

# Climb For Hope

Stepping Up To Beat Cancer & MS

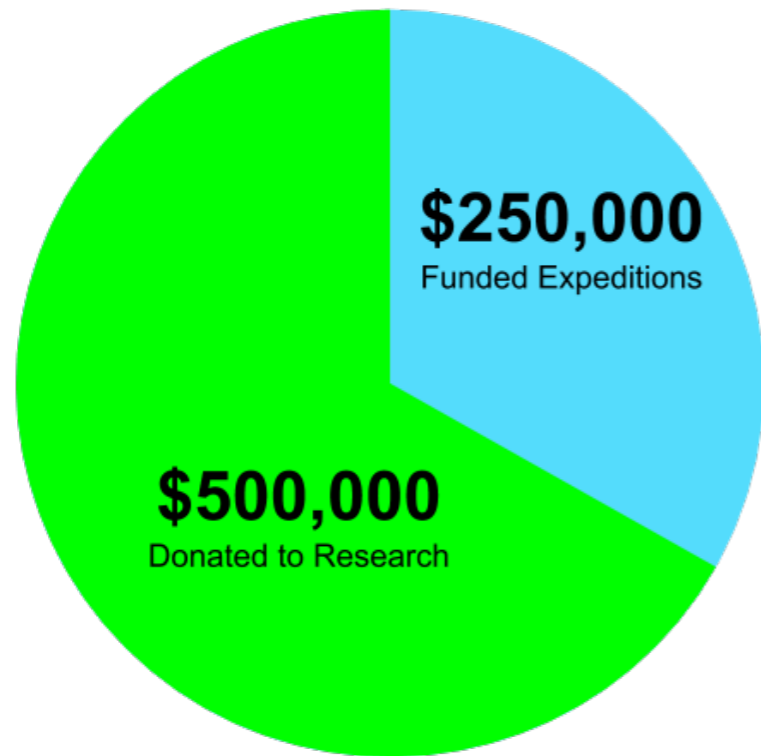
# 2020 FUNDING PRIORITIES

Since 2006, Climb For Hope has empowered people affected by cancer and MS through outdoor expeditions while raising money for research at Johns Hopkins University.



# FUNDING TO DATE

As the “angel investor of cancer and MS research,” Climb For Hope funds early stage research that shows promise of a cure.



- Over the past 18 years, we have raised approximately \$750,000.
- Approximately 33% of the donations support experiences to heal those affected by cancer and MS.
- Approximately 66% goes directly to researchers at Johns Hopkins University, for difficult-to-fund, cutting edge research.
- Climb For Hope is an all volunteer organization.

## 2006 - 2018

During our early years, funds raised by climbers helped Dr. Leisha Emens conduct clinical research on a vaccine to reprogram immune cells to recognize cancer cells as a foreign enemy and target them for destruction.

## 2010 - Present

In 2010 Climb For Hope expanded our fundraising to support MS Research, funding Dr. Peter Calabresi’s work at Project Restore (see below).

## 2019 - Present

In 2018, with Dr. Emens’ work well established, Climb For Hope began funding Andrew Ewald’s work at the Cancer Invasion and Metastasis Program in the Sidney Kimmel Comprehensive Cancer Center (see below).



“Thank you for supporting our work. The unrestricted funding Climb For Hope provides is more important than ever.”

- Dr. Andrew Ewald

**2020  
Cancer Funding Priority**

**METASTASIS**

This year, Climb For Hope will again support the work of the Sidney Kimmel Comprehensive Cancer Center, under the direction of Dr. Andrew Ewald, Professor of Cell Biology and Co-Director of the Cancer Invasion and Metastasis Program.



Graduate Student Beza Woldemeskel, studying how breast cancers metastasize, or spread to form new tumors in other organs.

Metastasis is the central problem in cancer, as more than 90% of cancer deaths occur at metastatic stages and few therapies are effective in this setting.

The Kimmel Cancer Center recently discovered that breast cancer cells use a common set of molecular tools to invade out of the tumor (Cell 2013) and that these cancer cells travel in groups as they spread through the body (PNAS 2016).

Current research focuses on understanding how adhesive molecular connections between cancer cells allow them to survive and grow. Recent work from the lab has shown that deletion of a gene encoding this molecular “velcro” causes breast cancer cells to die and blocks metastatic spread.

Funds raised this year by Climb for Hope will support the research of Beza Woldemeskel, a student in the Johns Hopkins Cellular and Molecular Medicine Ph.D. Program. Her project seeks to understand how the protein E-cadherin mediates essential survival signals for cancer cells. This work involves making specific changes in the protein sequence to identify which regions are most important. We anticipate that this research will lead to an understanding of how to disrupt these survival signals and kill breast cancer cells wherever they are in the body.

**2020**

**MS Funding Priority**

# **MYELIN REPAIR**

This year, Climb For Hope will again support the work of The Johns Hopkins Multiple Sclerosis Center, lead by Dr. Peter Calabresi, Professor of Neurology and Director of Neuroimmunology.



Dr. Peter Calabresi

Nearly one million people in the U.S. have Multiple Sclerosis (MS), an incurable neurological condition that affects the myelin coating around nerves in the brain, spinal cord and optic nerves. The 20 FDA approved treatments for MS mostly work to slow progression of the disease. There are currently no treatments to repair myelin and help people regain function.

The Johns Hopkins MS Center research team is focused on finding a treatment to repair the myelin around damaged nerves and help people with MS regain function. The goal is to utilize recent technological advances to determine if myelin-producing oligodendrocyte precursor cells derived from people with MS can survive under threatening conditions and differentiate into oligodendrocyte cells.

Funds raised by Climb For Hope this year will support experiments using a new technology called Single Cell RNAseq, which allows researchers to interrogate the RNA program within thousands of cells. We will compare the RNA signals from MS brain tissues to those we model in the lab, to determine if we can deduce what went wrong in people with MS. This approach allows identification of new pathways that can be targeted for new drug therapies.

# 2020 EXPEDITIONS



Join us to find out what you are capable of and help us conquer disease.

## 2020 Expedition Schedule

- Grand Canyon, May 22-27, Beginner
- Mt. Adams, June 22-26, Carey Business School
- Mt. Rainier, June 30-July 3, Expert
- Mt. Adams, July 6-8, 2020, Beginner
- Eldorado Peak, July 22-26, Intermediate
- Mt. Adams, August 2-5, All Women
- Mt. Adams, August 9-12, All Women
- Boundary Waters, Paddle For Hope, Sept. 25-29
- Mt. Orizaba, Mexico, January 4-10, 2021, Intermediate

JODI'S  
**CLIMB FOR HOPE**  
STEPPING UP TO BEAT BREAST CANCER 

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