

2021: Celebrating a Year of Achievements

PUSHING THE BOUNDARIES OF LUPUS RESEARCH

The **Lupus Research Alliance** (LRA) forged ahead in 2021, making great strides in the advancement of lupus research—despite the many obstacles that the Covid-19 pandemic continued to present to our scientific community, supporters, and volunteers.

Throughout the year, we made one important gain after the next, building on decades of moving the world’s most pioneering lupus investigations forward. By year’s end, we discovered *even* more about the many complex ways this disease works—while we accelerated the pace of finding new treatments.

With each undertaking, two aspects of our work remained constant: The LRA brought newfound hope with the promise that a cure is an attainable goal in the future—and our supporters remained as committed as ever to making lupus a disease of the past.

INVESTING MORE ... DISCOVERING MORE

Taking a multi-faceted approach to understanding lupus at the molecular level, the LRA awarded a number of trailblazing investigations conducted by many of the world’s most brilliant most brilliant scientists and junior underrepresented minority researchers in the field of lupus research with more than \$9,921,000 million in funding.

The following is a sampling of the extraordinary work that was funded by the LRA in 2021.

- In September, we announced the inaugural recipients of the LRA’s largest grant to date—the **Global Team Science Award**. We will fund international, multidisciplinary research teams to unravel lupus heterogeneity (*how much the disease varies from one person to another*) with the aim of discovering new avenues to personalized treatment approaches. Two awards of \$3 million each will support the research projects of two teams of extraordinary investigators led by the renowned leaders in the lupus field—**Virginia Pascual, MD**, Weill Cornell Medicine and **Ignacio Sanz, MD**, Emory University—to bring their groundbreaking research concepts to fruition.
- \$500,000 was granted through the **Distinguished Innovator Award** (DIA) to **Nir Hacohen, PhD**, Harvard University. Dr. Hacohen has made significant headway in identifying the many cell types that play a role in the development of lupus nephritis.
- In June, the LRA announced that **Martin Kriegel MD, PhD**, University of Münster, is the 2021 **Lupus Insight Prize** Awardee for his cutting-edge research

on gut microbiome as a trigger for lupus. Dr. Kriegel received \$100,000 to advance his discovery of a particular organism that can break through the gut lining of people with lupus.

- Eleven exceptional scientists received the **Lupus Innovation Award** at the end of 2021. Three of these investigators have chosen to study the genetic causes of lupus and the other eight aim to develop personalized medicine for lupus patients—either by maximizing the effectiveness of existing immunosuppressive drugs or by laying the foundation for brand-new therapeutics.



The LRA is proud to support lupus research through these various grant mechanisms, which will—as past grants have proven—foster the development of novel and/or improved therapeutic options for the lupus patient community.

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SPOTLIGHTING AN OUTSTANDING DISCOVERY

Dr. Kriegel made a groundbreaking discovery that will undoubtedly shape the future of lupus research. He is the first to identify a specific organism that breaks through the gut lining in lupus.

Dr. Kriegel's lab found that a particular species of bacteria escaped from the gut and entered the liver and lymph nodes in murine models. He discovered that this bacteria promoted autoantibody production and overactivation of immune cells called T cells that can cause inflammation. Dr. Kriegel then showed that this same species of bacteria is found in the livers of lupus patients.

Dr. Kriegel's research is the first to pinpoint a gut organism linked to lupus.

"Identifying specific species of the microbiome as possible causes of disease pathways in lupus and other autoimmune disorders may help us better understand the development of these conditions. It will also provide a personalized approach to future therapies aimed at the microbiome in humans," commented Dr. Kriegel.

In presenting the Lupus Insight Prize to Dr. Kriegel, **Gary Koretzky, MD, PhD**, LRA Scientific Advisory Board Chair and Professor at Weill Cornell Medicine noted: *"Dr. Kriegel's scientific work uncovering how the microbiome can contribute to lupus and other immune diseases is truly innovative and will provide a direction for further research and new treatments in the years to come."*

GOING BOLD & THINKING BIG

It's well known that clinical trials are essential to the discovery process—that's why the LRA started to conduct our own trials. We became the first and only lupus organization to do so!

In 2017, we created **Lupus Therapeutics** (an LRA affiliated organization) to orchestrate the trials. Together, the LRA and Lupus Therapeutics oversee the **Lupus Clinical Investigators Network (LuCIN)**.

In 2021, great progress has been made on a number of fronts through 9 LuCIN trials—including the potential to use a cancer drug to treat lupus.

Iberdomide appears to reduce disease severity in lupus according to a Phase II randomized trial sponsored by **Bristol-Myers Squibb**. This trial is being managed by Lupus Therapeutics.

The drug works differently from other potential lupus treatments because it helps destroy two proteins that may spur immune cells to malfunction in lupus.

BEING A SOURCE OF SCIENCE-BASED INFORMATION ABOUT COVID-19

Because people with lupus can be immunocompromised and more vulnerable to infection, including COVID-19, learning about vaccines to protect against the virus is critical. This is why the LRA developed a go-to page on our website in 2021 entitled: COVID-19 Vaccines and Lupus—What to Know.

This page is designed to answer commonly asked questions about COVID-19 vaccines—like: *Why are people with lupus considered immunocompromised? ... What vaccines are approved to protect against the novel coronavirus? ... Who is the COVID-19 vaccination recommended for and by whom?*



Kenneth M. Farber

In providing the most up-to-date information, the LRA offers recommendations from the **U.S. Centers for Disease Control and Prevention**—as well as the **American College of Rheumatology**.

"We strongly advise our community to talk to their healthcare provider about whether this third vaccine dose is right for them and to continue taking safety precautions to prevent COVID-19," said **Kenneth M. Farber, LRA President/CEO**.



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PARTNERSHIPS PROPELLING SCIENCE

Remaining true to our founding goal of forging alliances to advance lupus research, the LRA recently partnered with the National Institutes of Health (NIH), the Foundation for the National Institutes of Health (FNIH), and others on a new program—**Accelerating Medicines Partnership® Autoimmune and Immune-Mediated Diseases** (AMP® AIM).

Established in December 2021, this exciting new initiative will apply cutting-edge tools to track how cell-to-cell interactions trigger specific disease mechanisms, abnormal function, and tissue injury.

“The LRA is proud to be part of AMP AIM partnership. It will provide unprecedented disease characterization ... further insights into disease mechanisms ... critical clinical data sets ... and research tools to accelerate the development of novel therapies for individuals with lupus,” enthused

Dr. Teodora Staeva, LRA Chief Scientific Officer.



Dr. Teodora Staeva

COLLABORATIVE MEETING HELD VIRTUALLY

The COVID 19 pandemic continued to disrupt our day-to-day operations, but could not stop the LRA from holding its annual collaborative meeting—**Forum for Discovery**. So, on October 28, 2021, the organization—for a second year—held the meeting online.

Fourteen speakers shared their most recent discoveries from projects funded by the LRA. Presentations covered cutaneous lupus, mechanisms that may cause lupus, and the emerging therapies to treat this disease.

More than 150 investigators, scientific advisors, and partners from the pharmaceutical and biotech industries joined the meeting to share insights and spark ideas for future lines of inquiry. Overall, the 2021 Forum for Discovery highlighted tremendous strides made over the past year toward better understanding of lupus and finding new targets for diagnosis and treatment.

In her closing remarks LRA Chief Scientific Officer **Teodora Staeva, PhD**, summed up the Forum’s objective: *“Facilitating an open and dynamic scientific exchange among LRA-funded investigators brings us closer to potential breakthroughs, better treatments and finding ways to prevent and cure lupus.”*

NEW LUPUS DRUG RECEIVES FDA APPROVAL FOR LUPUS NEPHRITIS

Voclosporin—the first oral treatment specifically developed for adults with lupus nephritis—received approval from the U.S. Food and Drug Administration in 2021. This news followed on the heels of belimumab’s approval for lupus nephritis the prior December.

No scientific discovery occurs in a vacuum, and the LRA is proud to have devoted considerable resources to studying ways better to diagnose, monitor, and manage lupus nephritis. The LRA funded more than 40 research grants focused specifically on lupus nephritis—and many have laid the groundwork for critical advances in the development of new drugs like voclosporin and belimumab.

VIRTUAL WALK WENT GLOBAL IN '21

The LRA united our global community with a virtual walk **ManyOne Can. Walk with Us to Cure Lupus** event on October 2, 2021. With an aim to unite and inspire people across the world to support lupus research—the event raised more than \$1.6 million.

NFL Superbowl Champion, and LRA Board member, **Willie Colon** kicked off the event with a warm welcome—that was followed by inspirational speakers from the lupus community ... critical lupus research updates ... and interactive activities.

Walkers eagerly participated—raising funds for the LRA in their own way to help achieve breakthroughs in research that can improve the lives of people with lupus.

“Heartfelt gratitude goes out to everyone who participated in 2021—another year we were unable to gather in person. But this virtual walk is cause for real celebration,” said **Kenneth M. Farber**, LRA President and CEO. *“The LRA made a major leap forward in progress last year thanks to the tremendous generosity of our supporters and volunteers.”*



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GALA SETS NEW \$ HIGHMARK

The LRA 2021 **Breaking Through Gala** in November was the most successful in the history of the organization. **More than \$7.5 million was raised for lupus research!**

The hundreds of LRA supporters who attended the festivities in-person at the Ziegfeld Ballroom and online were treated to inspirational messages from Gala Honorary Chairs **Selena Gomez** and **Michael R. Bloomberg**, as well as moving interviews with several members of the LRA Young Leaders Board.

Tremendous thanks go to Gala Honoree, Blackstone executive, LRA Board member, and dedicated lupus leader **Nadeem Meghji** who was so instrumental in securing extraordinarily generous donations for this spectacular event on behalf of his niece **Aaliya Qassim** and her dad **Ovais Qassim**, both of whom live with lupus.



Host Willie Geist, Young Leaders Veronica Vargas-Lupo, Adrienne Nicole, and Martin Lewis



Aaliya Qassim and Nadeem Meghji

ADVOCACY MOVING SCIENCE FORWARD

Advocates make a difference! In 2021, 10 new applications for promising scientific studies were funded by the **Lupus Research Program** within the **Department of Defense**.

This vital program was first established in 2017 under the Congressionally Directed Medical Research Programs thanks to advocates—many of whom worked alongside the LRA to help make this positive change in government funding for lupus research a reality.

In 2021, \$10 million was allocated to the program to advance innovative lupus research investigations. LRA's advocacy for Fiscal Year 2022 is requesting that Congress increase the budget to \$15 million so more grants can be awarded.







Creating change doesn't happen overnight. It takes time and the devoted work of advocates everywhere. *"Everyone who advocates for greater lupus research funding, has our deepest gratitude. Your voice is a powerful tool—and it's being heard,"* said **Diane Gross, Director of Advocacy and Public Health Information** at the LRA.

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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