CREST JANE GOODALL SCIENCE SYMPOSIUM - 2019

ISEF Regional Special Awards

Outstanding Project in Atmospheric Science

Sonja Bengston

Do the oceans' rising CO2 levels help or hurt bioluminescent bacteria Aliivibrio fischeri*?*

Bella Kleiner and Halle Olsen

The effects of oxybenzone on zooxanthellae

Outstanding Research in Psychology

Samantha Leebrick, Kirsten Nordstrom, and Paige Campbell

A for Effort, S for Shakespeare!

Award for Geoscience Excellence

Haley Budroe and Ellie Counts

Opposalt

Most Outstanding Exhibit in Materials Science

Jadyn Sherry & Linnea Collett

An approach to developing a biodegradable water bottle

Intel Excellence in Computer Science

Jessica Yu

A deep learning based drowning detection method for dynamic swimming pool environments

Mu Alpha Theta Award for Excellence in Mathematics

Alexis Gessler

Effect of the friction coefficient on the materials for prosthetic legs

NASA Earth System Science Award

Taylor Edwards

Remediation after forest fires through the supplementation of Actinorhizal soil microbe Frankia alni *in disturbed ecosystems of the Pacific Northwest*

Caitlin McCabe

Improving water quality of areas affected by harmful algae blooms through reactions with Guadinium groups in Saxitoxins

Taking the Pulse of the Planet Award

Viv and Yaya Kiss

Detecting the presence of polypropylene in Venerupis philippinarum *by way of S.E.M. and E.D.S.*

Naval Excellence in Science and Engineering Award

Adam Steinhilber

Gear-based infinitely variable transmission

Hayden Wierman

Investigating the correlation between noise pollution produced by a continuously operating tidal turbine and impaired embryonic development of Mytilus galloprovincialis

Sustainable Development Award

Logan Rower, Byon Kea, Alex Wilson

Incorporating aquaponics and aeroponics into a cohesive agricultural system

Outstanding Achievement for Ability and Creativity in In Vitro Biology

Ellie Garcia and Sabrina Smith

Testing the synergistic inhibitory effect of copper and acetic acid on the growth of Streptococcus salivarius

US Regional Stockholm Junior Water Prize

Hannah Budroe & Michelle Stevens

Variations on directional selection of Emiliania huxleyi: culturing methodology and analysis of resulting specimens

Hayden Wierman

Investigating the correlation between noise pollution produced by a continuously operating tidal turbine and impaired embryonic development of Mytilus galloprovincialis

Caitlin McCabe

Improving water quality of areas affected by harmful algae blooms through reactions with Guadinium groups in Saxitoxins

Gracie Dunham & Rachal Olaru

How to build a water filter out of household items

Outstanding Science or Engineering Fair Project

Drayton Nimz and Thomas Pierce

Navigation device to solve blindness

Vivek Kalavai

Effect of weather on flight delay

Parker Carlson

Generating handwritten Japanese characters to augment current datasets

Best Use of the SI:
The International System of Units

Lauren Hurley and Alice Kang

The effect of dopamine on the growth of Vibrio anguillarum

Most Outstanding Eleventh Grade Exhibit

Jared Wieland

Revolutionary nonsurgical treatment of malignant tumorigenesis

Nina Pejcinovic

Development of an economically viable, safe and versatile bioplasticejcinovic

The Biophysics Award

Natalie Cha

Quantifying how SSRIs affect the gut microbiome

Excellence in Scientific Research in Environmental Health

Carly Atwood, Zachary Mendenhall, and Ali Nelson

A gamer's brain waves

CREST Special Awards

Promising Young Scientist

Maia Cuevas
Anamae Lundstrom
Summer Tan
Jenna Eckard
Sarah Talbert
Kate Sousley
Anna Olson
Karah Rhoades
Avery McDowell
Kyle Jensen
Sarthak Sameer-Asita
Emma Matthies
Alexis Gessler
Emma Matthies
Elliot Olson
Audrey Kehoe

Best Demonstration of Field Knowledge

Anna and Sophia Nielsen

The Impacts of beaver dams on macroinvertebrates

Best Experimental Design

Cade Holland and Cooper Berggren

Performance of waterlogged golf balls

Best “Analog” Project Board

Leanne Beltman, Emily Soose, and Katherine Gunter

Prevention of hot car deaths with a smart car seat

Best “Digital” Project Board

Taylor Edwards

Remediation after forest fires through the supplementation of Actinorhizal soil microbe Frankia alni *in disturbed ecosystems in the Pacific Northwest*

Best Use of Statistical Analysis

Camryn Pettenger-Willey

Cyanobacteria as a biofertilizer: testing the effects of Anabaena *on plant growth and performance*

Meredith Thomas

The relationship between gender and traffic citations

Rachel Cramer

*Harvester ant (*Pogonomyrmex barbatus*) gut microbiome diversity after exposure to permethrin and sodium tetraborate*

Most Creative Project Idea

Vincent Nguyen

Foldable electric harp

Best Multi-Disciplinary Research

Pooja and Neel Jain

A low-cost, 3-D printed autonomous WiFi tracking search drone to locate missing victims of natural disasters

Noteworthy Logbook

Hayden Wierman

Investigating the correlation between noise pollution produced by a continuously operating turbine and impaired embryonic development of Mytilus galloprovincialis

Paul Sherman Award for Enthusiasm in Science

Isabella Scalise and Camryn Lau

*The transmission of tobacco mosaic virus (*Totamovirus*) and the role that salicylic acid plays in the suppression of symptoms*

Cameron Smith

Snails + Water

Maria Dowling

Rock crystal candy opacity

Green Chemistry Award

Katarina Pejcinovic

Development of an economically viable, safe, and versatile bioplastic

Women In Engineering

Leanne Beltman, Emily Soose, and Katherine Gunter

Prevention of hot car deaths with a smart car seat

Very Special Awards

The Future of Our Oceans Award

Hayden Wierman

Investigating the correlation between noise pollution produced by a continuously operating turbine and impaired embryonic development of Mytilus galloprovincialis

Viv and Yaya Kiss

Detecting the presence of polypropylene in Venerupis philippinarum by way of S.E.M. and E.D.S.

Oregon State University Scholarship Winners

Chloe Kuhlman

An investigation of equine assisted therapy and its impact on patients

Camryn Pettenger-Willey

Cyanobacteria as a biofertilizer: testing the effects of Anabaenaon plant growth and performance

Category Awards

Behavioral Sciences – Cognitive Psychology – All Researchers

Carly Atwood
Jasper Benston
Halle Blackmun
Paige Campbell
Ruby Corwin
Maia Cuevas
Juliann Ellsworth
Aidan Erdahl
Aiden Gowdy
Cecelia Grannum
Lauren Grothe
Hayley Jablonowski
Chloe Jones
Chloë Kuhlmann
Samantha Leebrick
Zachary Mendenhall
Abbi Nelson
Ali Nelson
Kirsten Nordstrom
Ava Sechrist
Addison Sobotta
Savannah Staten
Alexis Stohler

Jordy Tawa
Emily Williams

Behavioral Sciences – Cognitive Psychology – Honorable Mention

Savannah Staten and Juliann Ellsworth

Is proficiency-based learning the better system?

Behavioral Sciences – Cognitive Psychology – 3rd Place

Samantha Leebrick, Kirsten Nordstrom, and Paige Campbell

A for effort, S for Shakespeare!

Behavioral Sciences – Cognitive Psychology – 2nd Place

Ava Sechrist

The effect of trauma on emotional intelligence

Behavioral Sciences – Cognitive Psychology – 1st Place

Addison Sobotta

Is there a pattern between political stance and mental anxiety?

Behavioral Sciences – Social Psychology - All Researchers

Kevin Wang
Meredith Thomas
Summer Tan
Mitchell Stewart
Tahnna Shaaban
Katie Sepp
Halle Schweigert
Hannah Quast
Alexis Nord
Jackson Miller
Kaydence Meikle
Olivia McDonald
Anamae Lundstrom
Aneya Kazi
Jake Heinonen
Averyl Hartje
Abigail Harpole

Behavioral Sciences - Social Psychology – Honorable Mention

Tahnna Shaaban and Abigail Harpole

How over-parenting affects the mental health of children

Behavioral Sciences - Social Psychology – 3rd Place

Meredith Thomas

The relationship between gender and traffic citations

Behavioral Sciences - Social Psychology – 2nd Place

Jake Heinonen, Mitchell Stewart and Kevin Wang

How the number of absences a student obtains, as well as their involvement in clubs and sports, affects GPA

Behavioral Sciences - Social Psychology – 1st Place

Olivia McDonald

Are students prepared for the real world?

Chemistry- All Researchers

Maria Dowling
Hannah Gloster
Rhea Grover
Serena Li
Wilfred Lim
Yicheng Lin
Caitlin McCabe
Samuel Montagut
Elliott Olson
Keith Tyler Revilla
Nathan Tidball

Chemistry – Honorable Mention

Sam Montagut, Wilfred Lim, and Kevin Wang

Plastic Paper

Chemistry – 3rd Place

Serena Li and Hannah Gloster

Reducing plastic waste through the use of biodegradable packaging

Chemistry – 2nd Place

Caitlin McCabe

Improving water quality of areas affected by harmful algae blooms through reactions with Guadinium groups in Saxitoxins

Chemistry – 1st Place

Nathan Tidball

Acrylate polymerization: formation of novel antimicrobial co-polymers

Computer Sciences & Robotics - All Researchers

Mackenzie Bezio
Joseph Burke
Parker Carlson
Seve Gonzales

Hannah Hashbarger
Vivek Kalavai
Calvin Mankin
Sheridan Rodich
Yusef Siddiqui
Kate Sousley
Sarah Talbert
Jessica Yu

Computer Sciences & Robotics – Honorable Mention

Mackenzie Bezio

Making music

Computer Sciences & Robotics – 3rd Place

Parker Carlson

Generating handwritten Japanese characters to augment current datasets

Computer Sciences & Robotics – 2nd Place

Yusef Siddiqui

Using machine learning to classify CD8 T-cells in pancreas ductal adenocarcinoma from multiplex immunohistochemistry image cytometry

Computer Sciences & Robotics – 1st Place

Jessica Yu

A deep learning based drowning detection method for dynamic swimming pool environments

Earth and Environmental Science - All Researchers

Athena Abrahamsen
Sonja Bengston
AJ Bovee
Hannah Budroe
Haley Budroe
Ellie Counts
Audrey Kehoe
Viv Kiss
Yaya Kiss
Bella Kleiner
Maia McNamara
Sophia Nielsen
Anna Nielsen
Steven Nuffer
Halle Olson
Camryn Pettenger-Willey

Jacob Rice
Nathan Rice
Hugo Romero
Collin Smith
Michelle Stevens
Peyton Todd
Auburn Todd
Kyla Wheeler
Colton Willeford

Earth and Environmental Science – Honorable Mention

Collin Smith & Nathan Rice

Impact of wood chip layers on the drainage rate of public playgrounds

Earth and Environmental Sciences – 3rd Place

Hannah Budroe and Michelle Stevens

Variations on directional selection of Emiliania huxleyi*: culturing methodology and analysis of resulting specimens*

Earth and Environmental Sciences – 2nd Place

Sophia Nielsen & Anna Nielsen

The impacts of beaver dams on macroinvertebrates

Earth and Environmental Sciences – 1st Place

Camryn Pettenger-Willey

Cyanobacteria as a biofertilizer: testing the effects of Anabaenaon plant growth and performance

Energy and Environmental Engineering – All Researchers

Hannah Anderson
Nada Ayach
Gracie Dunham
Grace Heaton
Mithun Karthikeyan
Byon Kea
Sarah Martin
Avery Rose McDowell
Wally Milner
Aiden Neudeck
Rachal Olaru
Tucker Parrish
Karah Rhoades
Logan Rower
Koharu Sakiyama

Liam Schauer
Gigi Schweitzer
Adaela Shearer
Alycia Supperstein
Ubong Udoh
Andrew Walker
James Webster
Frances Williams
Alex Wilson

Energy and Environmental Engineering – Honorable Mention

Gracie Dunham and Rachal Olaru

How to build a water filter out of household items

Energy and Environmental Engineering – 3rd Place

Adaela Shearer

Highway wind energy

Energy and Environmental Engineering – 2nd Place

Gigi Schweitzer and Wally Milner

Sucks to suck: reducing plastic straw waste

Energy and Environmental Engineering – 1st Place

Grace Heaton

Anthocyanins: the key to higher efficiency in organic photovoltaics

Engineering: Electrical and Mechanical - All Researchers

Leanne Beltman
Anna Boyer
Michael Culp
Jenna Garlitz
Sarah Gordon
Katherine Gunter
Noah Heidelberger
Pooja Jain
Neel Jain
Katyayani Karlapati
Emily Newbore
Vincent Nguyen
Drayton Nimz
Anna Olson
Thomas Pierce
Emily Soose
Adam Steinhilber

Engineering: Electrical and Mechanical – Honorable Mention

Leanne Beltman, Emily Soose, and Katherine Gunter

Prevention of hot car deaths with a smart car seat

Engineering: Electrical and Mechanical – 3rd Place

Emily Newbore & Anna Boyer

Prevention of hot car deaths with a smart car seat

Engineering: Electrical and Mechanical – 2nd Place

Adam Steinhilber

Gear-based infinitely variable transmission

Engineering: Electrical and Mechanical – 1st Place

Pooja Jain & Neel Jain

A low-cost, 3D printed autonomous WiFi tracking search drone to locate missing victims of natural disasters

Bioengineering and Materials Sciences - All Researchers

Catherine Carr
Elijah Cirioli
Linnea Collett
Jenna Eckard
Sara Hardwick
Payton Heth
James Nicholson
Katarina Pejcinovic
Jadyn Sherry

Bioengineering and Materials Sciences – Honorable Mention

Sara Hardwick

Designing a new prosthetic hand

Bioengineering and Materials Sciences – 3rd Place

Elijah Cirioli & James Nicholson

Using near-infrared spectroscopy to non-invasively measure blood glucose in diabetics

Bioengineering and Materials Sciences – 2nd Place

Jadyn Sherry & Linnea Collett

An approach to developing a biodegradable water bottle

Bioengineering and Materials Sciences – 1st Place

Nina Pejcinovic

Development of an economically viable, safe and versatile bioplastic

Life Sciences – All Researchers
Makayla Bruce
Justin Bruce
Avery Cook
Madelynn Downs
Taylor Dundon
Riley Heinonen
Kyle Jensen
John Jozic
Savannah Kerman
Evyenia Kitsis
Katherine Mason
Maddie Mathews
Riley Nylund
Cameron Smith
Lily Snook
Alexander Tye
Ella Weeks
Hayden Wierman
Portia Woods
Abigail Worrall
Karina Wurtz

Life Sciences – Honorable Mention

Katherine Mason

The effect of drought on Wisconsin Fast Plants

Life Sciences – 3rd Place

Portia Woods

Essential oils: Mite Response; a possible remedy to colony collapse

Life Sciences – 2nd Place

Hayden Wierman

Investigating the correlation between noise pollution produced by a continuosly operating tidal turbine and impaired embryonic development of Mytilus galloprovincialis

Life Sciences – 1st Place

Makayla Bruce & Justin Bruce

Husbanding the Limulus polyphemus *and determining a proper diet to increase amoebocyte production*

Medicine and Health Sciences - All Researchers
Rodayna Abdelhalim

Katie Bruun
Pablo Campos
Ashley Chon
Sadie Crystal
Karly Durbin
Marlee Feltham
Melody Garcia Gonzalez
Jillian Greene
Thomas Johnson
Anais Kolesnikov
Athena Lackides
Rishima Mukherjee
Samantha Prusse
Sydney Robertson
Sarthak Sameer-Asita
Ahna Schaper
Keegan Shivers
Shikha Singh
Courtney Slaughter
Aivy Truong
Jared Wieland
Maxwell Wilson
Dana Zaidan

Medicine and Health Science – 4th Honorable Mention

Katie Bruun

Proving the presence of a concussion via hormone deficiency

Medicine and Health Science – 3rd Place

Jared Wieland

Revolutionary nonsurgical treatment of malignant tumorigenesis

Medicine and Health Science – 2nd Place

Dana Zaidan & Athena Lackides

Advancing the science of the treatment and pathogenesis of Alzheimer's Disease: Assessing Fenugreek's biofilm disrupting properties using a Drosophila melanogaster *model*

Medicine and Health Science – 1st Place

Rishima Mukherjee, Marlee Feltham

A 5th generation CAR T-cell: MicroRNA guided radiogenetics for T-Cell engineering

Microbiology - All Researchers

Zoe Black

Natalie Cha
Rachel Cramer
Taylor Edwards
Ellie Garcia
Victoria Garcia
Coleman Henry
Lauren Hurley
Annika Jenson
Alice Kang
Varsha Karthikeyan
Camryn Lau
Emma Matthies
Samuel Misa
Amelia Postma
Olivia Roane
Quentin Robinson
Isabella Scalise
Laura Smith
Sabrina Smith
Parker Sullivan
Aubrey Wagy

Microbiology – Honorable Mention

Natalie Cha

Quantifying how SSRIs affect the gut microbiome

Microbiology – 3rd Place

Annika Jenson

How does the herbicide glyphosate impact the plant rhizosphere?

Microbiology – 2nd Place

Coleman Henry & Sam Misa

Bacteriophages as a supplementary treatment to antibiotics

Microbiology – 1st Place

Rachel Cramer

*Harvester ant (*Pogonomyrmex barbatus*) gut microbiome diversity after exposure to pyrethrin and sodium tetraborate*

Physics and Mathematics - All Researchers

Cooper Berggren
Cade Holland
Alexis Gessler
Devin Peters

Physics and Mathematics – 3rd Place

Devin Peters

What is an optimal oar?

Physics and Mathematics – 2nd Place

Cooper Berggren & Cade Holland

Performance of waterlogged golf balls

Physics and Mathematics – 1st Place

Alexis Gessler

Effect of the friction coefficient on the materials for prosthetic legs

CREST- Jane Goodall Science Symposium

Advancing to the Intel Northwest Science Expo – April 12, Portland State University

Addison Sobotta
Ava Sechrist
Samantha Leebrick, Kirsten Nordstrom, Paige Campbell
Nathan Tidball
Caitlin McCabe
Hannah Gloster, Serena Li
Grace Heaton
Gigi Schweitzer, Wally Milner
Adaela Shearer
Neel Jain, Pooja Jain
Adam Steinhilber
Emily Newbore, Anna Boyer
Leanne Beltman, Emily Soose, Katherine Gunter
Makayla Bruce, Justin Bruce
Hayden Wierman
Portia Woods
Rachel Cramer
Coleman Henry, Sam Misa
Annika Jenson
Natalie Cha
Olivia McDonald
Jake Heinonen, Kevin Wang, Mitchell Stewart
Jessica Yu
Yusef Siddiqui
Parker Carlson
Nina Pejcinovic
Jadyn Sherry, Linnea Collett
Elijah Cirioli, James Nicholson
Sara Hardwick

Camryn Pettenger-Willey
Anna Nielsen, Sophia Nielsen
Hannah Budroe, Michelle Stevens
Nathan Rice, Collin Smith
Marlee Feltham, Rishima Mukherjee
Dana Zaidan, Athena Lackides
Jared Wieland
Katie Bruun
Sarthak Sameer-Asita
Alexis Gessler
Cade Holland, Cooper Berggren
Taylor Edwards
Viv Kiss, Yaya Kiss
Courtney Slaughter, Thomas Johnson
Camryn Lau, Isabella Scalise
Rodayna Abdelhalim, Melody Garcia-Gonzales
Drayton Nimz, Thomas Pierce
Logan Rower, Byon Kea, Alex Wilson
Ellie Garcia, Sabrina Smith
Tucker Parrish

CREST- Jane Goodall Science Symposium
Intel ISEF Observers

Selected to participate at observers at Intel ISEF in Phoenix, Arizona
Anna Nielsen and Sophia Nielsen

AND FINALLY, THE REALLY BIG WINNERS!!!!!

Best Of Fair
Advancing to compete at the International Intel ISEF in Phoenix, Arizona on May 12th-May 17th, 2019

Pooja Jain & Neel Jain
A low-cost, 3-D printed autonomous WiFi tracking search drone to locate missing victims of natural disasters

Jessica Yu
A deep learning based drowning detection method for dynamic swimming pool environments

Nathan Tidball
Acrylate polymerization: formation of novel antimicrobial co-polymers

Rishima Mukherjee, Marlee Feltham
A 5th generation CAR T-cell: MicroRNA guided radiogenetics for T-Cell engineering