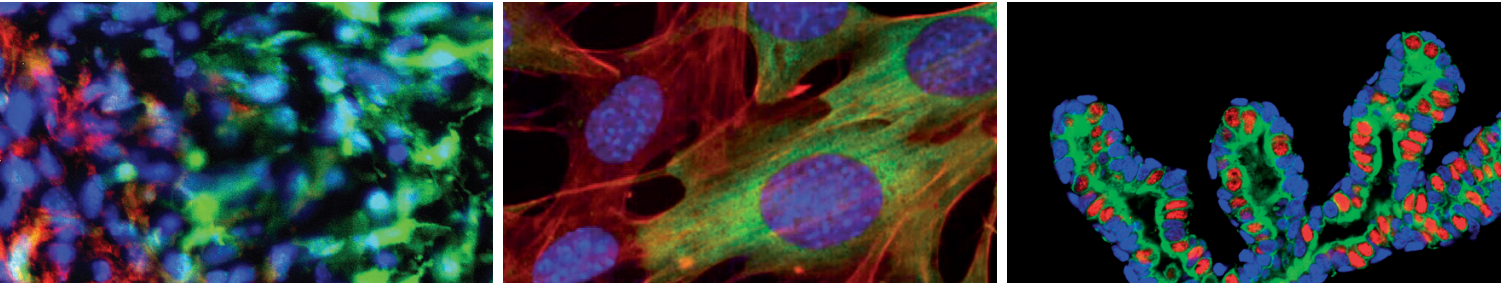


YEAR ONE UPDATE



Thank you for demonstrating your powerful commitment to scientific research and discovery through your generous contribution to our Conquering Cancer Initiative. This report highlights just some of the exciting projects that were made possible because of your partnership.

One in two MEN
and
one in three WOMEN
*will be diagnosed with cancer
in their lifetime.*

WORLDWIDE,
*cancer rates are expected
to increase **63 percent**
from **2018 to 2040.***

Source: International Agency for Research on Cancer

A BOLD VISION

Last year, the Salk Institute launched a new science and philanthropic pursuit: the Conquering Cancer Initiative. The goals of the initiative are to:

- 1 Increase the number of promising clinical research projects translated into new therapies
- 2 Develop cancer biomarkers and early detection tools
- 3 Increase the number of clinical trials to impact patients
- 4 Increase collaborations and build clinical alliances
- 5 Ensure researchers' shared access to cutting-edge technology
- 6 Shorten the time between basic research and new therapies
- 7 Develop and support the next generation of cancer researchers
- 8 Raise \$55 million to fund and support development of discoveries

PEOPLE

Welcome Dannielle Engle, PhD



Pictured Above: Dannie Engle, PhD, Dan and Martina Lewis and Reuben Shaw, PhD

In January, the Salk Institute hired Dannielle Engle, PhD, as an assistant professor in the Salk Cancer Center. Engle, a rising star in pancreatic cancer research, was most recently at Cold Spring Harbor Laboratory in New York as a senior fellow, where she focused on the early detection and treatment of pancreatic cancer.

Engle's recruitment was made possible in part by Salk Board of Trustees Chair Dan Lewis and his wife Martina Lewis, who made a \$2 million gift for the purpose of recruiting outstanding faculty.

Having lost close family members to pancreatic cancer, Engle has a personal connection to the disease. Engle uses her personal and scientific passion as well as her expertise in disease modeling to facilitate progress in pancreatic cancer research by creating better representations of what actually happens in patients.

Diana Hargreaves Selected as Pew Scholar



Pictured Above: Rich Heyman and Anne Daigle with Diana Hargreaves, PhD (center)

Diana Hargreaves, PhD, has been named a 2019 Pew-Stewart Scholar for Cancer Research. Hargreaves, who holds the Richard Heyman and Anne Daigle Endowed Developmental Chair, is one of the faculty involved in the Salk Conquering Cancer Initiative. She studies epigenetic regulators — proteins that work to make specific regions of the genome more or less accessible for gene transcription. Unlike our fixed genome, the epigenome is dynamic, allowing cells to respond to developmental and external environmental cues. The Pew-Stewart Scholars Program for Cancer Research is a national initiative designed to support promising early career scientists whose research will accelerate discovery and advance progress to a cure for cancer.

MATCHING GIFTS TO CANCER CENTER DIRECTOR'S ENDOWED FUND



Thanks to the partnership of donors such as Corinne Mentzelopoulos, who serves on the Salk Institute Board of Trustees, the Institute continues to be among the most prestigious research incubators in the world.

"I think Salk remains an incredible place because it was founded on the idea that scientists can work and be successful in one area, but they also have the freedom to follow new leads," she says. "Because of that, the Institute is constantly making new discoveries and breakthroughs. I don't know that I've found anything quite like Salk in my experience."

The caliber of leadership at Salk is a key source of Mentzelopoulos' confidence in her support. Last year after the launch of the Salk's Conquering Cancer Initiative, she made a \$1 million gift that will match other gifts made to the Cancer Center Director's Endowed Fund. Mentzelopoulos is confident that her gifts to Salk support the best science and scientists.

"Sometimes in philanthropy it's difficult to know whether the money you give will actually have an impact. I tend to be very cautious about where I give because I want to support work that will truly transform lives. For me, Salk is a perfect example of a place such as that," she says. "If you want your giving to go toward something that's practical and real, something that will touch lives and end diseases, there's no better place than Salk."

Give to the Cancer Center Director's Endowed Fund and your gift will be matched by the Mentzelopoulos gift.



GIVE
A GIFT

www.salk.edu/directors-endowed-fund

OUTREACH



Pictured Above:

Conquering Cancer Salon Event at the home of Susan and David Mandel, Reuben Shaw, PhD, Tim and Anita Schoen

Our Conquering Cancer Advisory Committee, chaired by Tim Schoen, is comprised of community members from diverse backgrounds who support and are committed to the Salk Institute's world-renowned cancer research center.

"Our goal is to use cutting-edge science to advance entirely new therapies for patients that improve survival and offer hope for a cure."

— **REUBEN SHAW, PHD**

Director, Salk Cancer Center and
holder of the William R. Brody Chair



The Salk Cancer Center

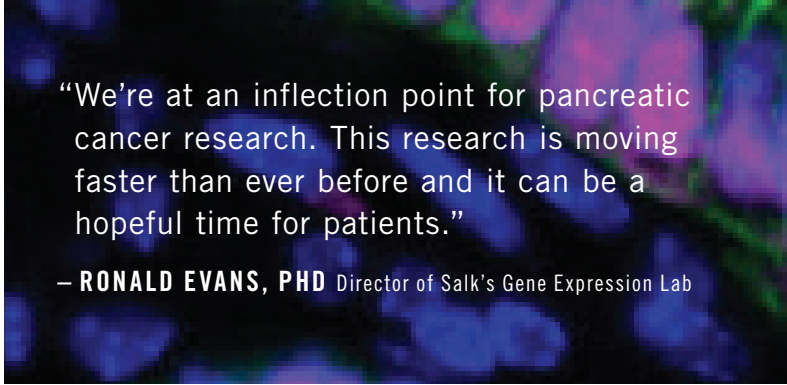


NATIONAL CANCER INSTITUTE

The Cancer Center at the Salk Institute for Biological Studies was established in 1970 and two years later became one of the first National Cancer Institute (NCI) designated research cancer centers in the United States. For more than 45 years, this designation has recognized the Institute's scientific rigor across its laboratory research, scientific discoveries and therapeutic cures.

PROGRESS IN EMERGING RESEARCH

Over the past year, scientific researchers at the Salk Institute have made tremendous discoveries in emerging and groundbreaking research.



“We’re at an inflection point for pancreatic cancer research. This research is moving faster than ever before and it can be a hopeful time for patients.”

– **RONALD EVANS, PHD** Director of Salk’s Gene Expression Lab

Glioblastoma Multiforme

The incredibly deadly brain cancer glioblastoma multiforme (GBM) is a challenge to study. By editing two cancer-causing genes in just a few cells in human cerebral organoids, (sometimes referred to as “mini-brains”) the lab of Tony Hunter, PhD, generated aggressive GBM tumors. This new cancer model could be used to study tumor progression, investigate new drugs or even personalize treatments for patients.

Triple-Negative Breast Cancer

The team of Geoffrey Wahl, PhD, holder of the Dan and Martina Lewis Chair, has identified the gene Sox10 as a master switch that appears to control the growth and invasion of a significant fraction of hard-to-treat triple-negative breast cancers. Blocking the gene prevented cancerous cells from developing tumors and could inform a new therapeutic approach to treatment.

Pancreatic Cancer

Pancreatic cancer is one of the deadliest types of cancers, both because it is often diagnosed late and because its unique tumor environment makes it impervious to chemotherapy and immunotherapy. Ronald Evans, PhD, holder of the March of Dimes Chair in Molecular and Developmental Biology, is part of a multi-institutional team supported by Stand Up To Cancer to conduct clinical studies to open up a new avenue for immunotherapy in the treatment of pancreatic cancer. While the cancer normally eludes immune T cells, the Evans lab discovered that modified vitamin D reprograms the cancer environment in a way that may allow the Merck drug Keytruda to invade and destroy the tumor.

In addition, Tony Hunter, PhD, holder of the Renato Dulbecco Chair, discovered how a signaling protein called LIF (leukemia inhibitory factor) is a useful biomarker for pancreatic cancer. The lab found that LIF stimulates tumor cells, driving pancreatic cancer progression and metastasis. Blocking LIF slowed the cancer and made chemotherapy more effective.

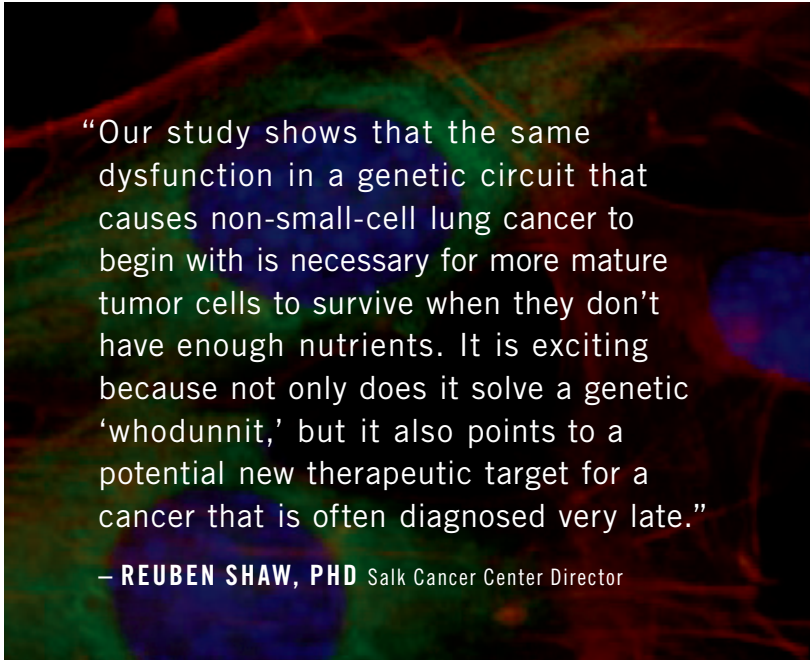
Ovarian Cancer

Ovarian cancer is the most lethal of the gynecological malignancies. Certain ovarian tumors can be particularly difficult to treat as they are often not responsive or become resistant to the chemotherapeutics currently in use for the treatment of ovarian cancer.

Approximately 3 to 5 percent of prostate, ovarian and breast cancers contain mutations in the CDK12 gene. Recent studies have shown that this subset is uniquely responsive to immunotherapy drugs, whereas the majority of these cancers do not respond, according to Salk professor Katherine Jones, PhD, senior author of a paper on the findings published in April 2019, and holder of the Edwin K. Hunter Chair in the Regulatory Biology Laboratory.

Lung Cancer

Reuben Shaw, PhD, director of the Salk Cancer Center and holder of the William R. Brody Chair, found that the protein AMPK, which acts as a metabolic master switch for cells, can help late-stage lung tumors survive by getting them nutrients they need to grow. The discovery suggests that disabling AMPK could be an important therapeutic strategy against this cancer, which is typically diagnosed very late.



“Our study shows that the same dysfunction in a genetic circuit that causes non-small-cell lung cancer to begin with is necessary for more mature tumor cells to survive when they don’t have enough nutrients. It is exciting because not only does it solve a genetic ‘whodunnit,’ but it also points to a potential new therapeutic target for a cancer that is often diagnosed very late.”

– **REUBEN SHAW, PHD** Salk Cancer Center Director

CONQUERING CANCER FUNDING PRIORITIES

- Emerging Research – invest in science breakthroughs and discoveries
- Endowment, Faculty Recruitment and Postdoctoral Support – recruit and retain the best scientists; train the next generation of researchers
- Salk Cancer Center Director's Endowed Fund – support training, bridge funding, summer internships and graduate students

IMPACT OF FOUNDATIONAL RESEARCH

As part of the Conquering Cancer Initiative, the Salk Cancer Center presented the second annual Summit event in May to shine a spotlight on pancreatic cancer. Cancer research advocate Lisa Niemi Swayze provided a keynote presentation sharing insights about her husband, actor Patrick Swayze, who lost his life to pancreatic cancer in 2009.



The event featured the testimonial from patient Stephen Bigelsen, who has been using the Vitamin D treatment discovered by Evans.



WATCH

www.salk.edu/patient-video

Pictured Above: Conquering Cancer Summit presenter Lisa Niemi Swayze visiting the pancreatic cancer research lab with Michael Downes, PhD, Ronald Evans, PhD and Corina Antal, PhD

SAVE THE DATE

Wednesday, October 23, 2019

4:30 to 7:00 pm

Conquering Cancer Initiative presentation
at the Salk Women & Science event
highlighting research progress in breast cancer

Wednesday, April 22, 2020

5:00 to 8:00 pm

Conquering Cancer Summit:
Research update on lung cancer

CONQUERING CANCER ADVISORY COMMITTEE

Tim Schoen, Chair

Eve Benton

Ellen Chodorow

Scott Dailard

Susan Pidgeon Mandel

Laing Rikkers

Rita Ryu

Thank you for your continued generosity to the Salk Institute and our Conquering Cancer Initiative. This is a momentous and historic time in cancer research and we are grateful for your partnership.

DID YOU KNOW?

- 1 The Salk Institute has been ranked one of the top 5 nonprofit institutions in the world focused on the life sciences and one of the top 10 nonprofits generally, according to a 2018 *Nature Index* report.
- 2 For eight consecutive times, the Salk Institute has received a four-star rating from Charity Navigator achieved by only 4 percent of nonprofits.
- 3 The Salk Institute is a 501(c)3 tax-exempt organization (EIN:95-2160097) and your donation is tax-deductible within the guidelines of U.S. law.

Please consider a gift to the Conquering Cancer Initiative or donate to a specific research area or program by visiting www.salk.edu/now.

Additional giving options:

Donate in Honor or Memory of a Loved One (Tribute Gifts) – Honor a loved one currently battling cancer or commemorate those who have passed.

Donate Stock or Real Estate – Make a gift of real estate or publicly traded stock, bonds or mutual funds to the Salk Institute.

Mail to:

Salk Institute

Conquering Cancer

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La Jolla, CA 92037



Salk Institute for Biological Studies

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www.salk.edu

For help with donations, fundraising or general questions about supporting the Salk Institute, please contact External Relations at giving@salk.edu or **(858) 453-4100 x2277**

WWW.SALK.EDU/CONQUERINGCANCER

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