **Lupus and COVID-19: What You Need to Know** webcast series.

Through it all, we were mandated to find innovative ways to generate the funds that keep LRA research on track—in a world where we could no longer fundraise in person.

In an outpouring of genuine compassion, generosity, and determination to keep our scientific investigations going forward, our donors supported the LRA in extraordinary ways. (See back panel.)

So, as you read about our many successes, please remember that you made all of these accomplishments possible!

In sincerest gratitude for your tremendous support,

Kenneth M. Farber
LRA President and CEO

P.S. I’m looking forward to the day when we can all meet together once more. Until then, stay with us in 2021 and please stay safe!

LUPUS research UPDATE

Unwavering in the Pursuit of Scientific Discovery A Snapshot of 2020’s Triumphs

Despite the uncertainty around COVID-19, the LRA was still able to jumpstart intriguing scientific investigations that hold the promise of making breakthroughs in treatment.

The LRA invested almost \$11.5 million in research last year to continue to fund breakthrough projects in lupus. Here’s how:

- Seven world-renowned scientists received \$2.1 million in grants through our **Lupus Innovation Award** grant program, which supports advances in novel hypotheses and/or technologies.
- Our **Lupus Mechanisms and Target Awards** granted \$3 million for five pioneering research projects aimed at characterizing lupus disease progression and identifying targets for treatment.
- The **LRA-BMS Accelerator Awards** allocated \$3 million to 10 cutting-edge initiatives. These grants - in cooperation with partner Bristol Myers Squibb - focus on the underlying mechanism of the disease by addressing lupus heterogeneity and identifying novel biomarkers.
- Jane Salmon, MD was the recipient of our **Lupus Insight Prize** of \$100,000, in recognition of her dedication to improving the health of pregnant women with lupus. “I am thrilled to accept this LRA prize, which will allow me to help people with lupus to have healthy families,” enthused Dr. Salmon.
- Six top scientists received \$1.2 million through our **Common Mechanisms in Immune-Mediated Diseases Award**, a collaboration with JDRF International and National Multiple Sclerosis Society.

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Lupus Research Alliance Continues Its Search For New Treatments

New Strategic Plan Holds Great Promise

Unraveling the Complexity of Lupus

The LRA has one purpose—to work on multiple fronts to improve the health of everyone with lupus through the power of science.

Even with the unprecedented challenges of 2020, the LRA not only has remained true to this mission—the organization took a bold step forward with the launch of an even more comprehensive strategic plan that will shape 2021 ... and beyond.

Already the world's foremost lupus research organization, this plan will enable the LRA to make breakthroughs with greater speed and direct the very way lupus research is conducted for the next decade.

Informed by years of LRA-funded research—and developed in consensus with the world's leading experts in lupus, rheumatology, immunology, and other key fields—the new strategic plan is a visionary roadmap to new treatment options and a cure.

We are at a critical crossroad, one where the LRA is poised to unravel the challenge at the core of lupus.

Lupus is heterogeneous, meaning that the symptoms are many and vary widely from patient to patient—that's why it is so difficult to develop effective treatments that target the underlying disease pathways in each patient.

Because no one treatment plan works for everyone with lupus, the LRA is taking a three-pronged approach to its research investigations.

► **We will identify distinct and shared disease pathways among individuals with lupus.** Learning more about the disease's diversity will allow the entire lupus research community to design new drugs that target specific groups of patients, as well as to apply the existing drugs more effectively to patients who are most likely to benefit from them.

► **We will advance new treatments.** With our affiliate, **Lupus Therapeutics** and its network of 57 prestigious academic clinical research centers, the LRA will work toward discovering new disease pathways and targets. We will stratify patients by specific disease characteristics that can lead to

more personalized treatment options and more successful clinical trials.

► **We will place greater emphasis on collaborative research.** We will support diverse scientific leaders, ideas, and technologies in lupus research in dynamic, emerging areas of promise.

We will leave no stone unturned when it comes to looking for new treatments for people with lupus—making our aim for safer, more targeted, and more effective options ... a more tangible reality.

"In an extremely turbulent year, the LRA has made enormous progress in the development of a strategic plan that will speed the pace of discovery—as we did everything in our power to safeguard our community from COVID-19."

—Kenneth M. Farber,
LRA President and CEO

First Lupus Nephritis Drug Approved

Catalyzing Research

In December of 2020, lupus research attained another major milestone—one which stemmed from a critical investigation funded by our organization. Now, with the FDA's approval, belimumab (Benlysta®) can be used as a therapeutic for lupus nephritis.

"An effective treatment developed specifically for lupus nephritis has been desperately needed," commented Lupus Research Alliance President and CEO **Kenneth M. Farber**. *"We are particularly proud to see this approval as the LRA funded much of the original research that led to the drug's development."*

As a relatively new organization in 2001, we funded the pioneering B cell investigation of **William Stohl, MD, PhD**—which sparked interest in this line of inquiry and eventually led to the development of Benlysta®. At the time, it became the first new lupus drug to be approved by the FDA in more than 50 years.

To say that the LRA is a catalyst for future discovery is an understatement. In the arena of lupus research, it is widely accepted that each and every LRA-funded scientific investigation is, in one way or another, the springboard for further breakthroughs.

The LRA has not only laid the foundation for virtually all of the potential lupus treatments in development—many LRA-identified targets are currently being tested through our own clinical arm Lupus Therapeutics and its Lupus Clinical Investigators Network. Working alongside major pharmaceutical companies like Bristol Myers Squibb, Merck/EMD Serono and Lilly, eight of our trials are in the works.



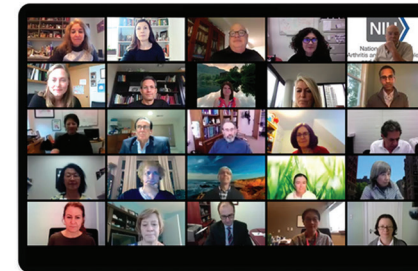
Dr. William Stohl

Forum Held ... Virtually

Because COVID-19 prohibited our 2020 collaborative meeting

from occurring, we hosted our **Forum for Discovery** virtually. One hundred fifty scientists from across the globe joined the event to share their investigations and spark ideas. Of particular note was a discussion on the relationship between gut microbiome and lupus—an area of inquiry that the LRA has explored as an avenue for novel treatment approaches for the past several years.

FORUM FOR DISCOVERY
ANNUAL SCIENTIFIC CONFERENCE 2020 – VIRTUAL



New Grant Mechanism Rolls Out

Since its inception, the LRA has been a major proponent for collaboration within the lupus scientific community—and our new grant mechanism, **Global Team Science Award (GTSA)** takes the benefit of working together to a new level.

GTSA allows greater teamwork to occur by attracting the world's best minds in science, analytics, technology and computational medicine. The award will provide up to \$3 million over three years—the largest research grants we have ever awarded.



Meet Our Newest Awardees

The following five scientists have been selected to receive grants through our **Lupus Mechanisms and Target Award** program for their expertise in advancing critical work in the identification of new lupus therapeutic targets.

Marcus Clark, MD
The University of Chicago
In Situ Adaptive Immunity in Lupus Tubulointerstitial Inflammation

Jessica A. Hamerman, PhD
Benaroya Research Institute at Virginia Mason
IgA-containing Immune Complexes in SLE

Alessandra B Pernis, MD
The Hospital for Special Surgery
Dynamic Regulation of Signaling Pathways in SLE

Gregg J Silverman, MD
New York University School of Medicine
Candidate Pathobiont in Lupus: Genomic Variation and Pathogenesis

Roger Bryan Sutton, PhD
Texas Tech University Health Sciences Center
Redesigning Dnase1L3 for the Treatment of Systemic Lupus Erythematosus

Spotlighting Timely Innovation

Donor support gives the LRA the means to fund investigations by some of the best scientific minds in the world.

Roberto Caricchio, MD, from Temple University is one of them.

He discovered marked similarities between lupus and COVID-19: Some people respond to COVID-19 and lupus by releasing high amounts of proteins called cytokines that escalate into a chaotic immune response known as a cytokine storm.

Dr. Caricchio also designed a scoring system that allows doctors to assess whether a patient has a cytokine storm

that is unique to COVID-19. Additionally, such information might be able to predict cytokine storms early ... give physicians time to administer appropriate treatment ... and limit organ damage and other complications.

On behalf of the entire lupus community, the LRA gratefully acknowledges Dr. Caricchio's invaluable contributions in this extraordinary time.



Dr. Roberto Caricchio

Collaborating to Speed Progress

New Partnerships Formed

In 2020, the LRA offered new-found hope by forming three new partnerships to fast-track research initiatives and transform outcomes for patients.

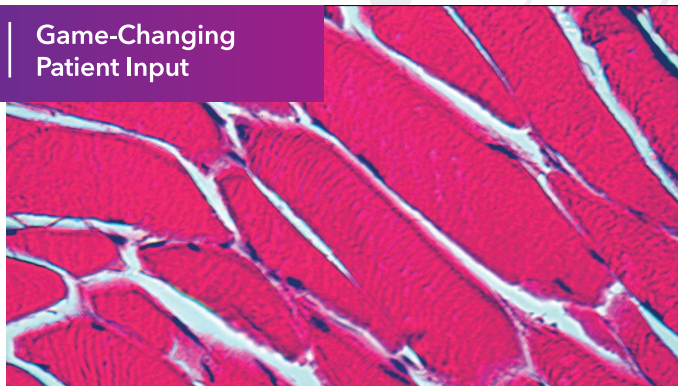
- To improve care for patients with lupus nephritis, the LRA embarked on a collaboration with the National Kidney Foundation. As an important first step, we surveyed doctors and patients to identify obstacles to successful treatment.
- The LRA expanded its partnership with the National Minority Quality Forum- an organization dedicated to ensure racial and ethnic populations and

communities receive optimal health care- to identify where diverse populations with lupus are located and to increase participation in trials.

- We joined two other research leaders—the **Juvenile Diabetes Research Foundation** and the **National Multiple Sclerosis Society**—to cooperatively fund studies aimed at decoding immune-mediated diseases.

The LRA anticipates that the outcomes from collaborations with such distinguished partners will be exceptionally positive. We will be providing updates throughout the upcoming year. Please stay tuned!

Game-Changing Patient Input



Last year, the LRA had the resources to begin a biorepository and patient registry to capture vital data and tissue samples.

More information will be forthcoming in 2021—but this initiative has the potential to make a significant contribution to lupus research.