

# Supported Research Finds New Cause for Cancer Growth

Great news to start the new year!!!

László G. Boros, MD, a former Hirshberg Seed Grant recipient to study novel mechanisms that lead to the development of pancreatic cancer, recently published an article in Medical Hypotheses. Dr. Boros' recent publication, titled "Submolecular regulation of cell transformation by deuterium depleting water exchange reactions in the tricarboxylic acid substrate cycle" is co-authored by prominent collaborators from Johns Hopkins University; HYD,LLC; Morsani College of Medicine (University of South Florida) and the University of Arizona Comprehensive Cancer Center.

The article clarifies the cancer causing mechanism or the oncoisotopic role of deuterium, which is a rare natural isotope of hydrogen. It has been long known that deuterium replacements in hydrogen bridges damaged DNA, secondary structures and membrane transport. The new research clarifies how normal cells discriminate against deuterium and how tumor cells lack this process. The authors offer a metabolic "trick" using deuterium depleted water as a low cost effective new drug, now produced in the European Union. The water can restore normal DNA functions to prevent or treat cancer, even in advanced cases. The paper identifies deuterium as an oncoisotope to explain many oncogene and oncometabolite cell damaging functions to prevent pancreatic cancer.

We thank the team for the direction towards natural treatments without side effects.

Congratulations to all!!!

[View the Full Article →](#)

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## What a Seed Grant Means

Earlier this month we announced our 11 Seed Grant recipients. These researchers will be working in the areas of diagnosis, therapy and basic science. But what does a Seed Grant really mean?

A Seed Grant is our investment in a promising research project, and it is the investigators pledge to join our fight. We are dedicated to funding scientists who can produce groundbreaking approaches to the way we view, diagnose and treat pancreatic cancer. Our scientists strive to answer a multitude of key questions surrounding pancreatic cancer. Our Seed Grants enable them to do this work.

We know this: our Seed Grant Program *works!* Our past recipients have earned more than \$65 million in NIH funding and are making great strides towards a cure. We must continue to invest in these proposals to advance scientific understanding and provide treatment options for our pancreatic cancer victims.

We must share these successes and keep up our momentum. **The more we fund, the close we are to finding a cure!** Help us put an end to pancreatic cancer. Pledge. Share. Wear.

Learn more about what a Seed Grant means to a young investigator from Dr. O. Joe Hines, our Translational Pancreatic Cancer Research Laboratory Co-Director.

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# November 13th is World Pancreatic Cancer Day



## What is World Pancreatic Cancer Day?

- World Pancreatic Cancer Day was established to mobilize a global effort and raise the profile of pancreatic cancer focusing on the need for urgent change!
  - The goal is to raise awareness and further educate all pancreatic organizations and their supporters on an international scale.
  - The first ever World Pancreatic Cancer has been driven by leaders of pancreatic cancer organizations across the globe.
  - Learn more about pancreatic cancer and how the Hirshberg Foundation is battling back.
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# **This November join us as we Pledge. Share. Wear.**

Welcome to November! To kick off

Pancreatic Cancer Awareness Month, we are launching our newest purple campaign, Pledge Share Wear. Here are three simple and easy ways for you to join our fight this month and raise awareness about this disease. In honor of the nearly 49,000 people that will be diagnosed this year, help us build an army of pancreatic cancer survivors able to speak out and advocate for more research. It couldn't be any easier! Join us all month long as we Pledge. Share. Wear.

## **Pledge Purple**

We know you are committed to the fight against pancreatic cancer, now voice that dedication/perseverance by pledging purple! Your pledge is a personal commitment to stand against this disease and be a voice for all those who have lost the battle to pancreatic cancer. It can be a small step or a giant leap, whatever you commit to will have the power to change lives.

## **Share Purple**

You are committed to changing the face of pancreatic cancer; now share your passion with others. Once you've taken the pledge, be sure to share it with your friends, family, community and the world! When we join together to raise awareness, our voices can be heard. Share your story, share why you support, share how this disease has touched you – the more we speak up, the louder we will be heard.

## **Wear Purple**

This one's the easiest and we know you have purple in your

closet! This month ask others to join you and wear purple together. Snap a photo of your purple party, whether it's at school, in the office, at your community center, the gym or just your household. Show off your purple duds and share your dedication to fight pancreatic cancer wherever you go.

This month is all about making our voices heard. Be sure to tag all your posts with **#pledgepurple2015** or [email](#) your photo or story to us so we can share them too! Here's to a very purple November!

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## More Female Seed Grant Recipients in the News

This has certainly been a newsworthy summer for women in sports, from our US Soccer team taking the World Cup title to Serena Williams winning her 21st Grand Slam title. What's even more exciting to me is that it's also been a **great summer for women scientists conducting pancreatic cancer research!**

Our 2014 Seed Grant Recipient Rushika Perera, PhD, became the fourth female researcher we have worked with to make headlines these past few months. Findings from her research grant titled "MiT/TFE transcription factors are required metabolic reprogramming in pancreatic cancer" (Massachusetts General Hospital/Harvard Medical School) were just published in **Nature**, one of the most distinguished scientific journals.

After reading her article, I asked Rushika to translate the work into lay language for all of us. In her own words, she says "This paper provides new insights into how a largely neglected

'garbage can' in the cell (the lysosome) is a critical regulator of how cells obtain and process nutrients. We show that increased function of the lysosome is essential for pancreatic cancer cells to gain adequate nourishment to fuel their rapid growth." Upon hearing this, I immediately asked her "If we block the lysosomes, can we block the growth of cancer cells?" Her answer was yes and the findings can now be translated into a new target for treatment!

Rushika added "As a recipient of a Hirshberg Foundation Seed Grant, your support greatly contributed to accelerating the publication of our findings. Thank you!"

In turn, I want to thank each and every one of you – our supporters – for continuing to believe in our quest to identify new treatment options! We are one step closer to a cancer free life!

This grant was made possible by the Levine Family and friends, in memory of Jill Levine.

[READ THE NATURE ARTICLE HERE →](#)

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# **Hirshberg Foundation Supported Research Given Best Publication Award**

We love progress!!!

In 2011-2012 Emmanuelle Meuillet, PhD, received a Hirshberg Seed

Grant to study novel therapeutics for the treatment of pancreatic cancer. Her completed and published article “Contextual inhibition of fatty acid synthesis by metformin involves glucose-derived acetyl-CoA and cholesterol in pancreatic tumor cells” earned the Best Publication Award by the Metabolomics Society and Springer, both respected medical publishers.

The award winning work clarifies Metformin’s cancer preventing mechanism that involves ketogenic deuterium depletion. Dr. László G. Boros, Professor of Pediatrics at UCLA, one of the corresponding authors along with Dr. Mary Jo Cantori and Dr. Emmanuelle J. Meuillet, Principal Investigator, accepted the award on July 2, 2015 in San Francisco. Metformin is a low cost drug given to diabetes patients which can be used as a more cost effective alternative to prevent pancreatic cancer in obese and diabetic patients. We thank the team for the direction towards natural preventative treatments without side effects.

Congratulations to all!

[Read full article: Medical News Today – Heavy Hydrogen Cancer Drugs](#)

[Read full article: Published Meuillet](#)