

**Davidson Fellow****Merry Sun**

\$25,000 Scholarship Recipient

**Personal Info**

Age: 16

Chappaqua, New York

**School, College and Career Plans**

A rising senior at Horace Greeley High School, Merry plans to major in biology and would like to pursue a career in science.

**Davidson Fellows Submission** (Science)

In her project, "Fighting Cancer with Sound: Activation of an Immune Response Against Tumor Cells Using Therapeutic Ultrasound," Merry studied therapeutic ultrasound's potential in treating recurrent and metastatic cancers. Traditional therapies like radiation,

chemotherapy, and surgical resection are ineffective in immune responses against tumor cells. Merry found that therapeutic ultrasound causes stress and light damage to tumor cells, which alerts the immune system to respond and target the tumor. Her results demonstrate the possibility of a novel, non-invasive, non-toxic cancer therapy that treats solid tumors as well as systemic metastases.

**Biography**

Merry attended Montessori School which allowed her to go directly to second grade. Starting in 4<sup>th</sup> grade, she participated in Horizons, her township's gifted and talented program. Horizons grouped the 4<sup>th</sup>-6<sup>th</sup> grade students together and followed a curriculum focused on self-guided learning through explorations including the dissection of a shark at age 7.

Merry's interest in cancer began when several family members and friends were diagnosed with the disease several years ago, and two of her best friends' mothers died of it. She observed the effects of the disease itself as well as the often-toxic side effects of the traditional treatments. Merry had unwavering support from her family and mentors while conducting her research. One obstacle she overcame was the pure scope of her project; she was extremely cramped for time due to her project's magnitude. Merry learned the valuable lesson of strategizing her time to complete her project and handle her high school course work.

Merry has played the classical piano for the past 11 years and recently played a concert at Carnegie Hall. She is also the copy editor of her school's magazine, Advo. Additionally, Merry is a member of the Academic Challenge Team and is a peer tutor for her school's tutoring service.

*Please see next page.*



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(cont.)

**Honors/Awards**

- 2010 Davidson Fellow
- 2010 Bausch and Lomb Honorary Science Award
- 2010 New York City Science and Engineering Fair Medicine and Health Third Place
- 2010 Volunteer Researcher, Mount Sinai School of Medicine, Department of Endocrinology
- 2009 Siemens Competition Semifinalist
- 2009 Piano Soloist at Carnegie Hall
- 2009-2008 Volunteer Researcher, Albert Einstein College of Medicine, Department of Radiation Oncology
- 2007 World Piano Competition Semifinalist
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**Community Activities**

Merry participated in a charity concert at Carnegie Hall to raise money for Chinese orphans and volunteered for a children's program at a shelter for victims of domestic abuse. She is also vice president of her high school's student-run Traveling Jukebox group which organizes concerts at local nursing homes.

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