Masonic Cancer Center
UNIVERSITY OF MINNESOTA
Comprehensive Cancer Center designated by the National Cancer Institute

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Via Electronic Mail

The Renville County Walk in the Park
c/o Sara Maher
P.O. Box 63
Olivia, MN 56277
RCwalkinthepark@gmail.com

Dear Sara Maher and the Renville County Walk in the Park:

I hope this letter finds you and your loved ones in good health and high spirits. I am thrilled to have the opportunity to update you on our work while sending you our best wishes for this coming holiday season.

It was wonderful to see our connection and collaboration with you featured in the Masonic Cancer Center (MCC) news and highlights and then see it shared more broadly through the local newspapers!! It is truly a fantastic story and one that we (and the Cancer Center at large) are very proud of and very grateful for.

As we come to the end of another productive year, I want to take a moment to acknowledge the impact that your crucial support to our mission is having in shaping and moving our research forward.

Together with my dedicated team in the lab, this year we have continued to make significant strides in our research. Thanks to your support, we were able to set up a collaboration with a group of Gastroenterologists here at the MCC, to analyze colonoscopy biopsy samples and confirm the presence of the colibactin marker from pks+ E. coli, that we have previously identified, in patients for the first time! We are particularly excited about this result because it provides a unique example of how findings from a basic research lab can be turned into diagnostic tools for patients in a relatively short time. Your support allowed us to push forward this work so much faster! This is a successful story that shows the importance of fostering translational science and collaborations across research scientists and clinicians. This type of translation can only happen in places like our Cancer Center where close collaborations among our labs and medical doctors are strongly supported and encouraged.

These results have now been published in a prestigious scientific peer-reviewed journal, *Gut Microbes*, which is allowing our discoveries to be shared broadly with the scientific and medical communities both nationally and internationally. Following these findings, we have been submitting applications for further funding through national foundations, to fully characterize this marker and to support its potential development as a tool to identify people at risk for colon cancer and potentially help with early colon cancer detection and for guiding better strategies for cancer prevention.

Thanks to the funds you have provided, we have also been able to bring to the MCC a new innovative technology to investigate DNA mutations and investigate the role of inflammation in increased lung cancer risk and severity of the disease. This technology allowed us to produce important new data that our PhD student, Foster Jacobs, brought to the International Agency for Research on Cancer (IARC, part of WHO) in Lyon, France. There, with the help of world-renowned experts, we were able to learn how to interpret the data we have acquired. This experience was extremely fruitful because it not only improved the technological skills and expertise of our lab, but it also brought a novel technology to our Cancer Center, which now can be used by all of our members.

Based on these results, our work now is focusing more heavily on characterizing the role of inflammation in the development of cancer. Through this work Foster and our collaborators were able to confirm that inflammation increases DNA mutations and were able to identify some DNA modifications that could play a key role in the process. We are now working on validating these results and investigating if these modifications can be used to identify people at higher risk of developing lung cancer.

Using our innovative DNA adductomics method, we will start analyzing lung biopsies collected from patients to look for these modifications in humans. Identifying the DNA damage playing a role in the development of lung cancer will ultimately help us to better understand the events leading from environmental exposures to lung cancer formation, ultimately allowing us to develop strategies to interrupt and prevent this process. For the coming year, we are planning some exciting new work to understand how the DNA modifications we are looking at may be translated into mutations by avoiding repair mechanisms, resulting into the beginning of cancer formation.

As we come to the end of another productive year, I want to take a moment to acknowledge the crucial impact of your support to our mission of unraveling the mysteries of cancer biology. Our goal is to develop strategies to prevent or better treat some of the most invasive and difficult-to-beat cancers. Your generosity fuels our research. We hope you can see how much you are helping us progress and move forward, and we hope you'll consider renewing your gift this coming year.

We could not accomplish our work without you!

Your contributions are vital in funding innovative cancer research here at the University of Minnesota, which has a profound impact locally and worldwide.

THANK YOU!

Sincerely,

Silvia Balbo, PhD
Associate Professor
Division of Environmental Health Sciences
Masonic Cancer Center
University of Minnesota

P.S. If you have any questions or would like to learn more, please contact Rachel Kinder at the University of Minnesota Foundation at 612-624-8650 or rkinder@umn.edu.

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