Dear Friends,

As we wind down 2019, I cannot help but reflect on all that we have achieved together this year. First, we’ve made tremendous progress on our new building, which is slated to open in the new year. It is already a visual marvel and we cannot wait for each of you to visit it. We also had one of our most successful Rebels with a Cause galas ever, raising over $12 million dollars for our research programs at the Institute! Most importantly, we’ve pushed our work to the next level, publishing dozens of new studies from the Institute research teams, partnering to create new technology with the likes of AT&T Business (our 5G program which we will describe soon!), and obtaining important grants from organizations such as the Breast Cancer Research Foundation and the National Cancer Institute—all of which are propelling scientific progress and hopefully influencing the research of thousands of others striving to make a difference.

Most recently, I had the honor of co-chairing the TIME 100 Health Summit in New York City in October along with Alice Park, TIME’s senior health correspondent. The summit convened prominent figures in healthcare to highlight essential perspectives on health and wellness and encourage cross-disciplinary collaboration towards better healthcare solutions. The event reached TIME’s global audience of 100 million across print, digital, social networks and livestream. To view my talk with President Clinton, please visit our website at Ellison.usc.edu.

As always, I am humbled and privileged to work alongside each of you on the war on cancer. During this season of giving, I encourage you to consider donating to the Institute to support the ongoing research within our new laboratories, many of which you will read more about in this newsletter. It is my life’s mission, and the mission of my incredible team, to find new insights and answers so that our loved ones can live longer, healthier lives. I thank you for standing with us.

Gratefully,

David B. Agus, M.D.
Professor of Medicine and Engineering
Founding Director and CEO
Lawrence J. Ellison Institute for Transformative Medicine
University of Southern California

Rebels with a Cause 2019

Visonaries and revolutionaries in medicine, philanthropy, tech, education, art and entertainment gathered at our fourth Rebels with a Cause gala on October 24 at The Water Garden in Santa Monica. The intimate evening was held in support of the lifesaving research happening here at the Ellison Institute. Larry Ellison, Co-Founder, Executive Chairman and Chief Technology Officer of Oracle, was the surprise honoree for the evening. Recognized for his generous support to our Institute through the years, Ellison was presented with the first-ever Rebels with a Cause Award, designed by Chopard.

Co-chaired by Lynne and Marc Benioff, Founder, Chairman and co-CEO of Salesforce, our gala was emceed by Tony Award winner James Corden, host of The Late Late Show, while sixteen-time Grammy Award-winner David Foster returned as the night’s Musical Director. Guests were delighted by an up-close magical act from David Blaine, musical performances by David Foster with Pia Toscano, and none other than the Red Hot Chili Peppers.

Those who attended the gala and supported the Ellison Institute have helped to dramatically advance our research at this critical time by raising $12.1 million for the cause. Funds from the evening will go towards our continued efforts to discover and enhance the most effective cancer treatments that will benefit patients who are in urgent need of new therapies.

Thank you to our generous philanthropic partners who attended the event and support our cause!
Sneak Peek: Our Laboratories

One of the defining aspects of our Institute is the cross-collaboration between our areas of research. Typically, researchers are siloed and separated. Our aim is to break down these barriers. We are thrilled that our new building is a physical manifestation of our collaborative mission, by allowing a new level of transparency and transference of ideas with its walls of glass and innovative design. We are pleased to give you a sneak peek at the inaugural laboratories within our new building.

Research Laboratories

Artificial Intelligence in Medicine We apply Artificial Intelligence techniques to discern otherwise hidden clinical information from pathology slides and clinical data. Our methods highlight important aspects of tumor architecture, both in 2D and 3D, that impact patient outcome and hopefully will lead to new treatment insights.

Multiscale Biology Lab The Multiscale Biology Lab studies the composite of an individual from the single cell level through the composite perspective that looks at the collections of cells that creates the various tissues and organs.

Drug Discovery Lab Our cancer researchers are working with chemists to modify and develop the next generation of drugs that will change cancer treatment and help minimize toxic side effects, thereby increasing quality of life for patients.

Microenvironment Lab Tumors need a receptive environment to grow. Here we are applying multidisciplinary approaches to better understand the interactions between the tumor “seed” and microenvironment “soil.” We are devising ways to disrupt this supportive environment and prevent tumors from growing.

Biomimetic Models Lab Solid tumors encounter various microenvironments with respect to cell types and oxygen gradients that impact drug response. Technologies such as the hypoxia chamber and organs-on-chips platforms allow us to better mimic tumors and their associated microenvironments in a patient-specific manner.

Molecular Analytics Lab Genomics only tell us one part of the picture. Our Institute incorporates the other “omics” such as proteomics and metabolomics, to gain a better understanding of the whole biological system; thus, going beyond the genes.

Applied Therapeutics Lab Our Institute uses this lab to test and refine the knowledge gained about an approved drug after the drug is used in a real-world population. This testing helps us make sure we are using the best drugs possible for real-world applications.

Proving Ground A place where the future meets the here and now, as we combine the latest technologies in medicine and engineering. We are privileged to evaluate these technologies from academic and industry leaders and use them to further advance our research.

Immersive Visualization Lab Experience the future of collaboration and learning through a dedicated lab created with three interactive screens for in-room and virtual user experiences.

Integrative Microscopy Lab Our state-of-the-art microscopes provide a unique window into cellular interactions and real-time information on a cancer cell’s response to therapy.

BCRF Grant Awarded to Artificial Intelligence Research at the Ellison Institute

For a cancer patient to receive optimal treatment, their oncologist needs the right diagnosis. Pathologists make these diagnoses by gazing microscopically at razor-thin slides sectioned from bulk tumors. For over a century, pathologists have identified patterns of cells and other tissue elements that specify different cancer types, each having its specific treatment regimens. But what if better treatment choices could be gleaned from a tumor’s full three-dimensional (3D) structure rather than from the two-dimensional (2D) slides currently in use?

This is the question that our team at the Ellison Institute is pursuing through a Breast Cancer Research Foundation (BCRF) award—the 7th year in a row that the Ellison Institute has received BCRF funding. Using the 3D layouts of cells within breast cancers, we will apply artificial intelligence to predict patients’ outcomes. By comparing outcome prediction using only traditional 2D data, our team will then determine the benefit 3D information provides. We hope this research—a collaboration with Agilent Laboratories, Olympus, and the Department of Defense—will soon improve cancer therapy selection by better predicting treatment outcomes.

JOIN THE FIGHT AGAINST CANCER!

Every gift matters in the fight against cancer. By supporting our disruptive, multidisciplinary research you will help change the face of cancer treatment and significantly benefit the lives of those battling cancer today. Simply fill out the enclosed envelope to donate to the Lawrence J. Ellison Institute for Transformative Medicine of USC or visit our web site now! Ellison.usc.edu/donate Contact Katrina Barron at 310-601-3352 or barronk@usc.edu for more information.

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