**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, andPaige 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 engineerin*g