Seed Grant Awardee Advances Groundbreaking Research on Pancreatic Cancer and Pain Management

Since 2005, our Seed Grant Program has fostered an environment for research to bloom. As we mark 20 years since our first cohort of grantees, it is more exciting than ever to look back and see all that is being accomplished.

We're delighted to share an exciting update on Jami Saloman, PhD, a distinguished recipient of a 2016 Seed Grant Award, whose pioneering research on pancreatic cancer and pain regulation has recognition and funding gained national from major organizations. The Seed Grant initially awarded to Dr. Saloman has been instrumental in her journey, enabling the collection of critical data that has now culminated in a prestigious R01 grant from the National Cancer Institute (NCI) for her project titled "Peripheral Nerve Regulation of Pancreas Cancer Progression." The Research Project (R01) is NIH's most commonly used grant program for independent research projects. It is awarded to support mature, hypothesis-driven research projects with strong preliminary data. The grant funds a discrete, specified, circumscribed project in an area representing the researcher's specific interest and competencies.

Dr. Saloman's interest lies in understanding how the nervous system, particularly sensory nerves, interacts with pancreatic cancer. In her postdoctoral work, she was the first to demonstrate that ablation of sensory nerves could significantly inhibit pancreatic ductal adenocarcinoma (PDAC) progression, showing that nerves in the pancreas might create a "safe harbor" environment for tumor development. Thanks to the Hirshberg Foundation Seed Grant, Dr. Saloman showed an increased antitumor immune response in the absence of nerves—a finding with vast implications for immunotherapy and cancer treatment strategies.

One of her significant achievements with the Seed Grant was refining methods for isolating individual neurons connected to the pancreas and performing transcriptomic analysis. This breakthrough revealed that these sensory neurons express immuneregulating genes, including certain "inhibitory checkpoints." Such insights laid the groundwork for her Career Development Award from the Pancreatic Cancer Action Network. As a junior faculty member, Dr. Saloman explored the role of neuronally expressed PDL1 and NRP1 in the regulation of both PDAC-related immune responses and cancer pain.

This momentum led Dr. Saloman to secure an R01 grant from the NCI, where she will continue her work to understand the neural influence on the tumor microenvironment and lymphatic spread, focusing on PDAC-related pain and potential interventions. Additionally, she recently received funding from the National Institute of Neurological Disorders and Stroke (NINDS) to investigate inhibitors of the NRP1 protein, potentially offering new therapeutic avenues for PDAC pain management.

Dr. Saloman's work exemplifies the impact that the Hirshberg Foundation's Seed Grant Program has on accelerating critical research that reshapes our understanding of pancreatic cancer and advances innovative treatment solutions. We are honored to support researchers like Dr. Saloman, whose dedication to discovery holds promise for transformative therapies for cancer progression and cancer-related pain.

Thanks to your support, we've been planting seeds of hope

through our Seed Grant Program for 20 years. It's a delight to watch research grow from the lab to the clinic and bloom into clinical trials and new treatment options.

Help us continue to sow seeds of hope for a cancer-free future, <u>donate today</u>.

Exciting Updates from our Scientific Advisory Board Member & past Seed Grant Awardee

Since 2005, our Seed Grant Program has fostered an environment for research to bloom. As we mark 20 years since our first cohort of grantees, it is more exciting than ever to look back and see all that is being accomplished.

Marina Pasca di Magliano, PhD is one of the world's leading pancreatic cancer researchers. As a 2015 Seed Grant Awardee, her project deepened the understanding of mutant P53 in pancreatic cancer progression and metastasis. The resulting research, published in 2018 by Dr. Pasca di Magliano and her lab, found that p53 mutation is required for the formation and maintenance of KRAS-induced pancreatic cancer precursor lesions. Her lab photo shows a large and diverse group of researchers that she fostered to help publish this insight.

For the past 15 years, Dr. Pasca di Magliano has run a lab at the Rogel Cancer Center at the University of Michigan. Now,

thanks to a \$50 million gift, she will co-lead and help create the Rogel and Blondy Center for Pancreatic Cancer. The center will be co-led by Dr. Pasca di Magliano, Costas Lyssiotis, Ph.D., and Timothy Frankel, M.D., a 2014 Seed Grant Awardee. This new Center embodies a key tenet that the Hirshberg Foundation has long heralded: collaboration is key.

Dr. Pasca di Magliano told <u>Michigan Medicine</u> that one key to their success is that "many of us have labs next to each other...It allows for an exchange of ideas, joint mentoring of trainees, and a lot of collaboration." She shares that having clinicians involved in research is another key that "helps us keep in perspective that everything we do is about patients, about preventing, detecting, and treating pancreatic cancer."

When asked about the future of pancreatic cancer research, Dr. Pasca di Magliano said, "research is moving toward a more personalized oncology approach… We have to respond to each patient's disease, not just initially but throughout treatment." Another area of potential is "to get an immune response to the tumor. I strongly believe that's the only way we will get longterm control over the disease."

In 2023, it was an honor to have Dr. Pasca di Magliano join our Scientific Advisory Board to help shape the future of our Seed Grant Program and foster collaboration across and among universities. We celebrate and admire the work that Dr. Pasca di Magliano is leading at the Rogel and Blondy Center for Pancreatic Cancer.

Thanks to your support, we've been planting seeds of hope through our Seed Grant Program for 20 years. It's a delight to watch research grow from the lab to the clinic and bloom into clinical trials and new treatment options.

Help us continue to sow seeds of hope for a cancer-free future,

American Cancer Society Shares Latest Pancreatic Cancer Statistics

The American Cancer Society (ACS) has officially published their Annual Cancer Facts & Figures Report, a reputable record for national cancer statistics. The latest data shows the 5-year pancreatic cancer survival rate holding steady at 13%. Pancreatic cancer remains the third-leading cause of cancerrelated deaths in the United States after lung and colon cancers. This report also shares that individuals diagnosed with local stages of the disease have a survival rate of 44%, a number that has increased in survival by 5% since 2021, emphasizing the importance of early detection. It's important to remember that these are statistics, but they are not the driving force behind the Hirshberg Foundation's commitment to fight this disease – patients and families are!

The journey of pancreatic cancer remains unique for each individual, and survivors should have <u>support and care</u> that fits their needs. Dr. Timonthy Donahue, Director of the AH Center for Pancreatic Diseases at UCLA shared at the Foundation's Symposium, "We are not only giving state of the art care, we are redefining state-of-the-art care." Additionally, scientists are vigorously investigating pancreatic cancer as part of the Foundation's <u>Seed Grant Program</u> with the newest cohort of scientists focusing on therapies and treatments, early diagnosis, and prevention. Advancing research to improve patient care, pioneering new therapies, and ultimately boosting pancreatic cancer survival rates is a fundamental part of the Foundation's mission. Pancreatic cancer will continue to be relentlessly fought on all fronts.

Foundation news, educational videos, and research updates shared in the last few months include: the new cohort of <u>Seed Grant</u> <u>recipients for 2024/2025</u>, <u>improving patient care through the</u> <u>Canopy Cancer Collective</u>, and <u>Targeting KRAS to Treat Pancreatic</u> <u>Cancer</u>. Executive Director Lisa Manheim shares, "**Our dedication** to improving outcomes for patients has never been more resolute. A dedicated community of skilled scientists and doctors is advancing pancreatic cancer research worldwide. Each year, we make significant strides fueled by progress, exploration, and partnership. Our commitment to offering patients the hope of improved outcomes has never been stronger."

This analysis in this report demonstrates a continued need to address modifiable risk factors, consider genetic testing, and explore avenues for early detection. Modifiable risk factors like smoking put individuals at twice the risk of diagnosis. These risk factors are being investigated by Hirshberg Foundation scientists in our labs at UCLA and across the country; the research is in the areas of type 2 diabetes, obesity, and pancreatitis. The UCLA based Sahin-Toth Laboratory focuses on major risk factor for pancreatic cancer, hereditary chronic pancreatitis; this lab is led by our Scientific Advisory Board Chair, Dr. Miklos Sahin-Toth. The Hirshberg Translational Laboratory is solely dedicated to investigating the intricate ways that diet, obesity and inflammation can accelerate tumor development. The Hirshberg Foundation looks forward to sharing more advances in 2025!

The Hirshberg Foundation continues to lead the fight for a cure

and share our mantra: *Never Give Up*. Survivors, caregivers, and families remain the most powerful champions and heartfelt supporters in this fight. Join us by making a donation, attending a Hirshberg event, or elevating awareness in your community, so together we can continue this momentum towards a cure.

The <u>19th Annual Symposium</u> on Pancreatic Cancer will be held inperson at UCLA on April 5th, with videos made available to watch online. This is a pivotal event for our community with Founder, Agi Hirshberg sharing last year, "If you're here for the first time, you will meet friends that have enjoyed cancer free life for 5, 10, 15 and 22 years!" Patients, caregivers, long-term survivors, and family members are invited to <u>sign up for this</u> <u>free event when registration opens in February.</u>

Read more on the ACS report →

Resources for Patients, Preventions, and Education

<u>One-on-One Support</u> <u>Patient & Family Webinars</u> <u>Genetic Testing</u> <u>Clinical Trials</u>

Don't Give Up on Yourself

Hello fellow warriors . . . I have kept my journey very much to myself and a few close family members and friends. You see, I tend to absorb other people's anxieties, worries, concerns – and if there is one weight a cancer patient doesn't need to carry with everything that they are trying to process themselves – it

is the stress of their trusted loved ones.

My journey began earlier in 2024 with a couple of weeks of experiencing intense itching on my hands and feet and what looked to be the beginning of jaundice on my face and eyes. After a checkup with my doctor, resulting in a CT scan that didn't provide much information to identify the source of the issue, I ended up in the emergency room with a clogged bile duct. Four weeks and three bile duct stent replacements later it was officially confirmed that a mass on the head of my pancreas (approx. 3.3 cm) was the cause of the blocked bile duct. It was confirmed to be cancerous, but doctors were hopeful that it was detected early enough for Whipple surgery.

Unfortunately, further scans/tests were not able to confirm that there was no distant metastasis and doctors decided that I should begin 6 rounds of FOLFIRINOX chemo with the hope of reducing the mass for better probability of cancer removal with surgery. I managed to maintain a healthy weight and was fortunate that the first 6 rounds did not cause much nausea (that came later towards the final 6). I definitely had my downtime dealing with fatigue and that pesky neuropathy (mainly due to the oxaliplatin in the chemo), but thankfully it helped reduce the size of the mass and allowed me to move forward with surgery.

Surgery (albeit scary) was honestly not as bad as I imagined. I was moving around (though slowly) in two weeks and focused on trying to give my body the fuel it needed with the new "plumbing" to get back on the remaining 6 chemo infusions. (Coincidentally, November 21st, 2024 will be my final (12th) round of chemo.) The next conversation will be with radiology since the surgery was able to exhibit that one lymph node was detected to have tested positive for cancer. Ultimately, the goal is to be given a "status" of being in full remission and long-term, cancer free.

So here is my takeaway — and I truly hope it helps anyone reading this — I knew, the minute the word "cancer" was mentioned, that **time was of the essence**. I could not have moved as fast as I did with tests, diagnosis and treatment had I not advocated so much for myself — and had the fortune of my sister and friends doing so for me as well. If I hadn't admitted myself into the emergency room early on, knowing something just wasn't right, my only option would have been to "take a number" and wait.

Cancer doesn't wait, nor should you. But you must stick to your guns — be persistent and if you are overwhelmed (and you will be) ask for HELP! Ask a family member or close friend to be your second set of ears and an advocate for you too. My bullheaded persistence allowed me to get released by the gastroenterology surgeon quick enough after my 3rd stent replacement to have my sister help me make the 3-hour trip to the nearest facility that could schedule me for port placement in order to start chemo the following week. For the duration of these chemo treatments, I did my best to nourish my body, rest and still try to push myself activity-wise for the sake of normalcy.

Don't give up on yourself! Don't give up on your loved ones either! Our bodies are wonderful, miraculous machines and you need to have faith in your body and not quit on it. I will tell you that there are not many positive stories out there – but I believe there are lots of success stories that go untold and the reason we don't get to see those stories is because those warriors are busy living. I pray that we are very close to a successful solution, not just to cure, but to proactively assess the possibility of pancreatic cancer early on.

I realize that very little is known of this aggressive killer

and the information that is out there can be daunting and discouraging for new and long-term patients. I believe that we need to not only shed light on how much more common this disease has become, but will give hope to fellow warriors, their family and friends, especially as new information is discovered for the treatment and cure.

Summary of the Hirshberg Symposium at the 2024 American Pancreatic Association

Each year, the <u>APA</u> gathers a global community of researchers to explore the latest advancements and opportunities in clinical and basic science research focused on pancreatic diseases, with an emphasis on pancreatic cancer. As part of this collaboration, the Hirshberg Foundation hosts the annual Hirshberg Symposium, spotlighting cutting-edge topics. This year's symposium, *Targeting KRAS to Treat Pancreatic Cancer*, delved into the evolving therapeutic landscape of <u>KRAS</u> inhibitors and shared fresh perspectives on the biology and treatment strategies for pancreatic cancer.

Field and Historical Timelines

Channing Der, PhD University of North Carolina, Chapel Hill

Dr. Der reviewed the seminal findings in the field of KRAS starting with the identification of this signaling protein and

the central role it plays in cellular physiology. Dr. Der is an expert in KRAS, made many of the initial discoveries about KRAS and continues this research. Nearly all pancreatic cancers have a mutation in KRAS, and it is thought that this is an initiating factor in pancreatic carcinogenesis. KRAS may have the same impact on as many as 20% of all cancer types.

Current Therapeutic Landscape of KRAS Inhibitors

Gabriela Chiorean, MD Fred Hutchinson Cancer Center

Dr. Chiorean reviewed many of the clinical trials that have used KRAS inhibitors to treat cancer. Very recently, advances in the understanding of the structure and function of KRAS has allowed the ability to develop drugs that target this protein. Early trials with KRAS inhibitors like sotorasib (the first KRAS inhibitor approved by the FDA which targets the G12C mutation) and others indicate these drugs can have equal benefit to traditional chemotherapy in delaying cancer progression in patients with advanced disease. Now there is interest in combining KRAS inhibitors with other modalities like tumor vaccines and chemotherapy.

New Insights Into the Biology and Therapy Strategies for Pancreatic Cancer

Raghu Kalluri, MD, PhD University of Texas MD Anderson Cancer Center

Dr. Kalluri reviewed the biology of KRAS inhibitors and how cancers can have variable KRAS mutations in tumor development. Importantly, it is possible to reverse the impact of KRAS on early changes in the pancreatic cancer development before the cancer is formed with KRAS inhibition in models. This demonstrates the importance of KRAS and how targeting this abnormally active protein is potentially very valuable for patient treatment.

Mechanisms of Resistance to KRAS Inhibitors

Andrew Aquirre MD, PhD Dana-Farber Cancer Institute, Broad Institute at Harvard and MIT

Dr. Aquirre discussed the current status of KRAS drugs and relayed that there are as many as 100 new KRAS inhibitors in development to treat cancer. Each drug has a different mechanism of action and because pancreatic cancers can have variable expression of mutant KRAS throughout the tumor and over time, it will be important to understand the mechanisms of resistance to these new drugs so treatment can be revised for the patient as the tumor evolves.

The 2024 Hirshberg Symposium provided a comprehensive exploration of the latest advancements in <u>KRAS research</u>, emphasizing its critical role in pancreatic cancer development and treatment. From historical milestones and groundbreaking therapeutic strategies to insights into resistance mechanisms and evolving clinical approaches, the panelists illuminated the promising future of targeting KRAS to improve patient outcomes.

As research continues to unlock new possibilities, collaboration and innovation are key to driving progress towards a cure for pancreatic cancer. The Hirshberg Foundation remains committed to supporting transformative research and sharing these critical updates with the community.

<u>Watch the full recording of the Hirshberg Symposium from the APA</u> *→*

Momentum Newsletter: Winter 2024

As the year winds down and we reflect on all we've done this year, we look forward to 2025 with pride and hope. We began the year with a ribbon-cutting ceremony at the new <u>Agi Hirshberg</u> <u>Center for Pancreatic Diseases at UCLA.</u> In this bright and beautiful new space where, patients are seen with a holistic, whole-body approach that unites clinicians under one roof. We had an amazing year of events, from our Symposium for patients and caregivers to our outdoor stationary cycling event, the Tour de Pier, to our signature LA Cancer Challenge that kicks off our month of awareness in November. It has been a full and busy year that fills us with hope and reinvigorates us to boldly face 2025 with the mantra, "Never Give Up! The journey continues with an end in sight."

Newly Designed Patient Resources and Spanish-Language Resources

We've redesigned the Patient & Caregivers section of our website to include more resources than ever. From our <u>Where to Begin</u> guide to expanded information for <u>families</u>, our website caringly guides patients and caregivers through a pancreatic cancer diagnosis. Plus, we've translated crucial information into <u>Spanish</u> to help increase awareness in more communities. We're here to support anyone facing pancreatic cancer and our <u>Patient</u> <u>Services</u> are always free of charge.

American Pancreatic Association (APA) Meeting & Hirshberg Symposium

Each year, the <u>APA</u> brings together an international group of researchers to discuss advances and opportunities in clinical and basic science research related to diseases of the pancreas, particularly pancreatic cancer. The Hirshberg Foundation hosts a Hirshberg Symposium to tackle emerging areas of study. This year's panel, *Targeting KRAS to Treat Pancreatic Cancer*, will cover topics such as the current therapeutic landscape of KRAS inhibitors and new insights into the biology and therapeutic strategies for treating pancreas cancer. We look forward to sharing more updates from the APA and our Seed Grant awardees who are researching KRAS.

<u>Learn more about KRAS →</u>

2024 Seed Grant Cohort Announced

Our Seed Grant Program continues to shine with our awardees receiving <u>large grants</u> from the NIH and NCI. This year, we're proud to fund more research than ever, thanks to the success of our <u>Tour de Pier</u> and <u>LA Cancer Challenge</u> events and your generosity! With projects focused on early detection, better treatment options, and innovative new ways to tackle KRAS, this year's cohort infuses the end of the year with hope. Since 2005, our Seed Grant Program has fostered an environment for research to bloom.

Meet the 2024 See Grant Cohort →

The 27th LA Cancer Challenge was an Incredible Success

In October, the 27th LA Cancer Challenge raised over \$650,000, one of our most successful years to date, thanks to the fundraising efforts and participation of our LACC family! Joined by Honorary Starter and <u>9-year pancreatic cancer survivor, Tom</u> <u>Arai</u>, we shared his incredible journey and inspired patients and families. We were also thrilled to give the <u>Honorary Medical</u> <u>Chair title to three brilliant researchers</u>, Drs. Timothy Donahue, Zev Wainberg & Caius Radu, who were awarded a transformative \$4 million grant from the National Cancer Institute (NCI). Together, we surpassed our fundraising goal, celebrated how far our community has come and the ways in which we're moving forward.

As you prepare to make your tax-deductible year-end gift, the Hirshberg Foundation thanks you for being instrumental in driving research forward and giving countless patients and families the support services they need. Together, we have raised awareness across the country and around the globe because of your unwavering support.