



37th Annual Frederick County Science & Engineering Fair Awards Ceremony

***Saturday, March 24, 2018
Tuscarora High School***

Booklet Cover Art Winners

Middle School Division

Morein Ibrahim (8) West Frederick Middle School - Honorable Mention
Taylyn Nguyen (7) Ballenger Creek Middle School - Honorable Mention

Winning Cover Art Design

Divesh Gupta (7) Ballenger Creek Middle School

Booklet Cover Art Winners

High School Division

Megan Farrell (12) Urbana High School – Honorable Mention
Emily Green (12) Urbana High School – Honorable Mention
Emily Zheng (12) Urbana High School – Honorable Mention

Winning Cover Art Design

Abby Ochs (10) Urbana High School

Local Specialty Award Winners

AstraZeneca Award

Ridhi Chaudhary (UHS)



Local Specialty Award Winners

ThermoFisher Outstanding MS Projects (presented by ThermoFisher)

Amogh Kashyap (UMS)

Olivia Bindewald (WFMS)

Sanjanaa Viswanathan (UMS)

Geethika Kondabathini, Maansi Manoj & Emily Wang (UMS)

Dhruv Girish (UMS)

Local Specialty Award Winners

ThermoFisher Outstanding HS Projects

Jackie Liu (UHS)

Elizabeth Engle (UHS)

Megan Nellis (UHS)

Sanjana Subramanian (UHS)

Charlotte Hively (UHS)

Local Specialty Award Winners

18th Annual Dr. Raymond Ediger Award for Excellence in Agriculture

Borong Tsai (FHS)

Kira Knappenberger (UMS)

NIST Sigma Xi Measurement Science

Vineet Ravichandran (WHS)

Local Speciality Award Winners

**Metropolitan Washington Council of Governments,
Baltimore Metropolitan Council and Clean Air Partners**

Sarah Mansoor (UMS)

Zara Shamsuddin, Daniyah Taimur, Aizah Usmani (UHS)

Local Specialty Award Winners

Society of Women Engineers Awards

Outstanding Engineer

Sanjana Subramanian (UHS)

Soujanya Viswanathan (UHS)

Rachael Thyparambil (UMS)

Olivia Bindewald (WFMS)

Local Specialty Award Winners

Society of Women Engineers Awards

Promising Engineer

Priyanka Gupta (BCMS)

Morein Ibrahim (WFMS)

Anushka Shara (BCMS)

Namya Shah (UMS)

Leila Ghaffari (UHS)

Charlotte Hively (UHS)

Local Specialty Award Winners

Qiagen Award First Place

Joy Min (FHS)

Qiagen Award Second Place

Soujanya Viswanathan (UHS)

Qiagen Award Third Place

Ridhi Chaudhary (UHS)

Local Specialty Award Winners

Catoctin Wildlife Preserve & Zoo - Coronatus Award HS

Ian Emanuel (Homeschool)

Christopher Baidoo (FHS)

Catoctin Wildlife Preserve & Zoo - Coronatus Award MS

Kira Knappenberger (UMS)

Local Specialty Award Winners

**Society of American Military Engineers Mid-Maryland Post
Award for Achievement in Engineering Research**

Caleb Hughes (Friends Meeting School)

Local Specialty Award Winners

Genius Olympiad SUNY Oswego

Sanjana Subramanian (UHS)

Ezeki Ganesan (UHS)

Local Specialty Award Winners

Presented by **Catoctin & Frederick Soil Conservation Districts Excellence in Conservation Award**

Ian Emanuel (Homeschool) - Second Place HS

Kyle Shreve (THS) - First Place HS

Kaylie Musard (WMS) - Second Place MS

Erin Hackney (UMS) - First Place MS

Local Specialty Award Winners

Frederick Community Foundation Participation Awards

**Urbana Middle School
The Lucy School**

Regional Awards Affiliated with Intel ISEF

American Meteorological Society

Sanjana Subramanian (UHS)

Erin Hackney (UMS)

American Psychological Society

Coral Holmes (MMS)

Association for Women Geoscientists

Sanjana Subramanian (UHS)

Charlotte Hively (UHS)

Regional Awards Affiliated with Intel ISEF

United States Air Force Awards

Jackie Liu (UHS)

Sanjana Subramanian (UHS)

Charlotte Hively (UHS)

Amogh Kashyap (UMS)

Regional Awards Affiliated with Intel ISEF

ASU Walton Sustainability Solutions Initiatives

Ezeki Ganesan (UHS)

Sanjana Subramanian (UHS)

Intel Excellence in Computer Science

Sam Errett (BHS)

NASA Earth System Science

Charlotte Hively (UHS)

National Oceanic & Atmospheric Administration

Kyle Shreve (THS)

Regional Awards Affiliated with Intel ISEF Office of Naval Research

Senior Awards (HS)

Charles Giglio & Jorgen Miller (UHS)

Divina Bhatia (OHS)

Junior Award (MS)

Neha Nair (MMS)

Nicolas Brown (UMS)

Elon Corgan (BMS)

Regional Awards Affiliated with Intel ISEF

Stockholm Jr. Water

Ian Emanuel (Homeschool)

Kyle Shreve (THS)

Ezeki Ganesan (UHS)

Yale Science & Engineering Association

Tomas Reyna & Tom Xie (THS)

Regional Awards Affiliated with Intel ISEF

Ricoh Americas Corporation

Charlotte Hively (UHS)

Mu Alpha Theta

Vineet Ravichandran (WHS)

US Metric Association

Soujanya Viswanathan (UHS)

Regional Awards Affiliated with Intel ISEF

United States Public Health Service High School Awards (presented)

Distinguishing Achievement 1st place Award

Sanjana Subramanian (UHS)

Distinguishing Achievement 2nd place Award

Vineet Ravichandran (WHS)

Distinguishing Achievement 3rd place Award

Soujanya Viswanathan (UHS)

Regional Awards Affiliated with Intel ISEF

United States Public Health Service High School Awards (presented)

Meritorious Award

Megan Nellis (UHS)

Ezeki Ganesan (UHS)

Charles Giglio & Jorgen Miller (UHS)

Ridhi Chaudhary (UHS)



Category Winners

Honorable Mention

MS Honorable Mention Winners

Animal Sciences - Kira Knappenberger (UMS)

Behavioral & Social Sciences (Tie) -

Emily Schueftan (UMS) & Coral Holmes (MMS)

Biomedical & Health Sciences - Helen Jackson (SJ RCS)

**Earth & Environmental Sciences - Sanjanaa Viswanathan
(UMS)**

Embedded Systems - Rachel Thyparambil (UMS)

Environmental Engineering - Chloe Wood (OMS)

Physics & Astronomy - Hritaal Saha (UMS)

HS Honorable Mention Winners

Behavioral & Social Sciences - Gerald Sare (GTJHS)

Biomedical Engineering - Tomas Reyna & Tom Xie (THS)

Earth & Environmental Sciences - Christopher Baidoo (FHS)

Engineering Mechanics - (Tie)

**Divina Bhatia (OHS), Jaxen Farrell and Bishoy Ibrahim
(FHS)**

Robotics & Intelligent Machines - Ayo Abraham, Rolando

Proctor, & Randy Samayoa (FHS)



Category Winners

Third Place

MS Third Place Winners

Animal Sciences - Kitty Parker (OMS)

Behavioral & Social Sciences - Sanya Ailawadi (UMS)

Chemistry - Isha Sahai (UMS)

Earth & Environmental Sciences - Nicolas Brown (UMS)

Energy: Chemical & Physical - Dinesh Ganesan (UMS)

Engineering Mechanics - Orion Carrera (Friends Meeting School)

Physics & Astronomy - Kheshan Hettiarachchi (OMS)

Plant Sciences - Zoe Magnus (FCCS)

HS Third Place Winners

Biomedical & Health Sciences - Megan Nellis (UHS)

Earth & Environmental Sciences - Kyle Shreve (THS)

Engineering Mechanics -

Caleb Hughes (Friends Meeting School)

Physics & Astronomy - Nicolas Farrell (FHS)

The background is a blurred photograph of a school gymnasium. In the foreground, there are several tables with science fair projects. One project on the left has a sign that says "HIGH SCHOOL DIVISION". Another project in the center has a sign that says "ANALYSIS OF Blood Regulatory Mechanisms of JAK & RAS Signaling". To the right, there are signs for "ANIMAL SERVICES" and "COMPUTER SERVICES". In the background, there are basketball hoops and various other displays. The overall scene is a science fair or exhibition.

Category Winners

Second Place

MS Second Place Winners

Animal Sciences - Charles Miller (FCCS)

Behavioral & Social Sciences (Tie) -

Mackenzie Kilgore (UMS) & Humza Husain (WMS)

Biomedical & Health Sciences - Seraphim Koslov (UMS)

Chemistry - Dhruv Girish (UMS)

Earth & Environmental Sciences - Azhan Zafar (UMS)

Embedded Systems - Noah Kasica (SJRCS)

Energy: Chemical & Physical - Mudra Thakkar (UMS)

Engineering Mechanics - Nicolas Preda (WFMS)

Microbiology - Abhiraman Senthilkumar (UMS)

Physics & Astronomy - Abhinav Inavolu & Bhargav Sristy (UMS)

Robotics & Intelligent Machines - Priyanka Gupta (BCMS)

HS Second Place Winners

Behavioral & Social Sciences - Anurag Katiyar (OHS)

Biochemistry - Ridhi Chaudhary (UHS)

Biomedical & Health Sciences - Soujanya Viswanathan (UHS)

Cellular & Molecular Biology (Tie) -

Zo Mawi (FHS), Elizabeth Engle (UHS)

Computational Biology & Bioinformatics -

Vineet Ravichandran (WHS)

Earth & Environmental Sciences - Ian Emanuel (Homeschool)

Physics & Astronomy - Kai Winterle (WHS)

Robotics & Intelligent Machines - Sam Errett (BHS)



Category Winners

First Place

MS First Place Winners

Biochemistry - Atul Thomas (UMS)

Biomedical & Health Sciences - Alyssa Davies (UMS)

Chemistry - (Tie)

Manasi Tanikella, Mahir Tanikella (UMS) and Olivia Bindewald (WFMS)

Computational Biology & Bioinformatics - Elliot Anderson (MVMPCS)

Earth & Environmental Sciences - Priyanka Subramanian (UMS)

Embedded Systems - Namya Shah (UMS)

Energy: Chemical & Physical - (Tie)

Amogh Kashyap (UMS) and Blake Day (WMS)

Engineering Mechanics - Logan Minnis (WFMS)

Microbiology - Geethika Kondabathini, Maansi Manoj and Emily Wang (UMS)

Physics & Astronomy - Morein Ibrahim (WFMS)

Plant Sciences - (Tie)

Kaylie Musard (WMS) and Hannah Scheirey (UMS)

Robotics & Intelligent Machines - Alivea Apshago & Regan Hattenberger (WFMS)

HS First Place Winners

Biomedical Engineering -
Jorgen Miller & Charles Giglio (UHS)

Cellular & Molecular Biology - Jackie Liu (UHS)

Engineering Mechanics - Sanjana Subramanian (UHS)

Robotics & Intelligent Machines - Charlotte Hively (UHS)

Exemplary Non-Mentored HS Project Awards

Charles Giglio (UHS)

Jorgen Miller (UHS)

Anurag Katiyar (OHS)

Nicholas Farrell (FHS)

MS Design Champions

Engineering Design

Alivea Apshago & Reagan Hattenberger (WFMS)

Observational/Theoretical Design

Elliot Anderson (MVMPCS)

Experimental Design

Amogh Kashyap (UMS)

HS Design Champions

Experimental Design

Charles Giglio and Jorgen Miller (UHS)

Observational/Theoretical Design

Megan Nellis (UHS)

Engineering Design

Charlotte Hively (UHS)

MS Broadcom MASTERS

Alyssa Davis (UMS)

Olivia Bindewald (WFMS)

Manasi Tanikella and Mihir Tanikella (UMS)


Elliot Anderson (MVMPCS)

Namya Shah (UMS)

Amogh Kashyap (UMS)

Geethika Kondabathini, Maansi Manoj, and Emily Wang (UMS)

Alivea Apshago and Reagan Hattenberger (WFMS)



MS Overall Winner

Runner Up

Elliot Anderson (MVMPCS)

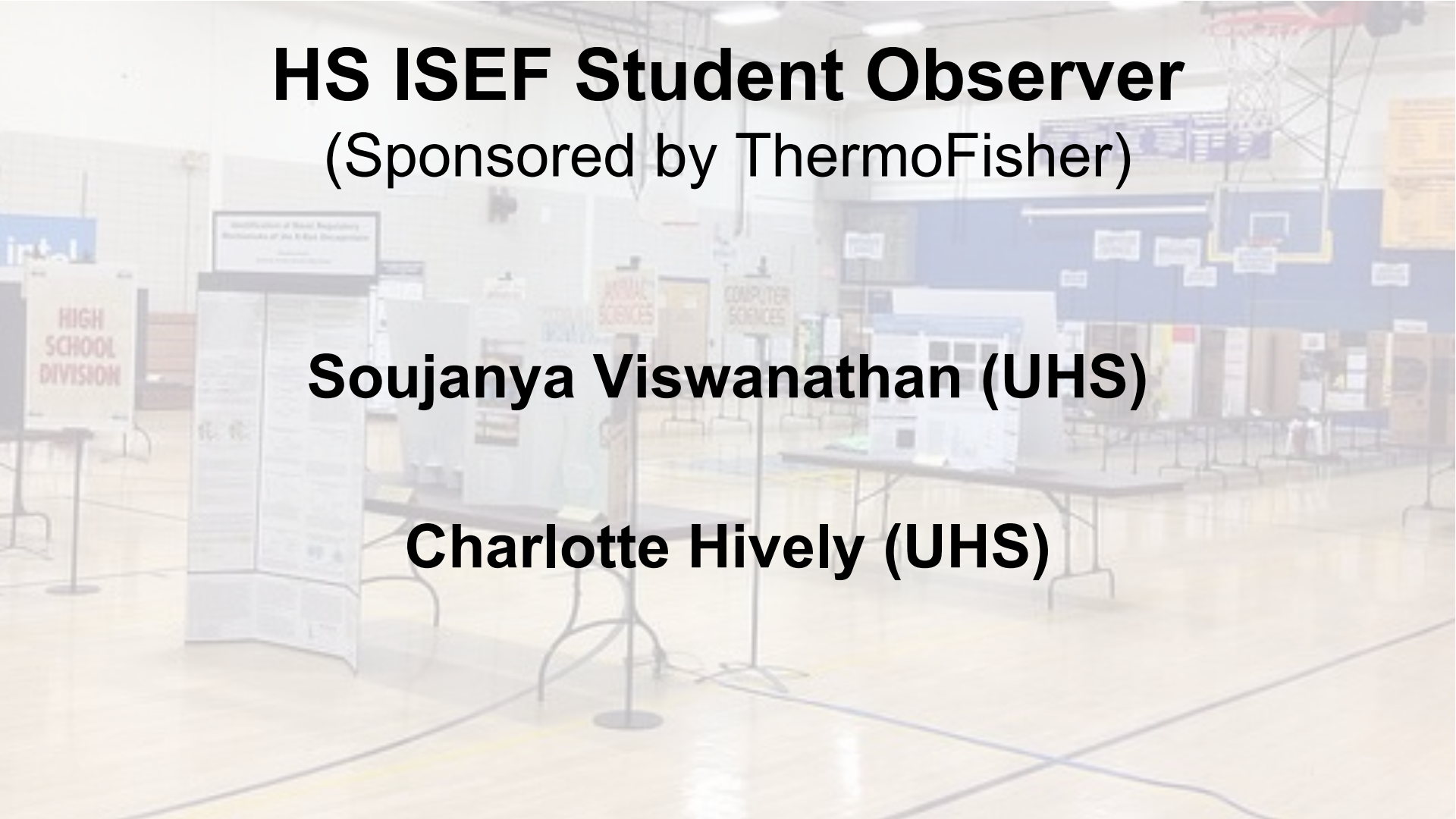
The Genetics, Spread and Control of the Influenza Virus



MS Overall Winner
Grand Prize

Amogh Kashyap (UMS)

Wearable Electric Generator to Power Devices



HS ISEF Student Observer
(Sponsored by ThermoFisher)

Soujanya Viswanathan (UHS)

Charlotte Hively (UHS)

HS Runner Up (ISEF Finalist)

Sanjana Subramanian

Urbana High School

**Stay Connected: Providing Communication
During Natural Disasters**



HS Overall Winner (ISEF Finalist)

**Grand Prize
Jackie Liu**

Urbana High School
**Unlocking the Hidden Defense Mechanisms
of Flaviviruses**