

## **Darien High School Students Win Prizes at State STEM Fair**

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Fifty-three students in Darien High School's Authentic Science Research program competed in the Connecticut STEM Fair on Saturday, Feb. 3, held at Amity Regional High School in Woodbridge. A number of Darien students won prizes.

Over 500 students, judges and volunteers participated in the all-day event. Each student was required to create a poster exhibit, make a presentation, and participate in a question and answer session with two sets of judges.

The judges evaluated entries (both completed projects and research proposals) in four categories: health & medical sciences, physical sciences, environmental sciences, and behavioral sciences. A number of regional awards sponsored by the International Science and Engineering Fair were also presented.

We are pleased to announce that these DHS students earned top prizes:

***For research proposals:***

## ***Darienite***

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**Catherine O'Connor – 1st Place**, Health Science – "Depletion of the I $\kappa$ B Kinase and Inhibition of the NF- $\kappa$ B Complex as Gene Therapy for Pancreatic Ductal Adenocarcinoma"

**Manvi Malhotra – 1st Place**, Environmental Science – "A Theoretical Model of the Emergent Effects of Increasing Temperature on Predator-Prey Interactions between *Didinium* and *Paramecium*"

**Olivia Yoo – 1st Place**, Behavioral Science – "Perivascular Macrophages and Neurovascular Dysfunction in a DOCA-Salt Hypertension Model"

**Megan Cunningham – 2nd Place**, Behavioral Science – "Combinations of Environmental Enrichment in Increasing the Frequencies of Exploratory Behaviors in Captive Wolves"

**Thomas Finnegan – 2nd Place**, Physical Science – "Effective Pitch-Catch Active Sensing Patterns For Aircraft Structural Health Monitoring"

**Ashwini Patel – 3rd Place**, Health Science – "Finding the Source of Cetuximab Resistance in Non-small Cell Lung Cancer"

**Hallie Kreppin – 4th Place**, Behavioral Science – "Long-term natal site-fidelity by immature great white sharks (*Carcharodon carcharias*) off of Long Island"

#### ***For completed projects:***

**Emily Findlan & Cheyenne Li – 1st Place**, Team Project – "Positive Holes as Early Indicators for Future Earthquakes"

**Daniel Pfrommer – 4th Place**, Physical Science – "Fast Point-based Raytracing with Sphere Bounding Volume Hierarchies"

**Christopher Vernal – 4th Place**, Health Science – "Creation of a Screening Tool for Assessing Baseball Pitching Biomechanics"

#### ***For ISEF Regional Awards:***

*ISEF stands for International Science and Engineering Fair.*

**Daniel Pfrommer** was presented the ***Mu Alpha Theta Award*** for the most challenging, original, thorough and creative investigation of a problem involving mathematics accessible to a high school student.

**Alexandra Swift** was presented the ***Stockholm Junior Water Prize*** recognizing outstanding water-related research at the high school level.