Pikes Peak Regional Science Fair
2021 Final Results

Grand Awards

International Science Fair Invitation

- Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ''Investigating atmospheric convection as a chaotic system though the Lorenz attractors''
- Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ''Separating microplastics from beach sand using a fluidized air bed''
- Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ''Something in the water – Creating an origami microfluidic device for developing communities''

Senior Division Grand Award

- Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ''Something in the water – Creating an origami microfluidic device for developing communities''

Senior Division Grand Award Runner Up

- Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ''Investigating atmospheric convection as a chaotic system though the Lorenz attractors''

Junior Division Grand Award

- Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ''Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*''

Junior Division Grand Award Runner Up

- Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ''Battle of the blades!''

Senior Awards

Jr. Biochemistry & Chemistry

First Place – Jr. Biochemistry & Chemistry

• Audrey Skalko[6] [JA5], Bear Creek Elementary School/Valerie DeLello: ‘‘Spherification’’

Second Place – Jr. Biochemistry & Chemistry

• Pam Boyarko[6] [JA4], Bear Creek Elementary School/Valerie DeLello: ‘‘Pam’s lemonade laboratory’’

Jr. Biological, Environmental Science

First Place – Jr. Biological, Environmental Science

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

Second Place – Jr. Biological, Environmental Science

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

Jr. Earth & Space, Energy & Transp.

First Place – Jr. Earth & Space, Energy & Transp.

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Second Place – Jr. Earth & Space, Energy & Transp.

• Dempsey Carnahan[6] [JC5], Bear Creek Elementary School/Valerie DeLello: ‘‘The Yellowstone threat’’

Jr. Engineering, Physics

First Place – Jr. Engineering, Physics

• Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’

Second Place – Jr. Engineering, Physics

• Lily Sobers[6] [JD5], Bear Creek Elementary School/Valerie DeLello: ‘‘The science of spin: Mass and inertia’’

Sr. Biochemistry & Chemistry

First Place – Sr. Biochemistry & Chemistry

• Hudson Kruse[10] [SA6], Schullandheim/Tami Kruse: ‘‘Simulating atomic dynamics using a 3d graphics engine’’

Second Place – Sr. Biochemistry & Chemistry

• Anthony Dawson[10] & Raedyn Lawrence[10] [SA1], Miami Yoder Secondary School/Angela Grimes: ‘‘Comparing the combustion efficiency of hydrogen and gasoline’’

Sr. Energy, Engineering, Physics

First Place – Sr. Energy, Engineering, Physics

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

Second Place – Sr. Energy, Engineering, Physics

• Geo Raguraman[9] & Grant Smith[9] [SB5], Discovery Canyon High School/Beulah Aloysius: ‘‘In‘‘Cognitive’’: Inside your inner emotions’’

Sr. Plant Science

First Place – Sr. Environmental Science

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Second Place – Sr. Environmental Science

• Mia Wyatt[10] [SC4], Miami Yoder Secondary School/Angela Grimes: ‘‘Quantitative energy analysis of practical biological fuels’’

Sr. Med. & Health, Social & Beh. Science

First Place – Sr. Med. & Health, Social & Beh. Science

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

Second Place – Sr. Med. & Health, Social & Beh. Science

• Abby Klapp[11] [SD3], Lewis Palmer High School/Dr. Elizabeth Phillips: ‘‘Spatial ability in pilots’’

State Fair

State Fair Invitations

State Fair Invitation

- Pam Boyarko[6] [JA4], Bear Creek Elementary School/Valerie DeLello: ‘‘Pam’s lemonade laboratory’’
- Audrey Skalko[6] [JA5], Bear Creek Elementary School/Valerie DeLello: ‘‘Spherification’’
- Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’
- Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’
- Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’
- Gurman Goraya[7] [JC3], Challenger Middle School/Amanpree Kaur: ‘‘Stellar endgame’’
- Dempsey Carnahan[6] [JC5], Bear Creek Elementary School/Valerie DeLello: ‘‘The Yellowstone threat’’
- Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’
- Lily Sobers[6] [JD5], Bear Creek Elementary School/Valerie DeLello: ‘‘The science of spin: Mass and inertia’’
- Anthony Dawson[10] & Raedyn Lawrence[10] [SA1], Miami Yoder Secondary School/Angela Grimes: ‘‘Comparing the combustion efficiency of hydrogen and gasoline’’
- Hudson Kruse[10] [SA6], Schullandheim/Tami Kruse: ‘‘Simulating atomic dynamics using a 3d graphics engine’’
- Geo Raguraman[9] & Grant Smith[9] [SB5], Discovery Canyon High School/Beulah Aloysius: ‘‘In‘‘Cognitive’’: Inside your inner emotions’’
- Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’
- Mia Wyatt[10] [SC4], Miami Yoder Secondary School/Angela Grimes: ‘‘Quantitative energy analysis of practical biological fuels’’
- Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’
- Zoe Wallerstedt[12] [SD1], Miami Yoder Secondary School/Angela Grimes: ‘‘Cartoon classics for stress reduction’’
- Abby Klapp[11] [SD3], Lewis Palmer High School/Dr. Elizabeth Phillips: ‘‘Spatial ability in pilots’’
- Patrick (Letian) Zhang[11] [SD4], Fountain Valley School of Colorado/Brett Rubenstein: ‘‘Predicting respiratory diseases by using deep learning models’’
- Gryphon Patlin[11] [SD5], The Classical Academy/Candus Muir: ‘‘A tool to assist in the detection and prevention of depression and suicide’’
- Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

Special Awards

AFCEA Junior 1st

• Sophia Taft[6] [JD4], Bear Creek Elementary School/Valerie DeLello: ‘‘Software integration with electronic circuits with Raspberry Pi’’

AFCEA Junior 2nd

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

AFCEA Junior 3rd

• Landon Bergstrom[6] [JA2], PTEC/Rebecca Giallongo: ‘‘Do all chocolate candies have the same melting point?’’

AFCEA Senior 1st

• Patrick (Letian) Zhang[11] [SD4], Fountain Valley School of Colorado/Brett Rubenstein: ‘‘Predicting respiratory diseases by using deep learning models’’

AFCEA Senior 2nd

• Marylou Farnish[10] [SB4], Miami Yoder Secondary School/Angela Grimes: ‘‘Magnetism as a safety feature for transportation rail systems’’

AFCEA Senior 3rd

• Anthony Dawson[10] & Raedyn Lawrence[10] [SA1], Miami Yoder Secondary School/Angela Grimes: ‘‘Comparing the combustion efficiency of hydrogen and gasoline’’

American Association of University Women, Junior

• Lily Sobers[6] [JD5], Bear Creek Elementary School/Valerie DeLello: ‘‘The science of spin: Mass and inertia’’

American Association of University Women, Senior

• Lydia Vesser[10] [SB1], Miami Yoder Secondary School/Angela Grimes: ‘‘Jerry can Gen Z’’

American Meteorological Society

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

American Psychological Association

• Geo Raguraman[9] & Grant Smith[9] [SB5], Discovery Canyon High School/Beulah Aloysius: ‘‘In‘‘Cognitive’’: Inside your inner emotions’’

American Society for Materials Educational Foundation

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

American Statistical Association, Jr.

• Pam Boyarko[6] [JA4], Bear Creek Elementary School/Valerie DeLello: ‘‘Pam’s lemonade laboratory’’

American Statistical Association, Sr.

• Abby Klapp[11] [SD3], Lewis Palmer High School/Dr. Elizabeth Phillips: ‘‘Spatial ability in pilots’’

Ascension Engineering Group Junior First

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Ascension Engineering Group Junior Second

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

Ascension Engineering Group Senior First

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Ascension Engineering Group Senior Second

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

Association for Women Geoscientists

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

Broadcom Foundation: Broadcom Coding with Commitment

• Sophia Taft[6] [JD4], Bear Creek Elementary School/Valerie DeLello: ‘‘Software integration with electronic circuits with Raspberry Pi’’

Broadcom MASTERS

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

• Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’

BSCS Junior Award

• Sarah Garrett[10] [SC3], Miami Yoder Secondary School/Angela Grimes: ‘‘Effects of ground vibration on local soil moisture’’

Citizens Project

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Colorado Associates in Medical Physics

• Patrick (Letian) Zhang[11] [SD4], Fountain Valley School of Colorado/Brett Rubenstein: ‘‘Predicting respiratory diseases by using deep learning models’’

Colorado Association of Science Teachers Teacher Award

• Angie Grimes, Miami-Yoder Secondary School

Colorado Chapter of the Soil and Water Conservation Society, Junior 1st

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Colorado Chapter of the Soil and Water Conservation Society, Junior 2nd

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

Colorado Chapter of the Soil and Water Conservation Society, Senior 1st

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Colorado Chapter of the Soil and Water Conservation Society, Senior 2nd

• Kodee Henderson[9] & Jacob Overstreet[9] [SC1], Ellicott High School/Matthew Steele: ‘‘Forest fire mitigation’’

Colorado College Excellence in Community and Social Justice First

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

Colorado College Excellence in Community and Social Justice Second

• Geo Raguraman[9] & Grant Smith[9] [SB5], Discovery Canyon High School/Beulah Aloysius: ‘‘In‘‘Cognitive’’: Inside your inner emotions’’

Colorado College Excellence in Field-Based Research First

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

Colorado College Excellence in Field-Based Research Second

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

Colorado College Excellence in Rocky Mountain Regional Research First

• Sarah Garrett[10] [SC3], Miami Yoder Secondary School/Angela Grimes: ‘‘Effects of ground vibration on local soil moisture’’

Colorado College Excellence in Rocky Mountain Regional Research Second

• David Oberosler[10] [SB3], Miami Yoder Secondary School/Angela Grimes: ‘‘Tired of your eggs a’ crack’in? Try cracka lack’in’’

Colorado College Excellence in Sustainability and Conservation First

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Colorado College Excellence in Sustainability and Conservation Second

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

COOL Science

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

• Dempsey Carnahan[6] [JC5], Bear Creek Elementary School/Valerie DeLello: ‘‘The Yellowstone threat’’

Deep Space Exploration Society Jr. Division Honorable Mention

• Gurman Goraya[7] [JC3], Challenger Middle School/Amanpree Kaur: ‘‘Stellar endgame’’

Deep Space Exploration Society Junior Division First Place

• Lily Sobers[6] [JD5], Bear Creek Elementary School/Valerie DeLello: ‘‘The science of spin: Mass and inertia’’

Deep Space Exploration Society Junior Division Second Place

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Deep Space Exploration Society Senior Division First Place

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

Deep Space Exploration Society Senior Division Second Place

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

Deep Space Exploration Society Sr. Division Honorable Mention

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Department of Defense STEM Leadership Prize

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Flagline.com Young Scientist, Junior 1st Place

• Audrey Skalko[6] [JA5], Bear Creek Elementary School/Valerie DeLello: ‘‘Spherification’’

Flagline.com Young Scientist, Junior 2nd Place

• Conor Grunwell[6] [JA3], PTEC/Rebecca Giallongo: ‘‘Soda fizz – Does it last?’’

Flagline.com Young Scientist, Senior 1st Place

• Zoe Wallerstedt[12] [SD1], Miami Yoder Secondary School/Angela Grimes: ‘‘Cartoon classics for stress reduction’’

Flagline.com Young Scientist, Senior 2nd Place

• Breasi Day[10] [SA2], Miami Yoder Secondary School/Angela Grimes: ‘‘Acetic acid health: Mitigating the potential side effects through concentration awareness’’

Gates Corporation Junior Division

• Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’

Gates Corporation Senior Division

• Kodee Henderson[9] & Jacob Overstreet[9] [SC1], Ellicott High School/Matthew Steele: ‘‘Forest fire mitigation’’

Georgia & Charlie Matteson Award, Junior

• Dempsey Carnahan[6] [JC5], Bear Creek Elementary School/Valerie DeLello: ‘‘The Yellowstone threat’’

Georgia & Charlie Matteson Award, Senior

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Lemelson Early Inventor Prize

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Mu Alpha Theta

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

NASA EARTH System Science Award

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

National Defense Industrial Association, 6th First

• Lily Sobers[6] [JD5], Bear Creek Elementary School/Valerie DeLello: ‘‘The science of spin: Mass and inertia’’

National Defense Industrial Association, 6th Second

• Audrey Skalko[6] [JA5], Bear Creek Elementary School/Valerie DeLello: ‘‘Spherification’’

• Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’

National Defense Industrial Association, 7th First

• Naomi Kruse[7] [JB5], Schullandheim/Tami Kruse: ‘‘Knock out! Bacterial microflora as a defense against tobacco mosaic virus in *phaseolus*’’

National Defense Industrial Association, 7th Second

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

National Defense Industrial Association, 8th First

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

NOAA Award

• Hudson Kruse[10] [SA6], Schullandheim/Tami Kruse: ‘‘Simulating atomic dynamics using a 3d graphics engine’’

Northrop Grumman Excellence in Science & Engineering (6th Grade)

• Sophia Taft[6] [JD4], Bear Creek Elementary School/Valerie DeLello: ‘‘Software integration with electronic circuits with Raspberry Pi’’

Northrop Grumman Excellence in Science & Engineering (7th Grade)

• Stuart Denham[7] [JD1], Classical Conversations Monument/Claudia Denham: ‘‘Ballistics: Choking out the facts’’

Northrop Grumman Excellence in Science & Engineering (8th Grade)

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

Northrop Grumman Excellence in Science & Engineering (Sr. Div.)

• Geo Raguraman[9] & Grant Smith[9] [SB5], Discovery Canyon High School/Beulah Aloysius: ‘‘In‘‘Cognitive’’: Inside your inner emotions’’

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Patent & Trademark Office Society

• Landon Bergstrom[6] [JA2], PTEC/Rebecca Giallongo: ‘‘Do all chocolate candies have the same melting point?’’

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

• Shrey Rohilla[8] [JC1], The Classical Academy/Candus Muir: ‘‘Battle of the blades!’’

• Ayush Vispute[6] [JD3], Mountain Ridge Middle School/Christine Draper: ‘‘Stretch it!’’

• Kaden Dungan[9] [SA4], PTEC/Rebecca Giallongo: ‘‘The most bang for the buck’’

• Kathryn Kummel[12] [SB6], Palmer High School/Miroslav Kummel: ‘‘Investigating atmospheric convection as a chaotic system though the Lorenz attractors’’

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Patent & Trademark Office Society Grand Award

• Patrick (Letian) Zhang[11] [SD4], Fountain Valley School of Colorado/Brett Rubenstein: ‘‘Predicting respiratory diseases by using deep learning models’’

Pikes Peak Justice and Peace Commission

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

Planet Walk Colorado Springs

• Gurman Goraya[7] [JC3], Challenger Middle School/Amanpree Kaur: ‘‘Stellar endgame’’

Ricoh Americas

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Society for In-Vitro Biology

• Patrick (Letian) Zhang[11] [SD4], Fountain Valley School of Colorado/Brett Rubenstein: ‘‘Predicting respiratory diseases by using deep learning models’’

Society of Women Engineers Jr. Division

• Sophia Taft[6] [JD4], Bear Creek Elementary School/Valerie DeLello: ‘‘Software integration with electronic circuits with Raspberry Pi’’

Society of Women Engineers Sr. Division

• Marylou Farnish[10] [SB4], Miami Yoder Secondary School/Angela Grimes: ‘‘Magnetism as a safety feature for transportation rail systems’’

UCCS Dept. of Chemistry & Biochemistry

• Cameron Wolkow[7] [JB2], North Middle School/Erryn Tanner: ‘‘The effect of mushrooms on biodegradable products and plastics’’

U. S. Agency for International Development

• Alden Kruse[12] [SD6], Schullandheim/Tami Kruse: ‘‘Something in the water – Creating an origami microfluidic device for developing communities’’

U. S. Air Force

• Abby Klapp[11] [SD3], Lewis Palmer High School/Dr. Elizabeth Phillips: ‘‘Spatial ability in pilots’’

U. S. Metric Association Certificate of Achievement

• Patrick Pierce[6] [JA1], PTEC/Rebecca Giallongo: ‘‘Frozen desserts relative melting speeds’’

U. S. Navy Science Award, Jr.

• Thomas Hauser[6] [JB1], PTEC/Rebecca Giallongo: ‘‘Hot water or cold water, which is more dense?’’

• Gurman Goraya[7] [JC3], Challenger Middle School/Amanpree Kaur: ‘‘Stellar endgame’’

U. S. Navy Science Award, Sr.

• Mia Wyatt[10] [SC4], Miami Yoder Secondary School/Angela Grimes: ‘‘Quantitative energy analysis of practical biological fuels’’

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

U. S. Stockholm Water Prize

• Hannah Pershica[6] [JB4], Bear Creek Elementary School/Valerie DeLello: ‘‘The rivers and streams machine’’

• Kodee Henderson[9] & Jacob Overstreet[9] [SC1], Ellicott High School/Matthew Steele: ‘‘Forest fire mitigation’’

• Sean Brooks[11] [SC5], Pine Creek High School/Kyle Gracia: ‘‘Separating microplastics from beach sand using a fluidized air bed’’

Yale Science & Engineering Association

• Gryphon Patlin[11] [SD5], The Classical Academy/Candus Muir: ‘‘A tool to assist in the detection and prevention of depression and suicide’’